DISTRICT SURVEY REPORT
OF
BANKURA DISTRICT
(Modified)

(For mining of minor minerals)
As per Notification No.S.O.141 (E) New Delhi Dated 15th of January 2016, S.O.3611 (E) New Delhi Dated 25th of July 2018 and Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by Ministry of Environment, Forest and Climate Change (MoEF&CC)



SEIAA APPROVAL DATE:

8th December 2023

(As published in the Minutes of 25th Meeting of SEIAA under Miscellaneous Section, Point No.1)

1st Modification: 29th November 2023

1st Approval: 22nd August 2022

PREPARED BY
Department of Industry, Commerce & Enterprises
Government of West Bengal

Version-2

Version No	DSR Status	Date	Remarks
Version-1	1st Approved DSR	22/08/22	DSR prepared as per guidelines.
Version-2	1st Modification	29/11/23	DSR modified to incorporate district boundary modification and inclusion of potential deposits of insitu mineral.

GOVERNMENT OF WEST BENGAL
DIRECTORATE OF MINES & MINERALS
4, ABANINDRANATH TAGORE SARANI (CAMAC STREET), 2ND FLOOR,
KOLKATA – 700016
e-mail: dir.dmm-wb@nic.in

No. MD/2C-641/20 Kolkata, the September, 2023

To
The Chairman,
State Impact Assessment Committee (SEAC),
West Bengal.

Sub: Approval of Modified District Survey Report of Bankura district reg.

Sir,

Enclosed please find the soft copy of the Modified District Survey Report (DSR) of Bankura district in West Bengal.

This is for your kind information and necessary action for approval as per norms.

Enclo: As stated above.

Yours faithfully,

Sd/-

DIRECTOR OF MINES & MINERALS.
GOVERNMENT OF MINE & MINERALS.

No.376/1(2) MD/2C-641/20 Kolkata, the 27/9 September, 2023

Copy forwarded for information to:

1) The Member Secretary, SEIAA, West Bengal.
2) The Chairman & Managing Director, West Bengal Minerals Development & Trading Corporation Ltd.

27/09/23

DIRECTOR OF MINES & MINERALS.
GOVERNMENT OF MINE & MINERALS.

27/09/2023

GOVERNMENT OF WEST BENGAL
DIRECTORATE OF MINES & MINERALS
4, ABANINDRANATH TAGORE SARANI (CAMAC STREET), 2ND FLOOR,
KOLKATA – 700016
e-mail: dir.dmm-wb@nic.in

No. 377 MD/2C-641/20 Kolkata, the 27th September, 2023

TO WHOM IT MAY CONCERN

This is to certify that the Modified District Survey Report of Bankura District in West Bengal has been prepared in accordance with the prevailing norms and guidelines applicable for the purpose. This Modified District Survey Report has been duly consulted through the District Authority concerned and the comments and observations as received from the District Authority has been duly incorporated in the report. Authorized officials of the Directorate of Mines & Minerals under the Deptt. of Industry, Commerce and Enterprises, Govt. of West Bengal has scrutinised the Modified District Survey Report of Bankura District and found the same to be in order.

Now, this Modified District Survey Report of Bankura district is forwarded to the State Level Environment Impact Assessment Authority (SEIAA), West Bengal for necessary approval.

27/09/23

DIRECTOR OF MINES & MINERALS.
GOVERNMENT OF WEST BENGAL.

Bankura.
27/09/2023

सत्यमेव जयते

Government of West Bengal
Office of the District Magistrate & Collector
Bankura

Memo No: 728 /MM /LR/23 Dated : 28 / 07 / 2023

To
The Chairman & Managing Director,
West Bengal Mineral Development & Trading Corporation Ltd.
WBIIDC Building, DJ-10, Sector-II,
3rd Floor, Salt Lake City,
Kolkata- 700 091.

Sub: Finalisation of Modified District Survey Report of Bankura.

Sir,

With reference to the subject as noted above, this is to inform you that the District Survey Report (Modified Draft) was published for public consultation in the district Portal on 14/06/2023. No Suggestion and Objection with respect to the uploaded District Survey Report has been received at the district end till date. The claims and requests received from various Stake Holders are already communicated to you vide this office Memo. No. 690/MM/LR/23 dated 21/07/2023 (copy enclosed herewith).

Therefore, It is requested to finalise the Modified District Survey Report for competent approval from your kind end.

Yours faithfully,

Enclo: As stated 11 (Eleven) sheets

Additional District Magistrate &
District Land & Land Reforms Officer
Bankura

Memo No: 728/1(1) /MM /LR/23 Dated : 28 / 07 / 2023

Copy forwarded for information to:-

(1) P.A to the District Magistrate with a request to place the matter before District Magistrate, Bankura.

Additional District Magistrate &
District Land & Land Reforms Officer
Bankura

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Abbreviations

% DEP – Departures

° C – Degree Centigrade

BGL – Below Ground Level

CD - Community Development

Cft- Cubic Feet

CGWB - Central Ground water Board

CRIS - Customized Rainfall Information System

Cum - Cubic meter

DGMS - Directorate General of Mines Safety

DGPS - Differential Global Positioning system.

DL&LRO - District Land & Land Reform officer

DSR - District Survey Report

EC – Environmental Clearance

EIA- Environment Impact Assessment

EMGSM - Enforcement and Monitoring Guideline for Sand Mining

ENVIS - Environmental Information System

ft – Feet

GIS - Geographical Information System

GMEC - Global Management and Engineering Consultant

GSI - Geological Survey of India

Ha – Hectare

hr - Hour

IMD – Indian Meteorological Department

ISRO - The Indian Space Research Organization

KM - Kilometer

LISS - Linear Imaging Self-Scanning Sensor

LOI - Letter of Intent

LULC - Land Use Land Cover

m^2 - Square meter

MBT - Main Boundary Thrust

MCT - Main Central Thrust

MFT - Main Frontal Thrust

Mcum – Million Cubic Meters

MMDR - Mines & Minerals (Development and Regulation) Act

MMR - Metalliferous Mines Regulation

MOEF & CC - Ministry of Environment, forest & Climate Change

Mph- miles per hour

M-Sand - Mineral Sand

MSME - Micro, Small & Medium Enterprises

Mt - Metric Ton

MT – Million Tons

NGT - National Green Tribunal

NH – National Highway

NIC - National Informatics Centre

OC - Officer In Charge

OGL - Original Ground level

PSU - Public Sector Unit

R/F – Rain Fall

SSMG - Sustainable Sand Mining Guidelines

WBMDTCL- West Bengal Mineral Development and Trading Corporation Limited

The WBMMCR, 2016 – The West Bengal Minor Mineral Concession Rules, 2016

The West Bengal Sand Mining Policy, 2021

EMGSM-2020- Enforcement & Monitoring Guidelines for Sand Mining

PR- Pre Monsoon

PO- Post Monsoon

BNK- Bankura

MJ- Mejhia

BJ- Barjora

PS- Patrasayer

IN- Indus

SN- Sonamukhi

SL- Saltora

CH- Chhatna

B1- Bankura I

B2- Bankura Ii

ON- Onda

BSP- Bishnupur

JY- Joypur

KP- Kotulpur

KT- Khatra

SM- Simlapal

RB- Ranibandh

RA- Raipur

DA- Damodar

DW- Dwarakeswar

SL- Shilabati

KN- Kangsabati

BS- Black Stone

GL- Gravel

GR- Granite, Quartz, Feldspar

LT- Laterite, CC: China Clay, FC: Fire Clay and Associate Minerals

FC SS- Fireclay, Silica Sand

QT- Quartz, Mica, Feldspar and Associate Minerals

QTZ - Quartz and Quartzite

SS- Silica Sand

GSI- Geological Survey of India

DMM- Directorate of Mines and Minerals

Key Definitions

Riverbed: A riverbed is the area between two banks of river where sediment deposited. During the normal flow period, river water is contained in and flows along the riverbed. However, during a flood, the river overflows the riverbed and flows onto the floodplain.

Sandbars: The sandbar is the ridge of sand or coarse sediment that is built over a period of time.

Pre monsoon Sandbars: Sandbars which are identified from satellite imagery of pre monsoon period.

Post monsoon Sandbars: Sandbars which are identified from satellite imagery of post monsoon period.

Restricted Area: Sandbars or part of sandbars which are falling within restricted area. As per the Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) 2020 the restricted zone for mining is a distance from the bank is ¼th of river width and not be less than 7.5 meters. Also, there is a no mining zone up to a distance of 1 kilometre (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side. No mining zone has been marked for an area up to a width of 100 meters from the active edge of embankments.

Potential Zone: Sandbars which are falling within the central 3/4th part of the riverbed and which are not falling within the restricted area.

Potential Block: Each individual sand bars of potential zone is Potential Block.

River bed occurrence: River bed occurrence means sand, stone, boulder, pebbles, gravel accumulated in the river bed by natural phenomenon.

Replenishment: Quantum of sand deposited in a mined out void during monsoon period.

Aggradations: Aggradation (or alluviation) is the term used in geology for the increase in land elevation, typically in a river system, due to the deposition of sediment. Aggradation occurs in areas in which the supply of sediment is greater than the amount of material that the system is able to transport.

Act: It means the Mines and Minerals (Development and Regulation) Act, 1957(67 of 1957), as subsequently amended.

Mineral: It means minor minerals as defined in clause (e) of section 3 of the Act.

Sand: A natural resource, is a minor mineral as defined under S 3(e) of the Mines and Minerals (Development and Regulation) Act, 1957 (" MMDR Act").

Lease: It means a mining lease granted under West Bengal Minor Mineral Concession Rules, 2016.

Mining: Excavation of mineral by manual method or using machineries.

EXECUTIVE SUMMARY

Bankura district is located in the western part of the state and bounded by the district Paschim Bardhaman in the north, Purulia in the west, Purba Bardhaman in the east and Paschim Medinapure in the south. Bankura district of West Bengal is having total population of around 3596674 distributed over 190 gram panchayats. The district covers and area of around 6882 sq. km.

The district broadly having three types of landforms upland peneplain in the western part, undulating upper alluvial plain in the middle and lower alluvial plain in the north eastern part of the district. The uplands in the west accounts for around 25% of the total area are sloping, very often unbounded and prone to runoff and erosion. Soil of Bankura district broadly grouped into three principal type's viz. Red Soil, Alluvial Soil and Laterite Soil. Typical red soil has limited distribution in the south central, south-eastern and south western parts of the district around Bishnupur, Kotulpur and Raipur blocks respectively.

Geologically the district is divided into three north-south trending wide belts. The western most one comprises metamorphics of Archaean age and Chhotanagpur Gneissic Complex, Singhbhum Group of rocks and anorthosites belonging to Proterozoic age. In the northern part occurs Gondwana Supergroup of rocks with commercial coal seams as an extension of the famous Raniganj Coalfield. The central part is occupied by laterite and older alluvium of Pleistocene age, where as the easternmost part is made up of Quaternary sediments and Recent alluvium.

The maximum area of the district falls under the Seismic Zone III and rest of the part fall under Zone II, indicating the district under safe earthquake–prone zone.

The drainage system of the district is mainly controlled by rivers like Damodar, Dwarakeswar and Kangsabati along with their network of tributaries. All the rivers have a south-easterly flow and the rivers are almost parallel to each other. These rivers are found to be good source of construction sand which fed the requirements of the state. The district is generating considerable revenue from mining riverbed sand deposits.

Potential minor mineral blocks of sand have been identified based on satellite imagery study along with ground truthing and are listed in this District Survey Report. Restriction zones are defined as per the EMGSM guidelines 2020.

As per the data received from West Bengal Mineral Development and Trading Corporation Limited, a total 40 blocks have been auctioned for mining of river sand in the district. Among these, a total of 20 sand blocks are falling on Damodar River and 20 nos of block located on Dwarakeswar River. Revenue generated in the district of Bankura from Minor minerals during the period of April 2017 to January 2020 is Rs. 76.87 crores.

The district contains several important mineral resources. Potential minor mineral deposits such as quartzite, feldspar, granite, Black stone (Pyroxenite, Hornblende, Amphibolite gabbro & anorthosites), laterite, China Clay and fireclay are noted in the district. As per GSI (2001), the most important one is coal located in Barjora Coalfield (114.27 million tonnes) followed by China clay and Fire clay (141.47 million tonnes). Limestone (0.22 million tonces), Tungsten 10.56 million tones, Dimension Stone chocolate brown to grey (anorthosite 1.84 Mcum) around Nandanpur and stresky gray (chamockite 0.158 Mcum) around Saltora.

The most part of the district consists of laterite and alluvium comprises eastern half of the district. The lateritic zones in the eastern part of Bankura are forming one of the important minor mineral potential zones of the district. Quartizite terrain covering the eastern side of the district also provides additional resources for road metals and building stones.

Gneisses and schist of Archaean age rocks are found in the extreme west, which form the eastern boundary of Chhotonagpur gneissic complex. China clay and fire clay are the most potential mineral deposits of the district which are occur associated with the Archaeans and also associated with tertiaries. Intrusive rocks such as porphyritic granite, gabbro and dolerite are found as concordant and discordant intrusions within Chhotonagpur gneissic complex. Good quality of Granite deposits for mining as decorative stone has been identified in Bankura district, most attractive variety is Pink Porphiry. The coal fields of the district are characterized by intrusive of dolerite dykes, almost contemporaneous with the Rajrnahal basalt. These again form potential zone for dimesion stone of the district.

Occurrences of east-west trending elongated massif anorthosite body located around Saltora- Nandanpur in the Bankura district is an important mineral potential zone. Bands of intrusive amphibolite and basic granulite that occurs both inside and outside the anorthosite body leads to the potential zone of multiple mineral deposits hosted by CGC.

In Bankura district, total 166.82 Mcum potential riverbed sand deposits have been estimated and a total 105 in-situ minor mineral potential blocks identified.

The District Survey Report (DSR) has been modified to incorporate district boundary revision based on Survey of India database. Modified DSR also includes potential zones with respect to insitu minor mineral deposits of the district.

1 Preface

The need for District Survey Report (DSR) have been necessitated by Ministry of Environment, Forest and Climate Change (MoEF&CC) vide there Notification No. 125 (Extraordinary, Part II Section 3, Sub-section ii), S.O. 141 (E), dated 15th January 2016. The notification was addressed to bring certain amendments with respect to the EIA notification 2006 and in order to have a better control over the legislation. District level committee's have been introduced in the system. As a part of this notification, preparation of District Survey Reports has been introduced. Subsequently, MOEF& CC has published Notification No. 3611 (E), dt. 25thJuly, 2018 regarding inclusion of the "Minerals Other than Sand" and format for preparation of the DSR has been specified. Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by MoEF& CC is prepared in consideration of various orders/directions issued by Hon'ble NGT in matters pertaining to illegal sand mining and also based on the reports submitted by expert committees and investigation teams. This DSR has been prepared in conformity with the S O 141 (E), S O 3611 (E) and other sand mining guidelines published by MOEF& CC time to time as well as the requirement specified in West Bengal Minor Mineral Concession Rule, 2016.

The purpose of DSR is to identify the mineral potential areas where mining can be allowed; and also to distinguish areas where mining will not be allowed due to proximity to infrastructural structures and installations, areas of erosion, areas of environmental sensitivities etc. The DSR would also help to estimate the annual rate of replenishment wherever applicable.

Preparation of this DSR involved both primary and secondary data generation. The primary data generation involved the site inspection, survey, ground truthing etc. while secondary data has been acquired through various authenticated sources and satellite imagery studies. The secondary data related to district profile, local geology, mineralization and other activities are available in rather a piecemeal fashion. The district survey report of Bankura district also describes the general geographical profile of the district, distribution of natural resources, livelihood, climatic condition, inventory of minor minerals and revenue generation.

Modification of the District Survey Report (DSR) is required because of the following:

- To include insitu minor mineral potential zones of the district into the DSR.
- To incorporate district boundary revision based on Survey of India database instead of district portal information.
- To include the potential sandbars based on 2022 Satellite Imagery study for quantification of potential sandbars.

The modified DSR Report has been presented in 3 parts. The 1st part contains the general information of the district. The 2nd part highlights the riverbed deposits that is sand and gravels. The 3rd part of the modified report contains the occurrences of institu minor mineral deposits of the district. The modifications of the DSR of Bankura district has been furnished in Annexure 7.

2 Introduction

The District Survey Report of Bankura District has been prepared as per the guideline of Ministry of Environment, Forests and Climate Change (MoEF& CC), Government of India vide Notification S.O.-1533(E) dated 14th Sept, 2006 and subsequent MoEF& CC Notification S.O. 141(E) dated 15th Jan, 2016. This report shall guide systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large. Further, MoEF& CC published a notification S.O. 3611(E) Dated 25th July, 2018 and recommended the format for District Survey Report.

The main objective of DSR is identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area. The DSR would also help to calculate the annual rate of replenishment wherever applicable and allow time for replenishment. Besides the sand mining, the DSR also include the potential development scope of in-situ minor minerals.

The objectives of the District Survey Report are as follows:

1. To identify and quantify minor mineral resources for its optimal utilization.
2. To regulate sand and gravel mining, identification of site specific end-use consumers and reduction in demand and supply gaps.
3. To facilitate use information technology (IT) for surveillance of the sand mining at each step.
4. To enable environmental clearance for cluster of sand and gravel mines.
5. To restrict illegal mining.
6. To reduce occurrences of flood in the area.
7. To maintain the aquatic habitats.
8. To protect ground water in the area by limiting extraction of material in riverbeds to an elevation above the base flow.
9. To maintain data records viz. details of mineral resource, potential area, lease, approved mining plan, co-ordinates of lease hold areas, and revenue generation.
10. To design a scientific mining plan and estimate ultimate pit limit.
11. To frame a comprehensive guideline for mining of sand and other minor minerals.

The District Survey Report (DSR) comprises secondary data on geology, mineral resources, climate, topography, land form, forest, rivers, soil, agriculture, road, transportation, irrigation etc of the district collected from various published and un-published literatures and reports as well as various websites. Data on lease and mining activities in the district, revenue etc. have been collected from the DL&LRO office of the district and from West Bengal Mineral Development Corporation Limited.

2.1 Statutory Framework

The Ministry of Environment, Forest and Climate Change (MoEF& CC) has published several notifications time to time to formulate and implement the District Survey Report (DSR) for every district. The statutory Framework and its legal aspect with respect to DSR is tabulated in Table 2.1.

Table 2.1: Statutory Framework and guidelines on DSR with time scale

Year	Particulars
1994	The Ministry of Environment, Forest & Climate Change (MoEF&CC) published Environmental Impact Assessment Notification 1994 which is only applicable for the Major Minerals more than 5 ha.
2006	In order to cover the minor minerals also into the preview of EIA, the MoEF&CChasissued EIA Notification SO 1533 (E), dated 14th September 2006, made mandatory to obtain environmental clearance for both Major & Minor Mineral more than 5 Ha.
2012	Further, Hon'ble Supreme Court wide order dated the 27th February, 2012 in I.A. No.12- 13 of 2011 in Special Leave Petition (C) No.19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Others etc., ordered that "leases of minor minerals including their renewal for an area of less than five hectares be granted by the States/Union Territories only after getting environmental clearance from MoEF"; and Hon'ble National Green Tribunal, order dated the 13th January, 2015 in the matter regarding sand mining has directed for making a policy on environmental clearance for mining leases in cluster for minor Minerals.
2016	The MoEF&CC in compliance of above Hon'ble Supreme Court's and NGT'S order has prepared "Sustainable Sand Mining Guidelines (SSMG), 2016" in consultation with State governments, detailing the provisions on environmental clearance (EC) for cluster, creation of District Environment Impact Assessment Authority, preparation of District survey report and proper monitoring of minor mineral. There by issued Notification dated 15.01.2016 for making certain amendments in the EIA Notification, 2006, and made mandatory to obtain EC for all minor minerals. Provisions have been made for the preparation of District survey report (DSR) forRiver bed mining and other minor minerals.
2016	West Bengal Minor Minerals Concession Rules,2016 amended the Mines and Minerals (Developmentand Regulation) Act, 1957 (Act 67 of 1957), to make the rules regulating the grant of mining licenses, prospecting license-cum-mining leases and mining leases in respect of minor minerals by auction process.The rule also incorporates EIA 2016 also includes SSMG 2016 for minor mineral mining.
2018	MoEF& CC published a notification S.O. 3611(E) Dated 25th July, 2018 and recommended the format for District Survey Report .The notification stated

	about the objective of DSRi.e."Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area".
2020	Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) 2020 has been published modifying Sustainable sand Mining Guidelines, 2016 by MoEF& CC for effective enforcement of regulatory provisions and their monitoring.TheEMGSM 2020 directed the states to carry out river audits, put detailed survey reports of all mining areas online and in the public domain, conduct replenishment studies of river beds, constantly monitor mining with drones, aerial surveys, ground surveys and set up dedicated task forces at district levels.The guidelines also push for online sales and purchase of sand and other riverbed materials to make the process transparent. They propose night surveillance of mining activity through night-vision drones.
2021	The West Bengal Sand Mining Policy, 2021- The State Government through this policy intends to govern the excavation, transportation, storage, sale and consumption of sand. The State Government intends to appoint the West Bengal Mineral Development and Trading Corporation Ltd. ("WBMDTCL") as the designated agency, in order to effectively address the issues of indiscriminate mining of sand, black-marketing, artificial supply shortage through hoarding and to ensure compliance with environmental regulations and affordable pricing for the end consumers.

Important statutory Guidelines for sand or gravel mining:

- **The West Bengal Minor Minerals Concession Rules (WBMMCR), 2016**

1) (a) No person shall undertake mining operation in any area prohibited by the 'State Government in the public interest by notification in the *Official Gazette*.
Provided that nothing in the sub-rule shall affect any mining operation undertaken in any area in accordance with the terms and conditions of a mining lease or mineral concession already granted.
(b) No person shall transport or store or cause to be transported or stored any mineral otherwise than in accordance with the provisions of these rules and the West Bengal Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules, 2002.

(2) No minor mineral coming out in course of digging of wells or excavation of tanks shall be disposed of by the person digging or excavating without informing the District Authority as well as the Executive Officer of the *Panchayat Samiti* or the Executive Officer of the Municipality concerned, as the case may be, about such occurrence.
Provided that disposal of such minor mineral may be allowed on pre-payment of prices of such minor mineral at the prevailing market rate as determined on the basis of the rates published by the Public Works Department / concerned department of the State Government for the concerned area from time to time.

(3) No mining of river bed occurrences shall be allowed within 300 meters, upstream and downstream, measured from the centre line of any bridge, regulator or similar hydraulic structure and from the end point of bank protection works.

(4) No river bed mining shall be allowed beneath 3 meters of the river bed or ground water Ievel, whichever is less.

(5) No mining operation in case of river bed occurrence shall be done within a distance of three (3) kilometers of a barrage axis or dam on a river unless otherwise permitted by the concerned Executive Engineer or Revenue Officer or authorized officer and such distance shall be reckoned across an imaginary line parallel to the 'barrage, or dam axis, as the case maybe.

(6) No extraction of river bed occurrence shall 'be allowed beyond the central one third of the river bed, or keeping a distance of 100 meter from the existing bank line whichever is less, unless otherwise permitted by the concerned Executive Engineer or Revenue Officer.

(7) No extraction of minerals other than river bed occurrence shall be allowed within fifty (50) meters from any road, public structure, embankment, railway line, bridge canal, road and other public works or buildings.

(8) No mining lease shall be granted without proof of existence of mineral contents in the area for which the application for a mining lease has been made in accordance with such parameters as may be prescribed by the Government from time to time.

N.B- The aforesaid application for mining lease shall succeed the competitive bidding for mining lease for a specified mineral(s).

- **Sustainable Sand Mining Management Guidelines (SSMMG), 2016by MoEF& CC.**

  The sustainable sand Mining Management Guidelines 2016 has been prepared after extensive consultation with the States and Stakeholders over a period of one year. The main objective of the Guideline is to ensure sustainable sand mining and environment friendly management practices in order to restore and maintain the ecology of river and other sand sources.

a) Parts of the river reach that experience deposition or aggradation shall be identified first. The Lease holder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradation problem.

b) The distance between sites for sand and gravel mining shall depend on the replenishment rate of the river. Sediment rating curve for the potential sites shall be developed and checked against the extracted volumes of sand and gravel.

c) Sand and gravel may be extracted across the entire active channel during the dry season.

d) Abandoned stream channels on terrace and inactive flood plains be preferred rather than active channels and their deltas and flood plains. Stream should not be diverted to form inactive channel.

e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

f) Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

g) Segments of braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.

h) Sand and gravel shall not be extracted within 200 to 500 meter from any crucial hydraulic structure such as pumping station, water intakes, and bridges. The exact distance should be ascertained by the local authorities based on local situation. The cross-section survey should cover a minimum distance of 1.0 km upstream and 1.0 km downstream of the potential reach for extraction. The sediment sampling should include the bed material and bed material load before, during and after extraction period. Develop a sediment rating curve at the upstream end of the potential reach using the surveyed cross- section. Using the historical or gauged flow rating curve, determine the suitable period of high flow that can replenish the extracted volume. Calculate the extraction volume based on the sediment rating curve and high flow period after determining the allowable mining depth.

h) Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.

Flood discharge capacity of the river could be maintained in areas where there are significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross- section history.

i) Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.

j) The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, this sandy-gravelly track constitutes excellent conduits and holds the greater potential for ground water recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.

k) Mining depth should be restricted to 3 meter and distance from the bank should be 3 meter or 10 percent of the river width whichever less.

The borrow area should preferably be located on the river side of the proposed embankment, because they get silted up in course of time. For low embankment less than 6 m in height, borrow area should not be selected within 25 m from the toe/heel of the embankment. In case of higher embankment the distance should not be less than 50 m. In order to obviate development of flow parallel to embankment, cross bars of width eight times the depth of borrow pits spaced 50 to 60 meters centre-to-centre should be left in the borrow pits.

l) Demarcation of mining area with pillars and geo-referencing should be done prior to start of mining.

- **Enforcement & Monitoring Guidelines for sand Mining, 2020 (MoEF& CC)**

The Ministry of Environment Forest & Climate Change formulated the Sustainable Sand Management Guidelines 2016 which focuses on the Management of Sand Mining in the Country. But in the recent past, it has been observed that apart from management and systematic mining practices there is an urgent need to have a guideline for effective enforcement of regulatory provision and their monitoring. Section 23 C of MMDR, Act 1957 empowered the State Government to make rules for preventing illegal mining, transportation and storage of minerals. But in the recent past, it has been observed that

there was large number of illegal mining cases in the Country and in some cases, many of the officers lost their lives while executing their duties for curbing illegal mining incidence. The illegal and uncontrolled illegal mining leads to loss of revenue to the State and degradation of the environment.

a) Parts of the river reach that experience deposition or aggradation shall be identified. The Leaseholder/ Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradation problem.
b) The distance between sites for sand and gravel mining shall depend on the replenishment rate of the river. Sediment rating curve for the potential sites shall be developed and checked against the extracted volumes of sand and gravel.
c) Sand and gravel may be extracted across the entire active channel during the dry season.
d) Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.
e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.
f) Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.
g) Segments of the braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.
h) Sand and gravel shall not be extracted up to a distance of 1kilometre (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.
i) The sediment sampling should include the bed material and bed material load before, during and after the extraction period. Develop a sediment rating curve at the upstream end of the potential reach using the surveyed cross-section. Using the historical or gauged flow rating curve, determine the suitable period of high flow that can replenish the extracted volume. Calculate the extraction volume based on the sediment rating curve and high flow period after determining the allowable mining depth.
j) Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two-thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.
k) The flood discharge capacity of the river could be maintained in areas where there is a significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history. Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.
l) The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, this sandy-gravelly track constitutes excellent conduits and holds the greater potential for groundwater recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.

m) Mining depth should be restricted to 3 meters and distance from the bank should be ¼th or river width and should not be less than 7.5 meters.

n) The borrow area should preferably be located on the riverside of the proposed embankment because they get silted in the course of time. For low embankment, less than 6 m in height, borrow area should not be selected within 25 m from the toe/heel of the embankment. In the case of the higher embankment, the distance should not be less than 50 m. In order to obviate the development of flow parallels to the embankment, crossbars of width eight times the depth of borrow pits spaced 50 to 60 meter center-to-center should be left in the borrow pits.

o) Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.

p) A buffer distance /un-mined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.

q) A buffer distance /unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.

r) River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting environmental clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation or relaxation in this regard shall be adequately supported by the scientific report.

s) Mining Plan for the mining leases(non-government) on agricultural fields/Patta land shall only be approved if there is a possibility of replenishment of the mineral or when there is no riverbed mining possibility within 5 KM of the Patta land/Khatedari land. For government projects mining could be allowed on Patta land/Khatedari land but the mining should only be done by the Government agency and material should not be used for sale in the open market.

The minerals reserve for riverbed area is calculated on the basis of maximum depth of 3 meters and margins, width and other dimensions as mentioned in para (s) above. The area multiplied by depth gives the volume and volume multiplied with bulk density gives the quantity in Metric Ton. In case of riverbed, mineable material per hectare area available for actual mining shall not exceed the maximum quantity of 60,000 MT per annum.

Demand and Utilisation of Sand

Sand is a multi-purpose topographical material. It is known as one of the three fundamental ingredients in concrete. The composition of sand is diverse. Mostly sand is made of silica which is a common element. It can also come from another source of minerals like quartz, limestone, or gypsum.

From beds to flood plains to coastlines- we can find the sand at almost everywhere. The robustness of sand has played a significant role in everyday life. We use sand practically every other day.

Sand extraction from river beds and brick earth mining for making raw bricks are the main mining activities in the district. With a spurt in construction of real estate sectors and various govt. sponsored projects, the demand for both sand and bricks has increased manifold. The extraction of sand is carried out either manually or through semi- mechanized system. The depth of mining for both river bed sand and brick earth is restricted due to statutory provision in the regulations pertaining to conservation and development of minor minerals.

River sand mining is a common practice as habitation concentrates along the rivers and the mining locations are preferred near the markets or along the transportation route, for reducing the transportation cost.

In the real world, there are a lot of situations where we can find uses of sand. Followings are the common sand uses.

1. While bunging metal, we can mix sand with clay binder for frameworks used in the foundries.
2. Sand can be used for cleaning up oil leak or any spill by dredging sand on that spill. The material will form clumps by soaking up, and we can quickly clean the mess.
3. Sand can be used as a road base which is a protective layer underneath all roads
4. Industrial sand is used to make glass, as foundry sand and as abrasive sand.
5. One creative usage of sand is serving as a candle holder. We can try putting some sand before pouring tea light or any candle in a glass. It holds the candle still and refrain the candle from rolling by giving it an excellent decoration.
6. Adds texture and aesthetic appeal to space.
7. Sand is mostly pure to handle, promptly available and economically wise.
8. We use sand in aquariums, fabricating artificial fringing reefs, and in human-made beaches
9. Sandy soils are ideal for growing crops, fruits and vegetables like watermelon, peaches, peanuts, etc.
10. Sand can light a path by filling mason jars with sand and tea light which is another inexpensive way to make a walkway glow.
11. Sand helps to improve resistance (and thus traffic safety) in icy or snowy conditions.
12. We need sand in the beaches where tides, storms or any form of preconceived changes to the shoreline crumble the first sand.
13. Sand containing silica is used for making glass in the automobile and food industry- even household products for the kitchen.
14. Sand is a strong strand which is used for plaster, mortar, concrete, and asphalt.
15. The usual bricks formulated of clay only are way weaker and lesser in weight than blocks made of clay mixed with sand.

2.2 Methodology of DSR Preparation

The steps followed during the preparation of District Survey Report are given in Figure 2.1. The individual steps are discussed in following paragraphs.

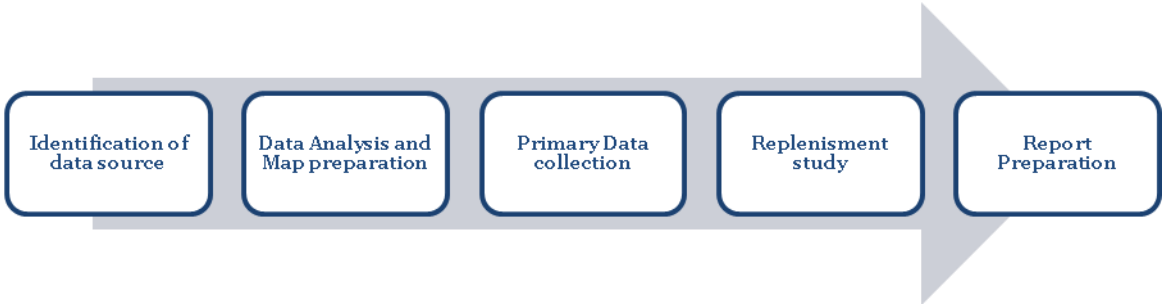


Figure 2.1: Steps followed in preparation of DSR

Data source Identification: District Survey Report has been prepared based on the Primary data base and secondary data base collected and collated from different sources. This is very critical to identify authentic data sources before compiling thedata set. The secondary data sources which are used in this DSR are mostly taken from public domain and or fromthe published report in reputed journal. Information related to district profile has been taken from District Census report,2011 and District Statistical Handbook published by the Govt. of West Bengal. Potential mineral resources of the district have been described based on the published report of Geological Survey of India (GSI) or any other govt. agencies like MECL etc. List of Mining lease, name of lease holder, lease/Block area, resource in already allotted mining lease, revenue from minor mineral sector etc. have been collected fromthe concern DL&LRO offices of the district. Satellite images have been used for map preparation related to physiography and land use/land cover of the district.

Data Analysis and Map preparation: Dataset which are captured during the report preparation, are gone through detail analysis work. District Survey Report involves the analytical implication of the captured dataset to prepare relevant maps.

Methodology adopted for preparation of relevant maps is explained below.

Land Use and Land Cover Map: Land Use and Land Cover classification is a complex process and requires consideration of many factors. The major steps of image classification may include determination of a suitable classification system via Visual Image Interpretation, selection of training samples, Satellite image (FCC-False Color Composite) pre-processing, selection of suitable classification approaches, postclassification processing, and accuracy assessment.

Here LISS-III satellite Imagery has been taken for Supervised Classification as supervised classification can be much more accurate than unsupervised classification, but depends heavily on the training sites, the skill of the individual processing the image, and the spectral distinctness of the classes in broader scale.

According to the Visual Image Interpretation (Tone, Pattern, Texture, Shape, Color etc.) training set of the pixel has been taken. Pictorial descriptions of Land Use classification are explained in Figure 2.2.

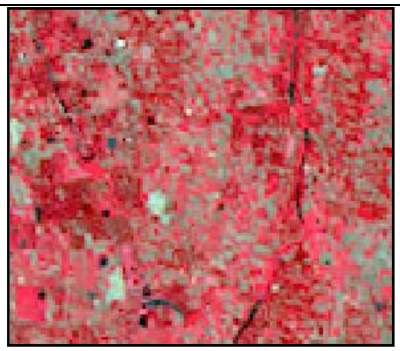
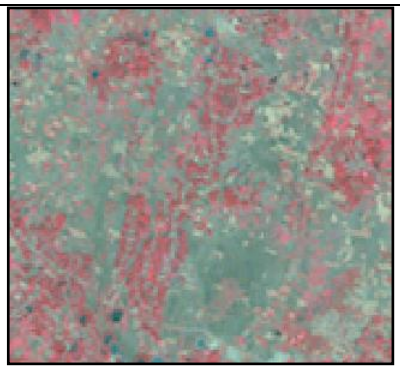
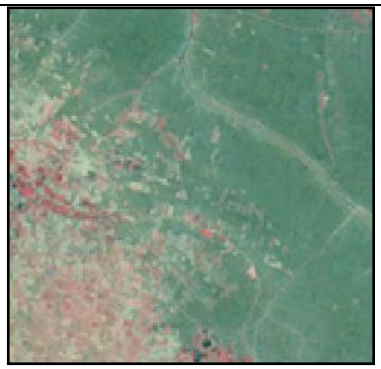
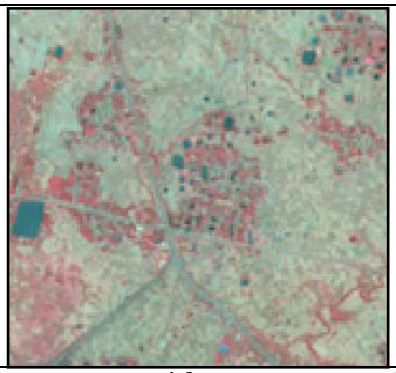
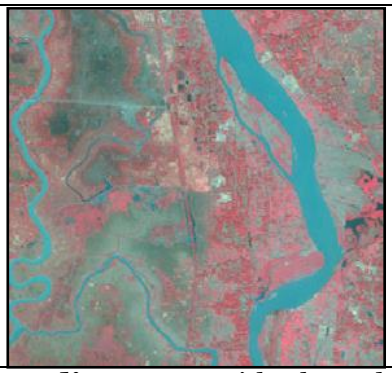
	
Agricultural Land - Based on their Geometrical shape, Red and Pink color tone, Agricultural Land has been identified.	**Vegetation Covered Area** - Area with continuous Red color tone, Vegetation Covered Area has been classified.
	
Agricultural Fallow Land - Based on their Geometrical shape, Yellowish green color tone, Agricultural Fallow Land has been identified.	**Bad Land Topography**- Area with Non geometrical shape and Yellowish green colortonehas been identified as Bad Land Topography.
	
Settlement – Area with some geometrical shape in a Linear Pattern including Light Cyan Colorhas been recognized as Settlement Area.	**Water Bodies –** Area with Blue color has been classified as Water Bodies.

Figure 2.2.2: Pictorial description of Land Use Classification methods

Geomorphological Map: The major step of preparing Geomorphological Map is identifying features like – Alluvial Fan, Alluvial Plain, Hilly Region etc. from Satellite Imagery

(FCC-False Colour Composite) via Visual Image Interpretation and then digitisation has been taken into the consideration to prepare map including all the Geomorphological features according to their location. Pictorial descriptions of Geomorphological unit's classification are explained in Figure 2.3.

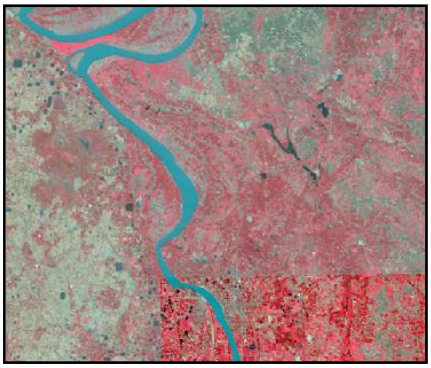
	
Flood plain-Floodplainis a generally flat area of land next to a river or stream. It stretches from the banks of the river to the outer edges of the valley. For Bankura District, Whole region has been classified as Flood Plain Area.	**OX-BOW Lake-** An ox-bow lake starts out as a curve, or meander, in a river. This "U" shaped body of water identified as Ox-Box Lake from Satellite Imagery.

Figure 2.3: Pictorial description of Geomorphological Units Classification methods

Physiographical Map: The major step of preparing Physiographical Map is generating contour at a specific interval to show the elevation of the area using Cartosat DEM.

Block Map/Transportation Map/Drainage Map:

- Raw Data collected from **National Informatics Centre (NIC Website) during Sept 2020.**
- Data has been geo-referenced using GIS software.
- Digitization of block boundary, district boundary, state boundary, international boundary, and district headquarter, sub–district headquarter, places, road, railway, river, nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Earthquake Map:

- Raw data collected from **Ministry of Earth Science.**
- Data has been geo-referenced using GIS software.
- Digitization of Earthquake zone and superimposed it over Block Boundary.
- Zone name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Soil Map:

- Raw data collected from **National Bureau of Soil Survey and Land Use Planning during Sept 2020.**
- Data has been geo-referenced using GIS software.
- Digitization of Soil classification zone and superimposed it over District Boundary.
- Soil classification has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Wildlife Sanctuary and National Park location Map:

- Raw data obtained from **ENVIS Centre on Wildlife & Protected Areas during August 2020.**
- Data has been geo-referenced using GIS software.
- Digitization of Wildlife Sanctuary&National Park and superimposed it over Block Boundary.
- Wildlife Sanctuary & National Park name has been filled in attribute table of the Layers

Final layout has been prepared by giving scale, legend, north arrow, etc.

Primary Data Collection: To prepare DSR, primary data has been collected and field work has also been carried out for the district. Field study involves assessment of the mineral resources of the district by means of pitting / trenching in specific interval. This provides clear picture of mineral matters characterization and their distribution over the area.

Replenishment study: One of the principal causes of environmental impacts river bed mining is the removal of more sediment than the system can replenish. Therefore, there is a need for replenishment study for riverbed sand in order to nullify the adverse impacts arising due to excess sand extraction. The annual rate of replenishment carried out on every river of the district to have proper assessment of the potential sand reserve.

Four times physical survey has been carried out by GPS/DGPS/ Total Station to define the topography, contours and offsets of the riverbed. The surveys clearly depict the important attributes of the stretch of the river and its nearby important civil and other feature of importance. This information will provide the eligible spatial area for mining.

Report Preparation: The district survey report portrays general profile, geomorphology, land use pattern and geology of the district. The report then describes the availability and distribution of riverbed sands and other minor minerals in the district. Apart from delineation the potential mining blocks, the report also includes inventorization of the minerals, recent trends of production of minor minerals and revenue generation there from. Annual replenishment of the riverbed sand has been estimated using field observation, satellite imagery and empirical formula. The road network connecting arterial road to potential mining blocks has been identified. Potential environmental impacts of mining of these minerals, their mitigation measures along with risk assessment and disaster management plan have also been discussed. Finally the reclamation strategy for already mined out areas is also chalked out.



GENERAL PART

3 General Profile of the district

a) General Information

Bankura is located in the western part of the State of West Bengal. It is a part of Bardhaman Division of the State and included in the area known as "Rarh" in Bengal. It ranks 4th according to population and literacy rate of 2001 Census in the State. The District Bankura is bounded by latitude 22°38' N and longitude 86°36' E to 87°47' E. River Demodar flows along the northern boundary of the district. The adjacent districts are Bardhaman in the north, Purulia in the west and Paschim Medinapure in the south (Figure 3.1). The Survey of India (SOI) toposheets covering the districts are 73I, 73J, 73M and 73N. (https://bankura.gov.in/)

Dwarakeswar and Kangshabati are the two major rivers of the district and Silabati, Gandheswari, Sali, Joyponda, Birai, Amoda are the other notable ones. Rice is the main crop of the district. Though the district is prone to drought it can raise surplus food productions in the years of good rainfall. Beside rice the other major crops are potato, wheat, mustard, etc. (https://www.bankura.org/site/Natural%20Resource-1.htm)

The district Bankura is divided into three Sub-Divisions, viz. Bankura (Sadar), Bishnupur and Khatra. There are 23 Police Stations in the district. Bankura (Sadar) Sub-Divisions has got 8 Police Stations namely Bankura, Chhatna, Saltora, Mejia, Gangajal Ghati, Barjora, Beliatore and Onda (Figure 3.2) (https://www.wikiwand.com/en/Geography_of_Bankura_district).

Bishnupur Sub-Division has got 6 Police Stations namely Bishnupur, Joypur, Kotulpur, Sonamukhi, Patrasayer and Indus. Khatra Sub-Division has got 9 Police Stations namely Indpur, Khatra, Hirabandh, Ranibandh, Barikul, Taldangra, Simplapal, Raipur and Sarenga.

There are 22 Community Development (C.D.) Blocks in the district. Bankura (Sadar) Sub-Division consists of 8 C.D. Blocks namely Bankura-I, Bankura-II, Chhatna, Saltora, Mejia, Gangajal Ghati, Barjora and Onda. Bishnupur Sub-Division consists of 6 C.D. Blocks namely Bishnupur, Joypur, Kotulpur, Sonamukhi, Patrasayer and Indus. Khatra Sub-Division consists of 8 C.D. Blocks namely Indpur, Khatra, Hirabandh, Ranibandh, Taldangra, Simplapal, Raipur and Sarenga.

The total number of urban units in Bankura is 5, out of which there are 3 municipalities i.e., statutory towns viz., Bankura, Bishnupur and Sonamukhi and 2 Census Towns viz., Barjora and Beliatore.

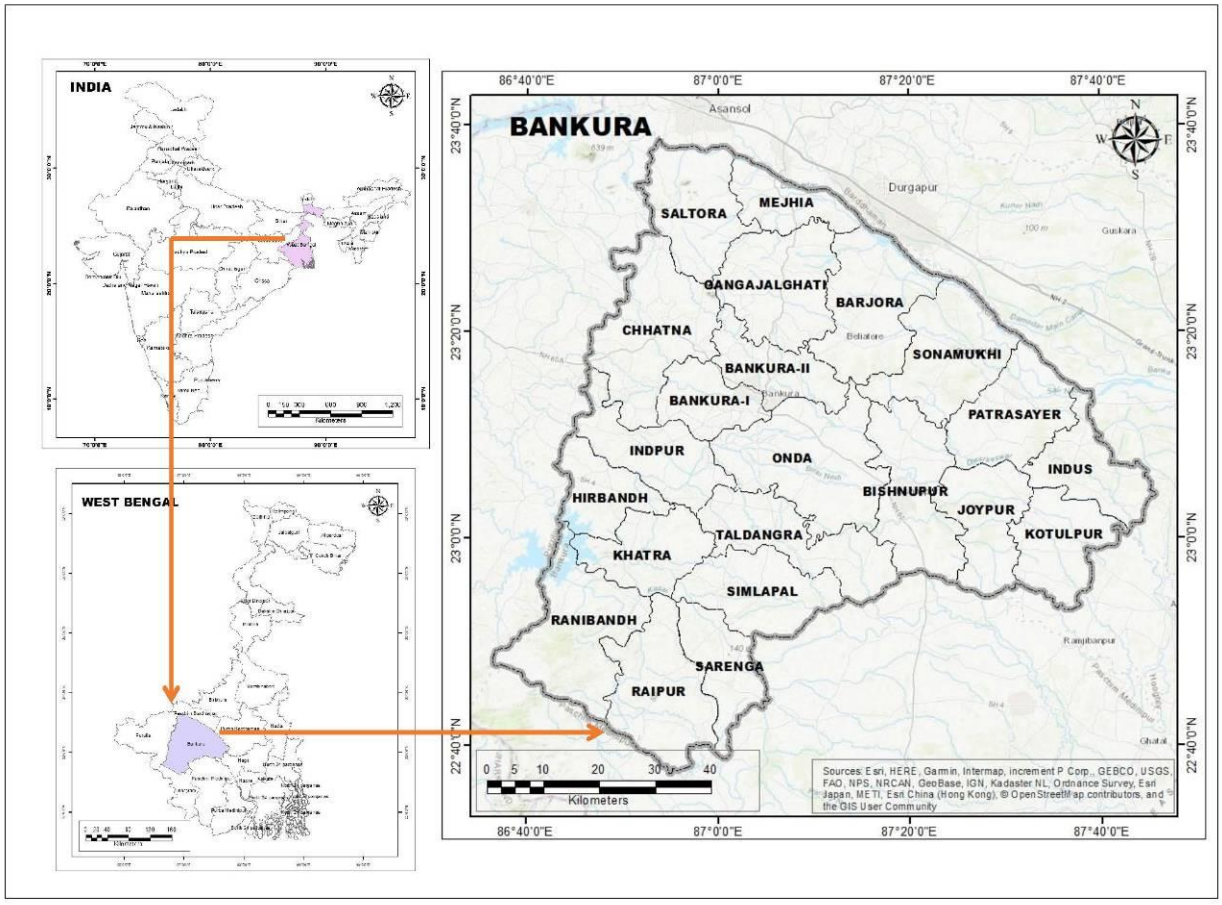


Figure 3.1: Location Map of Bankura
(Source: National Informatics Centre and ESRI Base Map)



Table 3.1: Block distribution of Bankura District

Sub-Division	Police Station	C.D.Block/M	Panchayat		
			Samity	Gram	Gram Sansad
Sadar Sub-Div.	**9**	**8/1**	**8**	**75**	**979**
	Bankura & Bankura Women P.S.	Bankura-I	1	6	82
		Bankura (M)	-	-	-
		Bankura-II	1	7	102
	Chhatna	Chhatna	1	13	147
	Saltora	Saltora	1	8	103
	Mejia	Mejia	1	5	65
	Gangajalghati	Gangajalghati	1	10	138
	Barjora Beliatore	Barjora	1	11	157
	Onda	Onda	1	15	185
Khatra Sub-Div.	**9**	**8/0**	**8**	**59**	**772**
	Indpur	Indpur	1	7	112
	Khatra	Khatra	1	7	86
	Hirbandh	Hirbandh	1	5	59
	Ranibandh Barikul	Ranibandh	1	8	90
	Taldangra	Taldangra	1	9	109
	Simplapal	Simplapal	1	7	105
	Raipur	Raipur	1	10	131
	Sarenga	Sarenga	1	6	80
Bishnupur Sub-Div.	**6**	**6/2**	**6**	**56**	**753**
	Bishnupur	Bishnupur	1	9	113
		Bishnupur(M)	-	-	-
	Joypur	Joypur	1	9	116
	Kotulpur	Kotulpur	1	8	141
	Sonamukhi	Sonamukhi	1	10	120
		Sonamukhi(M)	-	-	-
	Patrasayer	Patrasayer	1	10	134
	Indus	Indus	1	10	129
District Total- 3	**24**	**22/3**	**22**	**190**	**2504**

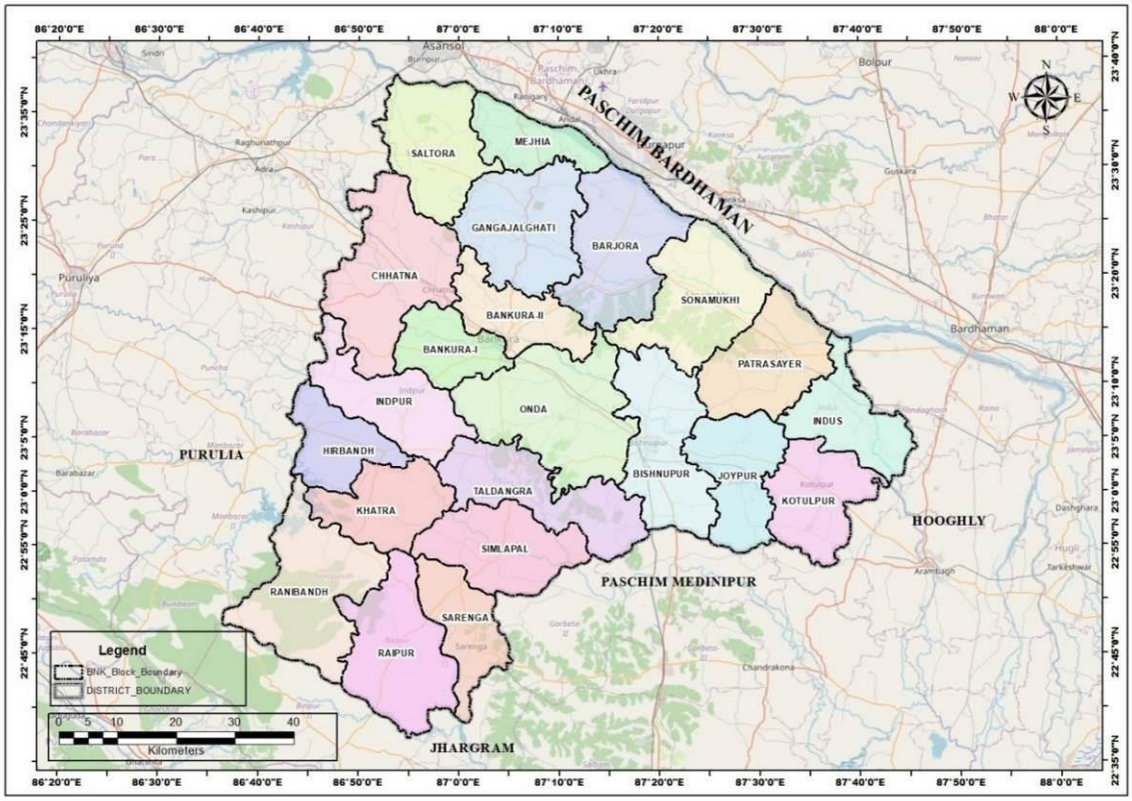


Figure 3.2: Block divisional map of Bankura
(Source: National Informatics Centre)

b) Climate Condition

District Bankura belongs to humid tropical monsoon climatic region. According to District Meteorological Department, there are very minor variation of temperature, rainfall and relative humidity in all over the district viz. north to south and west to east.

The district of Bankura experiences an extreme climate with high range of temperature. The climate of the district is characterized by oppressive heat and high humidity in summer with average daily maximum temperature varies between 26°C and 39°C. Winter is generally dry and cold with average winter temperature around 15° C. The year may be divided into four seasons. The cold season is from about the middle of November to the end of February. The period from March to May is the summer season. The south west monsoon season commences about the beginning of June and lasts till the end of September. October and the first half of November may be termed as post monsoon season. (https://www.imdpune.gov.in/library/public/Climate%20of%20WestBengal.pdf)

The Rarh plain of Bankura district in summer is humid and warm, while the winter is dry and cold. The annual average rainfall ranges between 130 cm and 140 cm. The average winter temperature is 15°C and the average summer temperature is about 30°C.

c) Rainfall

The average annual rainfall in the district is 1481.5mm. The variations in the annual rainfall within the district and from year to year are not large. The rainfall during the monsoon season – June to September – constitutes 74 percent of the annual rainfall; July and August are the rainiest months.The district receives a mean annual rainfall varying from 1334.3 mm. to 1780.2 mm. (https://hydro.imd.gov.in/hydrometweb/(S(c31xot2fu1lahs45tplr2vuh))/DistrictRaifall.aspx)

The information on annual rainfall for the five years from 2016 to 2020 for the district Bankura is given in Table 3.2. Average rainfall of the district explained graphically in Figure 3.3.

Table 3.2: Annual rainfall (in milimeter) recorded in Bankura District

Month	2016	2017	2018	2019	2020	Average
Jan	6.1	0	0	0	24.5	6.12
Feb	10.2	0	0.1	33.8	0.3	8.88
Mar	15.6	16.9	9.1	23.2	65.9	26.14
Apr	0.8	27.9	149.6	69.5	113.2	72.2
May	101.3	76.3	76.5	175.9	199.5	125.9
Jun	175.1	228.8	235	113.8	325.4	215.62
Jul	264.8	634.2	328.9	226	286.8	348.14
Aug	445.5	330.4	315.4	319.6	342.3	350.64
Sept	268.9	186.1	151	267.3	112.7	197.2
Oct	46.9	249.1	27.6	173.1	55.9	110.52
Nov	0.7	25.3	0.5	11.6	4.6	8.54
Dec	0	5.2	40.6	12.3	0	11.62
Yearly Total	1335.9	1780.2	1334.3	1426.1	1531.1	1481.5

Source: Website of Indian Meteorological Department, Govt. of India

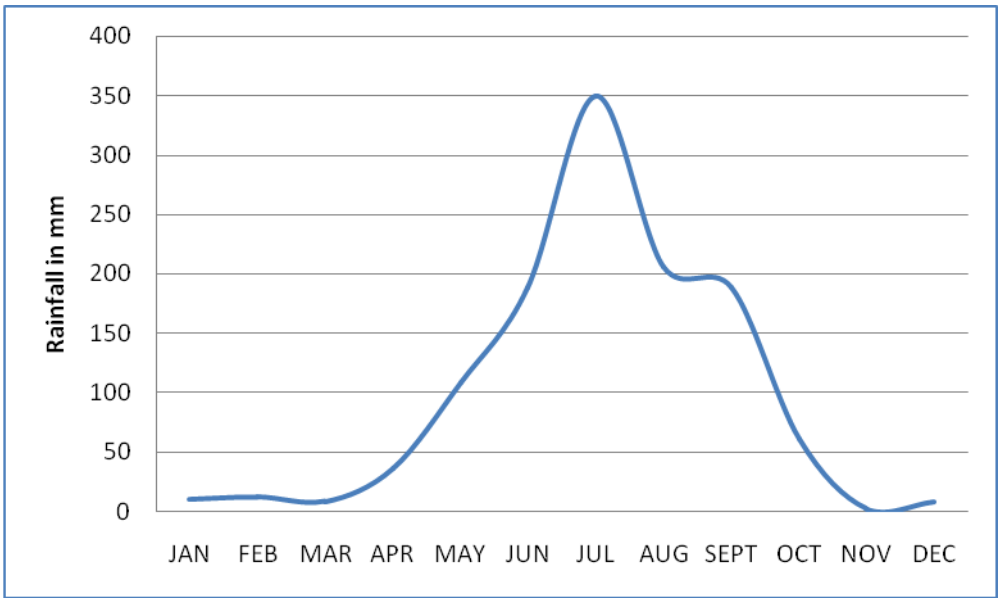


Figure 3.3: Graphical representation of Bankura District rainfall

- **Temperature:**

Temperature along with other meteorological conditions of the district is more or less uniform. The cold season commences by about the middle of November when the temperature begins to decrease.January is the coldest month with the mean daily maximum and minimum temperature at 26 ºC and 12ºC respectively. By about the end of February the temperature begins to increase and April is found as the hottest month, the mean maximum daily temperature is 38 ºC and the mean minimum daily temperature is 26 ºC. (https://en.climate-data.org/asia/india/west-bengal/bankura-55531)

The average maximum and minimum temperature recorded in Bankura is given in Table 3.3.

Table 3.3: Monthly mean temperature (in °C) distribution of Bankura District

Parameters	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Average Temperature (°C)	19.3	22.1	27.3	31.4	32.2	31.2	28.9	28.8	28.7	27	22.7	19.7
Minimum Temperature (°C)	12.5	15.2	20	24.3	26.4	26.4	25.7	25.7	25.3	22.7	16.7	13.1
Maximum	26.2	29	34.6	38.6	38	36	32.1	31.9	32.1	31.4	28.8	26.3



- **Relative Humidity, Wind speed & Wind direction**

Humidity is observed as high throughout the year, but in the summer months, March and April, the relative humidity is comparatively low, begins some 65 to 70 percent in the mornings and 35 to 40 percent in the afternoons. From May the humidity increases. Skies are moderately to heavily cloudy in May. In the south-west monsoon season; the cloudiness increases and skies are mostly heavily clouded or overcast. From October the cloudiness decreases and in the next six months skies are clear or lightly clouded. Winds are generally light or moderate, with a slight increase in force in the summer seasons.

d) Topography & Terrain

Bankura district has an area of 6,788 square kilometre. The district is covered by crystalline rocks of Precambrian age. Granite, Granite gneiss, micaschist, anorthosite, shale, quartzite, sandstone, limestone etc. are the principle types of rock in this district. The district lies within a thick mantle of laterite generally mountainous and with undulation (Figure 3.4).

Bankura district can be geologically divided in three categories According to the height of a total land area:

- High hilly region / Hard rock area: The areas as Saltora, Mejia, Khatra, Ranibandh, Gangajalghati etc., are collectively covering 176915 Ha and located in this region of higher elevation and hard rocks. Therefore, most of this area does not suitable with irrigation facilities.
- Uneven lands / Hard rock ring area: Bankura, Barjora, Chatna, Onda, Simlapal, Taldangra, Raipur, Sarenga etc., are located in suchuneven lands along with areas of hard rock ring andthe covers 150611 Ha as whole.
- Even alluvial lands / alluvial area: The landmass with evenly distributed alluvium found mainlyin Bishnupur, Sonamukhi, Patrasayer, Indus, Joypur, Kotulpur etc., which covers 56970 Ha.

Bankura consists of two different tracts. The western portion marks the gradual descent from the table land of Chhotanagpur to the delta of lower Bengal, consisting largely of spurs projecting from the western table land and of low swelling ridges. However, there is no marked ridge of hills. In the central portion of the district there are rolling downs eventually merging with the alluvial plains. Biharinath which is located near Saltora is the highest hill of the district having height of 1480 feet (451 metre). Susunia is the second highest hill of Bankura having height of 1450 feet (442 metre). These hills are found in the high hilly region/hard rock area in the western part of the district (Census, 2011).

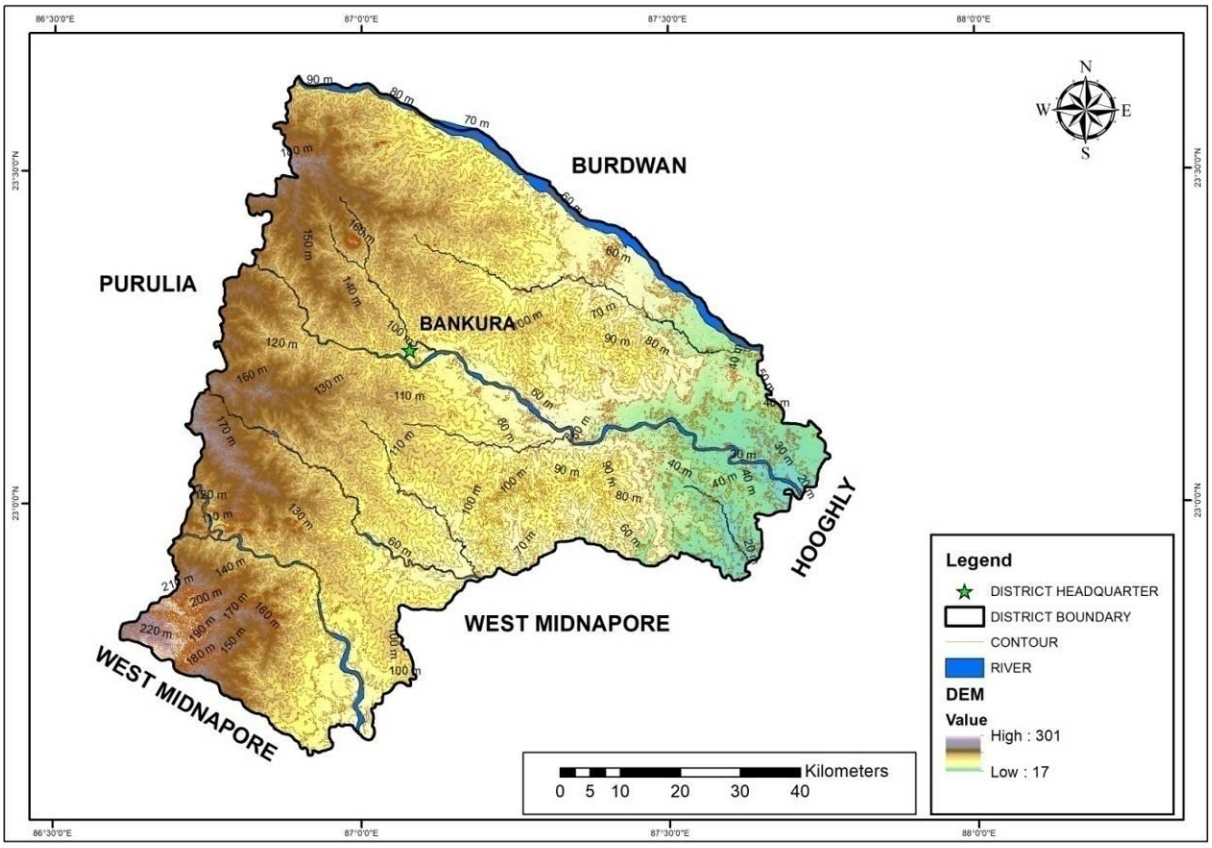


Figure 3.4: Physiographic map of Bankura District

(Source: Cartosat-1, Bhuvan India)

e) Water Course & Hydrology

Hydrological condition at a particular point is guided by topography, geology, and rainfall of the region. Central Ground Water Board (CGWB) has carried out detail hydrogeological investigation of the district. Figure 3.5 represents hydrogeological map showing the hydrogeological scenario of the district.

As per the CGWB report, the district Bankura displays diversified hydrogeological characters that do not have resemblance with the planes. Based on geology and mode of occurrence of groundwater the underline area of the district has been divided into three sectors (i) western sector covered by crystalline rocks of Archean age. (ii) Middle sector covered by laterite and Older Alluvium formation of Pleistocene age and (iii) Eastern sector covered by Recent Alluvium. Groundwater occurs in the district both unconfined condition and confined condition. The water table generally declines with the varying gradients from west, north-west

to east and south-east directions. In the western part of the district ground water occurs in the weathered mantle of varying thickness from 6m to 15m. In the middle sector, groundwater occurs in the moderately thick to thin aquifer under unconfined to semi confined condition. In the eastern alluvial area, groundwater occurs under confined condition below a blanket of clay whose thickness varies around 10m. (http://wbwridd.gov.in/swid/mapimages/BANKURA.pdf)

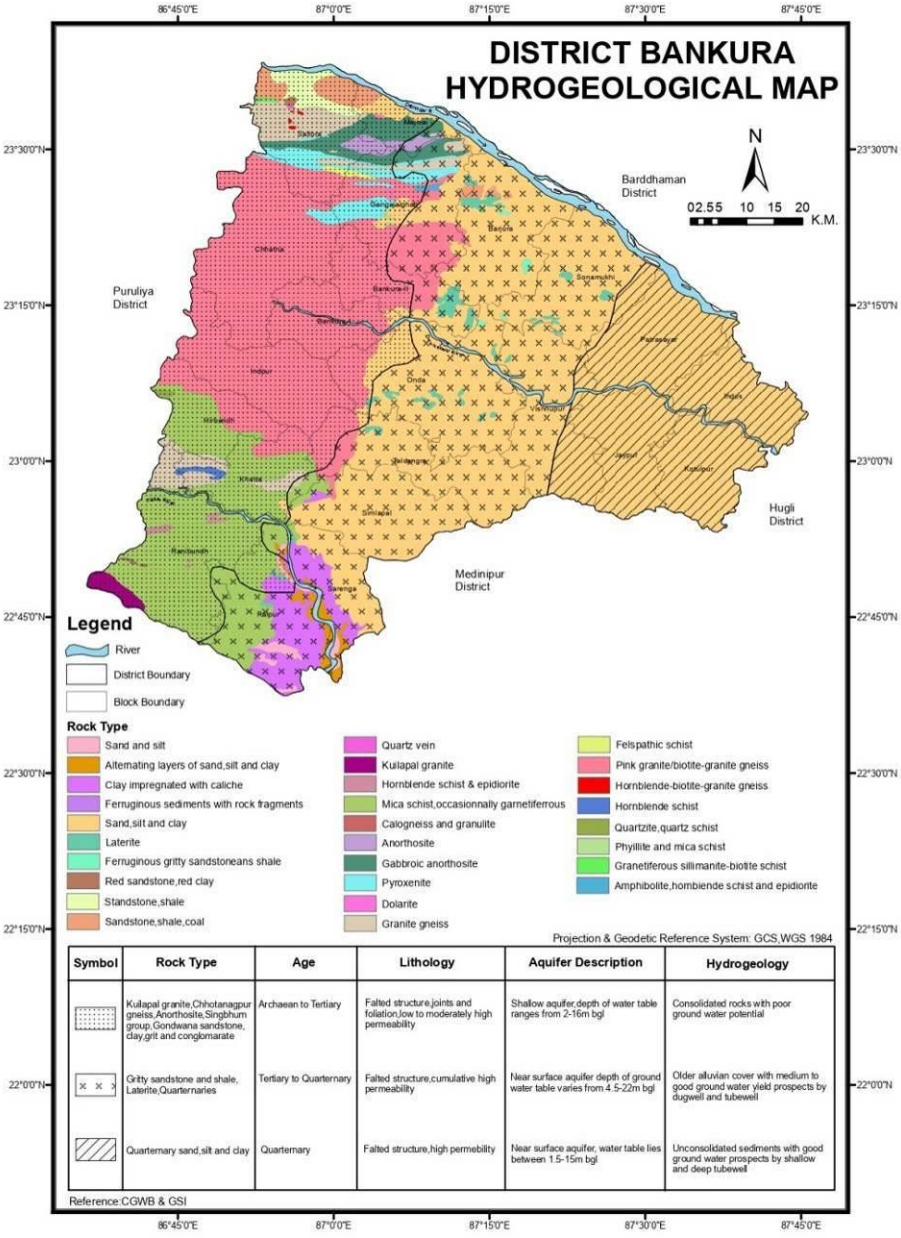


Figure 3.5: Hydrogeological map of Bankura district

f) Ground Water Development

Central Groundwater Board (CGWB) has carried out hydrogeological investigation in the Bankura district. The present report incorporates data published by CGWB. Water level data has been collected from both dug-wells and tube-wells.

Figure 3.6 represents water level fluctuation graph. Depth to water level in dug wells measured by CGWB varied from 0.81m to 17.78m bgl during pre-monsoon period with an average depth of 5.22m. During post-monsoon period, water level varies from 0.08m to 15.38m bglwith an average of 3.2m in the year 2011 to 2021. (https://indiawris.gov.in/wris/#/groundWater%20(CGWB%20website%20for%20Ground%20water%20data)

In the western sector comprising mainly of crystalline rocks ground water occurs in the weathered mantle of varying thickness from 6 e to 15 m under water table condition. In many parts of the area lateritic gravels lies on the weathered basement rock that attributes favourable condition for percolation of rain water. The block of Chatna, Bankura-I, Saltora, Gangajalghati, Ranibandh, Khattra, Hirbandh and Indpur falls under this sector.

In the middle sector covered by laterite and older alluvium, groundwater occurs in the moderately thick to thin aquifer under unconfined to semi confined condition. Heterogeneous character of the water bearing formation with complex aquifer geometry prevails in the area and is feasible for open dug wells of 10 to 15 m depth with 3 metre of diameter. The complete or parts of the blocks of Bankura II, Mejia, Taldangra, Simlapal, Raipur and Sarenga fall under this sector. Ground water occurs under confined condition below a blanket of clay whose thickness varies around 10 metre. In the eastern alluvial area of Indus, Kotulpur and Joypur blocks.

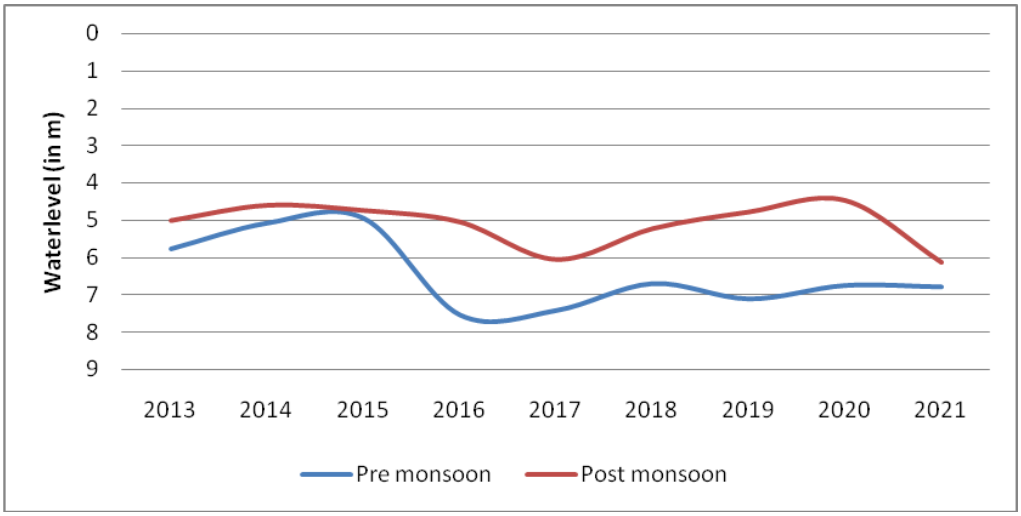
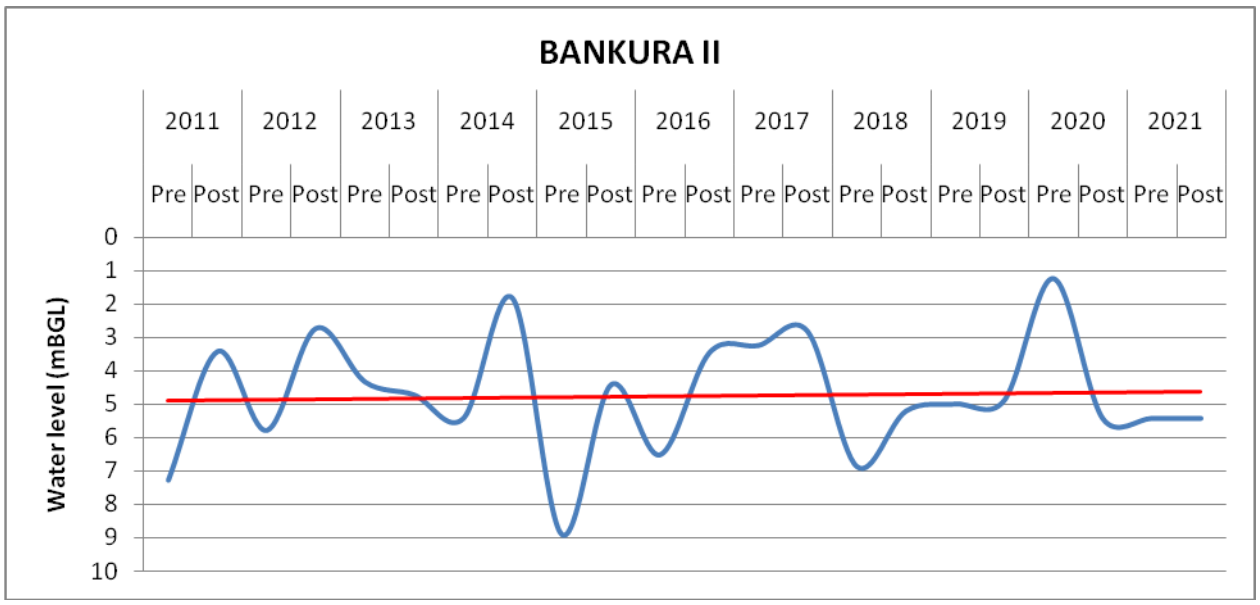
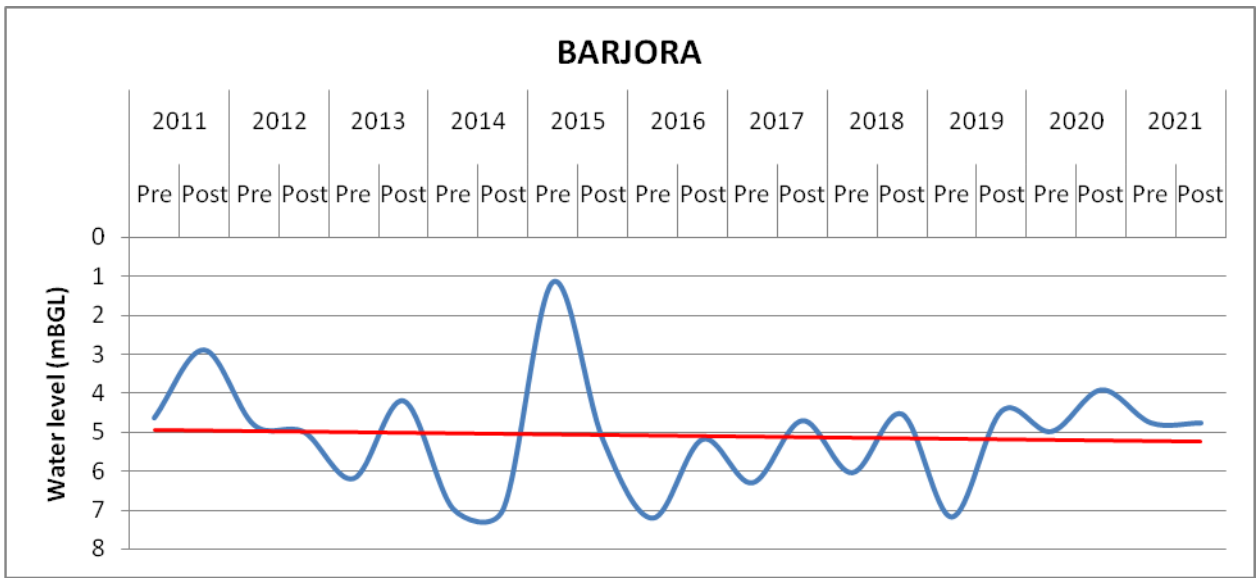


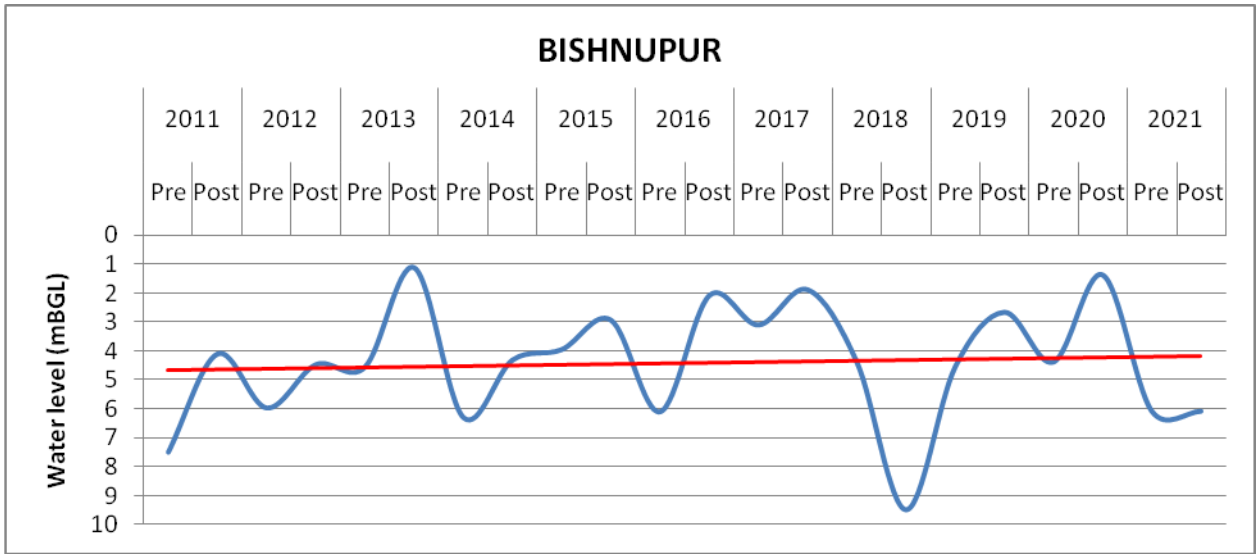
Figure 3.6: Graphical representation of pre-monsoon and post-monsoon water level data of sonamukhi, Bankura

Over all stage of ground water development is 46% in the Bankura district which implies safe stage (CGWB, 2017). Ground water resources estimation of 2013 (calculated using GEC 1997 Methodology) have been considered in case of Bankura, West Bengal. However, the groundwater development status is not uniform throughout the district.

Hydrographs showing variation in water level observed in between 2011 to 2021 in the district is given in Figure 3.7.






BISHNUPUR
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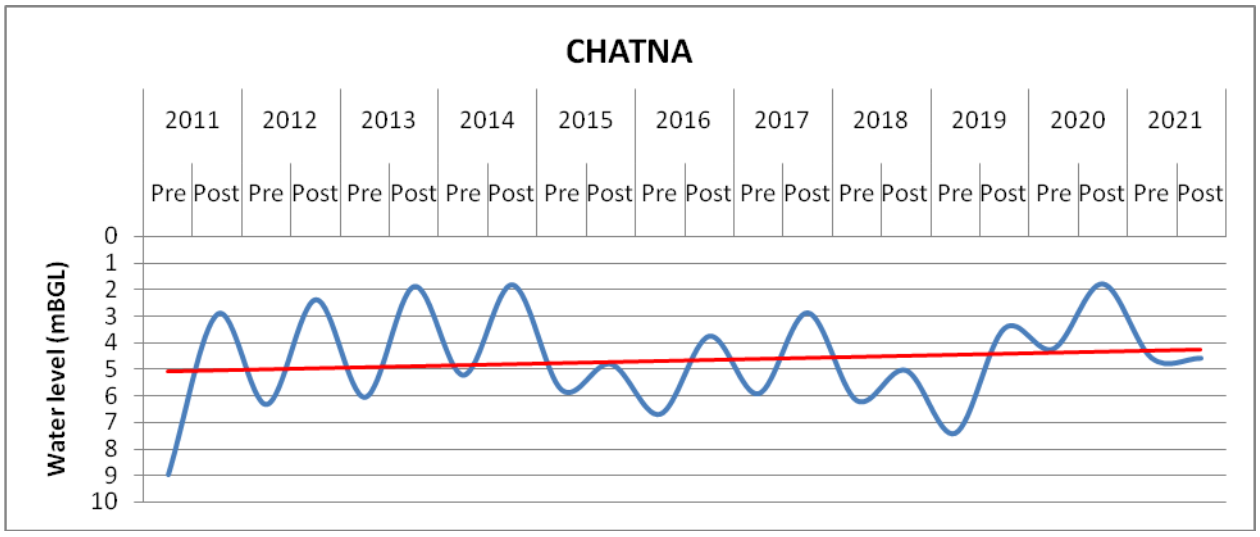
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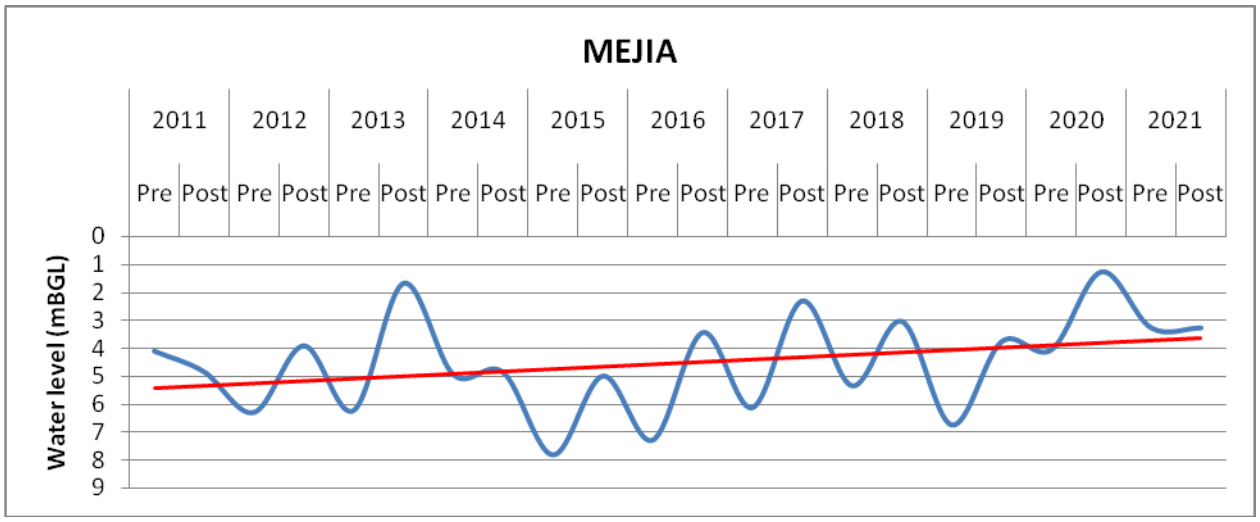
MEJIA
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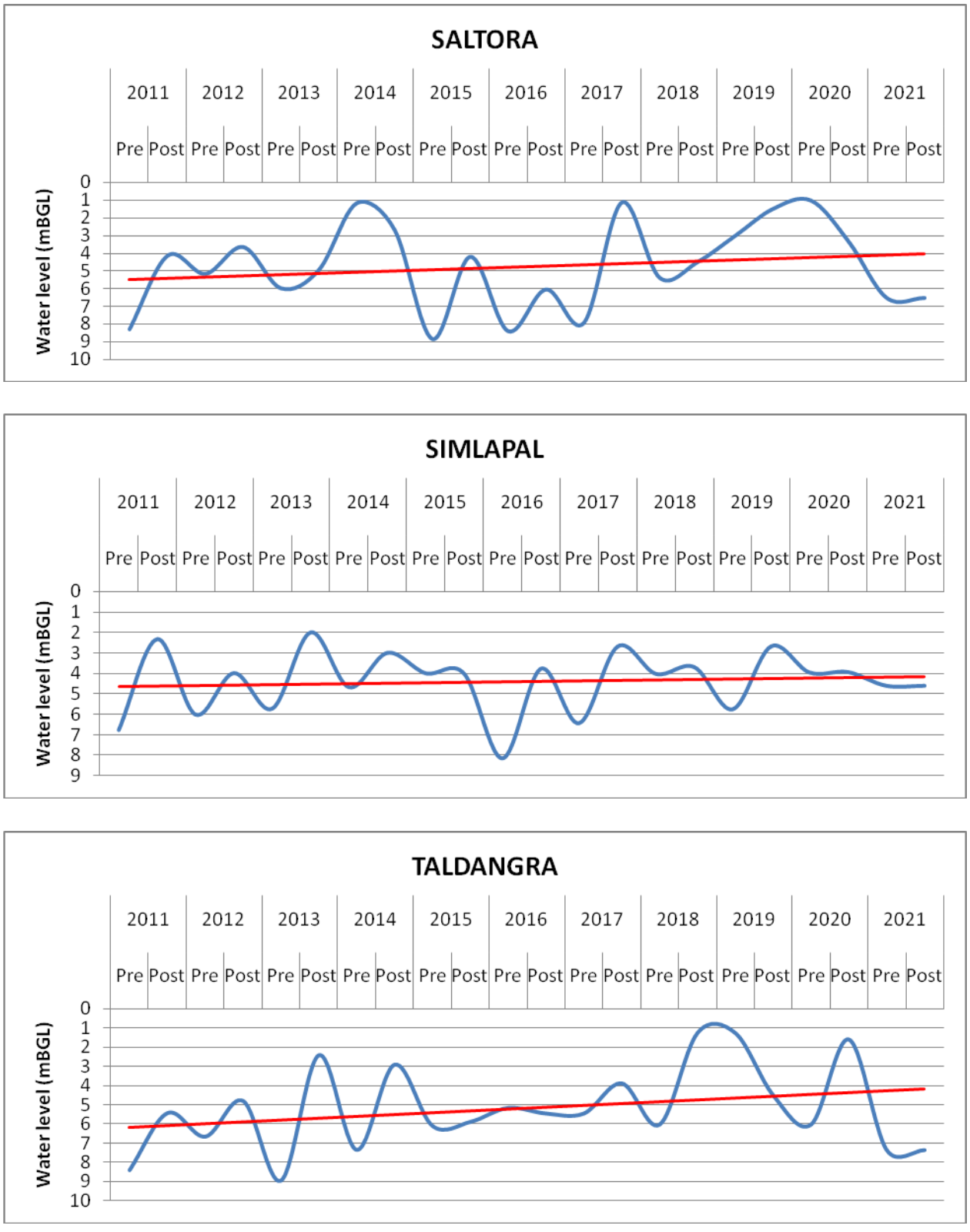


Figure 3.7: Block wise Hydrograph showing variation of water level during 2011 to 2021

g) Drainage System

The river system of district Bankura primarily consists of Damodar, Darkeswar and Kangsabati and their tributaries of which Gandheswari, Silai and Kumari are the most important.

All the rivers have a south-easterly flow and the rivers are almost parallel to each other. Damodar River rises in hilly country of Palamau district of Chhotonagpur and before it touches the Bankura it receives the water of many smaller hill streams including those of the Barakar, its principal tributary. The Dwarakeswar rises from neighbouring Puruliya district, flows through the middle of Bankura and divides it into two halves. The Silabati, popularly known as Silai, is the largest tributary of Dwarakeswar, the Joypanda is the principal tributary of the Silabati. The Kangsabati or the Kasai is the third largest river in the district, which rises in the hilly terrain of Jhalda C.D. Block in the adjoining district of Purulia and enters Bankura district in Khatra C.D. Block and after flowing for about 56 kms it enters Midnapur district at the south east corner. Also some other rivers or tributaries, like Gandheswari, Sali, Arkasha, Birai, Bodai etc. plays important role of the districts irrigation. All the rivers are seasonal, hence the district is drought prone. Drainage map of Bankura district is furnished as Figure 3.8 and in Plate 1A.

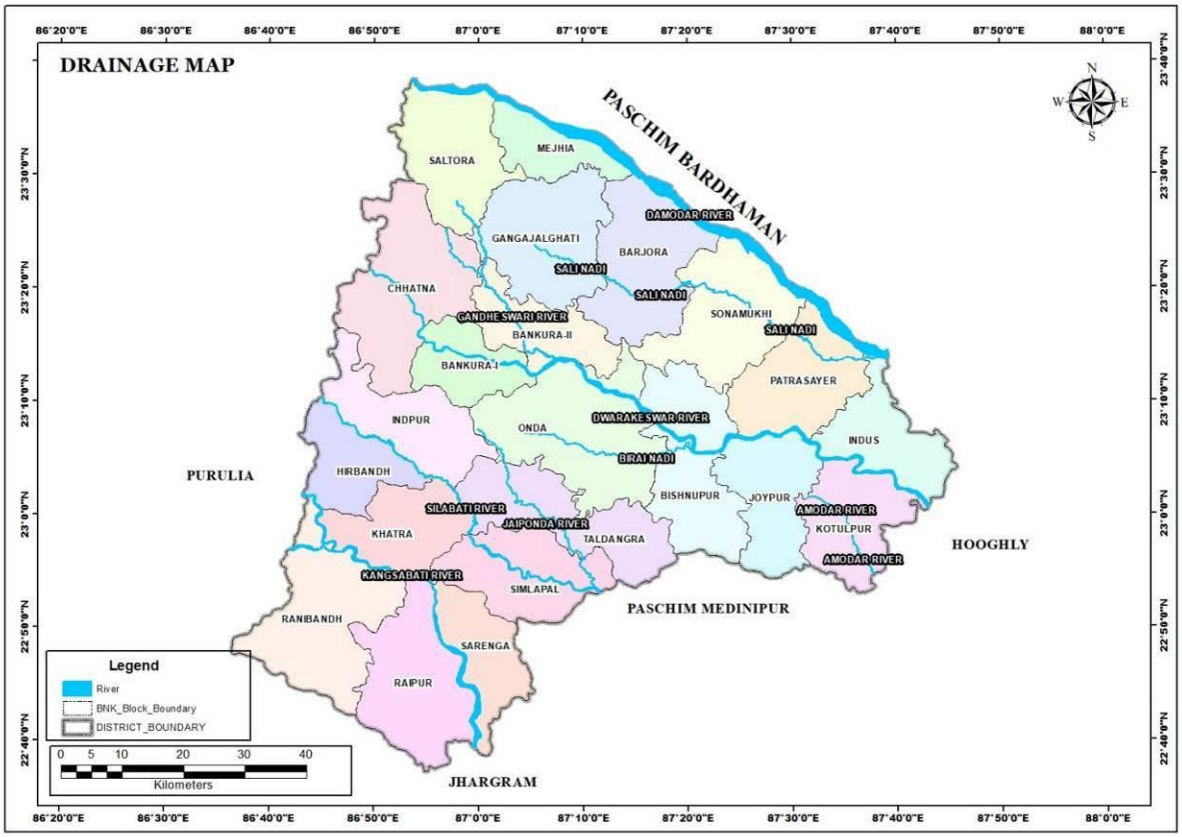


Figure 3.8: Drainage map of Bankura District

(Source: National Informatics Centre)

h) Demography

Bankura district covers an area of 6882 km2 and have a population, 3,596,674 according to Census 2011, of which 1,838,295 are males while 1,758,578 are females. Population of children with age of 0-6 is 418,650. The sex ratio is 957 women per 1000 male. Moreover child sex ratio in Bankura is around 949 per 1000 male. Literacy rate of Bankura is 70.26 % out of which, male literacy is around 80.05 % while female literacy rate is 60.05 %.

Table 3.4 shows the district demographic profile based on Census 2011. Block-wise literacy rate of the population is described as the percentage of literates. Figures 3.9 and 3.10 representing block wise population distribution and literacy rate respectively.

Table 3.4: Demographic distribution of Bankura District

Sub-Division / C.D.Block / M	Area (Sq. Km.) (2001)	House-holds	Total Population			Literacy Rate
			Male	Female	Total	
Sadar Sub-Division	**2596.11**	**302314**	**737323**	**701825**	**1439148**	**69.56**
Bankura-I	171.09	21917	55079	52606	107685	68.74
Bankura(M)	19.06	29807	69843	67543	137386	86.12
Bankura-II	220.84	29502	72302	68562	140864	73.59
Chhatna	447.47	40009	99523	95515	195038	65.73
Saltora	312.62	28115	69732	66248	135980	61.45
Mejia	162.87	17659	44575	41613	86188	66.83
Gangajalghati	366.47	37878	93252	87722	180974	68.11
Barjora	393.23	44421	103769	98280	202049	71.67
Onda	502.46	53006	129248	123736	252984	65.82
Khatra Sub-Division	**2407.49**	**220407**	**533335**	**512256**	**1045591**	**69.79**
Indpur	302.60	31668	80556	75966	156522	67.42
Khatra	231.82	25228	60058	56972	117030	72.18
Hirbandh	190.97	17249	42917	40917	83834	64.18
Ranibandh	428.51	25953	60290	58799	119089	68.53
Taldangra	349.74	31312	74999	72894	147893	70.87
Simlapal	310.15	29836	73008	70030	143038	68.44
Raipur	369.92	37141	87339	84038	171377	71.33
Sarenga	223.78	22020	54168	52640	106808	74.25
Bishnupur Sub-Division	**1870.05**	**244181**	**567437**	**544498**	**1111935**	**71.60**
Bishnupur	365.73	33793	79941	76881	156822	66.30
Bishnupur(M)	22.01	15074	34055	33728	67783	82.63
Joypur	263.82	34491	80138	76782	156920	74.57
Kotulpur	250.38	41119	96394	92381	188775	78.01

Sub-Division /	Area	House-	Total Population			Literacy
Sonamukhi	378.85	35022	81610	77087	158697	66.16
Sonamukhi(M)	11.65	6379	14988	14097	29085	86.25
Patrasayer	322.62	40653	93614	90456	184070	64.87
Indus	254.99	37650	86697	83086	169783	71.76
District Total	**6882.00**	**766902**	**1838095**	**1758579**	**3596674**	**70.26**

(Source: Census, 2011)

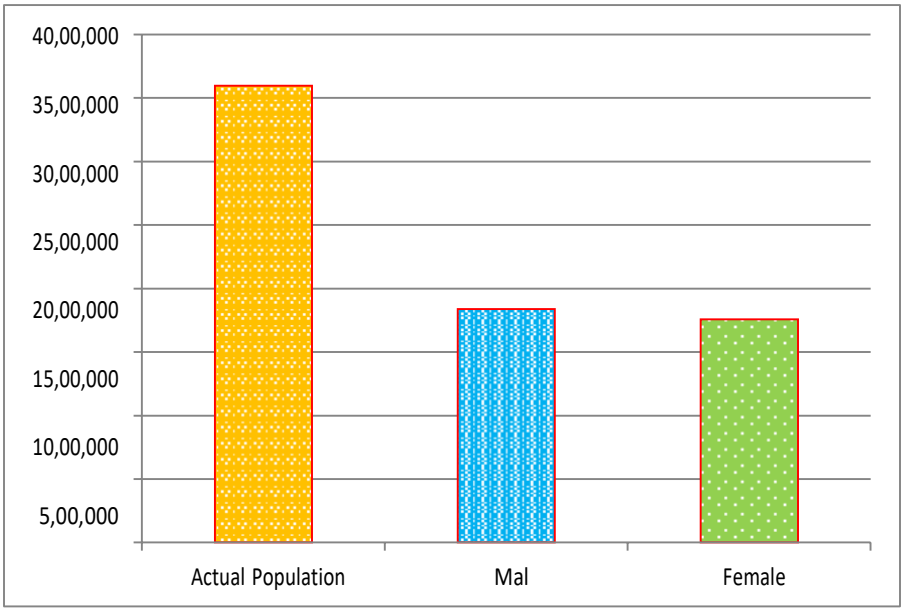


Figure 3.9: Population distribution of the District

(Source: Census, 2011)

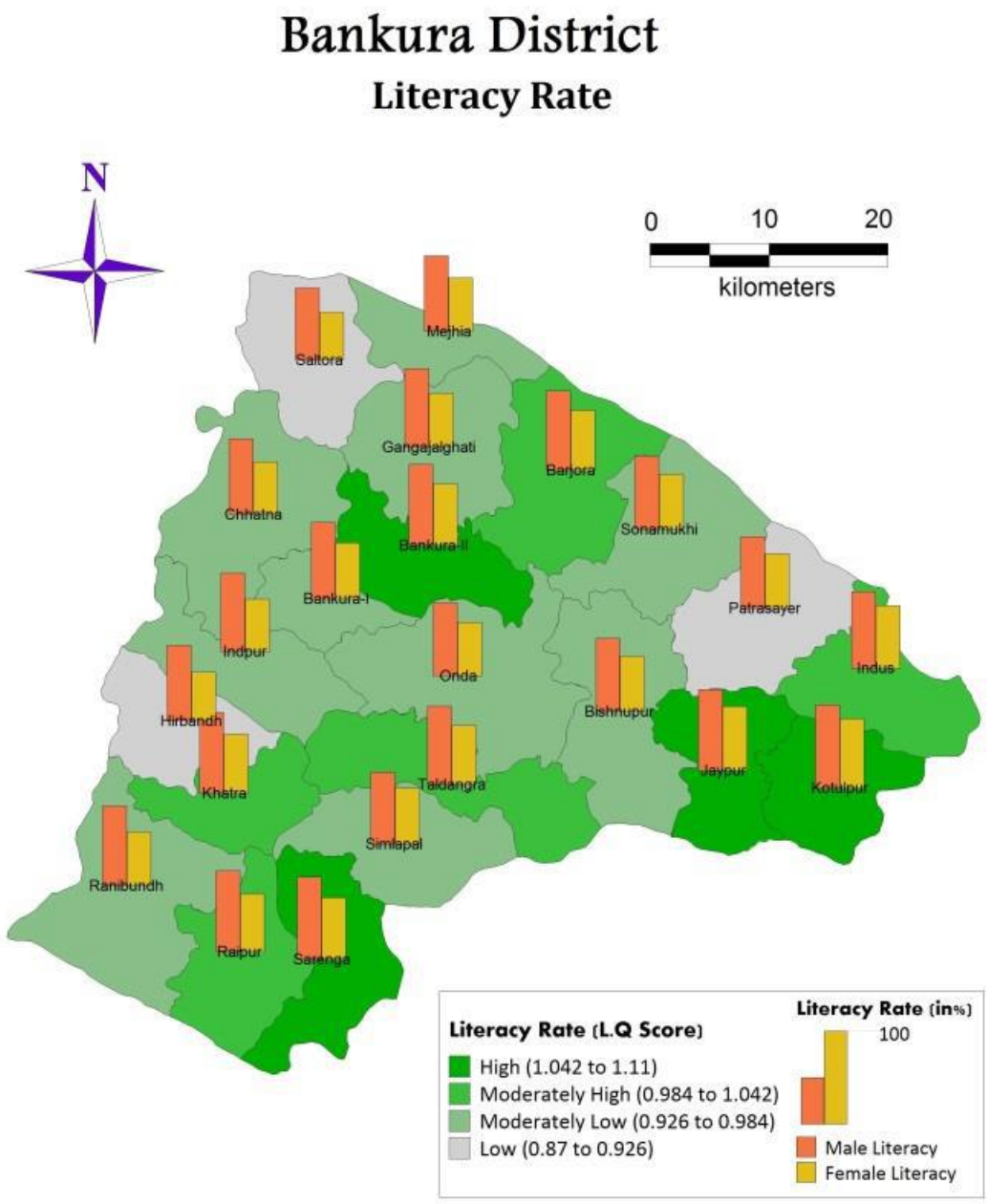


Figure 3.10: Demographic map showing Block-wise Literacy rate of the District

(Source: Census, 2011)

i) Cropping pattern

The economy of the district is primarily based on agriculture. Cultivation constitutes the main source of livelihood for the people in the district. The soil of the Bankura Upland is laterite which is red in colour which is covered with scrub jungle and

sal wood. The soil of the Bankura-Bishnupur Rarh Plain is red sandy, red loamy and alluvial. The Patrasayer Plain has shallow black, brown and alluvial soils consisting of sand and clay silts carried by the rivers. The Silai Plain has red sandy, shallow black, brown and recent alluvial soils. In the lower and southern part of the Middle Kasai Basin the brown and alluvial soils are found while red sandy, red loamy and black brown laterite soils are found in the western part of the region.

In the low-lying river basin areas of the district, aman paddy and maize are generally grown. Aman paddy, sugarcane, tobacco, betel leaves and vegetables are grown in the Bankura-Bishnupur Rarh Plain. Aman paddy, sugarcane, oilseeds, tobacco and other vegetables are abundantly grown in the Patrasayer Plain, the soil of which are more suited for these crops. Soil of Silai Plain is more suited for cultivation mainly for aman paddy. Other crops such as sugarcane and potatoes are also grown in the region.

j) Land Form and Seismicity

The district is broadly having three types of landforms, upland peneplain in the western part, undulating upper alluvial plain in the middle and lower alluvial plain in the north eastern part of the district. The uplands in the west accounts for around 25% of the total area are sloping, very often devoid of vegetation and prone to runoff and erosion. The area has shallow acidic soil with poor fertility and low water holding capacity. In the uplands which cover an area of 1,76,915 ha, cultivation of paddy is not remunerative. Seismologically, the district comes under seismic Zone –III.

The seismic hazard map of India was updated in 2000 (Figure 3.11) by the Bureau of Indian Standards (BIS). There are no major changes in the zones in West Bengal with the exception of the merging of Zones I and II of the 1984 BIS map. Western sections of the northern districts of Jalpaiguri and Coochbehar lie in Zone V. The remaining parts of these two districts, along with the districts of Darjeeling, Uttar Dinajpur, Dakshin Dinajpur, Maldah, 24 North Parganas and 24 South Parganas lie in Zone IV. The rest of the state along with the city of Kolkata lies in Zone III.

The maximum area of the district falls under the Seismic Zone III and rest of the part fall under Zone II, indicating the district under safe earthquake–prone zone.

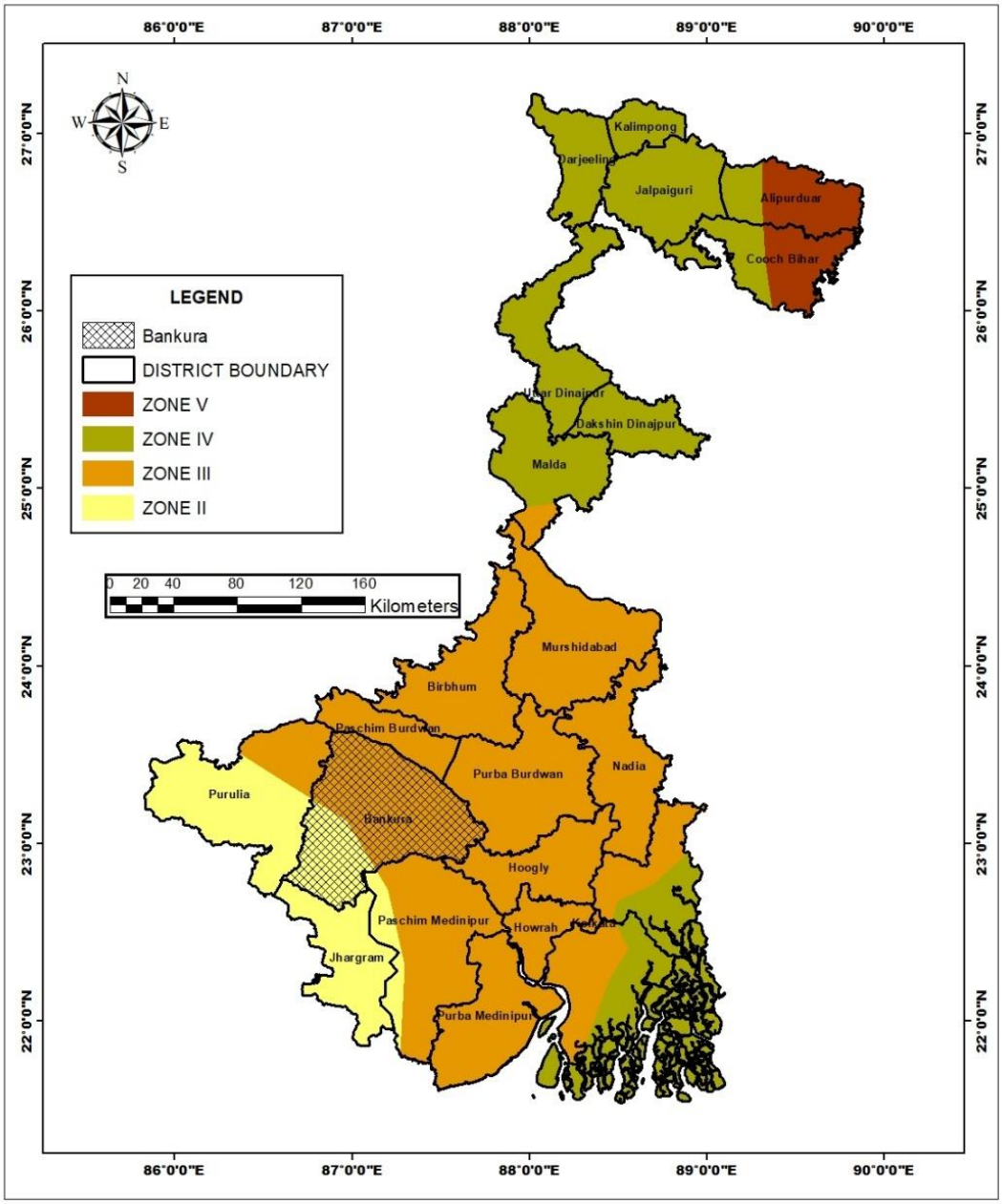


Figure 3.11: Earthquake zonation map of West Bengal highlighting the Bankura district position

(Source: https://pib.gov.in/PressReleasePage.aspx?PRID=1740656)

- **Floods:**

Bankura though being a rain fed district, it is widely known as the drought prone district of the State. Drought is a regular feature in the northwestern part of the district covering Chhatna, Saltora, Gangajalghati, Barjora, Bankura-I, Bankura-II, Mejia, Indpur, Hirbandh and Ranibandh Blocks. (http://wbdmd.gov.in/writereaddata/uploaded/DP/DPBankura77388.pdf)

Though this district receives good amount of rainfall, around 1400 mm annually per year yet cultivation and production of crop primarily depends on constricted period of eratic rainfall. About 80% to 90% rainfall is generally received by the district from June to September depending on the onset of monsoon.

A conspicuous feature of this district is the absence of significant rainfall in the month of September and October. High runoff rate of rain water, inadequate storage facilities of the surface runoff and low water holding capacity of the soil accelerate the drought situation.

High run off because of undulating terrain and lack of proper water-harvesting and micro watershed development makes the situation more precarious. After the arrival of monsoon the district registers many cases of flash-flood and inundation of many low-lying areas of the district in parts of Mejia, Barjora, Patrasayar, Kotulpur, Indus, Sonamukhi, Raipur, Sarenga Blocks adjoining the major rivers and their tributaries flowing through the district like Damodar, Dwarakeswar, Kangsabati, Shali and others.

There is no drainage problem in the district due to its undulating topography, yet the incidence of flood is not uncommon, due to siltation of rivers resulting in overflowing in case of heavy rain. However, heavy rainfall in the district and in the upper catchment areas of Damodar River, coupled with breaches of river embankments and release of excess water from Kangsabati and D.V.C Irrigation Project inundate kharif cropped areas in different parts of the district specially, in the Bishnupur Sub-division, that results in loss of crops, damage of houses and other properties.

Flood or flood like situation has attributed a new dimension to soil erosion by formation of "GULLY" due to tendency of the river (specially Shali at Sonamukhi and Patrasayer blocks) to change its course. This problem may interfere with the livelihood and habitat of the people, in the downstream areas in future.

k) Flora

The eastern portion of the district forms the part of the rice plain of West Bengal. The land under rice cultivation contains the usual marsh weeds of Gangetic plain. Aquatic plants and water weeds are found in ponds, ditches and strangnant streams. Around human habitations there are shrub species such as *Glycosmis, Polyalthia Suberosa, Clerodenaron infortunatum, Solanum torvum* and various other species of the same genus, besides Trema*, Streblus and Ficus hispida*. The larger trees are Banyan, Red Cotton Tree (*Bombax malabaricum*), Mango (*Mangifera indica*), Jiyal (*Odina wodier*), *Phoenix dactylifera and Borassus flabellifer*. Other plants found include *Jatropha gossypifolia, Urena, Heliotropium and Sida*. Forests or scrub jungles contain *Wendlandia exserta, Gmelina arborea, Adina cordifolia, Holarrhena antidysenterica, Wrightia tomentosa, Vitex negundo and Stephegyne parvifolia*.

The western portion of the district is higher. The uplands are either bare or covered with scrub jungle of *Zizyphus* and other thorny shrubs. This thorny forest gradually merges into sal

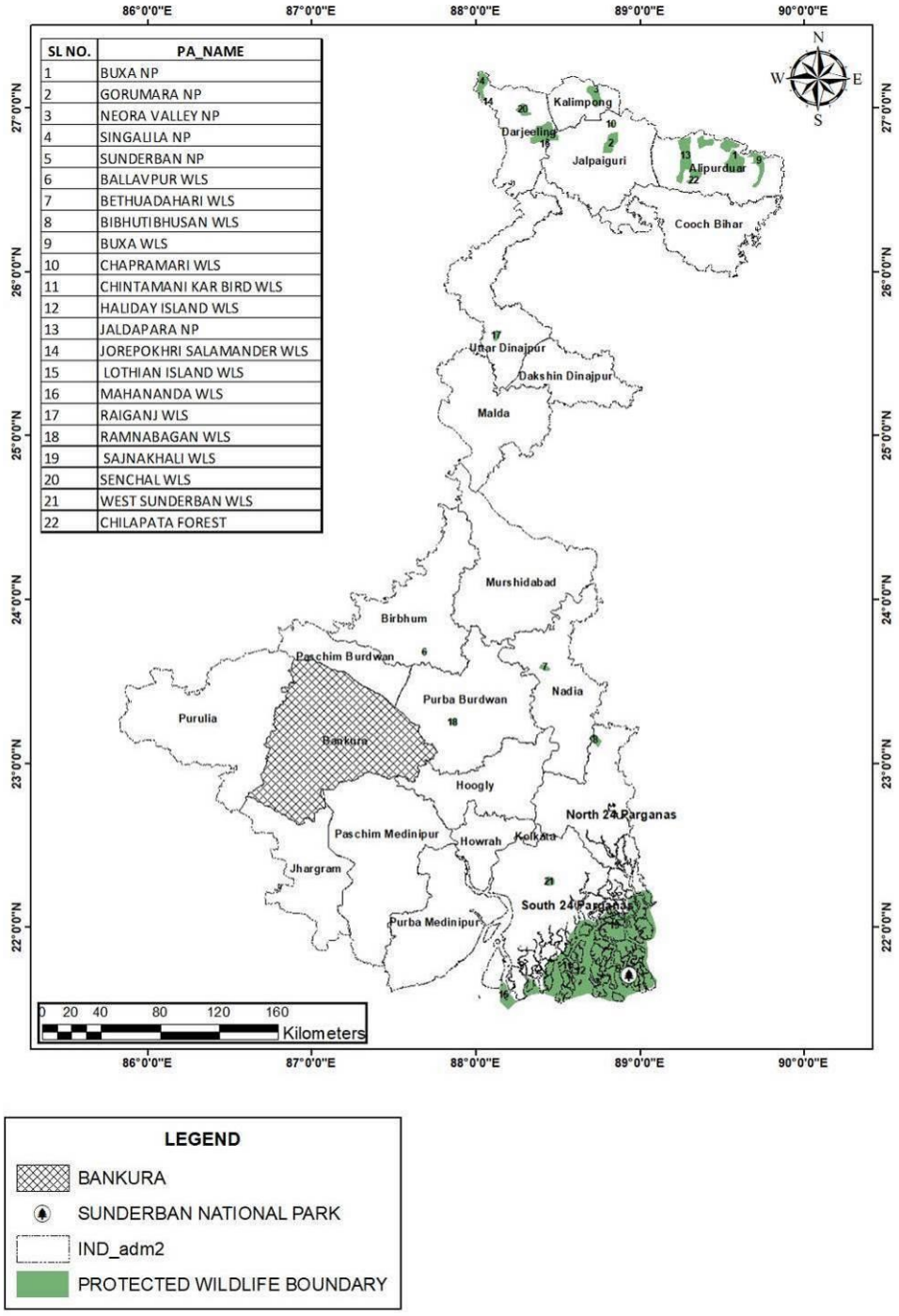
(*Shorea robusta*) forest. Low hills are covered with *Miliusa, Schleichera, Diospyros* and other trees.

Some of the common trees of economic interest found in the district are: Alkushi (*Mucuna pruriens*), Amaltas (*Cassia fistula*), Asan (*Terminalia tomentosa*), Babul (*Acaciaarabica*), Bair (*Zizyphus jujuba*), Bael (*Aegle marmelos*), Bag Bherenda (*Jatropha curcas*), Bichuti (*Tragia involucrate*), Bahera (*Terminalia belerica*), Dhatura (*Datura stramonium*), Dhaman (*Cordia macleoidii*), Gab (*Diospyros embyopteris*), Harra (*Terminalia chebula*), Imli (*Tamarindus indica*), Kuchila (*Strychnos nux vomica*), Mahua (*Bassia latifolia*), Palas (*Butea frondosa*), Sajina (*Moringa pterygosperma*), Kend (*Diospyros melanoxylon*), Mango, Date Palm, Neam, Papal, Banyan, Red Cotton Tree and Jiyal (Census, 2011).

l) Fauna

Denudation of forest has reduced the fauna of Bankura. Jackals and foxes are found in the forests of the district though leopard, panther or wolf, which was found in abundant earlier, has become rare. Sloth Bear and wild cats (ban biral) are found in small numbers. Common Otter (Bhodor) is found in ponds, tanks and rivers. The palm and small Indian civets (bham, khatas, gandhagokul), the small Indian mongoose and the Indian grey mongoose (neul), the nocturnal hyaena, wild pig (buno suar), the common hare (khargosh), lal-bandar, the langur (hanuman), squirrel, porcupine etc. are familiar animals of the district. Water-holes have been dug at suitable places in the Ranibandh area to attract wild life. Many species of snakes are found in the district viz. python (mayal), cobra (keute, gokhro), common and banded kraits, Russel's viper (Chandrabora), rat snake (dhamna), checkered keelback (heley) and Enhydris (dhonra) are prominent. The numerous species of birds are found in the district (Census, 2011).

Location of Wild Life Sanctuary and National Parks are shown in the Map of West Bengal (Figure 3.12). As per the map of ENVIS Centre on Wildlife and Protected Areas, there is no National Park or Sanctuary situated within the Bankura district. Hence, mining of river bed can be promoted in the district.



SL NO.	PA_NAME
1	BUXA NP
2	GORUMARA NP
3	NEORA VALLEY NP
4	SINGALILA NP
5	SUNDERBAN NP
6	BALLAVPUR WLS
7	BETHUADAHARI WLS
8	BIBHUTIBHUSAN WLS
9	BUXA WLS
10	CHAPRAMARI WLS
11	CHINTAMANI KAR BIRD WLS
12	HALIDAY ISLAND WLS
13	JALDAPARA NP
14	JOREPOKHRI SALAMANDER WLS
15	LOTHIAN ISLAND WLS
16	MAHANANDA WLS
17	RAIGANJ WLS
18	RAMNABAGAN WLS
19	SAJNAKHALI WLS
20	SENCHAL WLS
21	WEST SUNDERBAN WLS
22	CHILAPATA FOREST

Figure 3.12: District location with respect to Wild LifeSanctuary of West Bengal

(Source: http://wiienvis.nic.in/)

4 Physiography of the district

4.1 General Landforms

The district is described as the "connecting link between the plains of Bengal on the east and Chota Nagpur plateau on the west." The areas to the east and north-east are low lying alluvial plains, similar to predominating rice lands of Bengal. To the west the surface gradually rises which gives way to undulating country, interspersed with rocky hillocks. Much of the district is covered with jungles. The regions of the district could be divided into broad three parts viz. the hilly areas to the west, the connecting undulating tract in the middle, and the level alluvial plains to the east.

The greater portion of the district consists of a rolling country covered by laterite and alluvium. Metamorphic or gneissose rocks are found in the extreme west and in the east there is a wide plain of recent alluvium. Strong massive rocks of hornblendic varieties stretch across the region in tolerably continuous lines, the general strike being nearly east and west.

The most characteristic geological feature of the district is the area of laterite and associated rocks of sand and gravel. At some places one finds hard beds of laterite. At other places it is decomposed and reorganised. Locally, the ferruginous rock is called kankar. The calcareous concretions, commonly used as the sources of lime, are known as ghutin.

The Gondwana system is represented in the northern portion of the district, south of the Damodar between Mejia and Biharinath Hill. The beds covered with alluvium contain seams of coal belonging to the Raniganj system.

Topographically the district has been divided into 6 sub-micro regions viz.

1. Main Bankura Upland – characterized by undulating terrain with many hills and ridges along the north-western boundary of the district and having a gradual descent from the Chhatonagpur plateau.

2. Bankura Upland – continuation from the main Bankura Upland lies over a small tract in the south-east corner.

3. Bankura–Bishnupur Rarh Plain – the elevation rises gradually in undulating surface but abruptly in hilly tract towards west extending between western hilly tract and eastern alluvial plains, the height of the hillocks ranges in the region from 90 to 180 m respectively.

4. Patrasair Plain – a fertile plain area with a gradual slope towards south-west located in the north-eastern part.

5. Selai Plain – a plain area with few undulations in the west which extends to the south-central part.

6. Middle Kasai Basin – mainly a plain area shaped by the Kasai River flowing from north-west to south-east and covers the north-western part of the district.

Average elevation of the district from mean sea level is 448 m.

4.2 Soil and rock pattern

Soil of Bankura district can be broadly grouped into three principal types viz. (1) Red Soil (2) Alluvial Soil and (3) Laterite Soil. Typical red soil has limited distribution in the south central, south-eastern and south western parts of the district around Bishnupur, Kotulpur and Raipur blocks respectively. They are the red coloured sedentary soil (i.e. those formed from residual parent materials) found mainly on laterites supporting Sal vegetation. They are also found along the margins of small hills bare of vegetation. They are free from $CaCO_3$, low in base exchange capacity and have a highly unsaturated base. They may be derived from laterites by a process of resilicification by ascending ground water but cannot be grouped either as laterites or laterite soil.

Brown soils from a group within this class which are also sedentary in nature, mainly derived from rocks like sandstone, granite gneiss and schists. The alluvial soils, which have wide distribution in the east-central and southeastern parts of the district, are grouped according to soil association as Damodar-Rajmahal riverine, Damodar flatlands, Damodar highlands etc.

The older alluvial amongst them is unaffected by floods and siltation and show profile development, whereas the younger or newer alluvial, found mostly in the Damodar flatland areas are enriched by silt deposition during floods. Such areas are characterised by high water table, a heavy sub-soil and occurrence of brown concretion at lower depths.

The laterite soils have wide distribution in the south-central to the south western part of the district. Such soils are distinguished from the red soils by the occurrence of ferruginous concretions in a definite layer, whereas in the red soils they are distributed throughout the profile.

According to the textural types, soils of the district can be classified under the following types: (1) Sandy (2) Sandy Loam (3) Loam (4) Sandy Clay Loam (5) Clay Loam (6) Clay.

Clay, clay dominated loam and loamy soils are mostly confind to the flood plains of the Damodar and the Dwarkeswar rivers through sporadic occurrences. This type of occurrences is also seen in other small river valleys. The district as a whole is covered generally by sandy loam.

Figure 4.1 is showing soil pattern of the Bankura district.

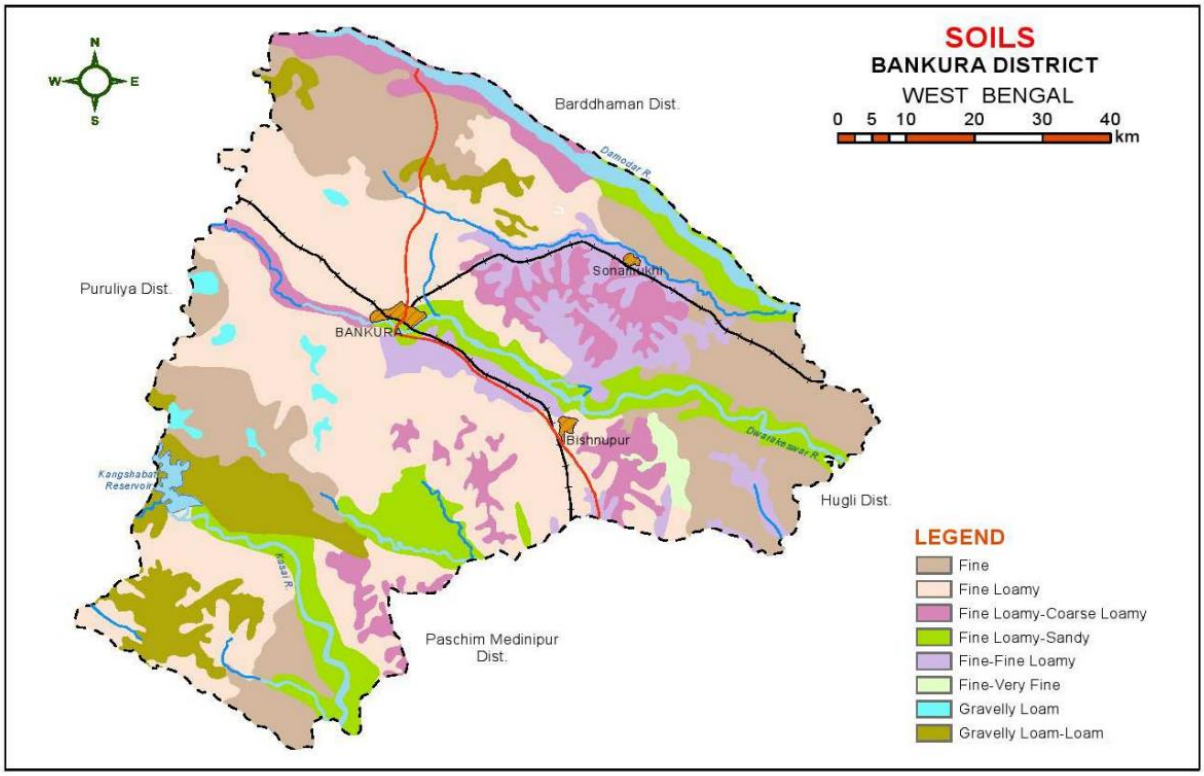


Figure 4.1: Soil Map of Bankura District
(Source: https://esdac.jrc.ec.europa.eu/content/west-bengal-soils-sheet-2)

4.3 Different geomorphologic units

The district forms an intermediate tract in between the alluvial plain and the complex plateau of Chhotanagpur and presents a variety of landforms. The principal rivers of the district have a gradual descent from northwest to south- east almost parallel to each other following the natural trend of the landscape having flow of water with their origin in the western upland tract.

According to genesis and evolution of landforms, the district can broadly be divided into two divisions viz.

1. Dissected plateau being the eastern fringe of Chhotanagpur region in the west and
2. The undulating alluvial plain in the east.

On the basis of surface forms and stage of development these two groups are further sub-divided into the following geomorphic units (Soils of Bankura District, Soil Survey Report No. 491).



1. **Dissected Plateau interspersed with Valleys**

    a. Moderate to strongly sloping land having residual isolated hills, hillocks and piedmonts occuring in the western part of the district. The surface has been denuded leaving exposed areas of bare hard rocks. Archaean rocks composed of gneiss, schists and granites occupy most of the areas. Quartz veins and pegmatites with phyllites occur in the south west in Ranibandh, Raipur and Khatra areas. Soils developed on hillocks are shallow to moderately deep, gravelly sandy loam and severely eroded.
    b. Gently to moderately sloping lands interrupted by mounds and valleys lie adjacent to the western hill-tract. The latitudinal spurs from the west parallel to the rivers gradually merge into the alluvium in the east. At places, gneissic rocks are exposed. The soils occurring on low mounds and hillocks of low magnitude and piedmont are shallow to very deep and gravelly sandy loam to sandy clay loam.
    c. Western upland tract having gneissic rocks underneath is covered with alluvium and lateritic mass. Soils occurring on this gently sloping tract are deep to very deep and sandy loam to clay loam.
    d. The highly gullied lands are mostly marked along the courses of the streams and rivulets in the west. On descending slopes they carry the loose material to the lower reaches creating eroded ravine area.

2. **Undulating Alluvial Plain**

    a. To the east of the dissected piedmont the upper undulating alluvial plain extends up to the western part which is under Joypur Police Station jurisdiction. Soils are mostly derived from decomposed rocks deposited by the streams. The Older Alluvium of middle Pliestocene age occupy comparatively larger land mass and is coarse in texture with reddish colour. The Older Alluvium is capped by lateritic rocks.
    b. The Younger Alluvium of sub-Recent to Recent age contains assorted material which covers the eastern part of the district. Such alluvium is thick and is running into several scores of metre. The level topography results in the formation of extensive alluvial tract in the east.
    c. Flood plains are mostly confined along the, main rivers and streams. Most of the rivers have steep banks in their upper reaches and allow sudden discharge to move down stream where the low banks fail to contain the water causing floods. Thus, riverbed aggradation and heavy rainfall accelerate the rate of formation of the flood plains. The soils are medium fine to fine in texture.

Figure 4.2 shows the geomorphological variation of Bankura district.

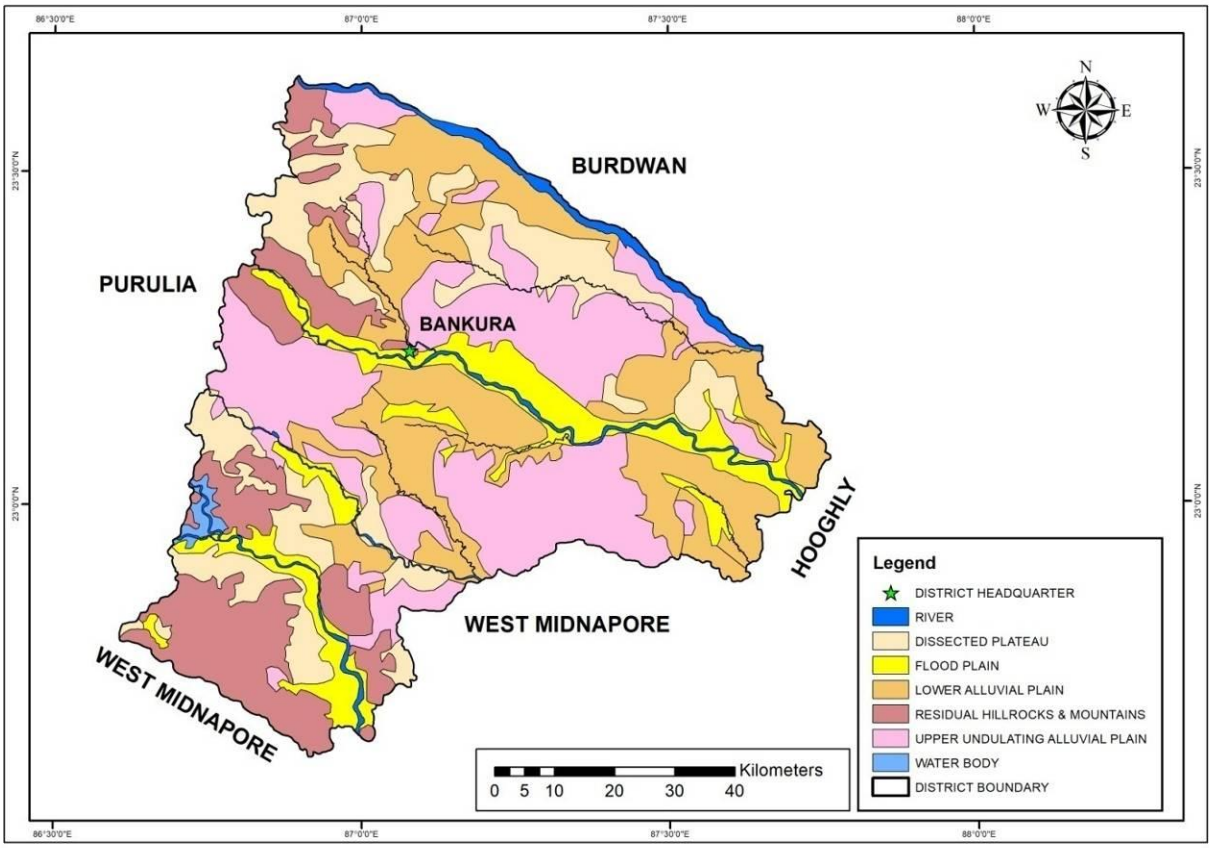


Figure 4.2: Geomorphological map of Bankura District

(Source: Resourcesat-1&2 – Liss-3, Bhuvan India)

5 Land use pattern of the district

Bankura is the land of red soils. The district is referred as "having the most varied physiographic features". The district can be geologically divided into the three following categories :

1. High hilly region / Hard rock area: The region consists of the areas like Saltora, Mejia, Khatra, Ranibandh, Gangajalghati etc. covering 1,76,915 ha. Most of this area does not have irrigation facility.
2. Uneven lands / Hard rock ring area: This consists of the areas like Bankura, Barjora, Chatna, Onda, Simlapal, Taldangra, Raipur, Sarenga etc., it covers 1,50,611 hectors.
3. Even alluvial lands / alluvial area: This type of land includes the areas like Bishnupur, Sonamukhi, Patrasayer, Indus, Joypur, Kotulpur etc. covering 56,970 hectors.

Data from district statistical hand book shows that the total forest land is 148930 ha. Total land for agricultural use was 337980 ha in 2013-14. Table 5.1 gives land utilization status of Bankura district. Figure 5.1 is the pie diagram representing broad land use pattern of the district.

Table 5. 1: Classification of Land Utilisation Statistics in the district

(In thousand hectares)

Year	2009-10	2010-11	2011-12	2012-13	2013-14
Reporting Area (In Thousand Hectares)	688	688	688	688	688
Forest Area	148.93	148.93	148.93	148.93	148.93
Area under Non-agricultural use	147	148.48	156.02	158.52	161.56
Barren & unculturable land	2.31	1.42	2.42	1.65	1.62
Permanent pastures & other grazing land	0.81	0.78	1.09	0.97	0.89
Land under Misc. tree groves not included in Net area sown	2.82	1.44	1.83	1.89	1.63
Culturable waste land	2.04	2.13	2.42	1.56	1.4
Fallow land other than Current fallow	1.62	1.97	1.18	1.08	0.98
Current fallow	32.32	118.76	44.82	42.21	34.64
Net area sown	350.15	264.09	329.29	331.19	336.35

Source: http://wbpspm.gov.in/publications/District%20Statistical%20Handbook

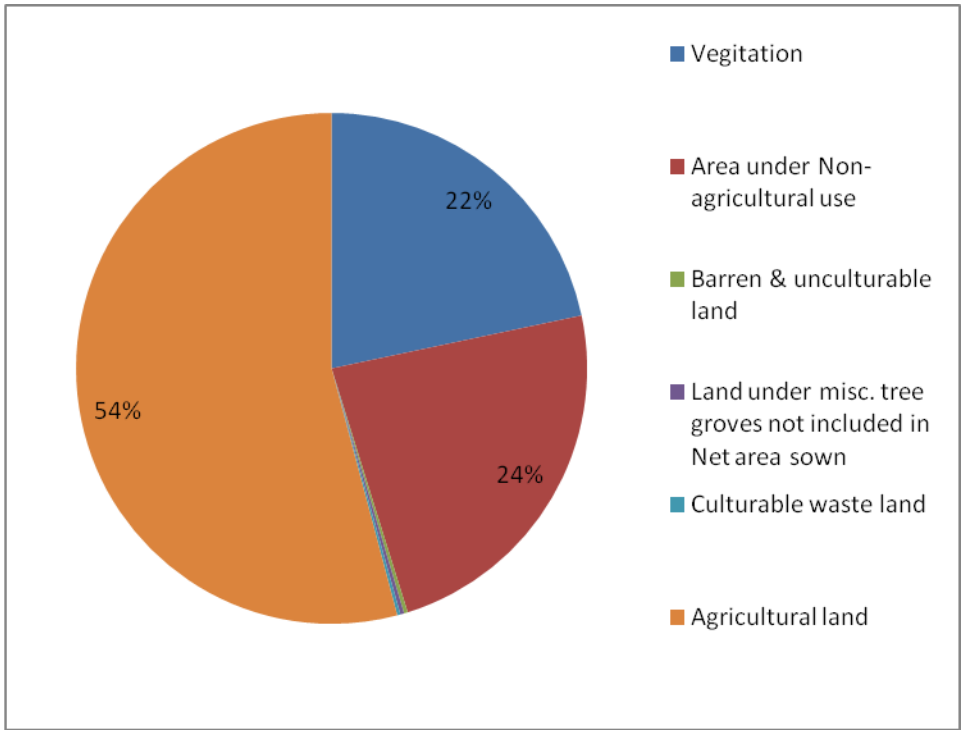


Figure 5.1: Land use pattern of Bankura District

Table 5. 2: Distribution of Villages according to Agricultural Land Use, 2011

Name of C.D. Block	Total area (in Hectares)	Percentage of cultivable area to total area	Percentage of irrigated area to cultivable area
Saltora	30014.84	56.56	33.07
Mejhia	15831.47	68.26	37.87
Gangajalghati	35887.42	69.23	44.45
Chhatna	43633.57	68.36	21.08
Indpur	28387.61	63	29.19
Bankura-I	16047.41	74.64	27.63
Bankura-II	21205.37	66.32	23.77
Barjora	36690.63	52.27	29.98
Sonamukhi	35571	59.76	60.18
Patrasayer	31560.7	62.05	57.03
Indus	25351.59	82.8	76.37
Kotulpur	24181.71	83.27	84.04
Jaypur	26271.66	69.25	78.27
Vishnupur	34868.38	52.11	67.75
Onda	48049.56	60.94	66.21
Taldangra	34686.28	48.04	69.6
Simlapal	29773.06	53.72	80.38
Khatra	22170.6	54.97	37.49

Name of C.D. Block	Total area (in Hectares)	Percentage of cultivable area to total area	Percentage of irrigated area to cultivable area
Hirbandh	18547.85	63.6	20.31
Ranibundh	40654.7	61.44	33.59
Raipur	36188.63	68.49	51.5
Total	**656863.3**	**62.68**	**50.5**

Table 5.2 shows the distribution of agricultural land, both irrigated and non-irrigated land in different blocks of Bankura district. In the district around 63% land area is available for cultivation. Irrigation is considered as an important factor for cultivation. As per the Census 2011 dataset, 50.5% of the cultivable land is under irrigation. The proportions of cultivable area in Taldagra block with respect to its total area is lowest. Hirbandh and Chhatna blocks have less proportion of irrigated area.

Figure 5.2 is the Land Use Land Cover map of the district.

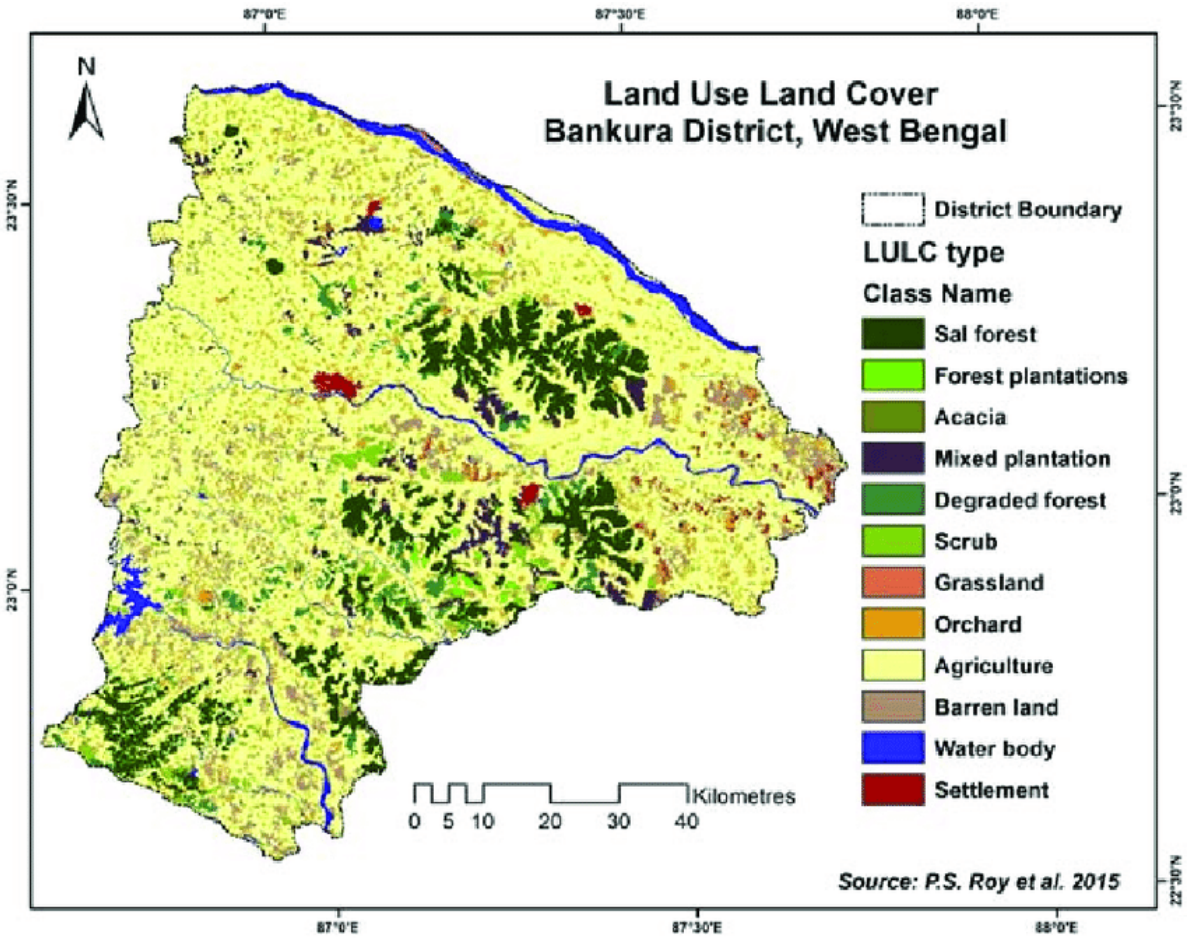


Figure 5.2: Land Use Land Cover map of Bankura District
(Source: Resourcesat-1&2 – Liss-3, Bhuvan India)

5.1 Forest -detail of the district

In Bankura, areas like Khatra, Ranibandh, Vishnupur, Sonamukhi, Borjora and Gangajalghati are covered with dense forest with lots of rare plants and animals. However, in the district a sizeable part of the land both in forest areas and non-forest areas remain vacant. Approximately 48% of the forest is of degraded type. Moreover the plant cover in non-forest area is depleting gradually. This in turn builds up biotic pressure on the existing forest area. Also forest is an important source of livelihood for the poor people in rural areas. It provides not only employment and income but is also an important source of fuel and fodder for those people.

Forest land of 148177 ha constitutes 21.5% of total geographical area of the district, which is below the national average of 33% forest coverage. Latest land use patterns indicate that culturable wasteland stood at 11703 ha fallow land other than current fallow at 11101 ha. current fallow at 16480 ha and 36692 ha of barren and uncultivable land. This land may be made suitable for taking up forestry/ waste land development.

Table 5.5.3: Classification of Forest Area, Out-turn of Forest Produce, Revenue and Expenditure of Forest Department

Item	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Area by class of forest						
Reserved forest	Hectare	4449	4572	4572	4572	5222
Protected forest	"	132002	136230	136230	136230	122733
Unclassed state forest	"	2713	2238	2238	2238	16462
Khas forest	"	-	-	-	-	-
Vested waste land	"	-	-	-	-	-
Forest owned by corporate bodies	"	-	-	-	-	-
Forest owned by private individuals	"	-	-	-	-	-
Total		**139164**	**143040**	**143040**	**143040**	**144417**
2. Forest Produce	-					
Timber	Thousand cu.metre	4918.41	546.63	840.44	765.51	6972.17
Fuel	"	8945.43	950.23	3597.23	2532.54	21233.41
Pole	Number	171892	307030	433335	514189	556065
3. Revenue & Expenditure	-					
Revenue	Rs. in thousand	148972	170799	181725	210569	315776
Expenditure	"	543342	631482	487296	158652	215707

Source: http://wbpspm.gov.in/publications/District%20Statistical%20Handbook

5.2 Agriculture and Irrigation

Agricultural land of the district is of three types- Sali, Suna and Tara or Danga. 'Sali' is suitable for growing of aman rice, 'Suna' for various crops like 'aus' kharif, sugarcane, cotton, tobacco, mustard etc. 'Suna' is also used for production of fine kind of rice. Only 60 to 65% of the total land area of the district is fertile due to availability of sufficient water supply either by canal or deep tube wells. Remaining lands of the district is not cultivable due to undulation of land and morum soil.

Agriculture in the district is largely dependent on monsoon. Drought constitutes a major hazard in the district. Intermittent gaps of in precipitation and moisture stress during the monsoon gives rise to serious setback in production during the Kharif, which is the main stay of agriculture in the district. Farmers are working hard to get more production of crop with their limited area of land. Seed farms are working jointly. Fertilizers are available at every village. The main agricultural crop is paddy and it is produced in the 90% of the total cultivated area of the district. Wheat, barley, jute and potato are the other important agricultural products of the district (Census, 2011).

The sources of irrigation in the district are canals, tanks, open wells, bore wells, etc. The area also shows lift irrigation schemes as micro-irrigation, pump sets, tractors etc.

Table 5.4 shows the crop production capacity of the Bankura district.

Table 5. 4: Production of Principal Crops in the Bankura District

(In Kilogram per hectare)

Crops	2009-10	2010-11	2011-12	2012-13	2013-14
(1)	(2)	(3)	(4)	(5)	(6)
Foodgrains :					
1. **Rice**	**2663**	**2563**	**2970**	**2747**	**2768**
Aus	3017	2296	2747	2943	2552
Aman	2655	2482	3050	2682	2751
Boro	2617	2981	2457	3245	3013
2. Wheat	2390	2270	2373	2272	2010
3. Barley	-	-	-	-	-
4. Maize	2256	2139	2143	3238	2394
5. Other Cereals	1199	721	500	667	1000
Total Cereals	**2659**	**2557**	**2964**	**2743**	**2761**
6. Gram	693	499	685	1462	769
7. Tur	-	-	-	-	-
8. Other Pulses	813	797	682	701	667



Total Pulses	**861**	**780**	**684**	**701**	**748**
Total Foodgrains	**2658**	**2555**	**2963**	**2743**	**2759**
Oil Seeds :					
1. Rapeseed & Mustard	762	817	798	806	776
2. Linseed	59	326	208	225	297
3. Other Oil seeds	619	767	869	1019	841
Total Oil seeds	**674**	**782**	**845**	**950**	**811**
Fibres : *					
1. Jute	-	19.5	18.7	-	19.5
2. Mesta	-	0.3	-	-	-
3. Other Fibres	5.2	4.2	3.0	4.4	3.8
Total Fibres	**5.2**	**3.7**	**8.0**	**4.4**	**4.3**
Miscellaneous crops :					
1. Sugarcane	83100	38089	176183	140524	125188
2. Potato	41145	39295	30531	26328	16115
3. Tobacco	800	667	-	-	
4. Tea	-	-	-	-	
5. Chillies (dry)	1098	1101	1066	1104	1109
6. Ginger	1572	1572	1566	1587	1583
Total Miscellaneous crops	**42279**	**37150**	**28904**	**24617**	**15231**

(Source: http://wbpspm.gov.in/publications/District%20Statistical%20Handbook)

5.3 Horticulture

The major horticultural vegetable crops found in the district are potatoes, brinjals, tomatoes, cabbages, cauliflowers, pumpkins, and gourds, and other crops like paddy, wheat, and oilseed and the major horticultural fruit crops grown in the district are banana, sugarcane, jackfruit, cucumber etc. The major agricultural fruit crops grown in the district are given in Table 5.5.

Table 5. 5: Production of Fruits and Vegetables in the district

Name of Fruits / Vegetables	Production (Thousand tonnes)				
	2009-10	2010-11	2011-12	2012-13	2013-14
(1)	(7)	(8)	(9)	(10)	(11)
A. Fruits :					
Mango	5.79	7.79	8.47	13.30	8.50

Banana	6.13	6.51	6.90	7.50	6.10
Pineapple	0.60	0.60	0.30	0.26	0.23
Papaya	12.12	12.21	12.51	18.27	18.80
Guava	7.95	8.55	8.56	9.44	9.30
Jackfruit	8.99	8.99	9.00	10.00	10.10
Litchi	-	-	-	0.01	0.01
Mandarin Orange	-	-	-	-	-
Other Citrus	3.67	3.77	3.90	4.40	4.70
Sapota	0.59	0.59	0.59	0.68	0.69
Others	3.33	3.19	3.19	3.20	3.60
Total	**49.17**	**52.20**	**53.42**	**67.06**	**62.03**
B. Vegetables :					
Tomato	49.50	50.14	51.14	60.00	60.50
Cabbage	155.33	157.50	157.70	169.81	169.20
Cauliflower	145.65	147.57	147.59	153.60	153.00
Peas	2.79	2.88	2.78	2.85	2.85
Brinjal	194.85	173.95	197.07	198.70	199.90
Onion	9.10	9.35	9.40	9.70	10.70
Cucurbits	153.43	158.85	158.98	158.66	158.82
Ladies Finger	64.29	66.12	65.22	65.45	65.19
Radish	22.34	4.16	23.20	23.26	22.81
Others	41.19	87.55	44.51	50.56	50.30
Total	**838.47**	**858.07**	**857.59**	**892.59**	**893.27**

(Source: http://wbpspm.gov.in/publications/District%20Statistical%20Handbook)

The floriculture of the district consists of various types of orchids, decorative plants, temperate and tropical flowers, etc. Flowers like Tuberose, Marigold, Rose and seasonal flowers are main of Bankura district (Table 5.6). In this district the most popular flower is marigold.

Table 5.6: Production of Flowers in the district

Name of Flowers	Production					
	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
Rose	Crore Cut Flower	0.205	0.220	0.222	0.240	0.239
Chrysanthemum	"	-	-	-	-	-
Gladiolus	"	-	-	-	-	-
Tuberose	"	-	-	-	0.042	0.072
Marigold	' 000 MT	0.055	0.059	0.064	0.099	0.105

Jasmine	"	-	-	-	-	-
Seasonal Flower	"	0.035	0.035	0.035	0.039	0.040
Misc.Flower	"	0.015	0.017	0.030	0.033	0.033

(Source: http://wbpspm.gov.in/publications/District%20Statistical%20Handbook)

5.4 Mining

The district is referred as the "connecting link between the plains of Bengal on the east and Chota Nagpur plateau on the west", still there are no large deposits of minerals in the district which is commonly available in the plateau regions. Few coal mines are found in C.D. blocks of Saltora, Mejia and Barjora. Quartzite and china clay are available in the Susunia Hill area. Limestone, tungsten, dimension stone (anorthosite and charnokite) and minor occurrences of vermiculite, moulding sand, copper, and iron ore, and gold have also been reported.

6 Geology

The district is divisible geologically into three north-south trending wide belts (Figure 6.1). The westemmost one comprises metamorphics of Archaean age and Chhotanagpur Gneissic Complex, Singhbhum Group of rocks and anorthosites belonging to Proterozoic age. In the northern part occurs Gondwana Supergroup of rocks with commercial coal seams as an extension of the famous Raniganj Coalfield. The central part is occupied by laterite and older alluvium of Pleistocene age, where as the easternmost part is made up of Quaternary sediments and Recent alluvium. The diverse litho-units along with geological formations and age are presented Table 6.1. A prominent limonitised east-west shear zone occurs in Porapahar area. Number of lineaments (N-S, NE-SW, NW-SE) of indefinite identities have been picked up from satellite imageries.

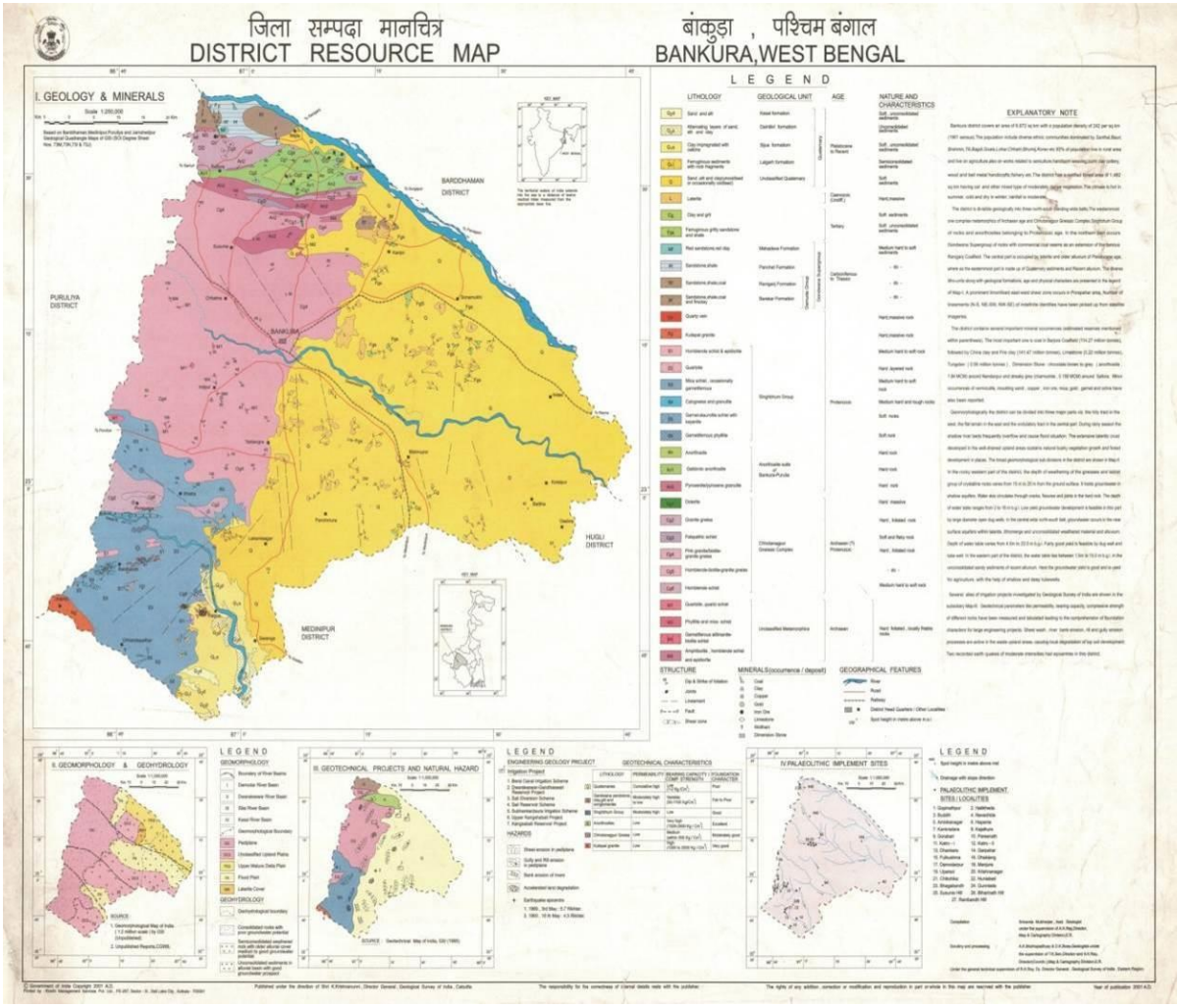


Figure 6.1: Geological map of Bankura district
(Source: GSI, 2001)

Table 6.1: Geological succession of Bankura

AGE			GEOLOGICAL UNIT	LITHOLOGY
Pleistocene To Recent	Quaternary		Kasai Formation	Sand and silt
			Daintikri Formation	Alternating layers of sand, silt and clay
			Sijua Formation	Clay impregnated with caliche
			Lalgarh Formation	Ferruginous sediments with rock fragments
			Unclassified Quaternary	Sand, silt and clay (un-oxidized or occasionally oxidized)
Cenozoic (undiff.)				Laterite
Tertiary				Clay and grit
				Ferruginous gritty sandstone and shale
Carboniferous to Triassic	Gondwana Supergroup		Mahadeva Formation	Red sandstone, red clay
			Panchet Formation	Sandstone, shale
		Damuda Group	Raniganj Formation	Sandstone, shale, coal
			Barakar Formation	Sandstone, shale, coal and fireclay
Proterozoic				Quartz vein
				Kuilapal granite
			Singhbhum Group	Hornblende schist and epidiorite
				Quartzite
				Mica schist, occasionally garnetiferous
				Calc-gneiss and granulite
				Garnet-staurolite schist with kayanite
				Garnetiferous phyllite
			Anorthosite suite of Bankura-Purulia	Anorthosite
				Gabbroic anorthosite
				Pyroxenite / pyroxene granulite
Archaean (?) Proterozoic			Chhotanagpur Gneissic Complex	Dolerite
				Granite gneiss
				Felspathic schist
				Pink granite / biotite-granite gneiss
				Hornblende-biotite-granite gneiss
				Hornblende schist
Archaean			Unclassified Metamorphics	Quartzite, quartz schist
				Phyllite and mica schist
				Garnetiferous sillimanite-biotite schist
				Amphibolite, hornblende schist and epidiorite



PART A: RIVERBED DEPOSITS

7 Mineral wealth

7.1 Overview of mineral resources:

The district contains several important mineral deposits. The most important one is coal in Barjora Coalfield followed by china clay and fire clay. limestone, tungsten, dimension stone (anorthosite and charnokite) and minor occurrences of vermiculite, moulding sand, copper, and iron ore, and gold have also been reported. Silica sand is also reported from Bankura.

7.2 Sand and other riverbed minerals:

I. Drainage

The drainage system of the district is mainly controlled by rivers like Damodar, Dwarakeswar and Kangsabati along with their network of tributaries (Table 7.1 and Table 7.2). All the rivers have a south-easterly flow and the rivers are almost parallel to each other. Damodar River rises in hilly country of Palamau District of Chhotonagpur and before it touches Bankura it receives the water of many smaller hill streams including those of the Barakar, its principal tributary. The Dwarakeswar rises from neighbouring Puruliya district, flows through the middle of Bankura and divides it into two halves. The Silabati, popularly known as Silai, is the largest tributary of Dwarakeswar, the Joypanda is the principal tributary of the Silabati. The Kangsabati or the Kasai is the third largest river in the district, which rises in the hilly terrain of Jhalda C.D. block in the adjoining district of Purulia and enters Bankura district in Khatra C.D. block and after flowing for about 56 kms it enters Midnapur district at the south east corner. Also some other rivers or tributaries, like Gandheswari, Sali, Arkasha, Birai, Bodai etc. plays important role of the districts irrigation. All the rivers are seasonal; hence the district is drought prone.

Damodar River: Damodar River forms the northern boundary of the district along with Bardhaman district for about 72 kilometres and then flows into Bardhaman district. Sali River which is one of the important tributaries of the Damodar drains the northern part of the district.

The Damodar River rises in the Palamau hills of Chota Nagpur at an elevation of about 609.75 m. It flows in a south-easterly direction and near Burdwan, the river abruptly changes its course to a southerly direction and joins the Hooghly River about 48.27 km below Kolkata. Its slope during the first 241.35 km is about 1.89 m/km, during the next 160.9 km about 0.568 m/km and during the last 144.8 km about 0.189 m/km. The total length of the river is nearly 547 km and a total drainage area is 22,005 sq. km.

Dwarakeswar River: Dwarakeswar is also a significant river, flowing through the district. It has many branches or old beds under the areas of Onda and Bishnupur police station. The main tributaries of Dwarakeswar River are Gandheswari, Kukhra, and the Birai. Other

major rivers are Shilabati and Kangsabati, both of which enter the district from Purulia and run along a short course in the territory and then enter West Mednipur district. Formation of some small water falls in the course of the Shilabati near Harmasra, and along the course of the Kangsabati in the Raipur area are giving a sole attribute of the area. One of the minor rivers of the district is Jaypanda which is a tributary of Shilabati and Bhairabanki.

Kangsabati River: Kangsabati River, also known as the Kasai, rises from the Chota Nagpur plateau in the state of West Bengal, India and passes through the districts of Purulia, Bankura, Paschim Medinipur and Purba Medinipur in West Bengal before draining in the Bay of Bengal.

Sali River is a tributary of Damodar River that flows along the northern part of Bankura district. It covers the interfluve area between Damodar River in north and Dwarakeswar River in the south. The Sali River originates from north- western part of Belbuni and Rajamela village, Gangajalghati block in pedimental landforms. The Sali River flows towards north- western to south-eastern direction and join with river Damodar near Somsar village in Indus block of north- eastern parts of Bankura district. The total length of Sali River is 80.75 km.

Gandheswari River is a tributary of Darakeswar which is a major river in Bankura district. Gandheswari River flows over the north-western part of the district through four blocks viz., Bankura, Saltora, Chatna, and Gangajalghati. It originates at Saltora and flows towards south-east and meets with Darakeswar River near Bankura town. The total length of Gandheswari is 49 km.

The **Silabati River** (also known as Shilai) originates near Chak Gopalpur village of Hura block in the Purulia district of West Bengal. It flows in an almost south-easterly direction through the districts of Bankura and Paschim Medinipur. The River Silabati joins the Dwarakeswar River near Ghatal and afterwards is known as Rupnarayan. It finally joins the Hooghly River, which empties into the Bay of Bengal.

a) Drainage System with description of main rivers

Table 7.1: Drainage system with description of main rivers

Sl.No.	Name of the River	Area drained (Sq.km)	% Area drained in the district
1	Damodar	102.34	2.36
2	Dwarakeswar	51.37	0.91
3	Kangsabati	30.65	0.10
4	Silabati	14.53	0.13

b) Salient Features of important rivers and streams

Table.7.2: Salient Features of important rivers and streams

S.No.	Name of the River or Stream	Total Length in District (in Km)	Place of origin	Altitude at Origin
1	Damodar	97.36	Palamau hills of Choota Nagpur, Jharkhand	600m
2	Dwarakeswar	127.67	Pilaboni hills of Madhavpur village, Purulia	440m
3	Kangsabati	68.95	Jabarban peak of Ghoramarapahar	600m
4	Silabati	71.62	Chak Gopalpur village of Hura Block, Purulia	440m

II. Annual deposition of riverbed minerals

Annual deposition of riverbed minerals is dependent on various factors which are explained below.

A) Geomorphological studies

Geomorphological characteristic of a river is foremost factor for annual deposition of sedimentary load. The study includes following parameter:

i) Place of Origin

Details of origin of rivers of Bankura District are furnished in Table 7.3.

Table 7.3: Place of Origin of important rivers and streams

S.No.	Name of the River or Stream	Place of origin
1	Damodar	Palamau hills of Choota Nagpur, Jharkhand
2	Dwarakeswar	Pilaboni hills of Madhavpur village, Purulia
3	Kangsabati	Jabarban peak of Ghoramarapahar
4	Silabati	Chak Gopalpur village of Hura Block, Purulia

ii) Catchment Area

The Bankura district is mainly drained by the Damodar, Dwarakeswar and Kangsabati. These rivers and its tributary rivers are forming the main catchment area.

iii) General profile of river stream

River profile has been studied along the cross-section lines which was chosen based on the drastic variation of the river widths, proximity of the operating sand 'ghats' and the position of the sand bars.

Relative disposition of rivers in Bankura district along with the distribution of the section lines are shown in Figure 7.1. River profile section and cross section views are presented in Figures 7.2 and 7.3.

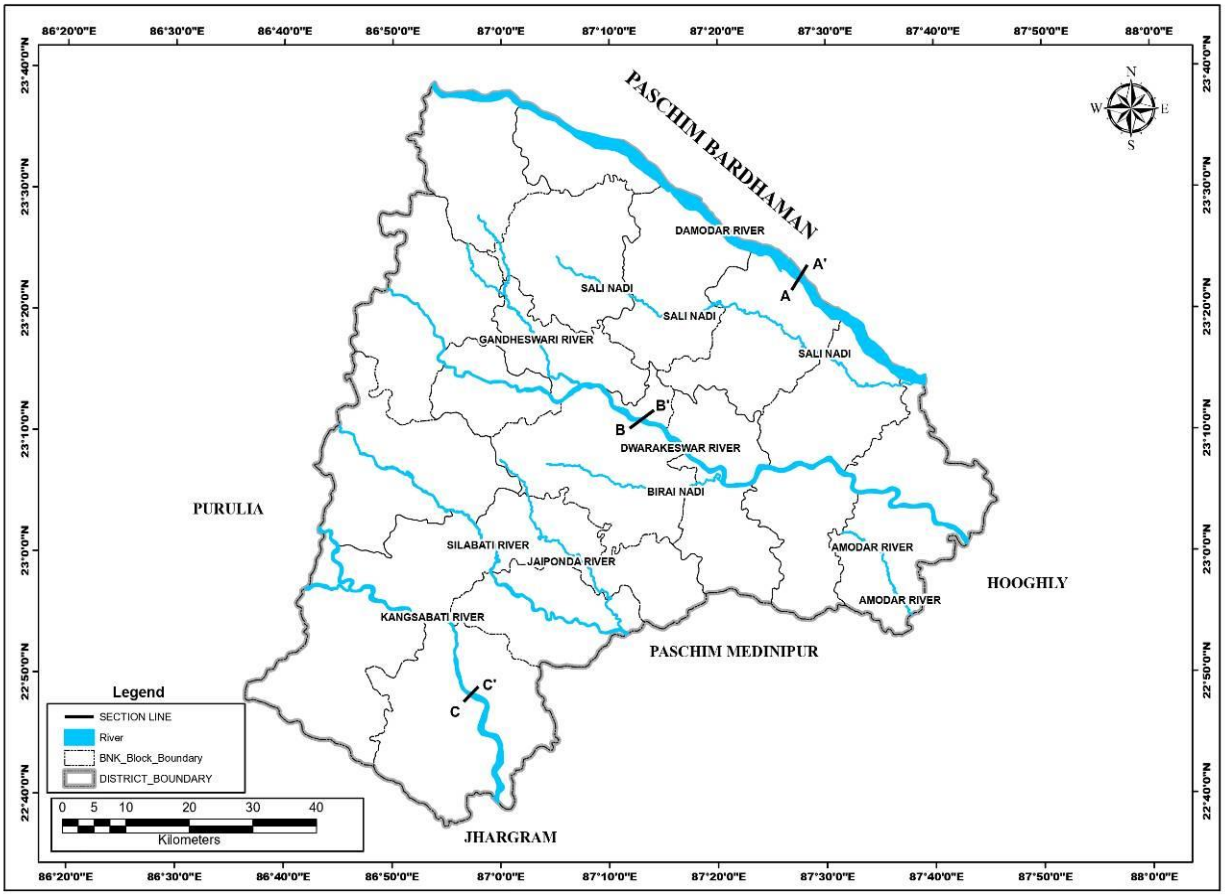


Figure 7.1: Map showing the major rivers along which profile section drawn



Figure 7.2A: Profile section of Damodar River

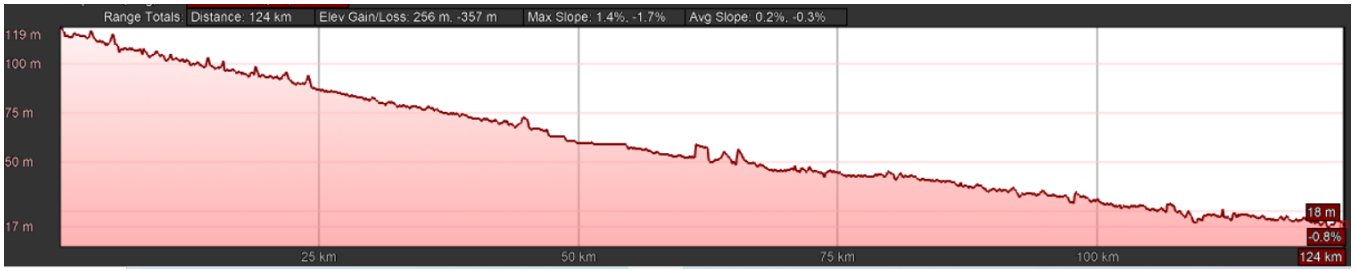


Figure 7.2B: Profile section of Dwarakeswar River

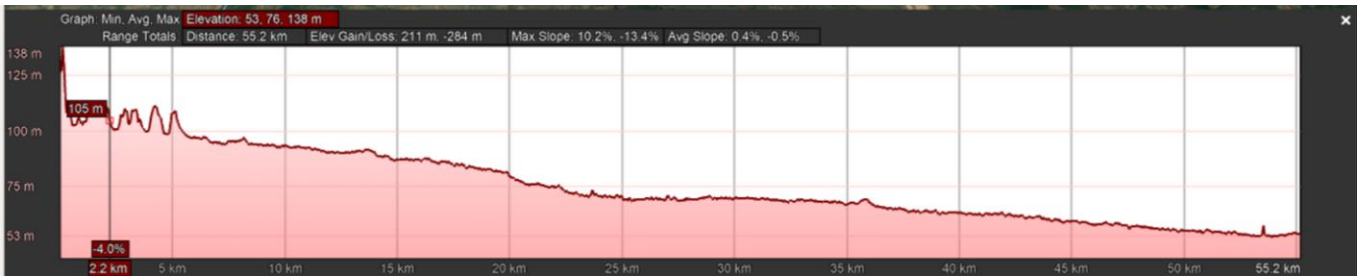


Figure 7.2C: Profile section of Kangsabati River



Figure 7.2D: Profile section of Silabati River



Figure 7.3A: Cross section view of Damodar River



Figure 7.3B: Cross section view of Dwarakeswar River



Figure 7.3C: Cross section view of Kangsabati River

iv) Annual deposition factor

Annual deposition of riverbed materials depends on various factors, such as process of deposition, mode of sediment transport, sediment transportrate, and sediment yield of the river.

1. Process of deposition

Deposition is the processes where material being transported by a river is deposited. Deposition occurs when the forces responsible for sediment transportation are no longer sufficient to overcome the forces of gravity and friction, creating a resistance to motion; this is known as the null-point hypothesis. This can be when a river enters a shallow area or towards its mouth where it meets another body of water.

The principle underlying the null point theory is due to the gravitational force; finer sediments remain in the water column for longer durations allowing transportation outside the surf zone to deposit under calmer conditions. The gravitational effect or settling velocity determines the location of deposition for finer sediments, whereas a grain's internal angle of friction determines the deposition of larger grains on a shore profile.

Deposition of non-cohesive sediments: Large-grain sediments transported by either bedload or suspended load. In case of bedload, when there is insufficient bed shear stress and fluid turbulence are insufficient to keep the sediment moving, the grain cease horizontal movement and rapidly come to rest. In case of suspended load the grain settle longer distance vertically through the fluid before coming to rest.

Deposition of cohesive sediments: The cohesion of sediment occurs with the small grain sizes associated with silts and clays, or particles smaller than 4Φ or 62.5 μm. If these fine particles remain dispersed in the water column, Stokes law applies to the settling velocity of the individual grains. The face of a clay platelet has a slight negative charge where the edge has a slight positive charge when two platelets come into close proximity with each other the face of one particle and the edge of the other are electrostatically attracted, and then have a higher combined mass which leads to quicker deposition through a higher fall velocity.

2. Mode of sediment transport in rivers

Sediment transport in rivers provides a dynamic linkage between flow and channel form. Mainly there are three processes by which sediment load is transported and these are (i) rolling or traction, in which the particle moves along a sedimentary bed but is too heavy to be lifted from it; (ii) saltation; and (iii) suspension, in which particles remain permanently above the bed, sustained there by the turbulent flow of the water.

Another name for sediment transport is sediment load. The total load includes all particles moving as bedload, suspended load, and wash load.

Bed load: Bedload is the portion of sediment transport that rolls, slides or bounces along the bottom of a waterway. This sediment is not truly suspended, as it sustains intermittent contact with the streambed, and the movement is neither uniform nor continuous. Bedload occurs when the force of the water flow is strong enough to overcome the weight and cohesion of the sediment. While the particles are pushed along, they typically do not move as fast as the water around them, as the flow rate is not great enough to fully suspend them. Bedload transport can occur during low flows (smaller particles) or at high flows (for larger particles). Approximately 5-20% of total sediment transport is bedload. In situations where the flow rate is strong enough, some of the smaller bedload particles can be pushed up into the water column and become suspended.

Suspended load: While there is often overlap, the suspended load and suspended sediment are not the same thing. Suspended sediment are any particles found in the water column, whether the water is flowing or not. The suspended load, on the other hand, is the amount of sediment carried downstream within the water column by the water flow. Suspended loads require moving water, as the water flow creates small upward currents (turbulence) that keep the particles above the bed. The size of the particles that can be carried as suspended load is dependent on the flow rate. Larger particles are more likely to fall through the upward currents to the bottom, unless the flow rate increases, increasing the turbulence at the streambed. In addition, suspended sediment will not necessarily remain suspended if the flow rate slows.

Wash load: The wash load is a subset of the suspended load. This load is comprised of the finest suspended sediment (typically less than 0.00195 mm in diameter). The wash load is differentiated from the suspended load because it will not settle to the bottom of a waterway

during a low or no flow period. Instead, these particles remain in permanent suspension as they are small enough to bounce off water molecules and stay afloat. However, during flow periods, the wash load and suspended load are indistinguishable.

3. Sediment Transport Rate

The rate at which sediment is moved past a cross section of the flow is called either the sediment transport rate or the sediment discharge. It‘s related to the sediment load, but it‘s different, just because different fractions of the sediment load are transported at different rates. It can be measured in mass per unit time, or in weight per unit time, or in volume per unit time. The sediment transport rate is commonly denoted by Qs.

4. Estimation of Sedimentation

There are two approaches to obtaining values describing sediment loads in streams. One is based on direct measurement of the quantities of interest, and the other on relations developed between hydraulic parameters and sedimenttransport potential.

The total bed material load is equal to the sum of the bedload and the bed material part of the suspended load; in terms of volume transport per unit width, qt = qb + qs. Here wash load, i.e. that part of the suspended load that is too fine to be contained in measurable quantities in the river bed, is excluded from qs.

There are number of equations to compute the total sediment load. Most of these equations have some theoretical and empirical bases.

In 1973, Ackers and White developed a general theory for sediment transport which was calibrated against the flume-transport data then available. Their functions have been widely accepted as one of the best available procedures for estimating the total bed over the full width of the flow section.

Dendy Bolton formula is often used to calculate the sedimentation yield. But use of these equations to predict sediment yield for a specific location would be unwise because of the wide variability caused by local factors not considered in the equations development. However, they may provide a quick, rough approximation of mean sediment yields on a regional basis. Computed sediment yields normally would be low for highly erosive areas and high for well stabilized drainage basins with high plant density because the equations are derived from average values. The equations express the general relationships between sediment yield, runoff, and drainage area.

5. Sediment Yield

The water that reaches a stream and its tributaries carries sediment eroded from the entire area drained by it. The total amount of erosional debris exported from such a drainage basin is its sediment load or sediment discharge and the sediment yield is the sediment discharge divided by the total drainage area of the river upstream of the cross section at which the sediment discharge is measured or estimated. Sediment yield is generally expressed as a volume or weight per unit area of drainage basin—e.g., as tons per square kilometre. Further, sediment yield is usually measured during a period of years, and the results are thus expressed as an annual average.

v) Replenishment Study (As per EMGSM guidelines, 2020):

Replenishment study for a river solely depends on estimation of sediment load for any river system and the estimation is a time consuming and should be done over a period. The process in general is very slow and hardly measurable on season-to-season basis except otherwise the effect of flood is induced which is again a cyclic phenomenon. Usually, replenishment or sediment deposition quantities can be estimated in the following ways as given below:

A. Replenishment study based on satellite imagery involves demarcation of sand bars potential for riverbed mining. Both pre and post monsoon images need to be analysed to established potential sand bars. Volume estimation of sand is done by multiplying Depth and Area of the sand bar. The sand bars are interpreted with the help of satellite imagery. Ground truthing has been done for 100% of the total identified sand bars. During ground truthing, width and length of each segment were physically measured. It has also been observed that in few cases, sand bars have attained more than 3 meters height from the average top level of the river beds. Considerations of sand resources have been restricted within 3 meters from the average top surface of the river bed.
B. Direct field measurement of the existing leases involving estimation of the volume diference of sand during pre and post-monsoon period. With systematic data acquisition, a model has developed for calculation of sediment yield and annual replenishment with variable components.
C. The replenishment estimation based on a theoretical empirical formula with the estimation of bed-load transport comprising of analytical models to calculate the replenishment estimation.

A. Replenishment estimation based on satellite imagery study

Sedimentation in any river is dependent on sediment yield which depends on soil erosion in river's catchment area. Catchment yield is computed using Strange's Monsoon runoff tables for runoff coefficient against rainfall return period. Peak flood discharge is calculated by using Dickens, Jarvis and Rational formula at 25, 50 and 100 years return period. The estimation of bed load transport is done using Ackers and White Equation.

Methodology Adopted: To delineate replenishment percentage in the river bed of the district, below mentioned steps have been followed.

- **Field data collation:**

Field data collations were done during June 2020 for pre monsoon period and during December 2020 for post monsoon period for the river ghats on continuous basis. Figure 7.4 shows the site view of Dwarakeswar River. However, the non-operational areas were covered through traverses. In both the cases, relative elevation levels were captured through GPS/DGPS/ Electronic Total Station. Thickness of the sand bars was measured through sectional profiles. In few instances, sieve analysis of the sands was carried out to assess their particle size distribution.



Figure 7.4: Site View of River Dwarakeswar (Monsoon 2020)

- **Selection of Study profiles:**

  Study profiles are selected based on the occurrence of the sand bars in the channel profiles. Aerial extents of each of the profiles are mapped from satellite imagery.

- **Data Compilation:**

  Following data were compiled for generation of the annual replenishment report:

  - Elevation levels of the different sand ghats and sand bars as measured at site.
  - Extent of the sand bars are measured from the pre monsoon satellite imagery.
  - Sand production data of the district.

- **Assessment of sediment load in the river:**

  Assessment of sediment load in a river is subjective to study of the whole catchment area, weathering index of the various rock types which acts as a source of sediments in the specific river bed, rainfall data over a period not less than 20 years, and finally the detail monitoring of the river bed upliftment with time axis. Again, the sediment load estimation is not a dependent variable of the district boundary, but it largely depends upon the aerial extent of the catchment areas, which crosses the district and state boundaries.

- **Estimation of annual sand deposition:**

  The major sand producing rivers of Bankura district are Damodar, Dwarakeswar, Kangsabati and Silabati Rivers. Planning has been done for systematic sand mining in the rivers.

While calculation of the areas of sand bar, a classification system has been adopted with three categories of land identified within the channel areas which is as follows:

a. The untapped sand bars.
b. The sand bars worked in the pre-monsoon period.
c. Main channel course within the channel.

A summary of sediment load comparison between pre- and post-monsoon periods for different rivers Bankura district is given in Table 7.4 and details of each sand bars along with their sand resources in pre monsoon and post monsoon period are provided in Annexure-2. Maps showing distribution of sand bars on rivers of the Bankura district during pre- and post-monsoon periods are depicted in Plate-2A and 2B respectively.

Table 7.4: Sediment Load comparison between Pre- and Post-monsoon periods for different rivers

River Name	Pre-Monsoon no of ghats	Post-Monsoon no of ghats	Pre-Monsoon Sediment Load (Mcum)	Post Monsoon Sediment Load (Mcum)	Difference (Mcum)	Difference (%)
Damodar River	31	48	200.10	218.16	18.06	9%
Dwarakeswar River	34	51	103.50	107.82	4.32	4%
Kangsabati River	10	12	43.90	48.33	4.43	10%
Silabati River	8	16	6.80	7.70	0.90	13%
Total	**83**	**127**	**354.3**	**382.01**	**27.71**	**8%**

Thus, in Bankura district, about 27.71 million cum of sand has been found as an incremental volume increase when compared between pre- and post-monsoon sand reserve data. Percentage difference is about 108% which is replenishment and aggradation rate for the year.

Long-term satellite imagery study has also been carried out for sand producing rivers of Bankura district to analyse the changes in river course. A representative map, showing long-term (from 1985-2010-to 2022) erosion-accretion areas on both the banks of Dwarakeswar River, Bankura has been prepared and furnished in Plate No. 5B. Map shows changes in river channel through erosion and accretion of river bank and in the process the river shows narrowing of width of the river course by almost 400m from 1985 to 2022.

B. Replenishment estimation based on field investigation

The study was carried out on existing mining leases. In order to assess the annual replenishment rate, an approach of direct measurement methodology has been adopted. The depth and area of the mining leases are measured through DGPS/Total station just before the closure of the mines in pre-monsoon period and the same areas are resurveyed in the post-monsoon period. The differences between the depths of the surveyed areas are accounted for the volumetric measurement of the replenished sand.

Table 7.5 represents field measurement of replenishment rate estimated for major rivers.

Table 7.5: Replenishment rate of the district

Location	River Name	Area	Surface RL	Thickness	Volume	After mining floor RL	Surface RL after Replenishment	Thickness Replenished	Volume Replenished	Difference in RL	Replenishment Rate
		m2	m	m	cum	m	m	m	cum	m	%
Saheb danga, Saltora	Damodar	46458.00	80.00	2.80	130082.40	77.20	79.92	2.72	126179.93	0.08	97.00%
Bamandihi, Barjora	Damodar	47672.00	56.00	2.85	135865.20	53.15	55.91	2.76	131517.51	0.09	96.80%
Dihipara, Sonamukhi	Damodar	40064.00	55.00	2.90	116185.60	52.10	54.92	2.82	112932.40	0.08	97.20%
Ghoradanga, Patrasayer	Damodar	39983.00	39.00	2.90	115950.70	36.10	38.90	2.80	111892.43	0.10	96.50%
Bhagitpur, Indas	Damodar	42492.00	36.00	3.00	127476.00	33.00	35.90	2.90	123205.55	0.10	96.65%
Sonatapal, Onda	Dwarakeswar	45527.00	72.00	3.00	136581.00	69.00	71.91	2.91	132346.99	0.09	96.90%
Bagdahara, Patrasayer	Dwarakeswar	41278.00	40.00	2.90	119706.20	37.10	39.91	2.81	115995.31	0.09	96.90%
Chandipur, Joypur	Dwarakeswar	49776.00	33.00	2.90	144350.40	30.10	32.91	2.81	139875.54	0.09	96.90%
Bhagalpur, Kotulpur	Dwarakeswar	47470.00	25.00	2.86	135764.20	22.14	24.91	2.77	131555.51	0.09	96.90%
Sonpura, Indas	Dwarakeswar	42492.00	26.00	2.82	119827.44	23.18	25.91	2.73	116112.79	0.09	96.90%
Tapaberia, Sarenga	Kangsabati	39497.00	65.00	2.80	110591.60	62.20	64.91	2.71	107163.26	0.09	96.90%
Dharampur, Sarenga	Kangsabati	49776.00	60.00	2.78	138377.28	57.22	59.91	2.69	134087.58	0.09	96.90%
Taldiha, Sarenga	Kangsabati	49169.00	57.00	2.80	137673.20	54.20	56.91	2.71	133405.33	0.09	96.90%
Rosana, Simlapal	Silabati	31808.00	49.00	2.78	88426.24	46.22	48.91	2.69	85685.03	0.09	96.90%
Bagnada, Simlapal	Silabati	37069.00	47.00	2.80	103793.20	44.20	46.91	2.71	100575.61	0.09	96.90%

Based on field investigation, the average replenishment rate for the year 2020 is about 96.88%.

C. Replenishment estimation based on a empirical formula:

The river reaches with sand provide the resource and thus it is necessary to ascertain the rate of replenishment of the mineral. Regular replenishment study needs to be carried out to keep a balance between deposition and extraction.

Sediment load deposition in a river is dependent on catchment area, weathering index of the various rock types of the catchment area, land-use pattern of the area, rainfall data and grain size distribution of the sediments. Again, the sediment load estimation is not a dependent variable of the district boundary, but it largely depends upon the aerial extents of the catchment areas, which crosses the district and state boundaries.

i. Methodology of the study:

The replenishment estimation is based on a theoretical empirical formula with the estimation of bedload transport comprising of analytical models to calculate the replenishment estimation. Sedimentation in riverbed depends on catchment yield, peak flood discharge due to rainfall, bed load transport rates and sediment yield characteristic of the river. Some of the common methods used for replenishment study are explained below.

a. Catchment Yield Calculation:

The total quantity of surface water that can be expected in a given period from a stream at the outlet of its catchment is known as yield of the catchment in that period. The annual yield from a catchment is the end product of various processes such as precipitation, infiltration and evapotranspiration operating on the catchment.

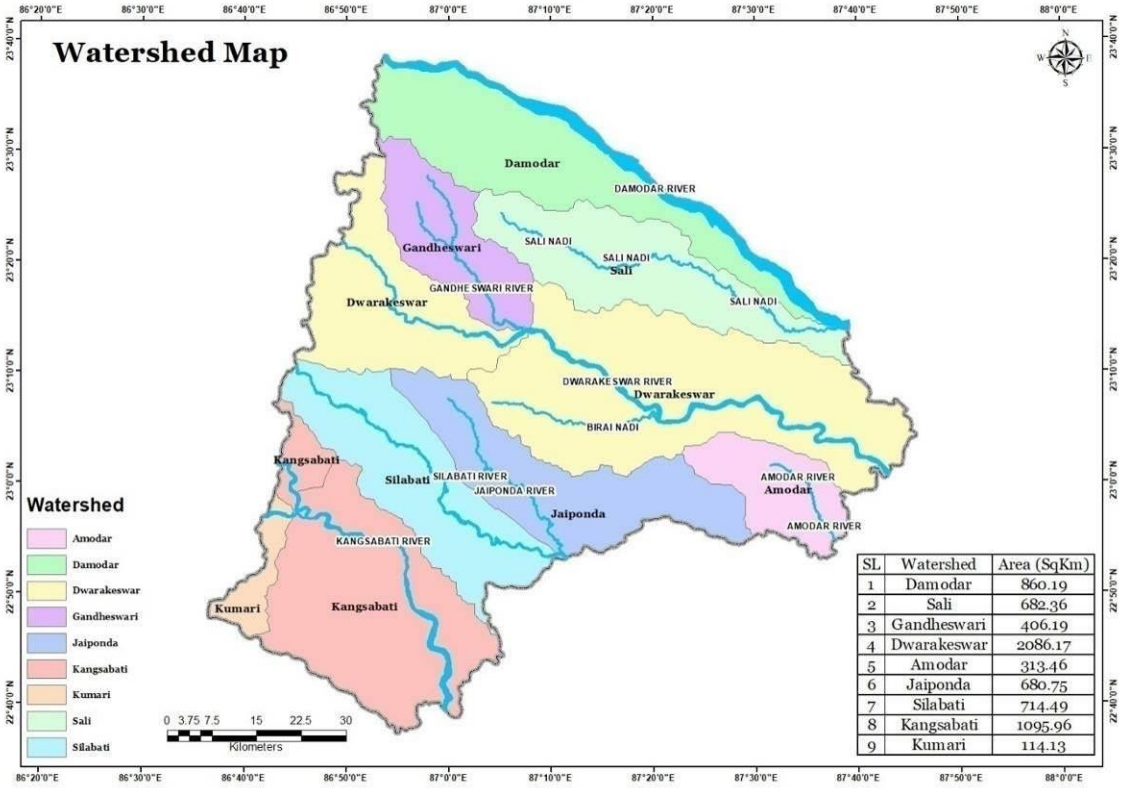


Figure 7.5: Watershed map of Bankura district

Catchment Yield can be estimated using following formula:

Catchment Yield (m^3) =Catchment area (m^2) × Runoff coefficient (%)×Rainfall (m)

The runoff generated from the watershed is analyzed using Strange's Table to get the reliable yield results. Runoff from a catchment is dependent upon annual rainfall as well as catchment characteristics such as soil types and the type of groundcover / land usage. Remote sensing was used for demarcation of catchment area relevant to the drainage system. Runoff coefficient of the catchment has been established based on Strange's Table.

Strange (1892) studied the available rainfall and runoff and obtained yield ratios as functions of indicators representing catchment characleris1ics (Subramanya, 2008). Catchments are classified as good, average and bad according to the relative magnitudes of yield of sediment. For example, catchment with good forest cover and having soils of high permeability would be classified as bad, while catchment having soils of low permeability and having little or no vegetal cover is termed good. Based on the study Strange established runoff coefficient table as givennin Table 7.6.

Table 7.6: Runoff coefficient of the catchment based on Strange's table

Total monsoon rainfall (mm)	Runoff coefficient (%)			Total monsoon rainfall (mm)	Runoff coefficient (%)		
	Good catchment	Average catchment	Bad catchment		Good catchment	Average catchment	Bad catchment
25.4	0.1	0.1	0.1	787.4	27.4	20.5	13.7
50.8	0.2	0.2	0.1	812.8	28.5	21.3	14.2
76.2	0.4	0.3	0.2	838.2	29.6	22.2	14.8
101.6	0.7	0.5	0.3	863.6	30.8	23.1	15.4
127	1	0.7	0.5	889	31.9	23.9	15.9
152.4	1.5	1.1	0.7	914.4	33	24.7	16.5
177.8	2.1	1.5	1	939.8	34.1	25.5	17
203.2	2.8	2.1	1.4	965.2	35.3	26.4	17.6
228.6	3.5	2.6	1.7	990.6	36.4	27.3	18.2
254	4.3	3.2	2.1	1016	37.5	28.1	18.7
279.4	5.2	3.9	2.6	1041.4	38.6	28.9	19.3
304.8	6.2	4.6	3.1	1066.8	39.8	29.8	19.9
330.2	7.2	5.4	3.6	1092.2	40.9	30.6	20.4
355.6	8.3	6.2	4.1	1117.6	42	31.5	21
381	9.4	7	4.7	1143	43.1	32.3	21.5
406.4	10.5	7.8	5.2	1168.4	44.3	33.2	22.1
431.8	11.6	8.7	5.8	1193.8	45.4	34	22.7
457.2	12.8	9.6	6.4	1219.2	46.5	34.8	23.2
482.6	13.9	10.4	6.9	1244.6	47.6	35.7	23.8
508	15	11.3	7.5	1270	48.8	36.6	24.4
533.4	16.1	12	8	1295.4	49.9	37.4	24.9
558.8	17.3	12.9	8.6	1320.8	51	38.2	25.5
584.2	18.4	13.8	9.2	1346.2	52.1	39	26

Total monsoon rainfall (mm)	Runoff coefficient (%)			Total monsoon rainfall (mm)	Runoff coefficient (%)		
	Good catchment	Average catchment	Bad catchment		Good catchment	Average catchment	Bad catchment
609.6	19.5	14.6	9.7	1371.6	53.3	39.9	26.6
635	20.6	15.4	10.3	1397	54.4	40.8	27.2
660.4	21.8	16.3	10.9	1422.4	55.5	41.6	27.7
685.8	22.9	17.1	11.4	1447.8	56.6	42.4	28.3
711.2	24	18	12	1473.2	57.8	43.3	28.9
736.6	25.1	18.8	12.5	1498.6	58.9	44.4	29.4
762	26.3	19.7	13.1	1524	60	45	30

Rainfalls return period for 25, 50 and 100 years calculated as below:

As per Weibull's Formula (Subramanya, 2008)**,**

Return period/Recurrence interval = (n+1)/m

Where: n number of years on record;
m is the rank of observed occurrences when arranged in descending order.

b. Peak Flood Discharge Calculation:

The term "peak discharge" stands for the highest concentration of runoff from the basin area. The accurate estimation of flood discharge remains one of the major challenges as it depends upon physical characteristic of the catchment area and the flood intensity, duration and distribution pattern. There have been many different approaches for determining the peak runoff from an area. As a result, many different models (equations) for peak discharge estimation have been developed. Formulas used for Peak Discharge calculation areas below:

As per Dicken's formula (Subramanya, 2008)**,**

$Q = CA^{3/4}$

Where: Q is Maximum flood discharge (m^3/sec) in a river
A is Area of catchment in Sq. Km
C is Constant whose value varies widely between 2.8 to 5.6 for catchments in plains and 14 to 28 for catchments in hills

As per Jarvis formula (Subramanya, 2008)**,**

$Q = CA^{1/2}$

Where: Q is Maximum flood discharge (m^3/sec) in a river
A is Area of catchment in Sq. Km
C is Constant whose value varies between 1.77 as minimum and 177 as maximum. Limiting or 100 percent chance floods are given by the value of C of 177

As per Rational formula ((Subramanya, 2008)**,**

Q = CIA



Where: Q is Maximum flood discharge (m^3/sec) in a river
A is Area of catchment in Sq. Km
C is Runoff coefficient which depends on the characteristics of the catchment area. It is a ratio of runoff: rainfall
I is Intensity of rainfall (in m/sec)

c. Bed Load Transport Calculation:

The most important problems in river engineering are to predict bed load transport rates in torrential floods flowing from mountainous streams. Three modes of transport namely; rolling, sliding and saltation may occur simultaneously in bed load transport. The different modes of transportation are closely related and it is difficult, if not impossible, to separate them completely. There are number of equations to compute the total sediment load. Most of these equations have some theoretical and empirical bases.

Ackers and White Equation:

Ackers and White (1973) used dimensional analysis based on flow power concept and their proposedformula is as follows.

$$C_t = C_s G_s \left(d_{50}/h\right) \left(V/U_*\right)^{n'} \left[\left(F_{gr}/A_1\right) - 1\right]^{m}$$

The dimensionless particle d_{gr} is calculated by:

$$d_{gr} = d_{50} \left(g(G_s-1)/v^2\right)^{1/3}$$

The particle mobility factor $F_{gr}$is calculated by:

$$F_{gr} = \left(U \times n'/(G_s-1) g\, d_{50}\right)^{1/2} \times \left(V/(5.66 \log(10h/d_{50}))\right)^{1-n'}$$

Where,

A_1 = Critical particle mobilityfactor
C_s = Concentration coefficient in the sediment transportfunction
C_t = Total sediment concentration
d_{50} = Median grainsize
d_{gr} = Dimensionless particle diameter
F_{gr} = Particle mobilityparameter
g = Acceleration ofgravity
D_s, S_g = Specific gravity
h = Waterdepth
m = Exponent in the sediment transportfunction
n' = Manning roughnesscoefficient
U_* = Shear velocity
V = Mean flowvelocity
ν = Kinematic viscosity

Meyer – Peter's equation (Source: Hydrologic Engineering Center):

Meyer-Peter's equation (Ponce, 1989) is based on experimental work carried out at the Federal Institute ofTechnology, Zurich. Mayer-Peter gave a dimensionless equation based on rational laws. Mayer- Peter equation gave an empirical formula of bed load transport rates in flumes and natural rivers. The simplified Meyer-Peter's equation is given below:

$$g_b = 0.417[\tau_0 (\eta'/\eta)^{1.5} - \tau_c]^{1.5}$$



Where,
gb = Rate of bed load transport (by weight) in N per m width of channel per second.

η' = Manning's coefficient pertaining to grain size on an unrippled bed and Strickler formula i.e. η' = (1/24) x d1/6 where d is the median size (d_{50}) of the bed sediment in m.

η = The actual observed value of the rugosity coefficient on rippled channels. Its value is generally taken as 0.020 for discharges of more than 11cumecs, and 0.0225 for lower discharges.

τc = Critical shear stress required to move the grain in N/m2 and given by equationτc = 0.687da, where da is mean or average size of the sediment in mm. This arithmetic average size is usually found to vary between d_{50} and d_{60}.

τ0= Unit tractive force produced by flowing water i.e.γwRS. Truly speaking, its value should be taken as the unit tractive force produced by the flowing water on bed = 0.97γwRS. R is the hydraulic mean depth of the channel (depth of flow for wider channel) and S is the bed slope.

d. Sediment Yield Estimation:

Sedimentation occurs as the velocity decreases along with its ability to carry sediment. Coarse sediments deposit first, then interfere with the channel conveyance, and may cause additional river meanders and distributaries. The area of the flowing water expands, the depth decreases, the velocity is reduced, and eventually even fine sediments begin to deposit. As a result, deltas may be formed in the upper portion of reservoirs. The deposited material may later be moved to deeper portions of the reservoir by hydraulic processes within the water body.

There are many sediment transport equations which are suitable for use in the prediction of the rate of replenishment of river. Some of the famous sediment transport equations are:

1. Dendy – Bolton Equation
2. Yang Equations
3. Engelund-Hansen Equation
4. Modified Universal Soil Loss Equation (MUSLE) developed by Williams and Berndt (1977)

Dendy – Bolton Equation:

Dendy – Bolton formula (Dendy and Bolton 1976) is often used to calculate the sedimentation yield because:-

- The formula uses catchment area and mean annual runoff as key determinants.
- It does not differentiate in basin wide smaller streams and their characteristics.
- Dendy and Bolton equation calculates all types of sediment yield i.e. sheet and rill erosion sediments, gully erosion sediments, channel bed and bank erosion sediments and mass movement etc.

Dendy-Bolton determined the combined influence of runoff and drainage area on sediment yield to compute the sediment yield. They developed two equations i.e. for run off less than 2 inch and for run off more than 2 inch, which are given below:



For run off less than 2 inch:

(Q<2in) $S=1289\times (Q)^{0.46}\times [1.43-0.26 \text{ Log } (A)]$

For run off more than 2 inches:

(Q > 2 in): $S= 1958\times (e^{-0.055\times Q}) \times [1.43-0.26 \text{ Log } (A)]$
Where: S = Sediment yield (tons/sq miles/yr)

Q = Mean Annual runoff (inch)

A = Net drainage are in sq mile

Dendy-Bolton formula is often used to calculate the sediment yield. But use of these equations to predict sediment yield for a specific location would be unwise because of the wide variability caused by local factors not considered in the equations development. However, they may provide a quick, rough approximation of mean sediment yields on a regional basis for preliminary watershed planning. Computed sediment yields normally would be low for highly erosive areas and high for well stabilized drainage basins with high vegitation density because the equations are derived from average values. The equations express the general relationships between sediment yield, runoff, and drainage area. Many variables influence sediment yield from a drainage basin. They include climate, drainage area, soils, geology, topography, vegetation and land use. The effect of any of these variables may vary greatly from one geographic location to another, and the relative importance of controlling factors often varies within a given land resource area. Studies revealed that sediment yield per unit area generally decreases as drainage area increases. As drainage area increases, average land slope usually decreases; and there is less probability of an intense rainstorm over the entire basin. Both phenomena tend to decrease sediment yield per unit area.

Modified Universal Soil Loss Equation (MUSLE):

Modified universal soil loss equation (MUSLE) for estimation of sediment yield is also widely used. MUSLE is a modification of the Universal Soil Loss Equation (USLE). USLE is an estimate of sheet and rill soil movement down a uniform slope using rainfall energy as the erosive force acting on the soil (Wischmeier and Smith 1978). Depending on soil characteristics (texture, structure, organic matter, and permeability) some soils erode easily while others are inherently more resistant to the erosive action of rainfall.

MUSLE is similar to USLE except for the energy component. USLE depends strictly upon rainfall as the source of erosive energy. MUSLE uses storm-based runoff volumes and runoff peak flows to simulate erosion and sediment yield (Williams 1995). The use ofrunoff variables rather than rainfall erosivity as the driving force enables MUSLE to estimate sediment yields for individual storm events. The generalized formula of MUSLE is as below:

$$\mathbf{Y=11.8\times (Q \times qP).56 \times K \times Ls \times C \times P}$$

Where,
Y = sediment yield of stream (t/yr/km2),
Q = average annual runoff (m3),
K = soil erodibility factor,
qP = Highest discharge recorded (m3/s),
Ls = gradient/slope length,



C = cover management factor,
P = erosion control practice

ii. Estimation of Replenishment:

Bankura district is mainly drained by the Damador, Dwarakeswar and Kangsabati Rivers. These rivers and its tributary rivers are forming the main catchment area.

For replenishment study, following assumption/calculation are taken in to consideration:

- Catchment area (Watershed area) against each river has been calculated based on remote sensing data.
- Rainfall runoff coefficient as per Strange's table for the catchment area is consider 45%, as the rainfall in the district is more than 1524mm and the characteristic of the catchment of the district is average in nature.
- Peak flood discharge of the river of the district calculated based on Dicken's formula which is more applicable to north Indian and central Indian catchment. Here Dicken constant C is taken as 12 in present study as per published literature by Saha (2002).
- Bed load transport has not been computed in the regional aspect of the district, as the values are highly dependent on local factors such as particle mobility factor, roughness coefficient, Shear velocity, Mean flow velocity, Kinematic viscosity etc.
- Sedimentation yield calculated as per Dendy and Bolton formula as the equations express the general relationships between sediment yield, runoff, and drainage area.
- Computed sediment yields by Dendy Bolton formula normally would be low for highly erosive areas and high for well stabilized drainage basins with high plant density because the equations are derived from average values.
- Dendy and Boltan formula also says that actual sediment yield from individual drainage basin may vary 10-fold or even 100-fold from computed yields. Since the district river basins comprise sedimentary rocks with good average rainfall therefore the estimated replenishment is considered as 50-fold of computed results sediment yield.

The data estimated for each river in the district are given in Table 7.7.

Table 7.7: Replenishment parameter estimated for each river in the district

Estimation parameter	Damodar	Dwarakeswar	Kangsabati	Silabati
Catchment Area (m^2)	1542550000	2492360000	1210090000	1395240000
Annual Rainfall (m) (in 2020)	1.531	1.531	1.531	1.531
Strange Runoff coefficient (%)	45%	45%	45%	45%
Annual Run-off (m) (in 2020)	0.33682	0.33682	0.33682	0.33682
Catchment Yield (m^3)	1062739823	1717111422	833691505.5	961250598
Peak Flood Discharge (m^3/sec)	93402969.48	133856456.97	77856432.54	86629924.31
Flow depth d (m)	1	0.9	0.8	0.6
Channel width b (m)	9.34	26.56	89.48	89.48
Mean velocity v (m/s)	0.06	0.05	0.05	0.05
Channel slope S_o (m/m)	0.001	0.001	0.001	0.001
Sediment Yield (Tons/year)	27329.24	40787.61	22275.2	25118.69

Estimation parameter	Damodar	Dwarakeswar	Kangsabati	Silabati
Estimated Annual Replenishment (in million m3)	0.51178	0.76381	0.41714	0.47039

Sedimentation rate of a river is dependent on the annual rainfall of the district. Sedimentation rate for the period 2016-2020 of each river is presented in Table 7.8 and Figure 7.6.

Table 7.8:Year-wise sedimentation rate for last 5 years of each river

Year	Damodar	Dwarakeswar	Kangsabati	Silabati
2016	27.03	24.97	28.08	27.47
2017	10.34	9.55	10.74	10.5
2018	27.15	25.07	28.2	27.59
2019	22.25	20.55	23.11	22.6
2020	17.72	16.37	18.41	18.01

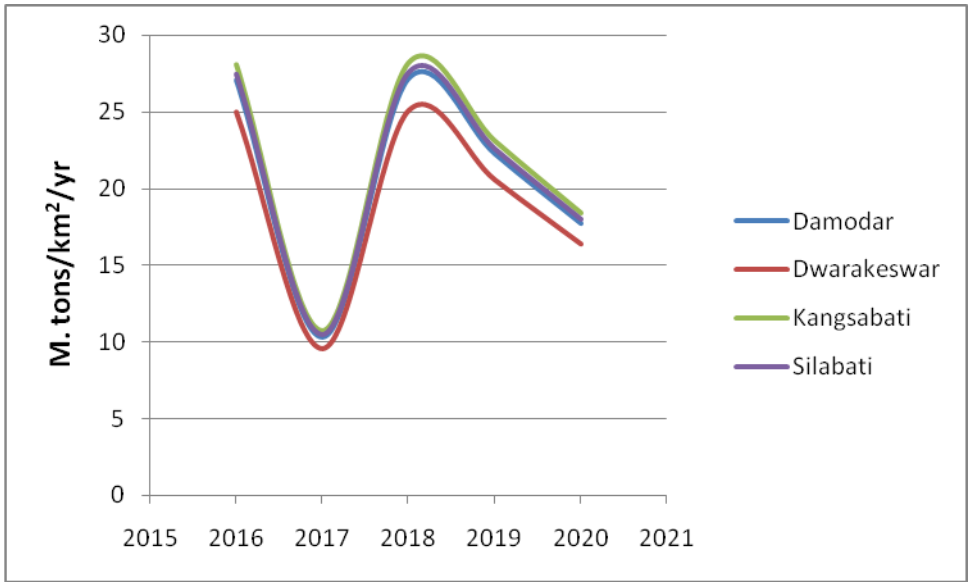


Figure 7.6: Graphical representation of year-wise sedimentation rate

The estimation of sedimentation rate based on empirical formula need critical analysis of different factors related to the LULC property of the catchment area, slope geometry, sediment erosion factor of catchment litho-type. This will help to assess replenishment rate more precisely.

Replenishment studies based on empirical formula for existing mining leases have also been conducted and are given in Table 7.9.



Table 7.9: River wise replenishment rate estimation based on empirical formula

Location	River Name	Lease Area	Surface RL Before mining	Mine out Thickness	Mine out Volume	Annual Rainfall-2020	Estimated Replenished Volume as per Dendy-Bolton	Replenishment Rate
		m2	m	m	cum	m	cum	%
Saheb danga, Saltora	Damodar	46458.00	80.00	2.80	130082.40	1.53	91057.68	70.00%
Bamandihi, Barjora	Damodar	47672.00	56.00	2.85	135865.20		100540.25	74.00%
Dihipara, Sonamukhi	Damodar	40064.00	55.00	2.90	116185.60		88301.06	76.00%
Ghoradanga, Patrasayer	Damodar	39983.00	39.00	2.90	115950.70		83484.50	72.00%
Bhagitpur, Indas	Damodar	42492.00	36.00	3.00	127476.00		95607.00	75.00%
Sonatapal, Onda	Dwarakeswar	45527.00	72.00	3.00	136581.00		107898.99	79.00%
Bagdahara, Patrasayer	Dwarakeswar	41278.00	40.00	2.90	119706.20		93370.84	78.00%
Chandipur, Joypur	Dwarakeswar	49776.00	33.00	2.90	144350.40		109706.30	76.00%
Bhagalpur, Kotulpur	Dwarakeswar	47470.00	25.00	2.86	135764.20		105896.08	78.00%
Sonpura, Indas	Dwarakeswar	42492.00	26.00	2.82	119827.44		95861.95	80.00%
Tapaberia, Sarenga	Kangsabati	39497.00	65.00	2.80	110591.60		88473.28	80.00%
Dharampur, Sarenga	Kangsabati	49776.00	60.00	2.78	138377.28		103782.96	75.00%
Taldiha, Sarenga	Kangsabati	49169.00	57.00	2.80	137673.20		99124.70	72.00%
Rosana, Simlapal	Silabati	31808.00	49.00	2.78	88426.24		66319.68	75.00%
Bagnada, Simlapal	Silabati	37069.00	47.00	2.80	103793.20		78882.83	76.00%

Illustration of Replenishment Estimation is given in Table 7.10.

Table 7.10: Illustration of replenishment rate calculation based on 3 methods

Based on Satellite imageries		Based on field investigation		Based on empirical formula	
Particulars	Estimation	Particulars	Estimation	Particulars	Estimation
		River Name	Dwarakeswar	River Name	Dwarakeswar
River	Dwarakeswar	Location	Sonatapal, Onda	Location	Sonatapal, Onda
Total Premonsoon Sand Bar Area	21402205.97 (sq.m)	Mining Area	45527 (Sq.m)	Lease Area	45527 (Sq.m)
Average Pre monsoon Thickness	2.8 (m)	Pre monsoon RL	72 (m)	Surface RL Before mining	72 (m)
Total Volume	48.05 (Mcum)	Sand Thickness	3.00 (m)	Mine out Thickness	3.00 (m)
Total Postmonsoon	22044530.76	Volume	136581.00	Mine out Volume	136581.00

Sand Bar Area	(sq.m)	excavated (Cum)	(Cum)	(Cum)	(Cum)
Average Postmonsoon Thickness	3 (m)	Post monsoon RL	71.91 (m)	Drainage area for lease block	0.067 (Sq.km)
Total Volume	60.40 (M.cum)	Thickness	2.91 (m)	Monsoon Rainfall-2020	1.53 (m)
Total Pre and Post monsoon Volume Difference	12.35 (M.cum)	Volume deposited (Cum)	132346.99 (Cum)	Estimated Volume as per Dendy- Bolton (S = 1280 Q0.46[1.43 - 0.26 log(A)]) Where, Q is runoff, A is drainage area)	107898.99 (Cum)
Replenishment and Agrredation %	126%	Replenishment Rate	96.90%	Replenishment Rate	79%

Replenishment studies have been carried out in the district based on three different methodologies as illustrated in Table 7.10. Table 7.11 explained comparison of the outcome of these three methodologies adopted for the district.

Table 7.11: Comparison of replenishment study

Replenishment Study Method	Damodar	Dwarakeswar	Kangsabati	Silabati
Estimated Annual Replenishment based on Sattelite imegaries **(*)**	109%	104%	110%	113%
Estimated Annual Replenishment based on field investigation	96.83%	96.90%	98.60%	98.25%
Estimated Annual Replenishment based on empirical formula	73.40%	78.20%	75.67%	75.50%

(*)Replenishment study based on satellite imagery involves estimation of replenish volume along with aggredation volume.

vi) Total potential of minor mineral in the riverbed

The major sand producing rivers of the Bankura district are Damodar, Dwarakeswar, Kangsabati and Silabati rivers. The total mineable potential sand resources are 153.20 mcum.

B. Geological studies

i) Lithology of the catchment area

The major portion of the district consists of a rolling country covered by laterite and alluvium. While metamorphic or gneissose rocks are found in the extreme west, in the east there is a wide plain of Recent alluvium. Strong massive rocks of hornblendic varieties stretch across the region in tolerably continuous lines, the general strike being nearly east and west.

The most characteristic geological feature of the district is the area of laterite and associated rocks of sand and gravel. At some places one finds hard beds of laterite. At other places it is decomposed and reorganised. Locally, the ferruginous rock is called kankar.

ii) Tectonics and structural behavior of rocks

Bankura districtis is characterized by undulating terrain with many hills and ridges along the northwestern boundary of the district and having a gradual descent from the Chhatonagpur Plateau. Rarh Plain rises gradually in undulating surface but abruptly in hilly tract towards west extending between western hilly tract and eastern alluvial plains. Northwestern part of the district is mainly a plain area shaped by the Kasai River flowing from north-west to south-east and covers the north-western part of the district.

C. Climate Factors

i) Intensity of rainfall

The average annual rainfall in the district is 1481.52mm. The variations in the annual rainfall within the district and from year to year are not large. The rainfall during the monsoon season – June to September – constitutes 74 percent of the annual rainfall; July and August are the rainiest months. The district receives a mean annual rainfall varying from 1335.9 to 1780.2 mm.

ii) Climate zone

Bankura district belongs to humid tropical monsoon climatic region. According to District Meteorological Department, there is very minor variation of temperature, rainfall and relative humidity in the district.

The climate of this district is characterized by an oppressive hot summer, high humidity nearly all the year round and a well distributed rainfall in the south west monsoon season. The year may be divided into four seasons. The cold season is from about the middle of November to the end of February. The period from March to May is the summer season. The south west monsoon season commences about the beginning of June and lasts till the end of September. October and the first half of November may be termed as post-monsoon season.

iii) Temperature variation

Temperature along with other meteorological conditions of the district is more or less uniform. The cold season commences by about the middle of November when the temperature begins to decrease. January is the coldest month with the mean daily maximum and minimum temperature at 26°C and 12°C respectively. By about the end of February the temperature



begins to increase and April is s the hottest month, the mean maximum daily temperature is 38 ºC and the mean minimum daily temperature is 26 ºC.

Annual Deposition:

Annual deposition of riverbed minerals has been calculated on post-monsoon sand volume. The pre-monsoon sand volume of the river is the depleted resources and is replenished by the monsoon rainfall. For the purpose of estimating mineable mineral potential, the thickness of the sand bar considered extractable based on base flow level is given in Table 7.12.

Table 7.12: River wise Thickness of sand bar considered mineable

River Name	Considered Mining Thickness (m)
Damodar	3.00
Dwarakeswar	2.50-3.00
Kangsabati	2.00
Silabati	2.00

Based on geomorphology, geology, climate and mineable thickness of sand bar the annual deposition of riverbed minerals has been estimated. Sand bar area recommended for mineral concession in the table is calculated as per the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM) 2020. As per guidelines, mining depth restricted to 3 meters depth and distance from the bank is ¼th of river width and not less than 7.5 meters. Also mining is prohibitated up to a distance of 1 kilometre (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side. The annual minable mineral potential is given in Table 7.13.

Table 7.13: Annual mineable mineral potential

Sl. No.	River or Stream	Portion of the river stream recommended for mineral concession	Length of area recommended for mineral concession (in meter)	Average width of area recommended for mineral concession (in meters)	Area recommended for mineral concession (in Sqm)	Mineable mineral potential (in Mcum) (60% of total mineral potential
1	Damodar	54%	61134.98	1003.556	59808802	107.66
2	Dwarakeswar	55%	90422.92	270.7205	21963554	40.45
3	Kangsabati	11%	40422.64	359.6886	13475385	16.17
4	Silabati	37%	19004.09	176.9981	2122540	2.55

III. Riverbed Mineral Potential

Process of disposition etc:

Sand: Huge quantities of quality sands are found to occur in part of rivers. Smaller patches are also available locally in the other smaller rivers as well. Table 7.14 summarizes the potential riverbed mineral deposits of the district.

Table 7.14: Resources of Potential Riverbed Mineral

Boulder (Mcum)	Pebbles/Gravel (Mcum)	Sand/White sand (Mcum)	Total Mineable, Mineral Potential (Mcum)
-	-	166.82	166.82

Based on satellite imagery study and field investigation, potential zones for riverbed deposits for each river of the district have been identified and the details of the zones are provided in Table 7.15.

Table 7.15: Potential Zone of Riverbed Mineral

RIVER NAME	BLOCK NAME	MOUZA NAME	ZONE		COORDINATE		LENGTH (MTS)	WIDTH (MTS)	AREA (SQMTS)
					LATITUDE	LONGITUDE			
DAMODAR	SALTORA	SHIRPURNAMA	ZONE_01	1	23° 37' 48.530" N	86° 54' 13.705" E	1481.519928	544.418254	618250.4756
				2	23° 37' 35.894" N	86° 55' 3.807" E			
	SALTORA	ANANDAPUR	ZONE_02	3	23° 37' 42.507" N	86° 56' 0.776" E	1783.264871	520.701268	766556.3308
				4	23° 37' 34.360" N	86° 57' 3.084" E			
	SALTORA	KUKHARKURI	ZONE_03	5	23° 37' 14.528" N	86° 58' 45.164" E	6759.07919	513.7377	2046062.599
				6	23° 36' 49.970" N	87° 2' 13.327" E			
	MEJHIA	SAHEBDANGA	ZONE_04	7	23° 36' 49.970" N	87° 2' 13.327" E	6574.91257	851.282336	2865835.347
				8	23° 35' 14.058" N	87° 5' 39.502" E			
	MEJHIA	PURUNIA	ZONE_05	9	23° 34' 39.710" N	87° 6' 39.465" E	17077.4719	1296.57672	15019055.61
				10	23° 30' 19.921" N	87° 15' 20.607" E			
	BARJORA	KULDIHA	ZONE_06	11	23° 30' 19.916" N	87° 15' 20.596" E	1715.53844	1458.00454	796213.0249
				12	23° 29' 29.131" N	87° 16' 47.794" E			
	BARJORA	TAJPUR	ZONE_07	13	23° 27' 47.085" N	87° 19' 1.569" E	9706.09684	854.715838	5924035.199
				14	23° 24' 52.468" N	87° 23' 32.279" E			
	SONAMUKHI	MATIYA	ZONE_08	15	23° 24' 52.585" N	87° 23' 32.136" E	8764.4291	1509.635909	7977028.756
				16	23° 22' 31.010" N	87° 27' 50.731" E			
	SONAMUKHI	ISABPUR	ZONE_09	17	23° 21' 41.453" N	87° 28' 35.928" E	7272.6664	1360.52483	6304817.709
				18	23° 19' 15.477" N	87° 31' 40.984" E			
	PATRASAYER	KHANPARA	ZONE_10	19	23° 19' 15.477" N	87° 31' 40.984" E	12802.80792	1326.233564	14133491.5
				20	23° 14' 32.409" N	87° 37' 6.063" E			
	INDUS	BHAGITPUR	ZONE_11	21	23° 14' 32.410" N	87° 37' 6.063" E	3736.41711	803.2841	3357454.955
				22	23° 13' 57.993" N	87° 39' 11.407" E			



RIVER NAME	BLOCK NAME	MOUZA NAME	ZONE		COORDINATE		LENGTH (MTS)	WIDTH (MTS)	AREA (SQMTS)
					LATITUDE	LONGITUDE			
DWARAKESWAR	CHHATNA	CHHOPANIA	ZONE_01	1	23° 21' 40.034" N	86° 48' 57.363" E	7100.64933	123.820898	553926.6271
				2	23° 20' 18.516" N	86° 52' 23.647" E			
	CHHATNA	PALLA	ZONE_02	3	23° 19' 51.482" N	86° 52' 42.490" E	374.68304	75.939946	91350.93071
				4	23° 19' 42.404" N	86° 52' 51.225" E			
	CHHATNA	PATJURI AGAYA	ZONE_03	5	23° 18' 50.827" N	86° 53' 33.798" E	2848.481191	127.649699	202013.6571
				6	23° 17' 41.611" N	86° 54' 16.976" E			
	CHHATNA	MATIAKHOLA	ZONE_04	7	23° 15' 56.378" N	86° 54' 10.771" E	1933.155286	190.943092	219135.6074
				8	23° 15' 15.760" N	86° 54' 55.263" E			
	BANKURA I	KANTAKULI	ZONE_05	9	23° 15' 15.761" N	86° 54' 55.256" E	13220.87719	140.548753	1485762.45
				10	23° 13' 37.303" N	87° 1' 24.656" E			
	BANKURA I	ARALBANSHI	ZONE_06	11	23° 13' 18.567" N	87° 2' 32.065" E	2993.480876	244.153676	888125.7997
				12	23° 13' 9.391" N	87° 4' 7.088" E			
	BANKURA I	DABRA	ZONE_07	13	23° 12' 21.231" N	87° 4' 56.305" E	598.84043	257.741126	153569.9179
				14	23° 12' 19.974" N	87° 5' 16.658" E			
	BANKURA II	BHUTESWAR	ZONE_08	15	23° 12' 57.028" N	87° 6' 14.575" E	2049.29516	324.59255	541860.976
				16	23° 13' 37.936" N	87° 7' 13.163" E			
	ONDA	BIRSINGHAPUR	ZONE_09	17	23° 12' 51.368" N	87° 6' 19.604" E	23009.6408	464.90703	7167640.213
				18	23° 8' 18.114" N	87° 17' 0.970" E			
	BISHNUPUR	DHARAPATI	ZONE_10	19	23° 8' 18.114" N	87° 17' 0.970" E	2980.707114	240.21799	799865.0334
				20	23° 7' 13.787" N	87° 18' 16.840" E			
	BISHNUPUR	DEULI	ZONE_11	21	23° 6' 39.725" N	87° 19' 21.297" E	1712.07327	565.090299	448201.3287
				22	23° 6' 46.659" N	87° 20' 18.847" E			
	BISHNUPUR	KATNA	ZONE_12	23	23° 6' 26.046" N	87° 20' 35.305" E	8376.203129	343.163502	2078207.565
				24	23° 7' 5.087" N	87° 24' 0.422" E			
	JOYPUR	BELIA	ZONE_13	25	23° 5' 45.959" N	87° 23' 15.303" E	4896.273135	316.846129	1610710.867
				26	23° 6' 43.666" N	87° 25' 20.640" E			
	JOYPUR	JUJUR	ZONE_14	27	23° 6' 48.874" N	87° 26' 31.996" E	18328.56483	254.60031	5723182.705
				28	23° 4' 49.222" N	87° 35' 3.459" E			
	INDUS	SHANPURA	ZONE_15	29	23° 5' 4.565" N	87° 36' 13.285" E	3098.288837	357.451213	449981.6821
				30	23° 4' 0.013" N	87° 35' 53.390" E			
	KOTULPUR	BHAGALPUR	ZONE_16	31	23° 3' 55.627" N	87° 35' 53.096" E	15401.79617	303.86166	4553836.877
				32	23° 0' 43.135" N	87° 42' 49.156" E			
KANGSABATI	RAIPUR	KALAPATHAR	ZONE_01	1	22° 55' 14.531" N	86° 50' 34.545" E	10069.98138	261.61173	1562070.697
				2	22° 53' 58.304" N	86° 55' 27.964" E			
	RAIPUR	INDRAJHOR	ZONE_02	3	22° 53' 54.780" N	86° 55' 29.868" E	3014.348589	93.768783	173550.7763
				4	22° 52' 26.358" N	86° 55' 56.687" E			
	RAIPUR	DHEPUA	ZONE_03	5	22° 52' 23.733" N	86° 55' 55.494" E	7591.498568	269.63	1777367.442
				6	22° 48' 31.391" N	86° 56' 40.443" E			
	RAIPUR	KARGARLI	ZONE_04	7	22° 48' 13.260" N	86° 57' 9.766" E	10574.15314	548.54358	5527312.675
				8	22° 44' 20.368" N	86° 59' 47.377" E			

RIVER NAME	BLOCK NAME	MOUZA NAME	ZONE		COORDINATE		LENGTH (MTS)	WIDTH (MTS)	AREA (SQMTS)
					LATITUDE	LONGITUDE			
	RAIPUR	BRAMHADIHA	ZONE_05	9	22° 44' 20.368" N	86° 59' 47.377" E	9172.657497	624.888691	4435083.213
				10	22° 39' 44.122" N	86° 59' 32.858" E			
SHILABATI RIVER	SIMLAPAL	BAGHDOBA	ZONE_01	1	22° 58' 35.999" N	86° 59' 15.949" E	778.14886	225.570614	113697.5571
				2	22° 58' 16.968" N	86° 59' 3.315" E			
	SIMLAPAL	RAMCHANDRAPUR	ZONE_02	3	22° 57' 13.110" N	86° 59' 52.962" E	1283.457295	187.72915	196123.952
				4	22° 57' 11.484" N	87° 0' 36.321" E			
	SIMLAPAL	JHIKRI	ZONE_03	5	22° 56' 41.804" N	87° 0' 59.700" E	5598.366867	123.910614	615800.4925
				6	22° 55' 7.901" N	87° 3' 14.918" E			
	SIMLAPAL	LAKSHMIPAL	ZONE_04	7	22° 54' 33.683" N	87° 5' 19.275" E	10061.10871	136.84632	936262.7336
				8	22° 53' 23.505" N	87° 10' 14.151" E			
	SIMLAPAL	CHAKRASOL	ZONE_05	9	22° 53' 30.574" N	87° 10' 42.596" E	1283.0072	210.93366	260655.7529
				10	22° 53' 18.872" N	87° 11' 22.820" E			

NO MINING ZONE:

As per the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM) 2020 the restricted zone for mining is a distance from the bank is ¼th of river width and not be less than 7.5 meters. Also there is a no mining zone up to a distance of 1 kilometre (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

No mining zone has been marked for an area up to a width of 100 meters from the active edge of embankments. Also the concave side of the rive is marked as no mining zone, as mining is this area will affect the course of river in future and will erode the river bank. A representative map of no mining zone shown on River Damodar of Bankura district is given in Figure 7.7. Table 7.16 summarized the area of no mining zones demarcated for each river of the district.

Table 7.16: No mining zone in the district

RIVER NAME	Administrative Block	ZONE	Area within prohibited zone as per rule 3 of WBMMC Rules, 2016 (in sq.m)
DAMODAR RIVER	SALTORA	ZONE_01	111158.96
	SALTORA	ZONE_02	42487.42
	SALTORA	ZONE_03	1319888.41
	MEJHIA	ZONE_04	370364.14
	MEJHIA	ZONE_05	1412902.08
	BARJORA	ZONE_06	38080.53
	BARJORA	ZONE_07	838072.98
	SONAMUKHI	ZONE_08	1284135.46
	SONAMUKHI	ZONE_09	1353037.03
	PATRASAYER	ZONE_10	2283764.57
	INDUS	ZONE_11	385319.30

RIVER NAME	Administrative Block	ZONE	Area within prohibited
DWARKESWAR RIVER	CHHATNA	ZONE_01	90195.44526
	CHHATNA	ZONE_02	14994.0581
	CHHATNA	ZONE_03	24365.9708
	CHHATNA	ZONE_04	31152.04371
	BANKURA I	ZONE_05	184129.2523
	BANKURA I	ZONE_06	68261.86463
	BANKURA I	ZONE_07	33699.81571
	BANKURA II	ZONE_08	63357.01019
	ONDA	ZONE_09	1303796.634
	BISHNUPUR	ZONE_10	162527.152
	BISHNUPUR	ZONE_11	69238.71084
	BISHNUPUR	ZONE_12	330072.0609
	JOYPUR	ZONE_13	247728.9934
	JOYPUR	ZONE_14	1074160.231
	INDUS	ZONE_15	66072.29332
	KOTULPUR	ZONE_16	971295.2012
KANGSABATI RIVER	RAIPUR	ZONE_01	242293.6721
	RAIPUR	ZONE_02	22007.05495
	RAIPUR	ZONE_03	268697.5629
	RAIPUR	ZONE_04	928069.668
	RAIPUR	ZONE_05	851562.9869
SHILABATI RIVER	SIMLAPAL	ZONE_01	12485.9682
	SIMLAPAL	ZONE_02	23092.65629
	SIMLAPAL	ZONE_03	67804.85042
	SIMLAPAL	ZONE_04	164101.2233
	SIMLAPAL	ZONE_05	51421.57699

Wildlife hotspots in Bankura district are considered as no mining zones. Details are as follows:

- Mukutmanipur (co-ordinates: 23°57'25.18"N; 86°43'46.71"E): Mukutmanipur is well known for its high diversity of water birds as well as grassland birds.
- Ranibandh-Sutan's Twelve Mile Forest (co-ordinates: 22°48'41.35"N; 86°43'46.71"E).
- Jhilimili and Sutan Forest also known as "Baro Mile-er Jungle" (co-ordinates: 22°48'41.35"N; 86°43'46.71"E) is 45 KM away from Mukutmanipur and 70 km from Bankura Town.
- Kadamdeuli (co-ordinates: 23° 6'15.58"N; 86°52'10.94"E): This is a small dam on Silabati River well known for winter bird diversity.
- Joypur Forest (co-ordinates: 23°6'15.58"N; 86°52'10.94"E): The forest holds huge presence of resident and migratory elephants.
- Gangdua (co-ordinates: 23°24'26.52"N 87° 5'1.15"E): A small dam on Sali river, possesses significant wildlife with lots of weaver, swallow, pipit, wagtails, ibis etc.
- Elephant Corridors: A large number of elephants from Dalma Hills (Jharkhand State) migrated to the forest areas of Paschim Medinipur, Jhargram, Bankura and Purulia districts of West Bengal state during July to September every year. The elephant corridor covers Sonamukhi, Joypur, Raipur, Ranibandh and Borjora in the Bankura district.

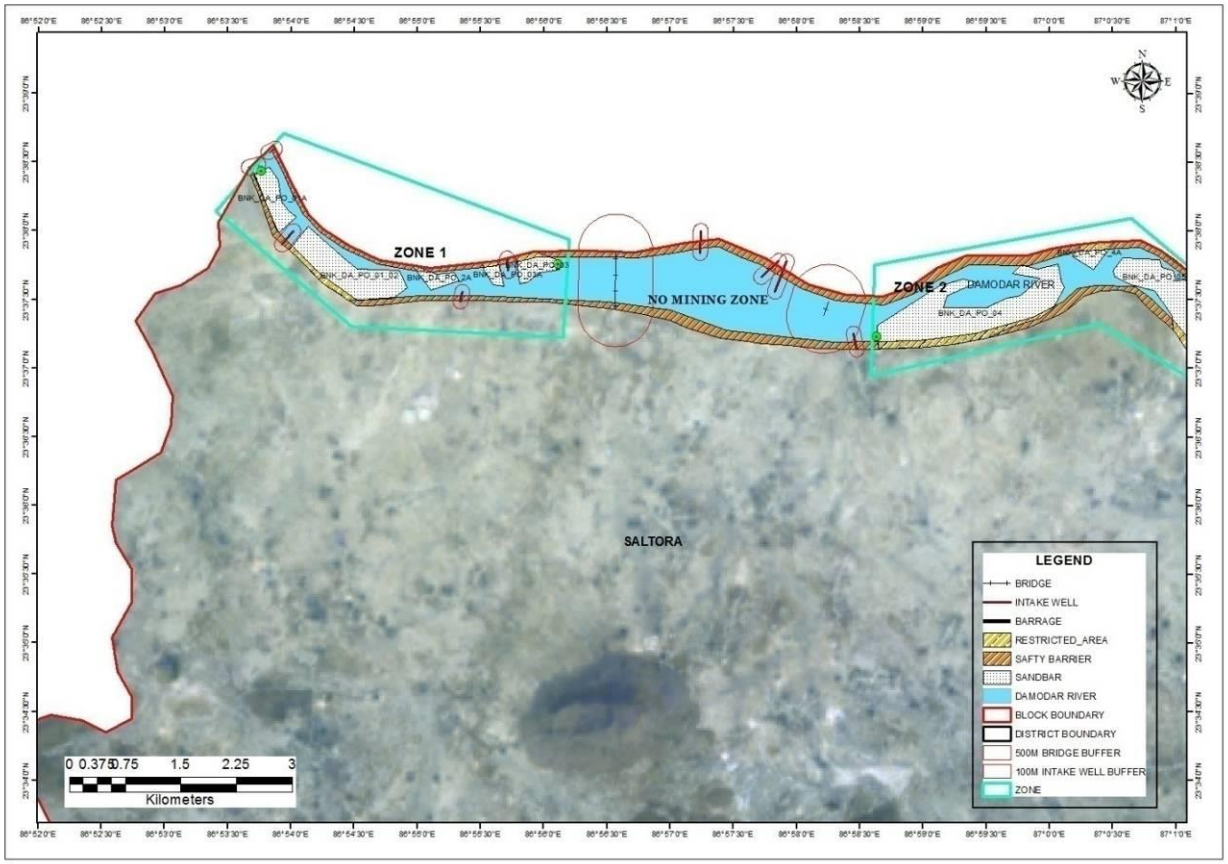


Figure 7.7: A representative map showing no-mining zone demarcated on Damodar River

8 Overview of mining activity in the district

8.1 General overview

In Bankura district mining activity is mainly associated with coal, quartzine and china clay deposits. Collection of sand from river-bed is one of the main minor mineral sources of the district. These materials are primarily utilized for construction purpose.

8.2 List of existing sand mining leases of the districts

As per the data received from OC, Minor Minerals, DL&LRO office, Bankura, total 142 blocks have been allotted for mining of river sand in the district during 2019 (Table 8.1). Among these, a total of 49 sand blocks are falling on Damodar River, 75 on Dwarakeswar River, 14 blocks on Kangasabati River and 4 blocks on Silabati River. Details of the leases are given below.

Table 8.1: Details of Sand mining leases of the districts

Sl. No.	Name of the LTML Holder (in case holder is a company, mention company name)	Sand ghat ID on centralized portal	Name of River/ Stream	Name of Block/ Municipality (if) spread over more than one, mention all)	Name of Mouza (if spread over more than one, mention all)	J.L. No(s)		Area (in Hectares/ Acres)	GPS Coordinates (Latitude & Longitude of 4 Corners) in Decimal Degrees	Minable reserve	LOI date	Remarks	Remarks as per DSR Amendment
1	Jana Engineering Works, Partner - Jugal Chandra Jana, S/o - Lt. Kunja Behari Jana	1573/SB 2021	Dwarakeswar	Bishnupur	Hinjuri	34	1189	9.83	23° 6' 49.80'' N, 87° 23'54.10''E 23° 06' 56.60'' N, 87° 24'3.50''E 23° 6' 54.20'' N, 87° 24'5.80''E 23° 06' 47.00'' N, 87° 23'58.90''E	95625.60 CUM per year	02-11-2022	Not in potential zone. Shifting proposal received from the H-I Bidder . Proposal verified and as the proposed area is outside the Mouza and plot, recommended a different shifting location with same area and maximum possible points of auctioned area AND to be included in newly proposedpotential zone - PPZ1	Within Potential Zone
2	Pradip Mukherjee	1575/SB 2021	Dwarakeswar	Bishnupur	Hinjuri	34	1189	5.41	23° 6' 56.95'' N, 87° 24'4.11''E 23° 06' 58.90'' N, 87° 24'15.70''E 23° 6' 55.80'' N, 87° 24'14.80''E 23° 06' 54.40'' N, 87° 24'6.40''E	53263.20 Cum per year	02-11-2022	Not in potential zone. Shifting proposal received from the H-I Bidder . Proposal verified and as the proposed area is outside the Mouza and plot, recommended a different shifting location with same area and maximum possible points of auctioned area AND to be included in newly proposedpotential zone - PPZ1	Within Potential Zone
3	Debraj Enterprise, Propiter - Subrata Ghosh, S/o - Santosh Kr. Ghosh	1576/SB 2021	Dwarakeswar	Bishnupur	Katna	79	1047	4.94	23° 5' 25.48'' N, 87° 21'47.94''E 23° 5' 26.15'' N, 87° 21'52.93''E 23° 5' 20.68'' N, 87° 21'53.70''E 23° 5' 21.38'' N, 87° 21'49.62''E	32858.90 Cum per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-2)	Within Potential Zone

Sl. No.	Name of the LTML Holder (in case holder is a company, mention company name)	Sand ghat ID on centralized portal	Name of River/ Stream	Name of Block/ Municipality (if) spread over more than one, mention all)	Name of Mouza (if spread over more than one, mention all)	J.L. No(s)		Area (in Hectares/ Acres)	GPS Coordinates (Latitude & Longitude of 4 Corners) in Decimal Degrees	Minable reserve	LOI date	Remarks	Remarks as per DSR Amendment
4	**Bose Enterprise, Prop - Chanchal Basu, S/o - Dhirendranath Basu**	1589/SB 2021	**Dwarakeswar**	**Bishnupur**	**Katna**	**79**	**1047**	**5.03**	**23° 5' 25.03'' N, 87° 21'42.69''E 23° 5' 25.27'' N, 87° 21'47.07''E 23° 5' 20.40'' N, 87° 21'47.89''E 23° 5' 19.66'' N, 87° 21'43.50''E**	49072.80 CUM per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-2)	5% area falls into Safety Zone
5	**Prasenjit Maji**	1578/SB 2021	**Dwarakeswar**	**Bishnupur**	**Katna**	**79**	**1047**	**6.15**	**23° 5' 25.05'' N, 87° 21'36.27''E 23° 5' 25.56'' N, 87° 21'41.42''E 23° 5' 20.09'' N, 87° 21'42.08''E 23° 5' 19.75'' N, 87° 21'36.95''E**	59673.60 Cum per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-2)	Within Potential Zone
6	**Patit Makur**	1581/SB 2021	**Dwarakeswar**	**Bishnupur**	**Katna**	**79**	**1047**	**6**	**23° 5' 24.06'' N, 87° 21'28.66''E 23° 5' 23.97'' N, 87° 21'35.27''E 23° 5' 20.25'' N, 87° 21'35.51''E 23° 5' 19.89'' N, 87° 21'28.16''E**	70044.22 CUM per year	02-11-2022	Not in potential zone. Shifting proposal received from the H-I Bidder within the same Mouza & Plot.	Within Potential Zone
7	**Malay Kumar Dutta**	1583/SB 2021	**Dwarakeswar**	**Bishnupur**	**Paikpara**	**57**	**280**	**5.11**	**23° 7' 28.30'' N, 87° 17'58.70''E 23° 7' 24.20'' N, 87° 18'6.30''E 23° 7' 21.70'' N, 87° 18'5.50''E 23° 7' 25.60'' N, 87° 17'57.80''E**	49737.60 CUM per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ 3)	Within Potential Zone
8	**Basu Agrofarms Pvt. Ltd., Director - Sharmila Basu, W/o - Partha Basu**	1585/SB 2021	**Dwarakeswar**	**Bishnupur**	**Uliara**	**71**	**1700, 1695**	**9.62**	**23° 6' 12.06'' N, 87° 23'25.06''E 23° 6' 21.00'' N, 87° 23'30.00''E 23° 6' 19.69'' N, 87° 23'33.82''E 23° 6' 11.14'' N, 87° 23'30.25''E**	93456 Cum per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ - 4)	Within Potential Zone

Sl. No.	Name of the LTML Holder (in case holder is a company, mention company name)	Sand ghat ID on centralized portal	Name of River/ Stream	Name of Block/ Municipality (if) spread over more than one, mention all)	Name of Mouza (if spread over more than one, mention all)	J.L. No(s)		Area (in Hectares/ Acres)	GPS Coordinates (Latitude & Longitude of 4 Corners) in Decimal Degrees	Minable reserve	LOI date	Remarks	Remarks as per DSR Amendment
9	Malay Panja	**1677/SB 2021**	Damodar	Mejia	Bhara	1	1(P)	11.26	**23° 36' 47.24'' N, 87° 2'37.98''E 23° 36' 45.72'' N, 87° 2'41.07''E 23° 36' 37.60'' N, 87° 2'36.04''E 23° 36' 37.94'' N, 87° 2'29.73''E**	109587.60 CUM per year	02-11-2022	Partly in potential zone. Shifting proposal received from the H-I Bidder within the same Mouza & Plot	Within Potential Zone
10	Nikhil Kr. Roy	1588/SB 2021	Damodar	Mejia	Damodar Mohan	64	49(P)	12.23	**23° 33' 7.10'' N, 87° 11'5.70''E 23° 33' 4.39'' N, 87° 11'12.36''E 23° 32' 57.30'' N, 87° 11'8.10''E 23° 32' 59.40'' N, 87° 11'2.10''E**	118728 cum per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-5)	5% area falls into Safety Barrier
11	R.N. Infrabuild Pvt. Ltd. Director - Rajkishore Yadav	1598/SB 2021	Damodar	Mejia	Damodar Mohan	64	49(P)	12.33	**23° 33' 9.26'' N, 87° 10'59.14''E 23° 33' 7.40'' N, 87° 11'5.10''E 23° 32' 59.80'' N, 87° 11'1.00''E 23° 33' 0.80'' N, 87° 10'54.60''E**	**119677.20 Cum per year**	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-5)	10% area falls into Safety Barrier
12	Santosh Kumar Chourasia	1600/SB 2021	Damodar	Mejia	Purbator	67	970(P)	11.21	**23° 32' 54.85'' N, 87° 11'34.33''E 23° 32' 54.30'' N, 87° 11'39.00''E 23° 32' 44.38'' N, 87° 11'39.30''E 23° 32' 44.67'' N, 87° 11'33.76''E**	**123903 cum per year**	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-5)	Within Potential Zone
13	Modern Industrial Infrastructure Pvt. Ltd. Director - Rajkishor Yadav	1601/SB 2021	Damodar	Mejia	Telenda	60	12093	9.88	**23° 33' 53.32'' N, 87° 8'51.92''E 23° 33' 52.10'' N, 87° 8'58.80''E 23° 33' 45.81'' N, 87° 8'57.18''E 23° 33' 47.03'' N, 87° 8'50.17''E**	**126936 cum per year**	02-11-2022	**Revised mine plan with 98% in potential zone is to be submitted by the H-1 bidder**	Within Potential Zone

Sl. No.	Name of the LTML Holder (in case holder is a company, mention company name)	Sand ghat ID on centralized portal	Name of River/ Stream	Name of Block/ Municipality (if) spread over more than one, mention all)	Name of Mouza (if spread over more than one, mention all)	J.L. No(s)		Area (in Hectares/ Acres)	GPS Coordinates (Latitude & Longitude of 4 Corners) in Decimal Degrees	Minable reserve	LOI date	Remarks	Remarks as per DSR Amendment
14	Abir Kumar Dey	1602/SB 2021	Damodar	Barjora	Radhakantapur	60	448(P)	4.86	23° 41' 37.99'' N, 87° 38.44.34''E 23° 41' 30.72'' N, 87° 38'57.51''E 23° 41' 22.20'' N, 87° 38'49.47''E 23° 41' 29.99'' N, 87° 38'36.03''E	47204Cum per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-6)	Falls outside District Boundary
15	ShoMuk Engineering & Consultancy Services, Propiter - Aniruddha Banerjee, S/o Lt. Sobhankar Banerjee	1603/SB 2021	Damodar	Barjora	Purakonda	55	445(P)	11.74	23° 25' 55.689'' N, 87°20'45.611''E 23° 26' 2.323'' N, 87° 20'52.622''E 23° 25' 58.182'' N, 87° 20'56.586''E 23° 25' 51.753'' N, 87° 20'49.39''E			TOR issued	Within Potential Zone
16	Hemanta Kumar Ghosh	1604/SB 2021	Damodar	Indas	Bhagitpur	1	831	8.5	23° 14' 12.98'' N, 87° 37'23.25''E 23° 14' 07.87'' N, 87° 37'34.68''E 23° 14' 07.22'' N, 87° 37'42.43''E 23° 14' 12.72'' N, 87° 37'40.41''E			Revised mine plan with almost 75% in potential zone has been submitted by the H-1 bidder	Within Potential Zone
17	New kalimata Sand	1607/SB 2021	Dwarakeswar	Indas	Naga Tentul	131	1963(P), 1962(P), 1924,1926,1925,1922,1921, 1920,1935(P), 1958(P),1949(P), 1P),1927(P),1928,1929,	9.82	23° 1' 17.463'' N, 87° 42'27.664''E 23° 1' 20.754'' N, 87° 42'34.723''E 23° 1' 15.329'' N, 87° 42'38.1''E 23° 1' 12.716'' N, 87° 42'31.735''E	95280 Cum per year	02-11-2022	Revised mine plan with almost 80% in potential zone has been submitted by the H-1 bidder	Within Potential Zone

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							1930,2644(P), 2697(P),1816(P),1815(P),1824(P),1825(P)						
18	Banshi Mohan Ghosh	1608/SB 2021	Damodar	Barjora	Radhakantapur	60	448(P), 513(P)	9.35	23° 45' 54.64'' N, 87° 38'64.62''E 23° 41' 46.39'' N, 87° 38'87.02''E 23° 41' 34.25'' N, 87° 38'80.37''E 23° 41' 42.57'' N, 87° 38'57.14''E	90813 CUM per year	02-11-2022	TOR issued	Falls outside District Boundary
19	Swapan Mondal	927/SB2021	Damodar	Barjora	Radhakantapur	60	448(P), 513(P)	8.73	23° 41' 71.47'' N, 87° 38'87.25''E 23° 41' 63.29'' N, 87° 39'05.62''E 23° 41' 50.35'' N, 87° 38'97.88''E 23° 41' 57.81'' N, 87° 38'78.87''E	84792 CUM per year	02-11-2022	TOR issued	Incorrect Coordinate
20	Nrisingha Chattopadhyay	1635/SB 2021	Dwarakeswar	Chhatna	Malpara	151	163(P)	2.97	23° 20' 24.116'' N, 86° 52'3.898''E 23° 20' 23.127'' N, 86° 52'3.917''E 23° 20' 24.124'' N, 86° 52'15.881''E 23° 20' 25.201'' N, 86° 52'16.358''E	28800 cum per year	02-11-2022	85% WITHIN POTENTIAL ZONE	20% area falls into Safety Zone and ouside the River **
21	Bani De	1652/SB 2021	Dwarakeswar	Chhatna	Kanki	150	693(P)	2.24	23° 19' 58.092'' N, 86° 52'34.19''E 23° 19' 58.867'' N, 86° 52'35.171''E 23° 19' 52.155'' N, 86° 52'42.36''E 23°	21840 Cum per year	02-11-2022	Revised mine plan with almost 95% in potential zone has been submitted by the H-1 bidder	100% in Bridge Buffer area **

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									19' 51.478'' N, 86° 52'41.614''E				
22	Santanu Ray	1658/SB 2021	Damodar	Saltora	Kalla	38	4	12.02	23° 37' 20.84'' N, 86° 58'53.46''E 23° 37' 21.05'' N, 86° 59'0.37''E 23° 37' 12.65'' N, 86° 58'52.54''E 23° 37' 13.18'' N, 86° 58'59.73''E	117012 Cum per year	02-11-2022	EC issued	Within Potential Zone
23	Amrit Vintrade Pvt. Ltd.	1653/SB 2021	Damodar	Saltora	Bakulia	44	46	11.27	23° 37' 8.90'' N, 87° 1'21.00''E 23° 37' 0.18'' N, 87° 1'27.60''E 23° 36' 57.60'' N, 87° 1'24.80''E 23° 37' 5.10'' N, 87°1'16.70''E			WITHIN POTENTIAL ZONE	20% area falls into Safety Zone
24	Amiya Ranjan Das	1654/SB 2021	Kangsabati	Sarenga	Taldiha	345	231	11.93	22° 42' 11.70'' N, 86° 59'37.70''E 22° 42' 9.71'' N, 86° 59'47.26''E 22° 42' 3.95'' N, 86° 59'43.85''E 22° 42' 8.44'' N, 86° 59'35.11''E	72471.59 CUM per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-7)	70% area falls into Safety Zone and ouside the River **
25	Sri Krishna Sand Partner - Amiya Ranjan Das	1655/SB 2021	Kangsabati	Sarenga	Taldiha	345	1	12	22° 42' 23.99'' N, 86° 59'43.54''E 22° 42' 19.83'' N, 86° 59'52.64''E 22° 42' 15.40'' N, 86° 59'50.23''E 22° 42' 17.94'' N, 86° 59'43.89''E	72940.5 CUM per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-7)	30% area falls into Safety Zone

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26	Arun Kumar	1661/SB 2021	Kangsabati	Sarenga	Kotalsol	108	194	11.86	22° 81' 44.60'' N, 86° 94'13.69''E 22° 81' 25.06'' N, 86° 94'32.18''E 22° 81' 14.80'' N, 86° 94'20.72''E 22° 81' 33.95'' N, 86° 94'01.86''E	72083.48 Cum per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-8)	Incorrect Coordinate
27	Pramod Kumar	1662/SB 2021	Kangsabati	Sarenga	Kotalsol	108	194	11.78	22° 48' 41.60'' N, 86° 56'29.22''E 22° 48' 45.60'' N, 86° 56'34.95''E 22° 48' 40.22'' N, 86° 56'40.46''E 22° 48' 36.34'' N, 86° 56'35.07''E	71597.79 Cum per year	02-11-2022	Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-8)	10% area falls into Safety Zone
28	Indivisual, Proprietor - Sumit Singh	1663/SB 2021	Damodar	Sonamukhi	Rangamati	9	1753,1756,1775	12	23° 39' 40.06'' N, 87° 42'98.06''E 23° 39' 27.29'' N, 87° 43'19.69''E 23° 39' 13.20'' N, 87° 43'09.82''E 23° 39' 24.95'' N, 87° 42'88.93''E	38850.24 Cum per year	02-11-2022	TOR issued	Incorrect Coordinate
29	Indivisual, Proprietor - Sumit Singh	1664/SB 2021	Damodar	Sonamukhi	Rangamati	9	1753,1756,1775	11.9	23° 39' 23.62'' N, 87° 42'87.69''E 23° 39' 08.61'' N, 87° 43.15.28''E 23° 38' 97.79'' N, 87° 43'08.01'E 23° 39' 12.01'' N, 87° 42'79.76''E	38526.49 Cum per year	02-11-2022	TOR issued	Falls outside District Boundary
30	JHM Import Export Pvt Ltd.	1656/SB 2021	Damodar	Patrasayer	Ghoradanga	29	766	11.73	23° 15' 53.77'' N, 87° 35'25.22''E 23° 15' 49.12'' N, 87° 35'29.65''E 23° 15' 44.46'' N, 87° 35'23.01''E 23° 15' 48.80'' N, 87° 35'18.20''E			WITHIN POTENTIAL ZONE	Within Potential Zone

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31	**K and K Minerals Pvt. Ltd.**	1657/SB 2021	**Damodar**	**Patrasayer**	**Panchpara**	**60**	**1595**	**11.73**	**23° 15' 37.22'' N, 87° 35'35.67''E 23° 15' 31.86'' N, 87° 35'39.07''E 23° 15' 27.58'' N, 87° 35'31.69''E 23° 15' 32.96'' N, 87° 35'28.23''E**			**WITHIN POTENTIAL ZONE**	Within Potential Zone
32	Sk. Islam Hossen		Darkeswar	Kotulpur	Mathuratapal	7	1108 (P)	2	23° 5'8.30"N, 87°35'57.78"E, 23° 5'10.03"N, 87°36'2.28"E, 23° 5'8.02"N, 87°36'2.98"E, 23° 5'6.74"N, 87°35'59.27"E			Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-12)	100% in Bridge Buffer area **
33	Wasima Kahtun (Begam)		Darkeswar	Kotulpur	Mathuratapal	7	1108 (P)	2	23° 5'9.68"N, 87°35'56.31"E, 23° 5'11.65"N, 87°36'7.06"E, 23° 5'8.30"N, 87°35'57.74"E			Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-12)	100% in Bridge Buffer area **
34	Jakir Hosen		Darkeswar	Kotulpur	Mathuratapal	7	1108 (P)	20	23° 5'9.91"N, 87°35'43.70"E. 23° 5'14.82"N, 87°35'50.40"E. 23° 5'6.16"N, 87°35'58.81"E. 23° 5'3.93"N, 87°35'46.16"E			Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-12)	100% in Bridge Buffer area **
35	Nimai Ari		Darkeswar	Kotulpur	Mathuratapal	7	1107,1108,548,743,1939,1940,352,554 etc.	18	23° 4'53.47"N, 87°35'21.39"E. 23° 4'56.33"N, 87°35'26.26"E. 23° 4'52.70"N, 87°35'27.73"E. 23° 4'51.10"N, 87°35'25.52"E. 23° 4'52.25"N, 87°35'23.34"E,			Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-13)	100% in Bridge Buffer area **

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									23° 4'52.52"N, 87°35'23.64"E, 23° 4'53.43"N, 87°35'21.39"E				
36	Sridam Sarkar		Darkeswar	Kotulpur	Mathuratapal	7	1108 (P)	3.63	23° 4'48.28"N, 87°35'16.87"E, 23° 4'52.20"N, 87°35'23.28"E. 23° 4'51.01"N, 87°35'25.35"E. 23° 4'46.82"N, 87°35'18.70"E			Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-13)	100% in Bridge Buffer area **
37	Saday Brahmachari		Damodar	Barjora	Brahmondiha	54	1141(P)	5	23°26'46.56"N, 87°20'6.23"E, 23°26'45.55"N, 87°20'9.61"E. 23°26'39.23"N, 87°20'6.85"E. 23°26'40.11"N, 87°20'3.78"E			Within potential zone	Within Potential Zone
38	Molla Abdul Odud		Damodar	Patrasayer	Tashuli	28	628(P), 629(p) & 868(P)	4.25	23°16'54.99"N, 87°34'38.04"E. 23°16'52.83"N, 87°34'40.90"E. 23°16'48.06"N, 87°34'37.95"E. 23°16'49.00"N, 87°34'34.91"E			Fallen in Potential zone of Purba bardhaman and Bankura	Within Potential Zone
39	Bapi Kandar		Damodar	Sonamukhi	Beloa	108	350(P)	3	23°21'46.78"N, 87°28'9.23"E. 23°21'45.42"N, 87°28'12.22"E. 23°21'46.65"N, 87°28'13.33"E. 23°21'45.46"N, 87°28'13.53"E. 23°21'42.94"N, 87°28'12.12"E,			Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-9)	100% in Bridge Buffer area **

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									23°21'43.36"N, 87°28'10.04"E, 23°21'44.66"N, 87°28'8.00"E				
40	Basudeb Pal		Darkeswar	Bishnupur	Benda	51	257(P)	10	23° 8'21.95"N, 87°16'46.74"E. 23° 8'8.08"N, 87°17'0.75"E. 23° 8'7.22"N, 87°17'0.16"E. 23° 8'20.23"N, 87°16'43.26"E.			Mostly in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-11)	20% area falls into Safety Zone
41	Bikash Mitra		Darkeswar	Patrasayer	Naricha	158	1868(p)	5	23° 6'49.30"N, 87°26'17.31"E, 23° 6'50.72"N, 87°26'19.51"E. 23° 6'44.15"N, 87 23° 6'43.38"N, 26'28.50"E, 87°26'26.55"E°			Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-10)	100% in Bridge Buffer area **
42	Joy Maa Tara Enterprize		Damodar	Saltora	Iswarda	31	1(p)	5	23°37'37.19"N, 86°56'33.52"E. 23°37'37.21"N, 86°56'39.75"E. 23°37'33.39"N, 86°56'39.40"E. 23°37'33.39"N, 86°56'33.44"E			Not in potential Zone. DSR updation requires for inclusion of the auctioned area in newly formed potential zone having lat long in Annexure X (PPZ-14)	Within Potential Zone
43	Subir Ghosh		Darkeswar	Onda	Sabanpur	141	82(P)	6	23°10'56.06"N, 87°12'51.51"E. 23°10'57.40"N, 87°12'56.22"E. 23°10'50.35"N, 87°12'56.62"E. 23°10'51.49"N, 87°12'51.87"E			Within Potential Zone	Within Potential Zone

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44	Ujjal Kumar Khan		Damodar	Sonamukhi	Beloa	108	401(P)	5	23°21'36.43"N, 87°28'40.19"E. 23°21'27.22"N, 87°28'45.60"E. 23°21'26.21"N, 87°28'43.98"E. 23°21'35.04"N, 87°28'38.22"E			Within the potential Zone, Non-Cluster certificate required	Within Potential Zone

**** EC for these blocks is not possible as per EMGSM 2020 guidelines.**

8.3 List of Auctioned sand mining leases of the districts

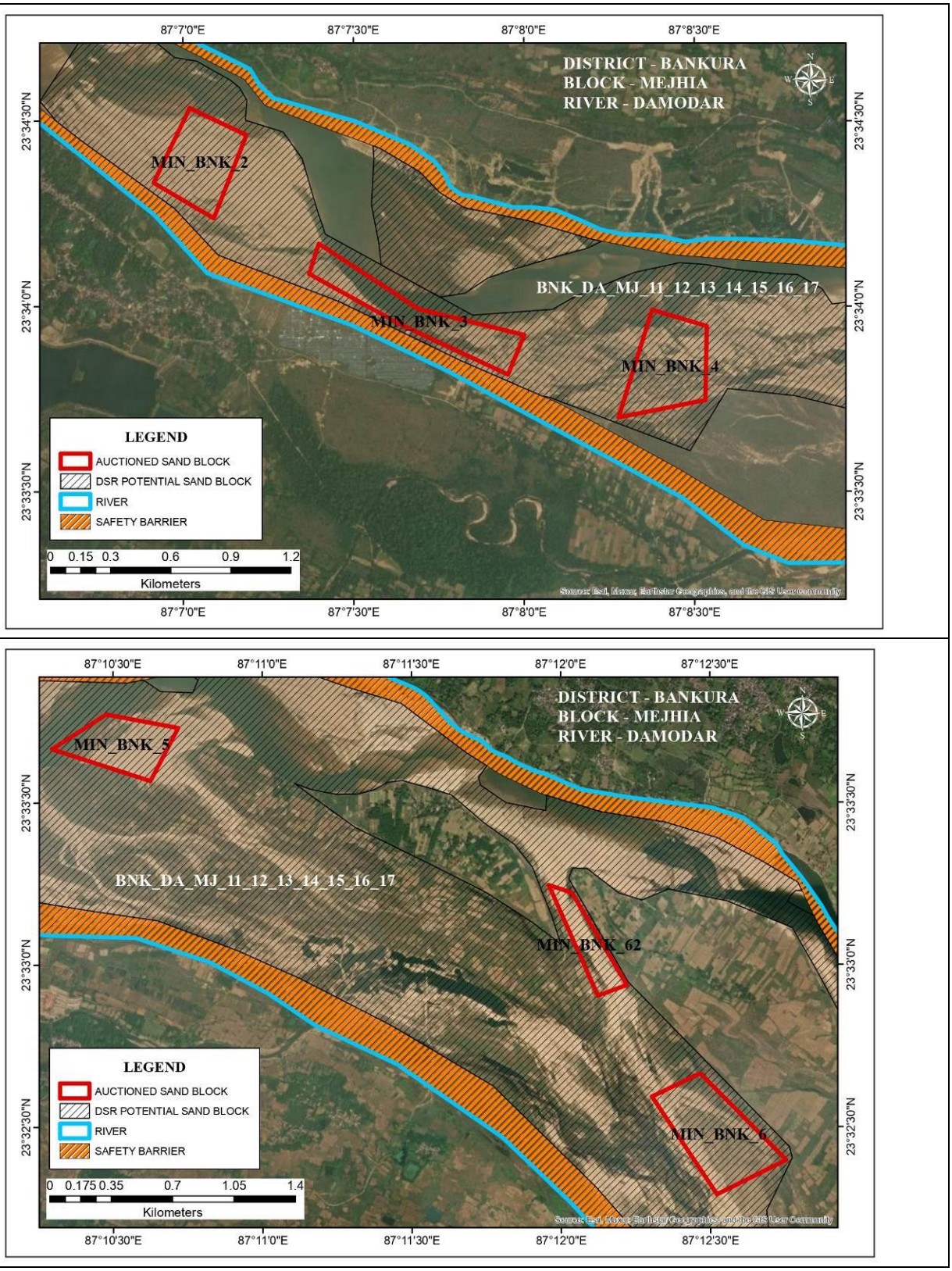
Based on DSR potential block, sand blocks are auctioned for the district which area given as Table 8.2 and map of these blocks are given as Figure 8.1.

Table 8.2: List of WBMDTCL Sand Auction Block of the district

Sr. No.	Name	Area (Ha)	Potential	Block	River	Status
1	MIN_BNK_2	14.14	PO_BNK_DA_MJ_11_12_13_14_15_16_17	MEJHIA	DAMODAR	AUCTIONED
2	MIN_BNK_3	16.34	PO_BNK_DA_MJ_11_12_13_14_15_16_17	MEJHIA	DAMODAR	AUCTIONED
3	MIN_BNK_4	15.93	PO_BNK_DA_MJ_11_12_13_14_15_16_17	MEJHIA	DAMODAR	AUCTIONED
4	MIN_BNK_5	15.14	PO_BNK_DA_MJ_11_12_13_14_15_16_17	MEJHIA	DAMODAR	AUCTIONED
5	MIN_BNK_6	24.59	PO_BNK_DA_MJ_11_12_13_14_15_16_17	MEJHIA	DAMODAR	AUCTIONED
6	MIN_BNK_7	15.74	PO_BNK_DA_MJ_18	MEJHIA	DAMODAR	AUCTIONED
7	MIN_BNK_9-I	20.58	PO_BNK_DA_BJ_19	BARJORA	DAMODAR	AUCTIONED
8	MIN_BNK_9-II	23.58	PO_BNK_DA_BJ_19	BARJORA	DAMODAR	AUCTIONED
9	MIN_BNK_10	9.50	PO_BNK_DA_BJ_20	BARJORA	DAMODAR	AUCTIONED
10	MIN_BNK_11	16.82	PO_BNK_DA_BJ_20	BARJORA	DAMODAR	AUCTIONED
11	MIN_BNK_12	11.30	PO_BNK_DA_PS_26	PATRASAYER	DAMODAR	AUCTIONED
12	MIN_BNK_16_A	4.51	PO_BNK_DA_PS_27	PATRASAYER	DAMODAR	AUCTIONED
13	MIN_BNK_16_B	12.51	PO_BNK_DA_PS_27	PATRASAYER	DAMODAR	AUCTIONED
14	MIN_BNK_18_A	4.64	PO_BNK_DA_PS_28	PATRASAYER	DAMODAR	AUCTIONED
15	MIN_BNK_18_B	18.29	PO_BNK_DA_PS_28	PATRASAYER	DAMODAR	AUCTIONED
16	MIN_BNK_23 R	8.25	BNK_DW_PS_23	PATRASAYER	DWARAKESWAR RIVER	AUCTIONED
17	MIN_BNK_29	18.90	BNK_DW_JY_17_19	JOYPUR	DWARAKESWAR RIVER	AUCTIONED
18	MIN_BNK_32	3.06	BNK_DW_JY_21	JOYPUR	DWARAKESWAR RIVER	AUCTIONED
19	MIN_BNK_44_A	4.95	PO_BNK_DA_BJ_20B	BARJORA	DAMODAR	AUCTIONED
20	MIN_BNK_44_B	23.61	PO_BNK_DA_BJ_20B	BARJORA	DAMODAR	AUCTIONED
21	MIN_BNK_45	3.89	BNK_DW_ON_10	ONDA	DWARAKESWAR RIVER	AUCTIONED



Sr. No.	Name	Area (Ha)	Potential	Block	River	Status
22	MIN_BNK_46	30.78	BNK_DW_ON_10	ONDA	DWARAKESWAR RIVER	AUCTIONED
23	MIN_BNK_47	10.24	BNK_DW_ON_10	ONDA	DWARAKESWAR RIVER	AUCTIONED
24	MIN_BNK 48R	4.53	BNK_DW_ON_13	ONDA	DWARAKESWAR RIVER	AUCTIONED
25	MIN_BNK 49-I	14.29	BNK_DW_JY_24	JOYPUR	DWARAKESWAR RIVER	AUCTIONED
26	MIN_BNK 49R-II	12.75	BNK_DW_PS_23A	PATRASAYER	DWARAKESWAR RIVER	AUCTIONED
27	MIN_BNK_50 R_I	27.59	BNK_DW_IN_25,BNK_DW_IN_ 26	JOYPUR,INDU S	DWARAKESWAR RIVER	AUCTIONED
28	MIN_BNK_50 R_II	4.28	BNK_DW_JY_24	JOYPUR	DWARAKESWAR RIVER	AUCTIONED
29	MIN_BNK_51	3.59	BNK_DW_IN_26,BNK_DW_KP_ 26A	KOTULPUR, INDUS	DWARAKESWAR RIVER	AUCTIONED
30	MIN_BNK_52	13.03	BNK_DW_KP_27,BNK_DW_IN_ 26	KOTULPUR, INDUS	DWARAKESWAR RIVER	AUCTIONED
31	MIN_BNK_53	15.88	BNK_DW_KP_28,BNK_DW_IN_ 28A	KOTULPUR, INDUS	DWARAKESWAR RIVER	AUCTIONED
32	MIN_BNK_55	4.22	BNK_DW_KP_29A	KOTULPUR, INDUS	DWARAKESWAR RIVER	AUCTIONED
33	MIN_BNK_55 A	15.68	BNK_DW_KP_29A	KOTULPUR	DWARAKESWAR RIVER	AUCTIONED
34	MIN_BNK_56	16.26	BNK_DW_ON_09A,BNK_DW_B 2_09B	ONDA,BANK URA-II	DWARAKESWAR RIVER	AUCTIONED
35	MIN_BNK_56	7.99	BNK_DW_ON_09A,BNK_DW_B 2_09B	ONDA,BANK URA-II	DWARAKESWAR RIVER	AUCTIONED
36	MIN_BNK_57	9.22	BNK_DW_ON_09A,BNK_DW_B 2_09B	ONDA,BANK URA-II	DWARAKESWAR RIVER	AUCTIONED
37	MIN_BNK_62	8.84	PO_BNK_DA_MJ_11_12_13_14 _15_16_17	MEJHIA	DAMODAR	AUCTIONED
38	MIN_BNK_63	19.63	PO_BNK_DA_SM_22	SONAMUKHI	DAMODAR	AUCTIONED
39	MIN_BNK_64	34.05	PO_BNK_DA_SM_22	SONAMUKHI	DAMODAR	AUCTIONED
40	WB_BNK_DR K_B_7	4.04	BNK_DW_CH_01	CHHATNA	DWARAKESWAR RIVER	AUCTIONED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87°8'30"E
23°34'30"N
23°34'0"N
23°33'30"N
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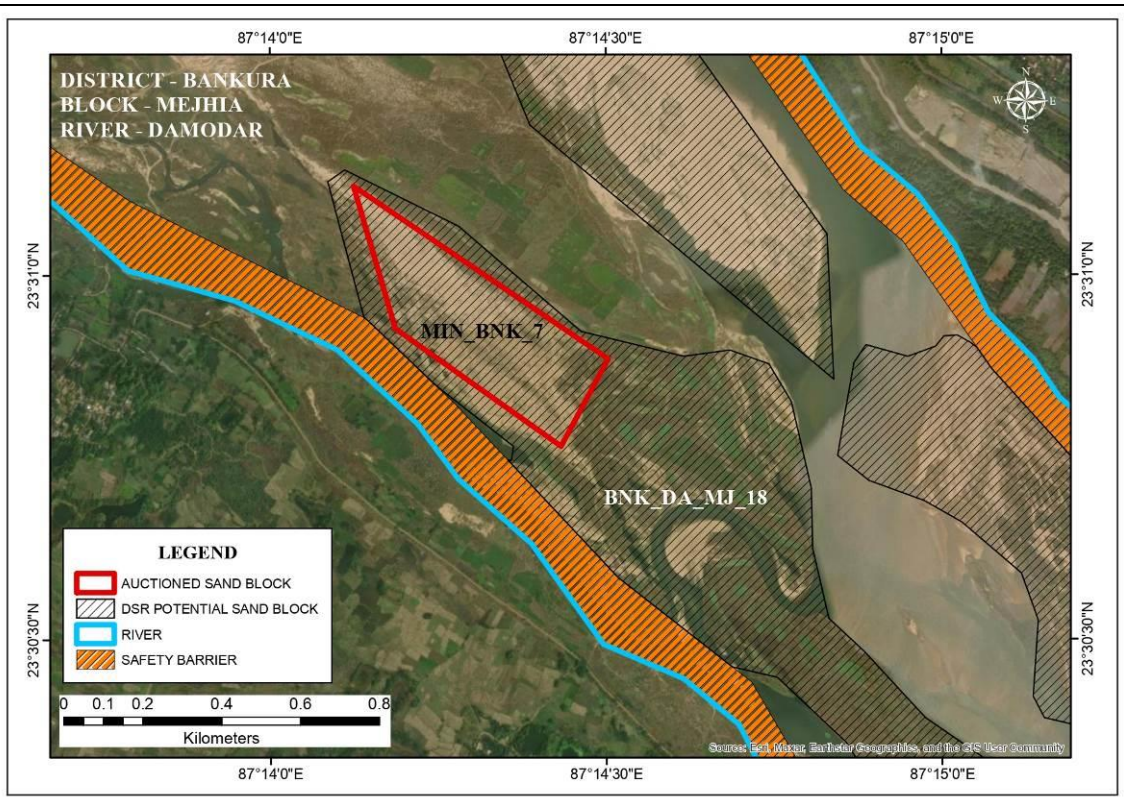
BLOCK - MEJHIA
RIVER - DAMODAR
MIN_BNK_2
BNK_DA_MJ_11_12_13_14_15_16_17
MIN_BNK_3
MIN_BNK_4
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.15 0.3 0.6 0.9 1.2
Kilometers
87°10'30"E
87°11'0"E
87°11'30"E
87°12'0"E
87°12'30"E
23°33'30"N
23°33'0"N
23°32'30"N
DISTRICT - BANKURA
BLOCK - MEJHIA
RIVER - DAMODAR
MIN_BNK_5
BNK_DA_MJ_11_12_13_14_15_16_17
MIN_BNK_62
MIN_BNK_6
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.175 0.35 0.7 1.05 1.4
Kilometers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BLOCK - MEJHIA
RIVER - DAMODAR
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BNK_DA_MJ_18
23°31'0"N
23°30'30"N
LEGEND
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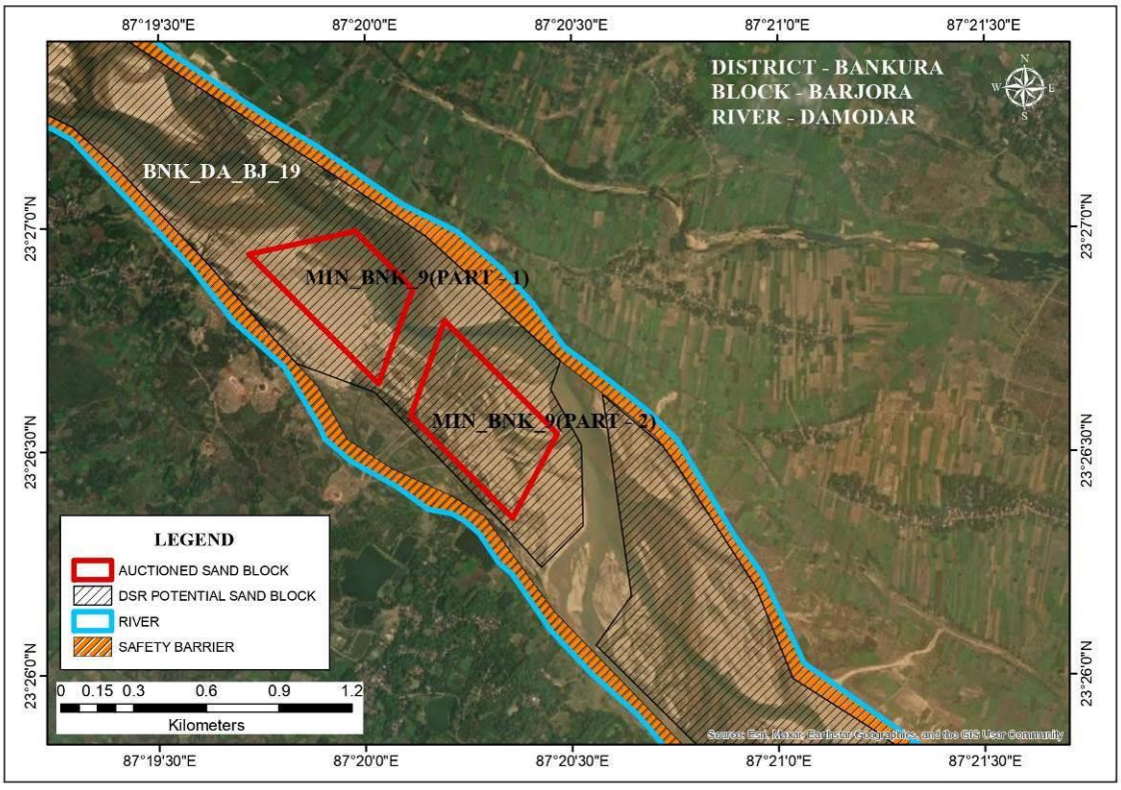
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.1 0.2 0.4 0.6 0.8
Kilometers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87°20'30"E
87°21'0"E
87°21'30"E
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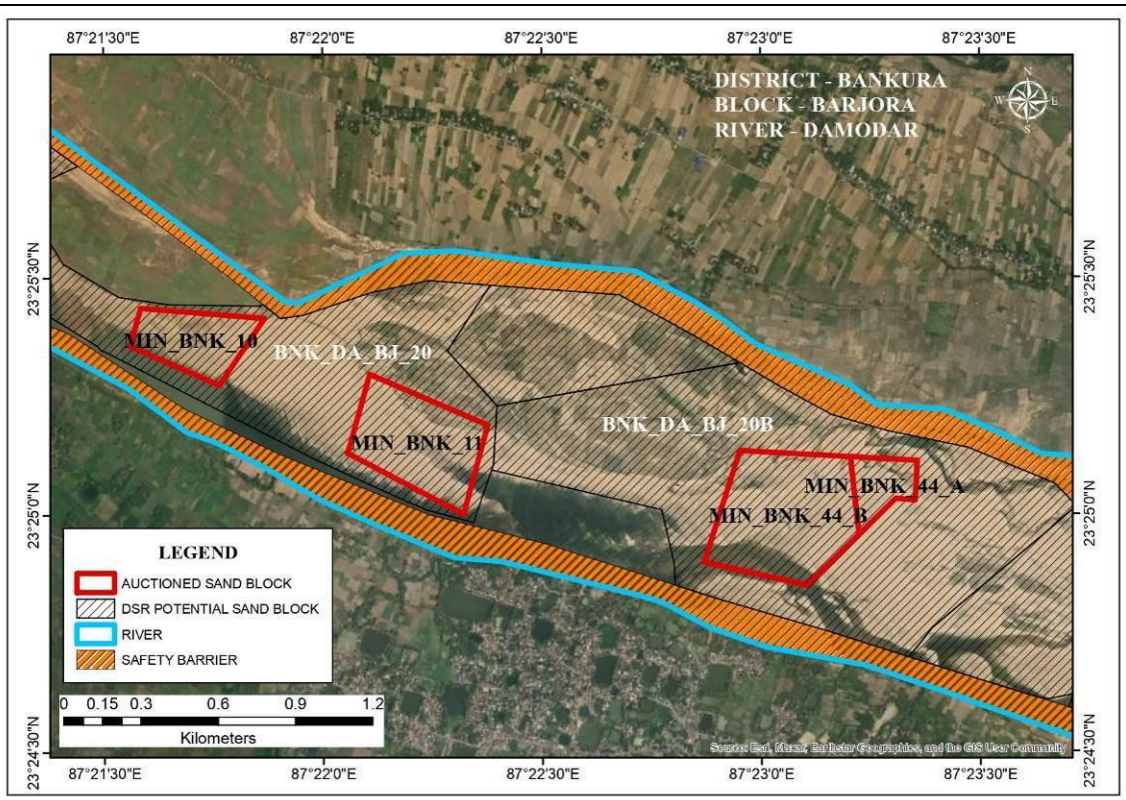
BLOCK - BARJORA
RIVER - DAMODAR
BNK_DA_BJ_19
MIN_BNK_9(PART - 1)
MIN_BNK_9(PART - 2)
23°27'0"N
23°26'30"N
23°26'0"N
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.15 0.3 0.6 0.9 1.2
Kilometers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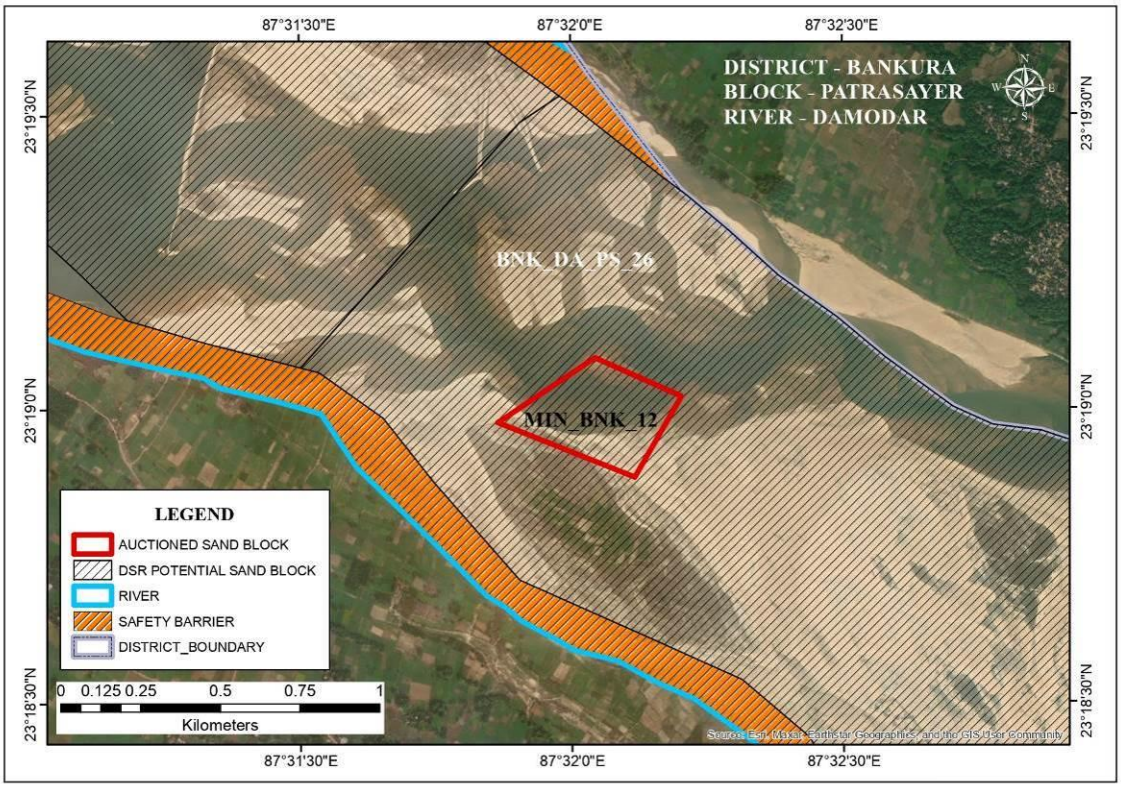
23°25'30"N
23°25'0"N
23°24'30"N
DISTRICT - BANKURA
BLOCK - BARJORA
RIVER - DAMODAR
MIN_BNK_10
BNK_DA_BJ_20
MIN_BNK_11
BNK_DA_BJ_20B
MIN_BNK_44_A
MIN_BNK_44_B
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.15 0.3 0.6 0.9 1.2
Kilometers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23°19'30"N
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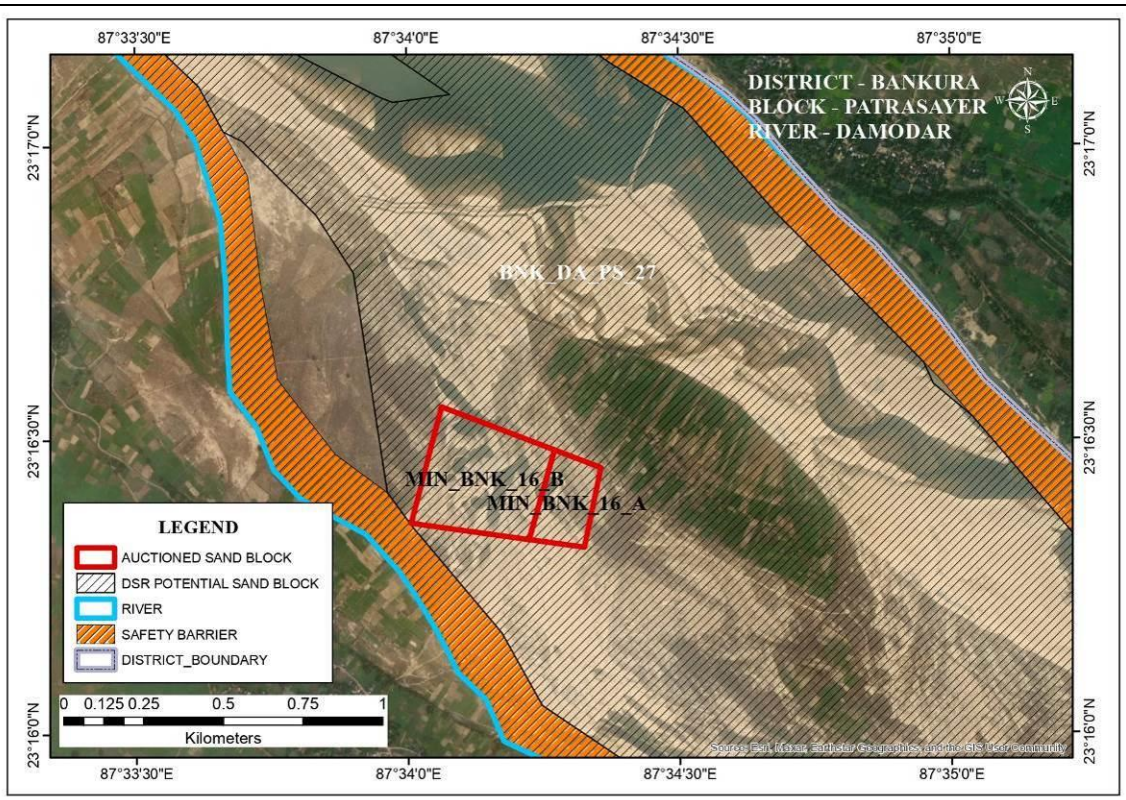
23°18'30"N
DISTRICT - BANKURA
BLOCK - PATRASAYER
RIVER - DAMODAR
BNK_DA_PS_26
MIN_BNK_12
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
DISTRICT_BOUNDARY
0 0.125 0.25 0.5 0.75 1
Kilometers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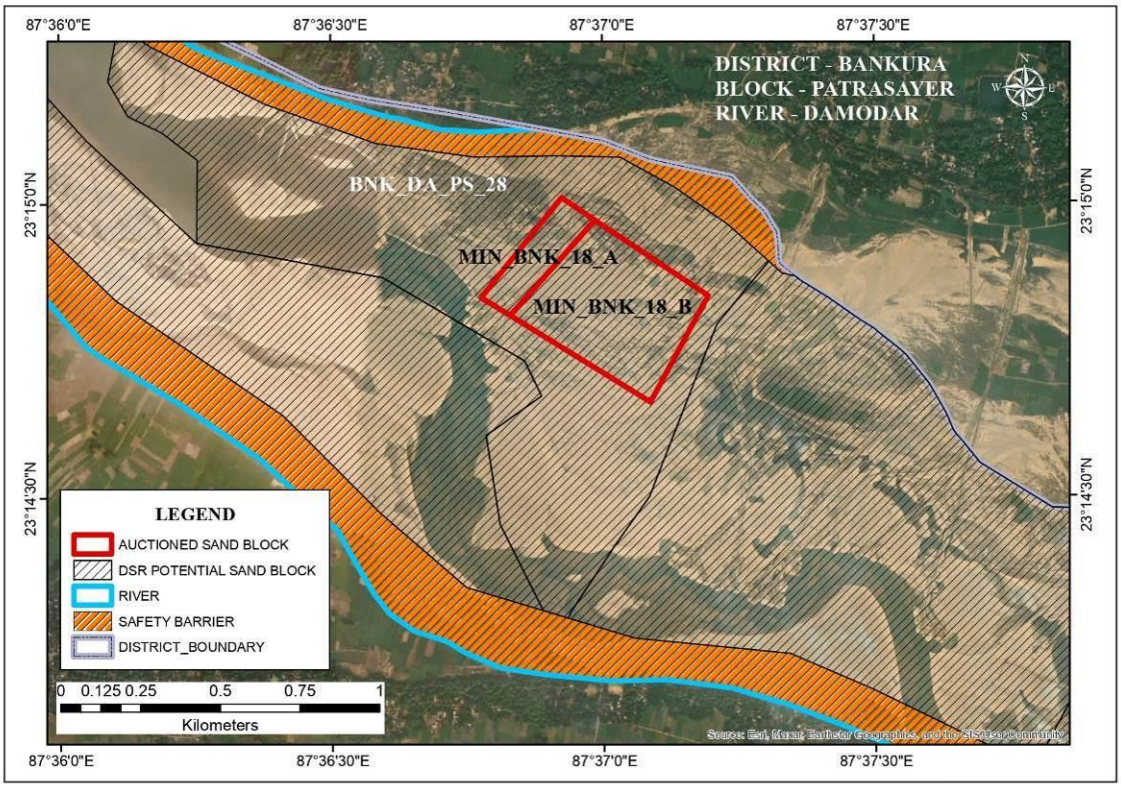
23°16'30"N
23°16'0"N
DISTRICT - BANKURA
BLOCK - PATRASAYER
RIVER - DAMODAR
BNK_DA_PS_27
MIN_BNK_16_B
MIN_BNK_16_A
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
DISTRICT_BOUNDARY
0 0.125 0.25 0.5 0.75 1
Kilometers


87°36'0"E
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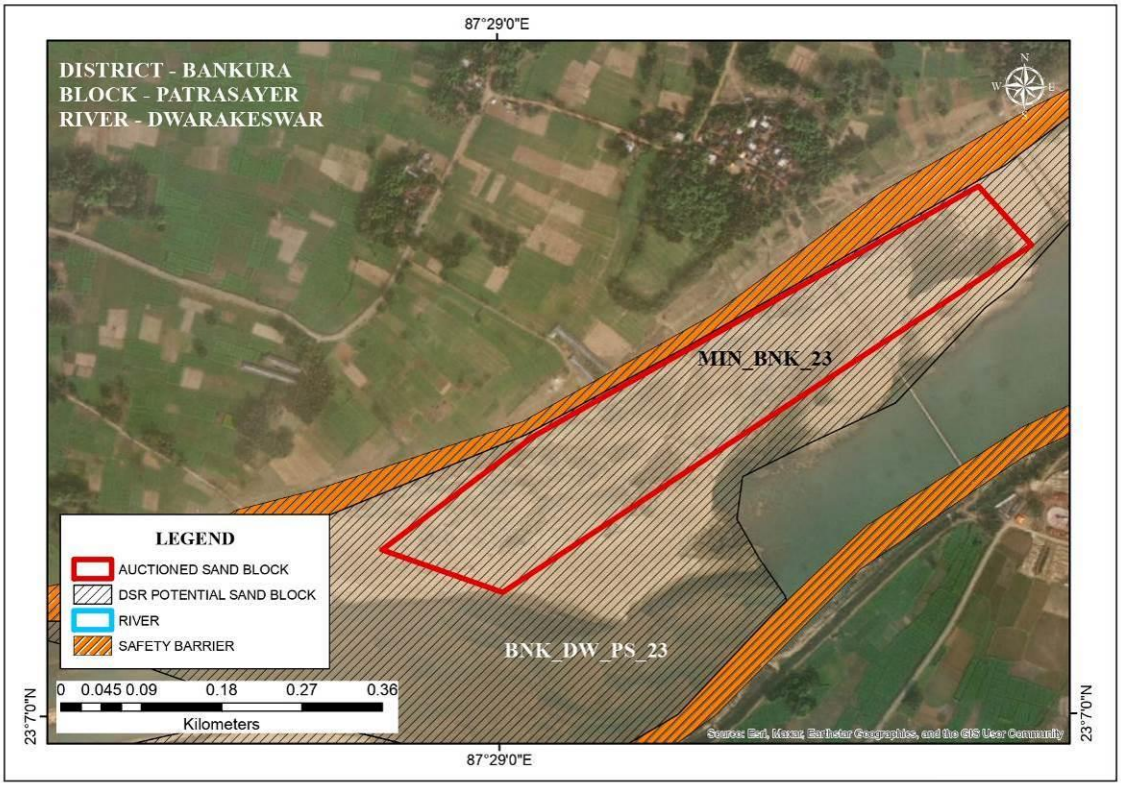
87°37'0"E
87°37'30"E
23°15'0"N
23°14'30"N
DISTRICT - BANKURA
BLOCK - PATRASAYER
RIVER - DAMODAR
BNK_DA_PS_28
MIN_BNK_18_A
MIN_BNK_18_B
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
DISTRICT_BOUNDARY
0 0.125 0.25 0.5 0.75 1
Kilometers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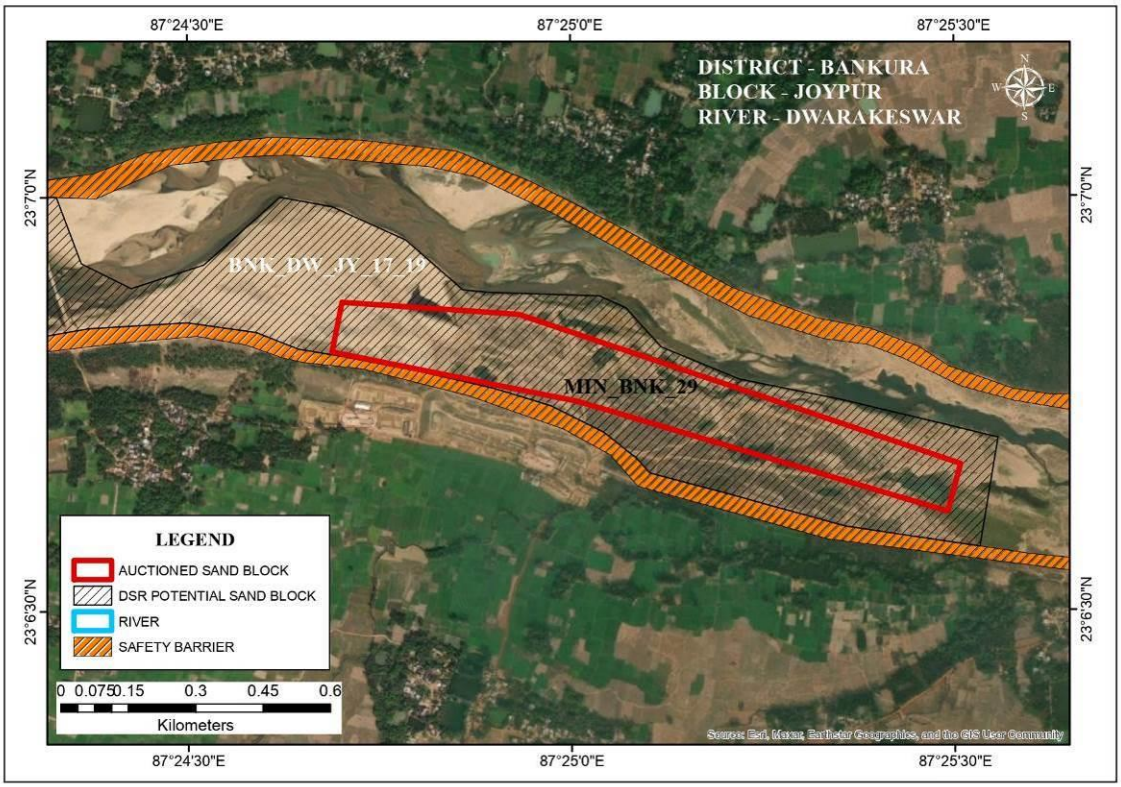
DISTRICT - BANKURA
BLOCK - PATRASAYER
RIVER - DWARAKESWAR
MIN_BNK_23
BNK_DW_PS_23
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.045 0.09 0.18 0.27 0.36
Kilometers
23°7'0"N
87°29'0"E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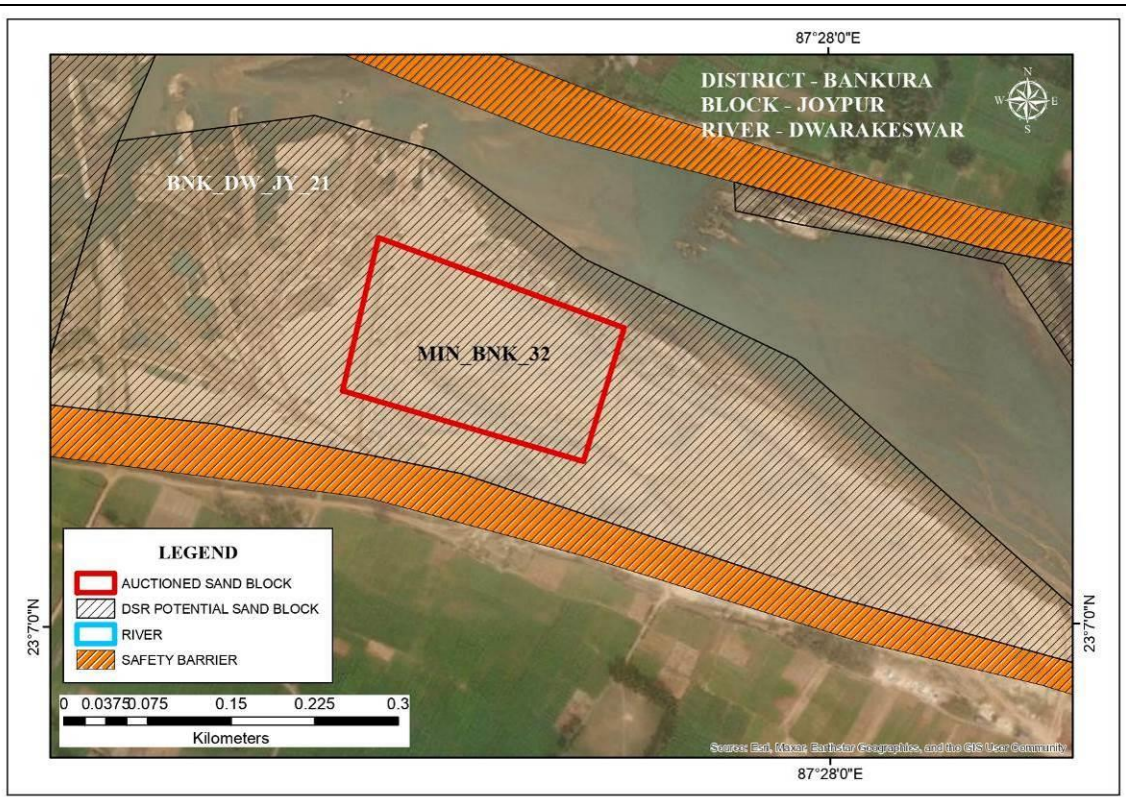
DISTRICT - BANKURA
BLOCK - JOYPUR
RIVER - DWARAKESWAR
BNK_DW_JY_17_19
MIN_BNK_29
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.075 0.15 0.3 0.45 0.6
Kilometers
23°7'0"N
23°6'30"N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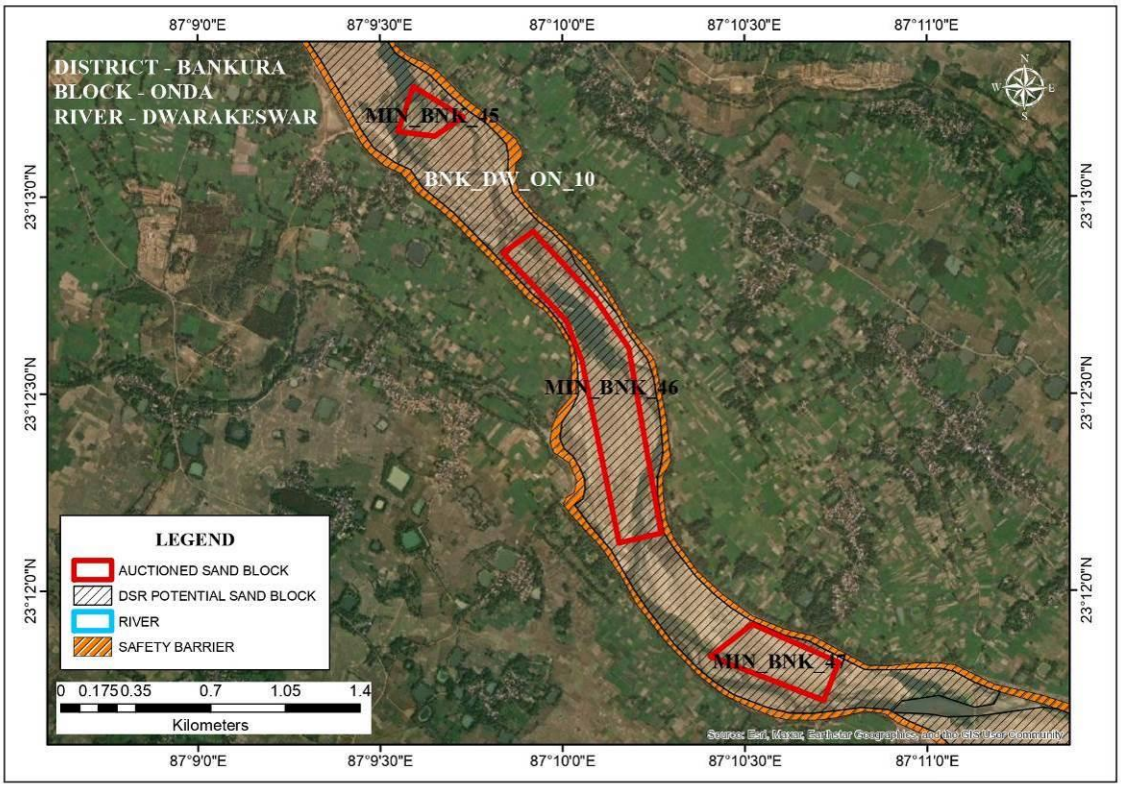
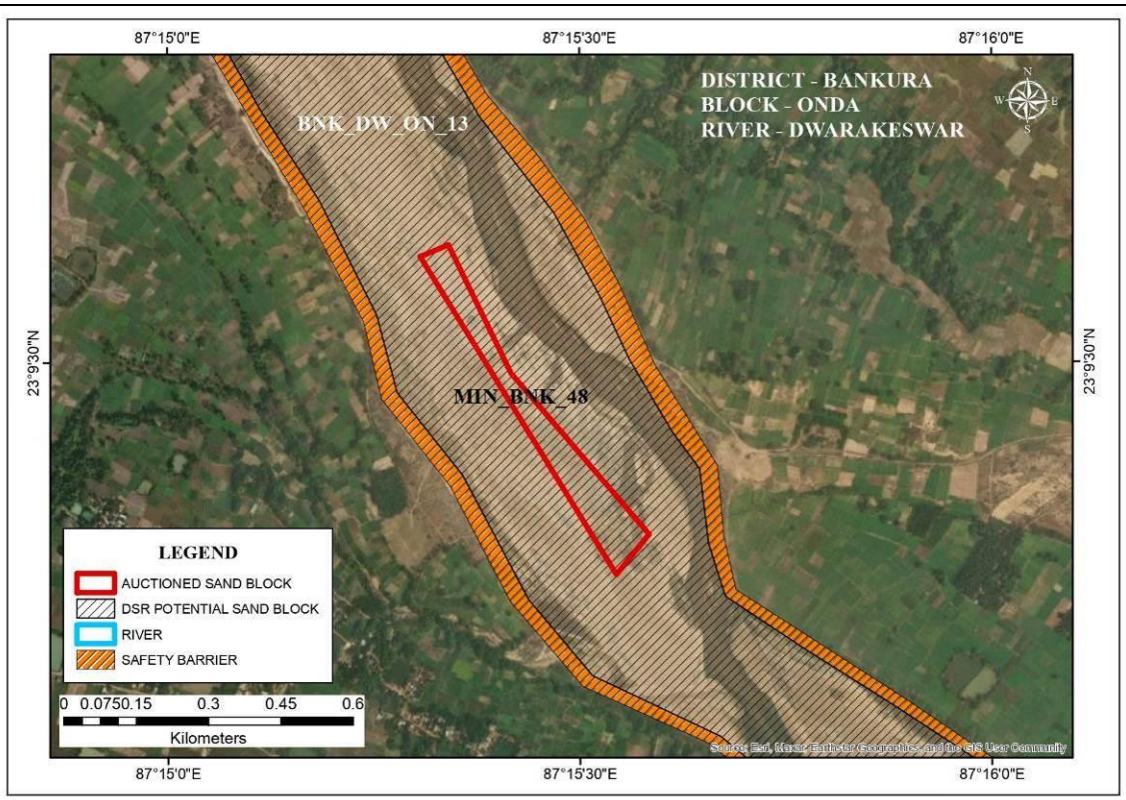
DISTRICT - BANKURA
BLOCK - JOYPUR
RIVER - DWARAKESWAR
BNK_DW_JY_21
MIN_BNK_32
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.0375 0.075 0.15 0.225 0.3
Kilometers
23°7'0"N
87°28'0"E


87°9'0"E
87°9'30"E
87°10'0"E
87°10'30"E
87°11'0"E
DISTRICT - BANKURA
BLOCK - ONDA
RIVER - DWARAKESWAR
MIN_BNK_45
BNK_DW_ON_10
MIN_BNK_46
MIN_BNK_47
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.175 0.35 0.7 1.05 1.4
Kilometers
23°13'0"N
23°12'30"N
23°12'0"N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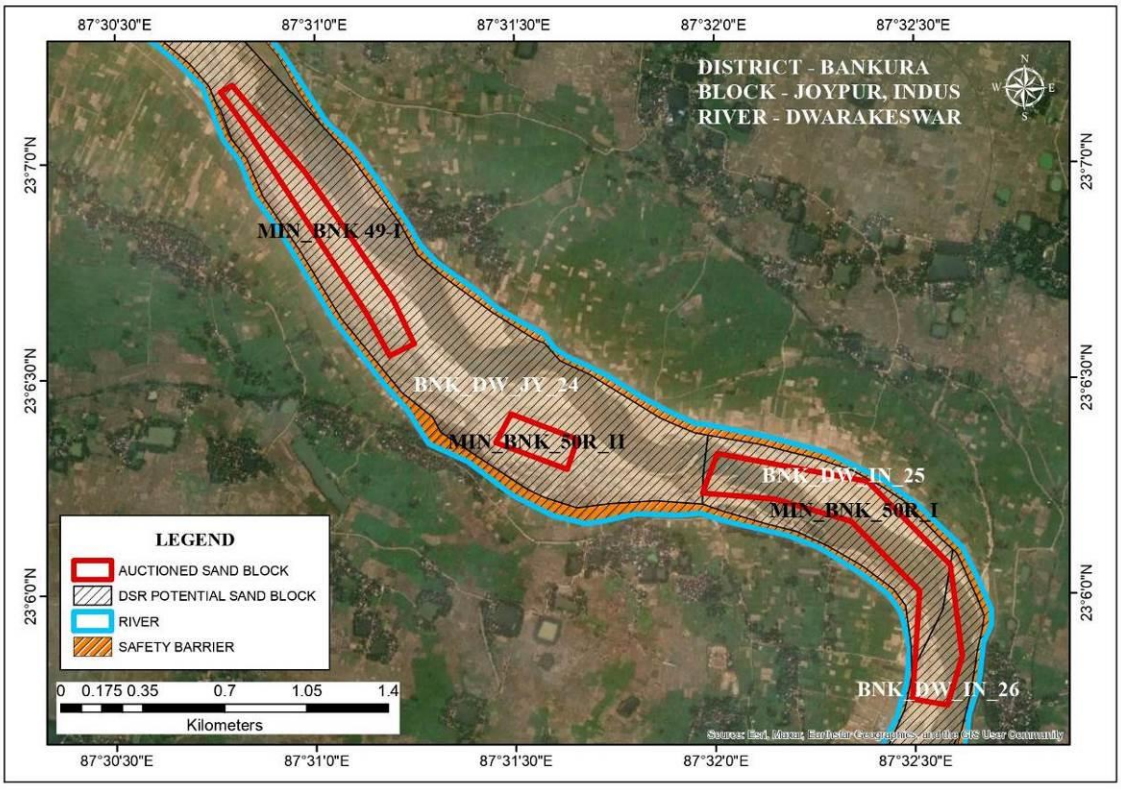
87°16'0"E
23°9'30"N
DISTRICT - BANKURA
BLOCK - ONDA
RIVER - DWARAKESWAR
BNK_DW_ON_13
MIN_BNK_48
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.0750.15 0.3 0.45 0.6
Kilometers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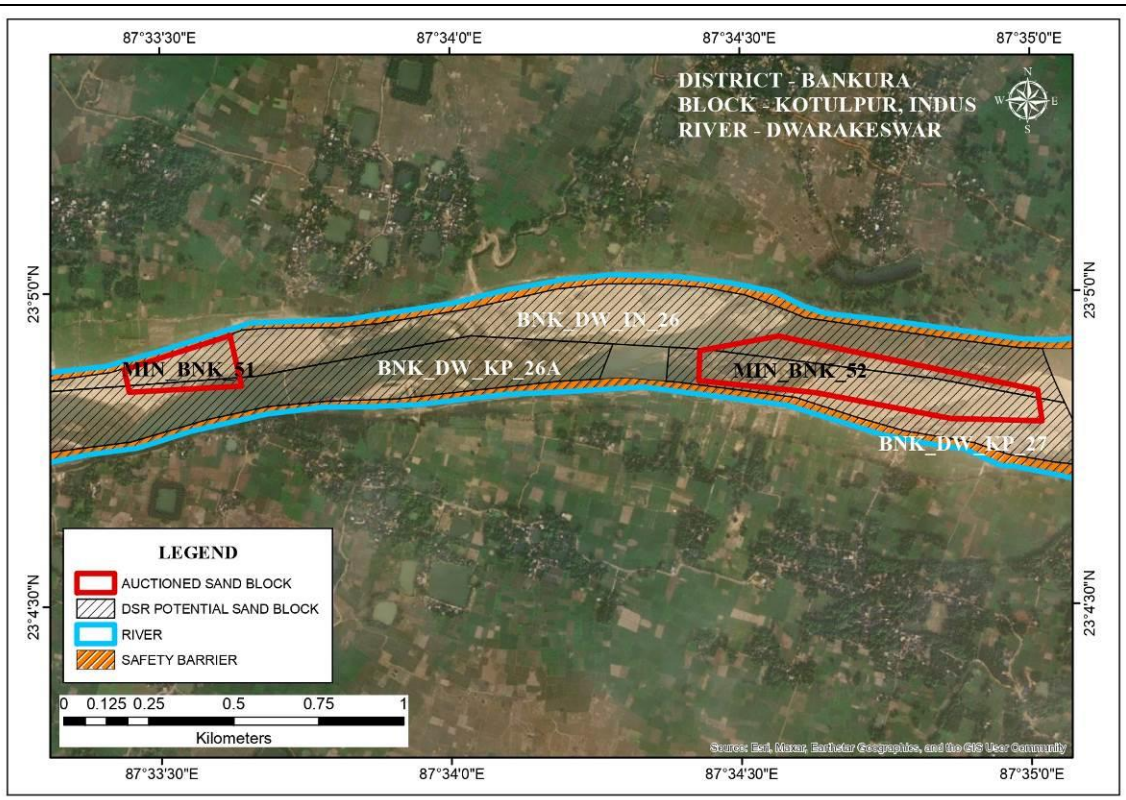
87°32'30"E
23°7'0"N
23°6'30"N
23°6'0"N
DISTRICT - BANKURA
BLOCK - JOYPUR, INDUS
RIVER - DWARAKESWAR
MIN_BNK_49-I
BNK_DW_IV_24
MIN_BNK_50R_II
BNK_DW_IN_25
MIN_BNK_50R_I
BNK_DW_IN_26
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.175 0.35 0.7 1.05 1.4
Kilometers


87°33'30"E
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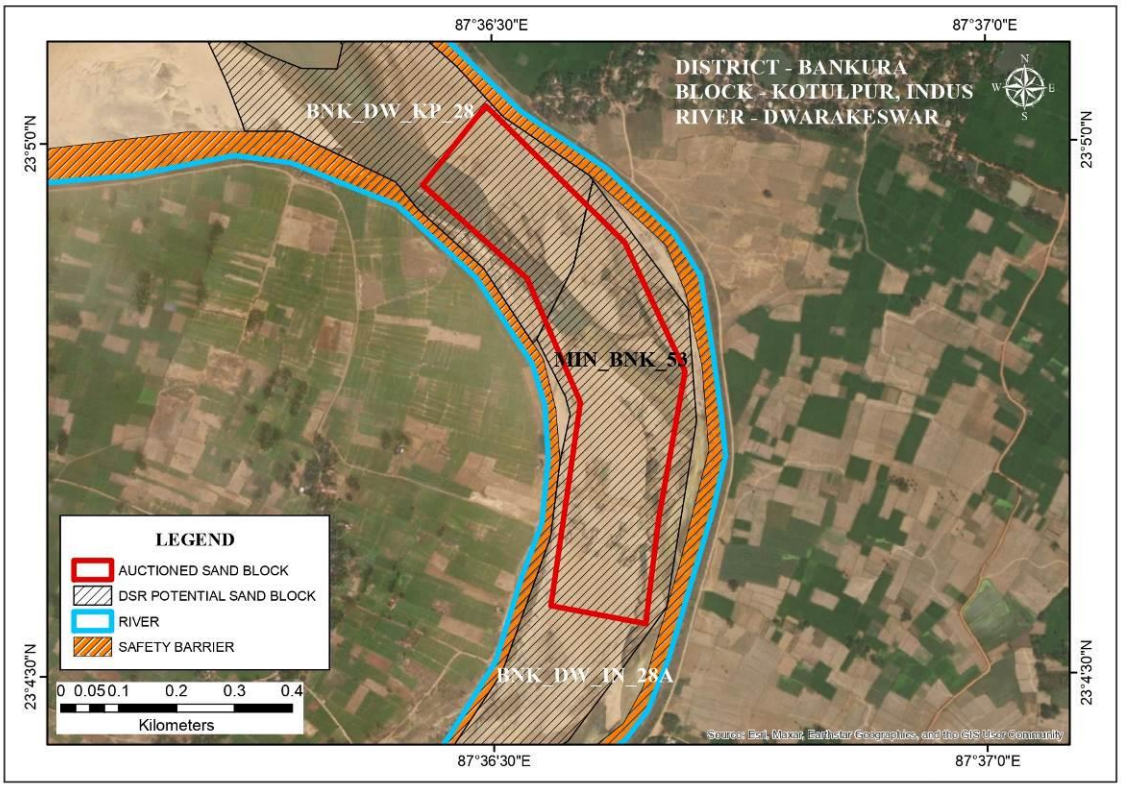
87°34'30"E
87°35'0"E
23°5'0"N
23°4'30"N
DISTRICT - BANKURA
BLOCK - KOTULPUR, INDUS
RIVER - DWARAKESWAR
N
W
E
S
BNK_DW_IN_26
MIN_BNK_51
BNK_DW_KP_26A
MIN_BNK_52
BNK_DW_KP_27
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.125 0.25 0.5 0.75 1
Kilometers
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community


87°36'30"E
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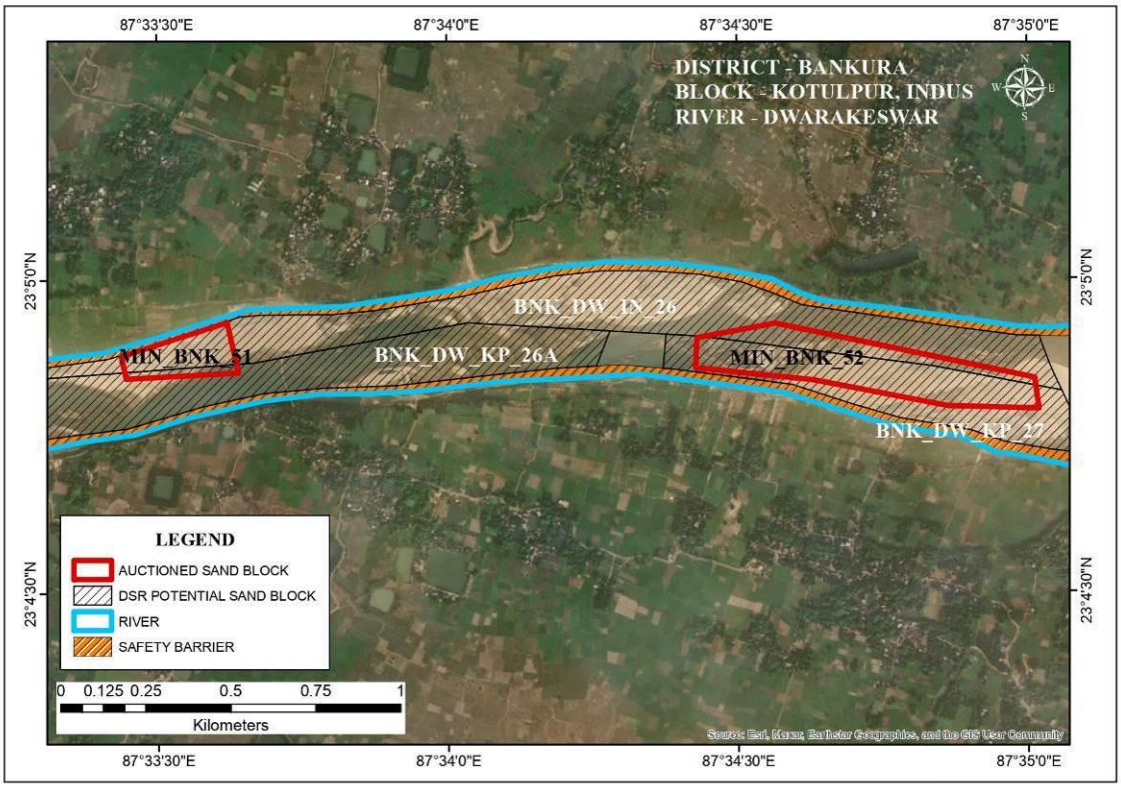
23°4'30"N
DISTRICT - BANKURA
BLOCK - KOTULPUR, INDUS
RIVER - DWARAKESWAR
N
W
E
S
BNK_DW_KP_28
MIN_BNK_53
BNK_DW_IN_28A
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.05 0.1 0.2 0.3 0.4
Kilometers
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community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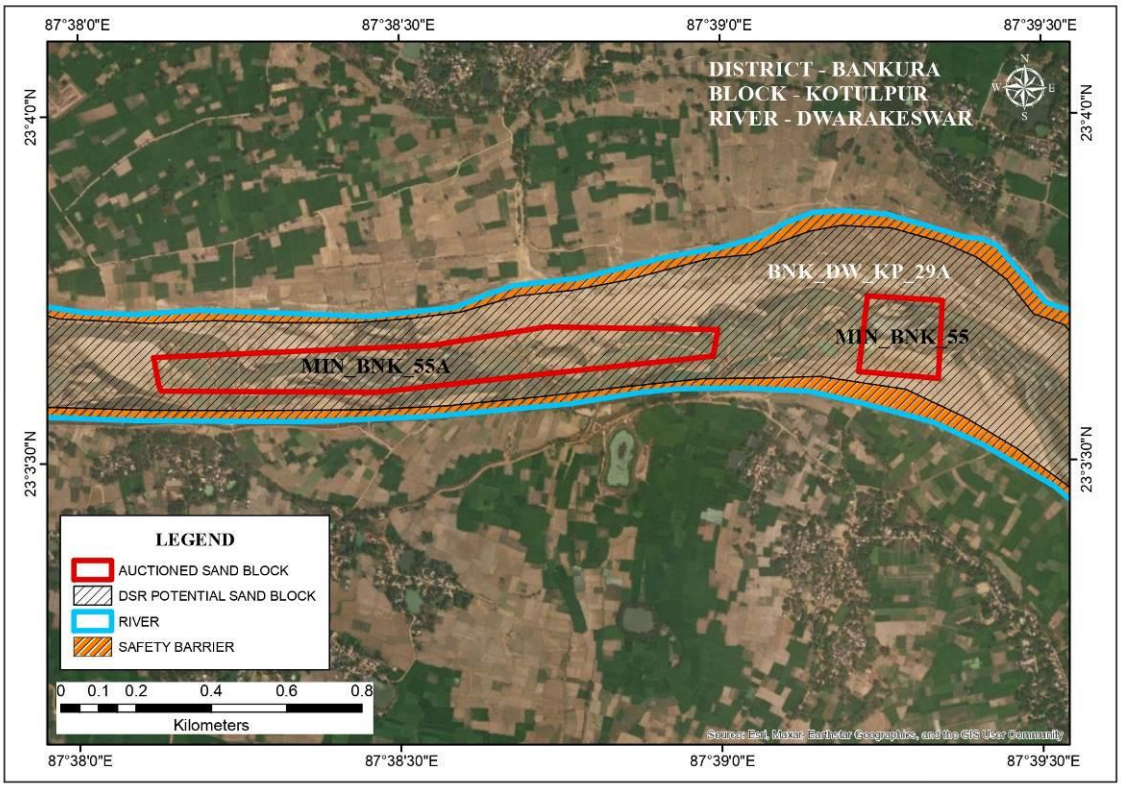
87°35'0"E
23°5'0"N
23°4'30"N
DISTRICT - BANKURA
BLOCK - KOTULPUR, INDUS
RIVER - DWARAKESWAR
BNK_DW_KP_26
MIN_BNK_51
BNK_DW_KP_26A
MIN_BNK_52
BNK_DW_KP_27
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.125 0.25 0.5 0.75 1
Kilometers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87°39'30"E
23°40'N
23°3'30"N
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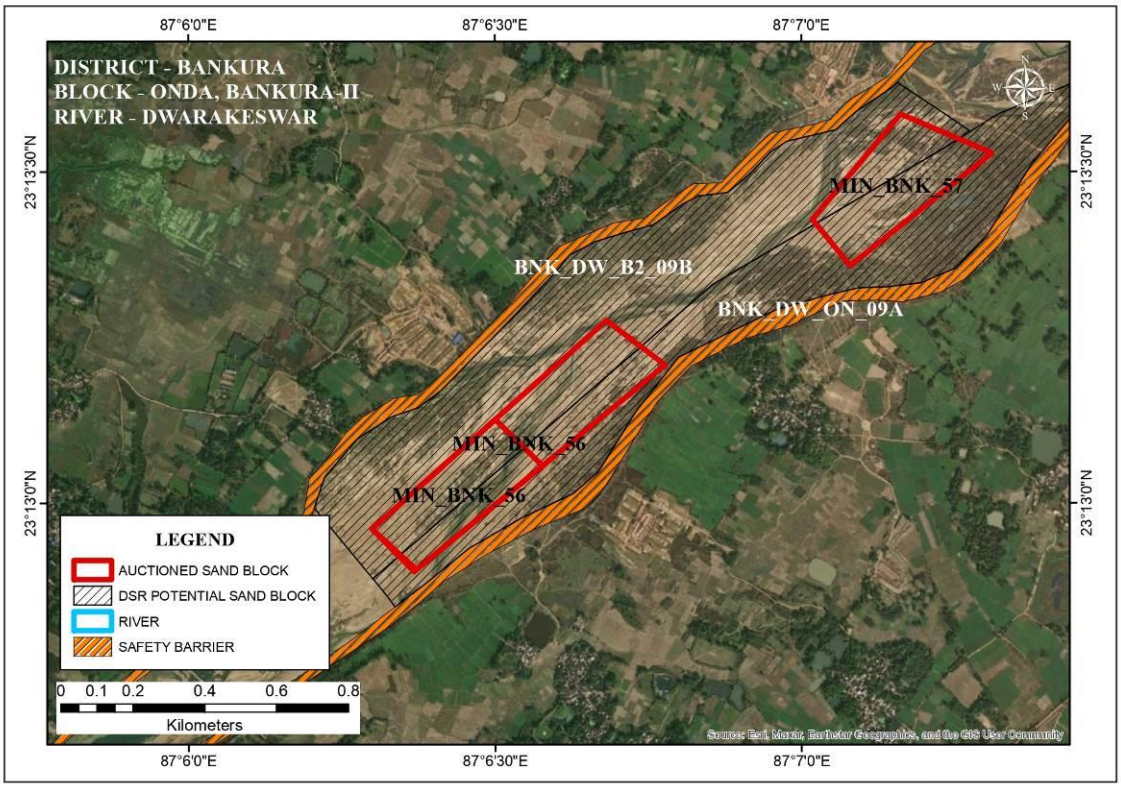
BLOCK - KOTULPUR
RIVER - DWARAKESWAR
BNK_DW_KP_29A
MIN_BNK_55
MIN_BNK_55A
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.1 0.2 0.4 0.6 0.8
Kilometers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23°13'0"N
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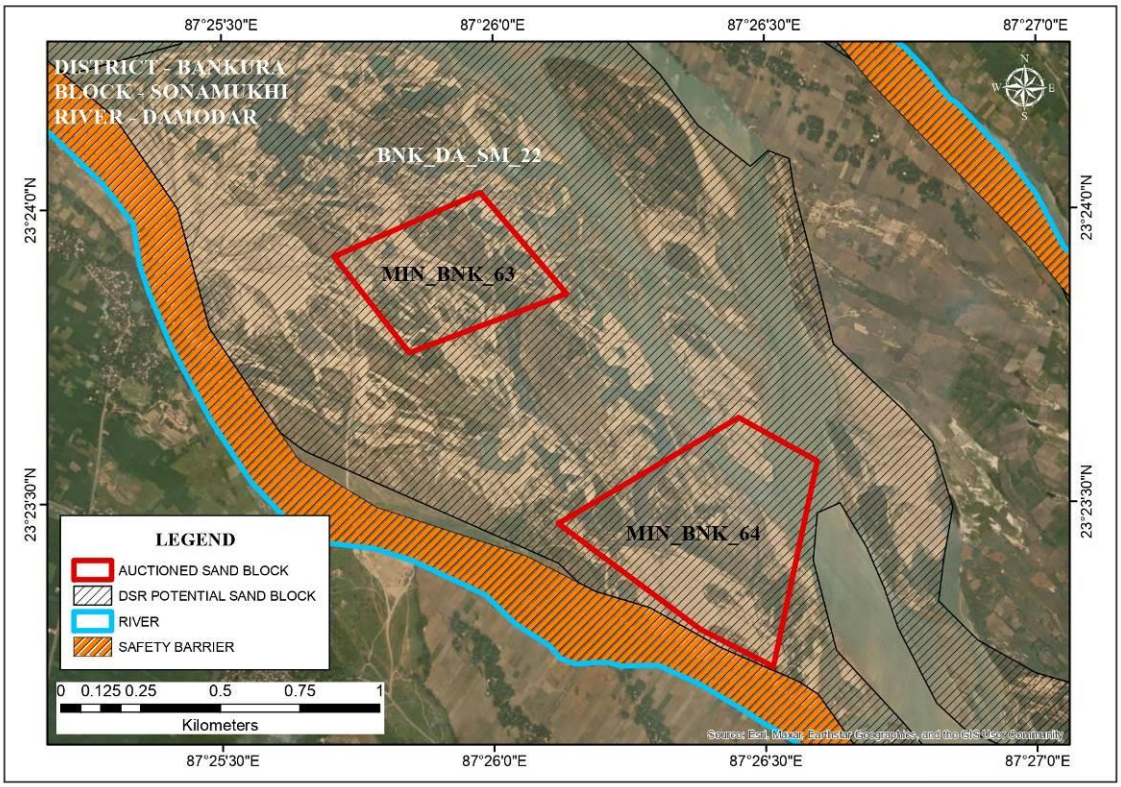
BLOCK - ONDA, BANKURA-II
RIVER - DWARAKESWAR
MIN_BNK_57
BNK_DW_B2_09B
BNK_DW_ON_09A
MIN_BNK_56
MIN_BNK_56
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.1 0.2 0.4 0.6 0.8
Kilometers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87°26'30"E
87°27'0"E
23°24'0"N
23°23'30"N
DISTRICT - BANKURA
BLOCK : SONAMUKHI
RIVER - DAMODAR
BNK_DA_SM_22
MIN_BNK_63
MIN_BNK_64
LEGEND
AUCTIONED SAND BLOCK
DSR POTENTIAL SAND BLOCK
RIVER
SAFETY BARRIER
0 0.125 0.25 0.5 0.75 1
Kilometers

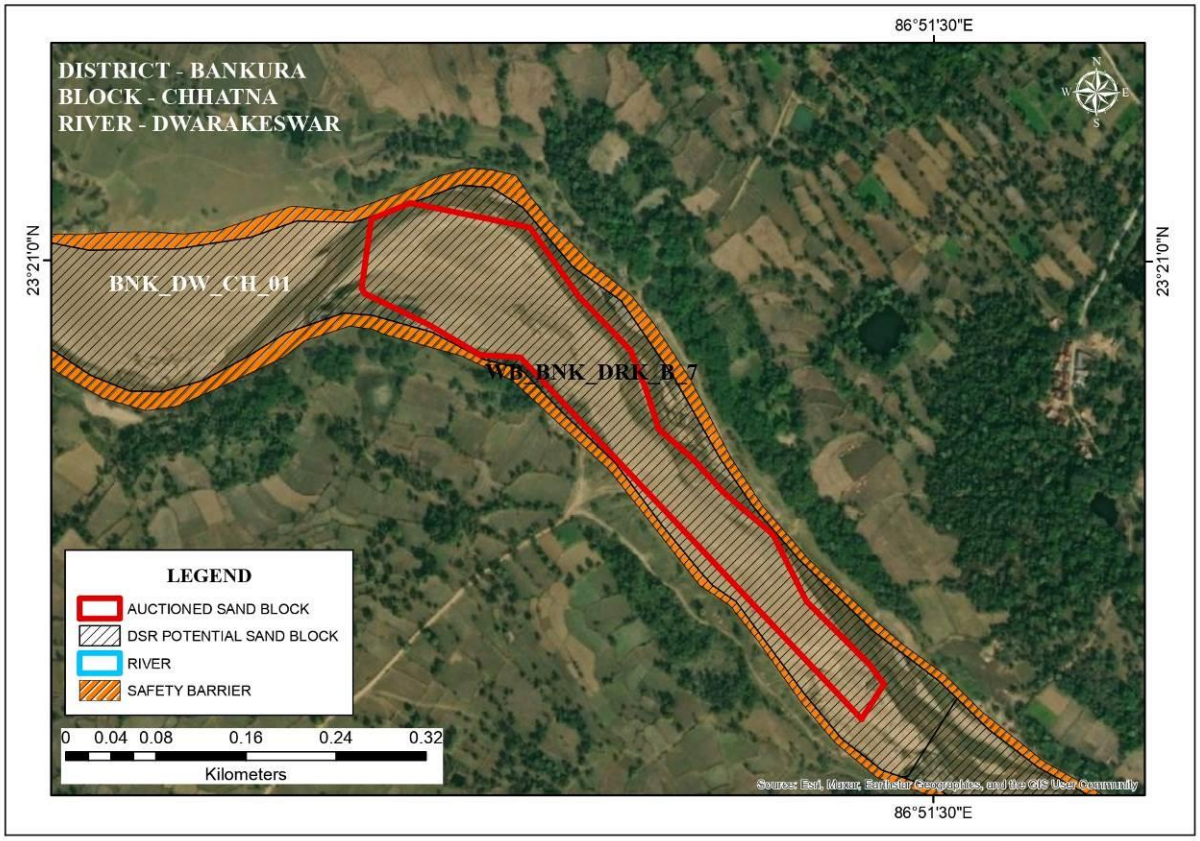

Figure 8.1: Auction block map plotted on potential sand blocks of Bankura district

8.4 Detail of production of sand and other minerals during last three years

Last 3 years production of minor mineral of Bankura District is furnished in Table 8.3.

Table 8.3: Details of production of sand as per mine plan in Bankura district

Sl. No.	Year	Name of mineral	Total Production (inCft.)	Total Production in cum
1	2017-2018	Sand	18,91,82,216.00	5357043.79
2	2018-2019	Sand	27,98,76,622.00	7925223.36
3	2019-2020	Sand	29,96,25,800.00	8484457.81

Conversion factor: 1cum=35.315 cft

9 Details of revenue generated from mineral sector during last three years

Revenue generated for last 3 years in Bankura District is furnished in Table 9.1.

Table 9.1: District revenue generation from mineral sector (In cr.)

Year	Royalty/ deed rent	Cess	Total revenue
2017-18	17,05,51,843.00	1,86,30,373.00	18,91,82,216.00
2018-19	25,80,61,838.00	2,18,14,784.00	27,98,76,622.00
2019-20 (upto January,2020)	27,45,18,253.00	2,51,07,547.00	29,96,25,800.00
		TOTAL	**76,86,84,638.00**

10 Transport

Major road like the National Highway No. 60 runs from the center of the district (Figure 10.1). It runs through various towns like Jhantipahar, Bheduasol, Ramsagar, Piardoba etc. National Highway 314 (NH 314) which was previously known as NH 60A, starts from Dhaldanga, Bankura district and ends at Purulia, both places in the state of West Bengal.

The district is well connected to its adjoining districts by a system of state highways (SH). SH-9 runs south to north, connecting Bankura to Paschim Medinipur (in the south) and Bardhhaman (in the north). Similarly, SH-2 runs from west to east, connecting Purulia to Hoogli via Bankura. SH-5 joins the eastern part of the state to the northern part, whereas SH-4 primarily serves the south-western part of the district. There are other arterial/sub-arterial road systems in the district, which connect to this SH network.

Kharagpur–Bankura–Adra line is the major rail line which runs east-west through the central part of the district and connects the district to Kolkata, the state capital. Two major Railway Stations are Bankura Junction and Bishnupur located on this track. There is another line that branches out from this line. The Bankura–Masagram railway line connects Bankura and Masagram of Purba Bardhaman districts.

Bankura district does not have any airport. The nearest airport is Kazi Nazrul Airport located 70km from the district headquater. The N.S.C. Bose International Airport at Dumdum is located at 212km away Bankura.

Existing sand mining area of the district are connected with the state highways by blacktop or village/link roads. However, there is a scope for development of infrastructural structure. Mining of riverbed sand in the potential areas can generate considerable revenue and can be utilized for development of road network and infrastructure of the district.

A transportation map demarcating approach road to the potential sand blocks from the nearest National Highway/ Sate Highway has been prepared and presented in Figure 10.2.

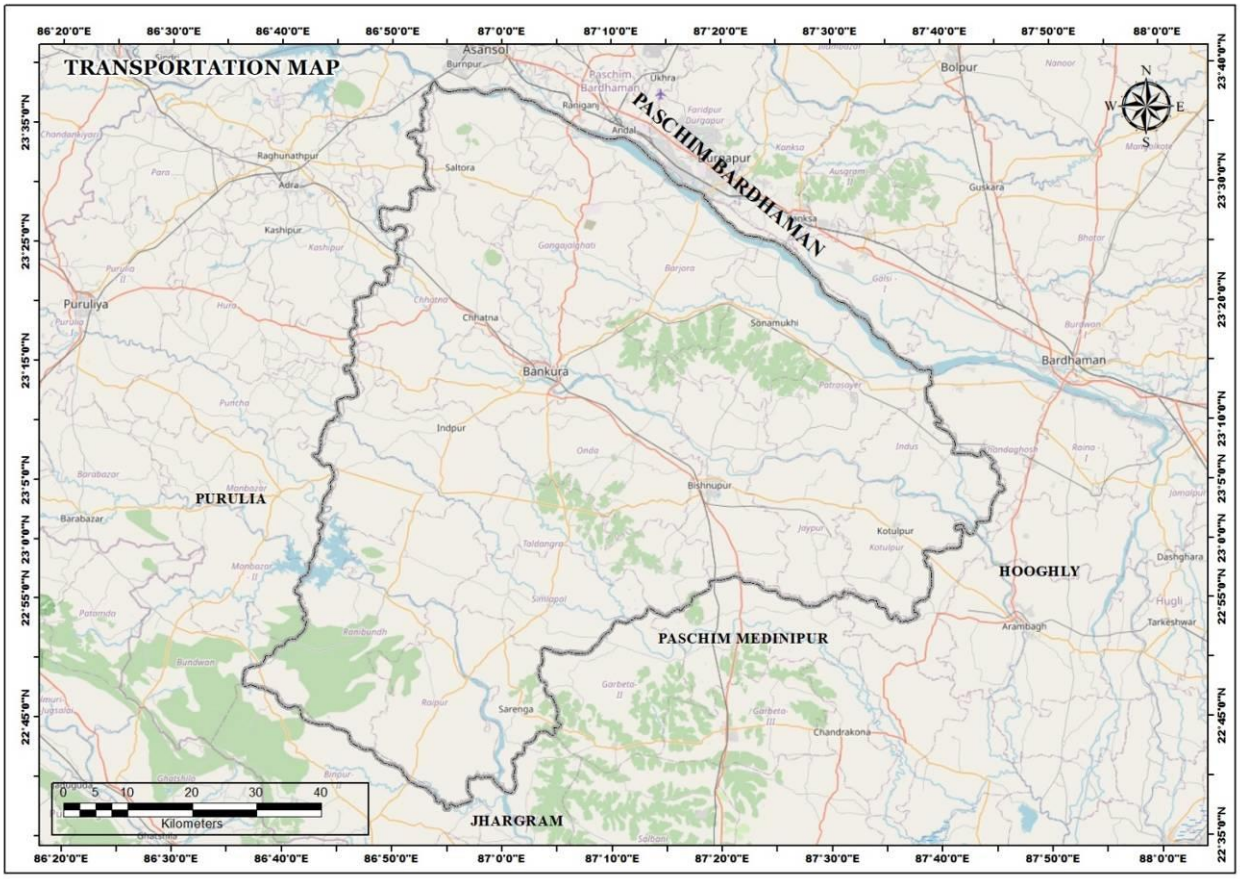

Figure 10.1: Transportation map of Bankura District

(Source: National Informatics Centre)

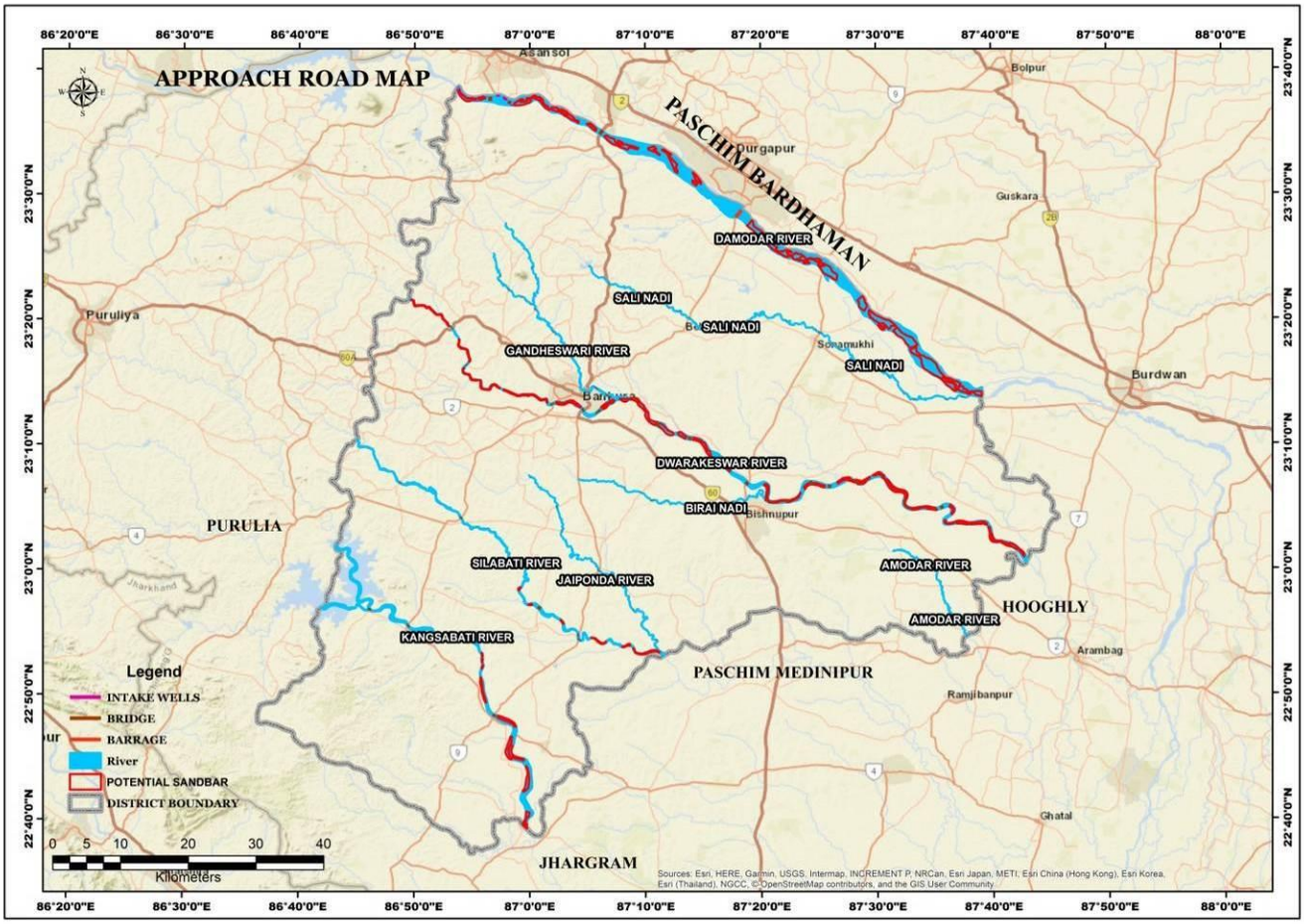

Figure 10.2: Map showing approach road to potential sand bars

(Source: National Informatics Centre)

PART B: INSITU MINOR MINERAL DEPOSITS

11 In-situ Minerals

11.1 Mineral Reserve

The important mineral occurrences in the district are tungsten, copper and lead in the southwestern corner of the district. Coal deposits associated with Gondwana sediments in the northwestern tip of the district could be economically important. China clay pockets are also prolific in the area; numerous pockets of china clay are concentrated mainly along the contact of mica-schist / granites and quartzite trending approximately in the NE-SW direction. Several occurrences of mica, quartz-feldspar, and vermiculite, possibly associated with pegmatite along this china-clay deposits are also there in the area. Other minerals reported from the district are dumertierite, quartz, magnetite, quartizite, decorative stones, dolomite limestone, gravel and road metal. In fact the vast quartizite terrain covering the eastern side of the district could provide additional resources for road metals and building stones.

The district contains several important mineral resources (Figure 11.1). The most important one is coal in Barjora Coalfield (114.27 million tonnes) followed by china clay and fire clay (141.47 million tonnes). Limestone (0.22 million tonces), tungsten 10.56 million tones, chocolate brown to grey colour dimension stone (anorthosite 1.84 MCM) around Nandanpur and streaky gray dimension stone (chamockite 0.158 MCM) around Saltora are also found (GSI, 2001). Minor occurrences of vermiculite, moulding sand, copper, iron ore, mica, gold, garnet and ochre have also been reported. Mineral resources of Bankura as per IMB 2015 are given in Table 11.1.

Mineral resources of the district are explained below.

Coal: The prime mineral of the district is coal. Noteworthy coal mines are situated at Saltora, Mejhia, Barjora and Gangajalghati area. Only Mejhia holds 10 coal mines. Quantity of coal estimated to be present in Bankura is 11 million ton (G.S.I.) over an area of 33.5 km^2. Coal of this field belong to high volatile, high ash, non-cocking types with moisture between 4.5 and 6.0% including bands ash between 32 and 40% and expand ash up to 35%. The calorific values vary between 4320 and 52.50. Thickness including bands and partings is seen to attain a figure as high as 8.33m. The occurrence of seams at shallow depth and the suitability of high ash coal for thermal power plant proposal in Bankura district make this field exploitable now. In Mejhia, the proved-reserve is 13.14 million tones and the indicated reserve being 197.37 million tones according to the Geological Survey of India.

Copper: The district has a deposit of copper at Damdi, Mukutmanipur, Khatra, Sarong, Nilgiri and Narayanpur. Near Kangsaboti Dam a 2 km long ridge of copper has been found.

Limestone: About 20 million tons of limestone reserve has been found in Jhalda, Hansapathar and Baghmara areas of Purulia and Harirampur- Salaipahari areas of Bankura districts of West Bengal.

Gold: Show of placer Gold is present in the streams/rivers flowing through the Proterozoic volcano-sedimentary pile of rocks in Purulia, Bankura and West Medinipur districts.

Iron Ore: In Bankura district, magnetite ore occur as inter-laminated bands within quartzite and gneisses varying in thickness from 7cm to 1m and extending for 24 km in length.

Tungsten: It is a rare metal with vast demand in India and other countries. Chendapathar and Porapahar areas have the only deposit of this metal in the whole state.

Kyanite: This is another valuable mineral used in heater, high temperature instruments etc. At Balarampur (Near Mukutmanipur) a huge amount of deposit (20 km long) has been found.

Steatite: Occurrences of steatite are reported from Matgoda, Maula Kuldiah and Panchpathar in Bankura district.

Cheoline: An excessive deposit of Cheoline or **China-clay** can be found at Jalahari Pahar, Dhatara, Malti, Thakurdungry etc. and in many places of Taldangra PS. A number of good deposits of china clay occur within latitudes 22°46' and 22°34' and longitudes 86°30' and 87°29'. Two types of deposits have been reported, one associated with the Archaeans and the other associated with tertiaries.

Dimension stone: Few patches of Bankura district are occupied by younger granites, amphibolite, anorthosite and gabbro are potential for development of blocks and slabs. Though few leases already exist, there is a huge potential for development of Granite Industry in a cluster.

Quartz: Quartz in both primary and secondary forms is available in different parts of West Bengal. The primary vein quartz's are available in parts of Bankura district .

Mica: Bankura is one of the three districts of West Bengal where mica is available. Almost 100 numbers of pegmatite have been found in Khatra, Indpur, Bankura Town, Gangajal ghati and Jilimily though most of them are in the form of either small shaped sheets or powder.

Talc: This is one of the valuable mineral of Bankura. It is a very soft mineral used in making talcum powder. Ruder and Matgoda areas of this district is enriched with talc.

Table 11.1: Mineral Inventory of Bankura (IBM, 2015)

Commodity	Deposit Name	Village	Total Resource	Unit
China Clay	Bankura	SEARBADA & BHANDA	28000	Thousand Tonnes
China Clay	Banjira Dadhimukh	Banjira-Dadhimukh	1600	Thousand Tonnes
China Clay	Dalimbhija-[A]	Dalimbhija	4470	Thousand Tonnes
China Clay	Hariharganj	Hariharganj	3150	Thousand Tonnes
China Clay	JhariaKocha	JhariaKocha	1000	Thousand Tonnes
China Clay	Manipur	Gourbazar& Manipur	499	Thousand Tonnes
China Clay	Seragdhi Kalabaid	Seragdhi Sector-Kalabaid	57761	Thousand Tonnes
China Clay	Berithal-Manipur-Siarbada-Tilasuli	Shyampur-Beryothal Sector	1800	Thousand Tonnes
China Clay	Mrjia Sector	Mejia	825000	Thousand Tonnes

Commodity	Deposit Name	Village	Total Resource	Unit
China Clay	Hariharganga Mine	Hariharganga	4	Thousand Tonnes
China Clay	Dalambhija-B	Dalambhija	4200	Thousand Tonnes
China Clay	Panrari Clay Mine	Panrari	4	Thousand Tonnes
China Clay	Bagjobra	Bagjobra	3177	Thousand Tonnes
Granite (Dimension Stone)	Chandannagar-Nandanpur-Palashi Area	Chandannagar, Nandanpur, Mochrakend, Palashi	1220	Thousand Cubic Meter
Granite (Dimension Stone)	Palashi-Mochrakend Belt	Chandannagar, Nandanpur, Palashi, Mochraken	2002	Thousand Cubic Meter
Limestone	Salaipahari-Harirampur	Harirampur, Salaipahari	2154	Thousand Tonnes
Tungsten	Chendapathar Area	Chendapathar, Ratanpur, Chatradanga, Par	265063	Tonne
Tungsten	Chendapathar Area	Chendapathar	498739	Tonne
Vermiculite	Datkigora	Datkigora	1524	Tonne
Vermiculite	Machapurulia	Machapurulia	4042	Tonne

11.2 Mineral Potential

Potential minor mineral occurrences have been demarcated in this district survey report. This DSR encompasses the presence of different types of in-situ minor minerals such as quartzite, feldspar, granite, Black stone (gabbro & anorthosites), laterite, China Clay and fireclay.

The greater part of the district consists of a rolling country composed of laterite and alluvium. To the east there is a wide plain of recent alluvium while gneisses and schist of Archaean age are found in the extreme west, which form the eastern boundary of Chhotonagpur gneissic complex. China clay and fire clay are the most potential mineral deposits of the district which are occur associated with the Archaeans and also associated with tertiaries. vast quartizite terrain covering the eastern side of the district could provide additional resources for road metals and building stones.

Occurrences of east-west trending elongated massif anorthosite body located around Saltora- Nandanpur in the Bankura district also forn an important mineral mineral potential zone. The Bengal anorthosite emplaced within granulite facies terrain of the Proterozoic Chhotanagpur Gneiss Granulite Complex (CGC). Bands of intrusive amphibolite and basic granulite that occurs both inside and outside the anorthosite body leads to the potential zone of multiple mineral deposits hoted by CGC.

Intrusive rocks such as porphyritic granite, gabbro and dolerite are found as concordant and discordant intrusions within Chhotonagpur gneissic complex. Good quality of Granite deposits for mining as decorative stone has been identified in Bankura district, most attractive variety is Pink Porphiry. The coal fields of the district are characterized by intrusive of dolerite

dykes, almost contemporaneous with the Rajrnahal basalt. These again form potential zone for dimesion stone of the district.

The distribution of laterites in the eastern part of Bankura is forming one of the important minor mineral potential zones of the district.

The potential zones are identified based on the following criteria/ observation:

i. Extended zones beyond the existing leases have been identified both with ground validation and satellite imagery studies to define potential zones.
ii. The area with specific rock exposures, satellite imagery studies along with ground truthing is also is being opted to define potential mineralized zones.
iii. Atleast in few instances potential zones are defined based on available geological maps/information superimposed in satellite imagery.
iv.

The lists of identified potential zones with respect to in-situ minor minerals are furnished in Table 11.2.

Table 11.2: In-situ Minerals Occurrences

Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining/ forest / agriculture)	Mineral reserve (approx.) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
1	Black stone (BNK_BS_ZONE_01)	GRANITE GNEISS	42826.75	35.00	11991.49	Partially excavated	Agricultural land/ forest land	Partially explored	GANGAJALGHATI, MEJHIA, SALTORA	23° 27' 35.905" N	87° 12' 6.389" E	No	Road network available
										23° 26' 5.232" N	87° 11' 10.579" E		
										23° 25' 17.461" N	87° 6' 45.217" E		
										23° 25' 17.808" N	87° 6' 9.056" E		
										23° 25' 49.155" N	87° 3' 55.609" E		
										23° 25' 28.597" N	87° 0' 11.179" E		
										23° 26' 24.105" N	86° 53' 33.714" E		
										23° 29' 33.991" N	86° 54' 30.351" E		
										23° 30' 13.853" N	86° 54' 16.884" E		
										23° 30' 21.231" N	86° 53' 51.516" E		
										23° 30' 53.946" N	86° 53' 53.702" E		
										23° 30' 59.051" N	86° 53' 39.246" E		
										23° 31' 0.310" N	86° 53' 39.515" E		
										23° 31' 46.747" N	86° 53' 49.425" E		
										23° 32' 6.591" N	86° 53' 45.473" E		
										23° 32' 20.670" N	86° 53' 34.046" E		
										23° 32' 18.989" N	86° 53' 17.408" E		
										23° 32' 48.321" N	86° 53' 9.427" E		
										23° 33' 0.789" N	86° 54' 13.719" E		
										23° 33' 13.124" N	86° 54' 12.520" E		
										23° 33' 19.111" N	86° 55' 5.301" E		
										23° 33' 43.073" N	86° 55' 49.578" E		
										23° 33' 41.769" N	86° 56' 55.347" E		
										23° 33' 33.436" N	86° 57' 48.432" E		
										23° 33' 4.385" N	86° 58' 4.325" E		
										23° 33' 2.838" N	86° 58' 15.294" E		
										23° 32' 56.921" N	86° 58' 8.410" E		
										23° 32' 57.159" N	86° 57' 37.853" E		
										23° 32' 15.182" N	86° 56' 54.588" E		
										23° 31' 58.390" N	86° 56' 21.978" E		
										23° 32' 5.840" N	86° 58' 27.267" E		
										23° 32' 10.543" N	87° 0' 6.880" E		
										23° 32' 19.793" N	87° 1' 13.636" E		
										23° 32' 20.490" N	87° 1' 15.171" E		
										23° 32' 42.622" N	87° 2' 3.888" E		
										23° 32' 41.386" N	87° 2' 28.896" E		
										23° 32' 39.768" N	87° 3' 1.629" E		
										23° 33' 29.359" N	87° 4' 30.877" E		
										23° 33' 27.421" N	87° 4' 42.187" E		
										23° 33' 16.122" N	87° 5' 48.141" E		

Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining/ forest / agriculture)	Mineral reserve (approx.) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
										23° 32' 44.346" N	87° 11' 19.340" E		
										23° 30' 57.492" N	87° 13' 54.770" E		
										23° 30' 8.757" N	87° 14' 38.013" E		
										23° 27' 52.271" N	87° 13' 14.332" E		
2	Black stone (BNK_BS_ZONE_02)	GRANITE GNEISS	42.10	30	10.104	Partially excavated	Agricultural land	Partially explored	BANKURA-I	23° 14' 9.651" N	86° 56' 7.632" E	No	Road network available
										23° 14' 15.910" N	86° 56' 19.915" E		
										23° 13' 46.511" N	86° 56' 38.558" E		
										23° 13' 40.960" N	86° 56' 24.990" E		
3	Black stone (BNK_BS_ZONE_03)	GRANITE GNEISS	141.86	35	39.7207	Virgin	Agricultural land	Un-explored	INDPUR	23° 13' 2.714" N	86° 49' 27.385" E	No	Road network available
										23° 12' 53.806" N	86° 49' 42.118" E		
										23° 11' 42.536" N	86° 48' 53.463" E		
										23° 11' 50.760" N	86° 48' 34.960" E		
4	Black stone (BNK_BS_ZONE_04)	GRANITE GNEISS	91.73	35	25.69	Virgin	Agricultural land	Un-explored	INDPUR	23° 11' 27.563" N	86° 46' 30.620" E	No	Road network available
										23° 11' 41.697" N	86° 47' 5.312" E		
										23° 11' 13.943" N	86° 47' 28.698" E		
										23° 11' 4.435" N	86° 47' 7.368" E		
										23° 11' 17.798" N	86° 46' 59.402" E		
										23° 11' 14.714" N	86° 46' 40.899" E		
5	Black stone (BNK_BS_ZONE_05)	GRANITE GNEISS	148.01	40	47.36	Virgin	Agricultural land	Un-explored	INDPUR	23° 7' 59.457" N	86° 50' 36.405" E	No	Road network available
										23° 7' 56.838" N	86° 51' 2.209" E		
										23° 8' 1.479" N	86° 51' 15.311" E		
										23° 8' 0.307" N	86° 51' 23.748" E		
										23° 7' 48.150" N	86° 51' 27.630" E		
										23° 7' 39.584" N	86° 51' 24.203" E		
										23° 7' 33.759" N	86° 51' 30.542" E		
										23° 7' 20.738" N	86° 51' 25.060" E		
										23° 7' 30.503" N	86° 51' 13.924" E		
										23° 7' 29.647" N	86° 50' 42.744" E		
										23° 7' 28.105" N	86° 50' 36.062" E		
										23° 7' 58.429" N	86° 50' 26.125" E		
6	Black stone (BNK_BS_ZONE_06)	Mica schist	110.13	35	30.83631	Virgin	Agricultural land/ forest land	Un-explored	KHATRA, HIRBANDH	23° 2' 35.661" N	86° 49' 30.313" E	No	Road network available
										23° 2' 52.365" N	86° 49' 34.167" E		
										23° 2' 30.735" N	86° 50' 52.761" E		
										23° 2' 17.244" N	86° 50' 51.048" E		
7	Black stone (BNK_BS_ZONE_07)	GRANITE GNEISS	2265.94	35	634.46	Virgin	Agricultural Land	Un-explored	Hirbandh, Taldanga, Khatra	23° 1' 37.427" N	86° 54' 32.973" E	No	Road network available
										23° 2' 56.207" N	86° 56' 16.125" E		
										23° 2' 12.233" N	86° 57' 26.339" E		
										23° 0' 28.999" N	86° 58' 31.528" E		
										22° 59' 43.891" N	86° 55' 53.907" E		
8	Black stone (BNK_BS_ZONE_0	GRANITE GNEISS	213.80	35	59.86299	Virgin	Agricultural land/ forest	Un-explored	HIRBANDH, KHATRA	23° 0' 12.380" N	86° 46' 51.029" E	No	Road network
										23° 0' 33.452" N	86° 48' 13.777" E		



Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining/ forest / agriculture)	Mineral reserve (approx.) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
	8)						land			23° 0' 12.894" N	86° 48' 28.682" E		available
										22° 59' 43.084" N	86° 47' 7.989" E		
9	Black stone (BNK_BS_ZONE_09)	Mica schist	102.24	35	28.625822	Virgin	Agricultural land	Un-explored	RAIPUR	22° 50' 29.987" N	86° 55' 6.733" E	No	Road network available
										22° 50' 31.272" N	86° 55' 35.857" E		
										22° 49' 51.439" N	86° 55' 42.496" E		
										22° 49' 48.655" N	86° 55' 14.871" E		
10	Black stone (BNK_BS_ZONE_10)	Hornblend Gneiss	204.72	35	57.32	Virgin	Agricultural land	Un-explored	RAIPUR	22° 47' 51.970" N	86° 53' 32.565" E	No	Road network available
										22° 47' 57.654" N	86° 53' 50.623" E		
										22° 47' 27.476" N	86° 54' 4.450" E		
										22° 47' 23.733" N	86° 54' 36.194" E		
										22° 46' 55.293" N	86° 54' 40.991" E		
										22° 46' 51.867" N	86° 53' 51.651" E		
11	Black stone (BNK_BS_ZONE_11)	Granite Gneiss	77.38	35	21.67	Virgin	Agricultural land	Un-explored	SALTORA	23° 34' 6.764" N	86° 52' 42.824" E	No	Road network available
										23° 34' 16.488" N	86° 53' 41.885" E		
										23° 34' 10.259" N	86° 53' 43.767" E		
										23° 34' 1.693" N	86° 53' 46.354" E		
										23° 33' 52.099" N	86° 52' 57.356" E		
12	Black stone (BNK_BS_ZONE_12)	Granite Gneiss	252.17	35	70.61	Virgin	Agricultural land	Un-explored	CHHATNA	23° 22' 19.478" N	86° 55' 46.967" E	No	Road network available
										23° 23' 14.986" N	86° 56' 19.860" E		
										23° 23' 0.595" N	86° 56' 35.279" E		
										23° 22' 29.243" N	86° 58' 13.446" E		
										23° 22' 16.908" N	86° 58' 10.363" E		
										23° 22' 41.578" N	86° 56' 25.514" E		
										23° 22' 15.880" N	86° 55' 58.274" E		
13	Black stone (BNK_BS_ZONE_13)	GRANITE GNEISS	46.01	30	11.043334	Virgin	Agricultural land	Un-explored	CHHATNA	23° 17' 46.557" N	86° 47' 21.715" E	No	Road network available
										23° 17' 48.202" N	86° 47' 38.285" E		
										23° 17' 14.280" N	86° 47' 37.600" E		
										23° 17' 15.994" N	86° 47' 21.496" E		
14	Black stone (BNK_BS_ZONE_14)	GRANITE GNEISS	34.82	30	8.357941	Virgin	Agricultural land	Un-explored	CHHATNA	23° 21' 8.908" N	86° 49' 25.130" E	No	Road network available
										23° 21' 15.975" N	86° 49' 45.902" E		
										23° 21' 0.771" N	86° 49' 52.327" E		
										23° 20' 49.849" N	86° 49' 35.195" E		
15	Black stone (BNK_BS_ZONE_15)	Granite Gneiss	233.55	35	65.39	Virgin	Agricultural Land	Un-explored	KHATRA, TALDANGA, SIMLAPAL	23° 0' 8.915" N	86° 59' 50.251" E	No	Road network available
										22° 59' 46.192" N	87° 1' 7.384" E		
										22° 59' 53.158" N	87° 1' 34.706" E		
										22° 59' 36.917" N	87° 1' 45.396" E		
										22° 59' 29.310" N	87° 1' 19.492" E		
										22° 59' 28.976" N	87° 0' 10.667" E		
										23° 0' 2.747" N	86° 59' 40.743" E		
16	Black stone (BNK_BS_ZONE_16	Sandstone/ Shale	292.80	35	81.98528	Virgin	Agricultural Land	Un-explored	SALTORA, MEJHIA	23° 36' 37.765" N	87° 0' 41.459" E	No	Road network
										23° 36' 46.449" N	87° 1' 13.481" E		

Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining/ forest / agriculture)	Mineral reserve (approx.) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
	)									23° 35' 26.665" N	87° 2' 0.157" E		available
										23° 35' 9.297" N	87° 1' 26.507" E		
17	Black stone (BNK_BS_ZONE_17)	Sandstone/ Shale	364.34	35	102.02	Virgin	Agricultural Land	Un-explored	MEJHIA	23° 35' 40.089" N	87° 2' 42.053" E	No	Road network available
										23° 36' 12.799" N	87° 2' 27.294" E		
										23° 35' 31.550" N	87° 3' 56.847" E		
										23° 33' 54.941" N	87° 4' 16.929" E		
										23° 33' 56.209" N	87° 3' 50.317" E		
										23° 35' 29.922" N	87° 3' 24.282" E		
18	Black stone (BNK_BS_ZONE_18)	GRANITE GNEISS	382.71	35	107.16	Virgin	Agricultural land	Yet to explore	Indpur	23° 6' 47.103" N	86° 57' 3.247" E	No	Road network available
										23° 8' 7.624" N	86° 58' 1.924" E		
										23° 7' 46.209" N	86° 58' 31.477" E		
										23° 6' 21.833" N	86° 57' 52.073" E		
19	Black stone (BNK_BS_ZONE19)	GRANITE GNEISS	12.21	30	2.93	Partially excavated	Agricultural land	Partially explored	Saltora	23° 33' 53.348" N	86° 57' 31.628" E	No	Road network available
										23° 33' 58.025" N	86° 57' 27.585" E		
										23° 34' 1.314" N	86° 57' 30.232" E		
										23° 33' 58.590" N	86° 57' 39.954" E		
										23° 33' 49.990" N	86° 57' 42.730" E		
										23° 33' 48.927" N	86° 57' 43.072" E		
										23° 33' 45.809" N	86° 57' 32.142" E		
20	Black stone (BNK_BS_ZONE20)	GRANITE GNEISS	14.26	30	3.423142	Virgin	Agricultural land/ forest land	Yet to explore	Hirabandh	23° 2' 59.481" N	86° 49' 26.333" E	No	Road network available
										23° 3' 5.169" N	86° 49' 27.840" E		
										23° 3' 0.577" N	86° 49' 52.031" E		
										23° 2' 53.485" N	86° 49' 51.311" E		
21	Black stone (BNK_BS_ZONE21)	GRANITE GNEISS	95.49	30	22.9176	Virgin	Agricultural land/ forest land	Yet to explore	Indpur	23° 9' 22.102" N	86° 49' 29.100" E	No	Road network available
										23° 9' 44.707" N	86° 49' 41.858" E		
										23° 9' 28.139" N	86° 50' 16.866" E		
										23° 9' 1.518" N	86° 50' 1.936" E		
22	Gravel (BNK_GL_ZONE_1)	Sand/ Clay	74.78	30	17.95	Virgin	Agricultural land	Yet to explore	TALDANGRA	23° 2' 10.541" N	87° 5' 17.628" E	No	Road network available
										23° 2' 5.659" N	87° 5' 37.416" E		
										23° 1' 28.541" N	87° 5' 25.030" E		
										23° 1' 36.270" N	87° 5' 1.904" E		
23	Gravel (BNK_GL_ZONE_2)	Sand/ Clay	83.37	30	20.01	Virgin	Agricultural land	Yet to explore	TALDANGRA	23° 1' 18.845" N	87° 6' 50.966" E	No	Road network available
										23° 1' 16.532" N	87° 7' 7.413" E		
										23° 0' 19.482" N	87° 6' 53.279" E		
										23° 0' 24.622" N	87° 6' 37.346" E		
24	Gravel (BNK_GL_ZONE_3)	Sand/ Clay	35.72	30	8.57	Virgin	Agricultural land	Yet to explore	ONDA	23° 4' 55.149" N	87° 11' 43.458" E	No	Road network available
										23° 5' 2.259" N	87° 12' 12.536" E		
										23° 4' 47.885" N	87° 12' 11.715" E		
										23° 4' 40.133" N	87° 11' 46.188" E		
25	Granite/ Quartz/ Feldspar	GRANITE GNEISS	179.50	50	71.80167	Virgin	Agricultural land	Yet to explore	Saltora	23° 30' 31.106" N	86° 56' 41.434" E	No	Road network
										23° 30' 57.447" N	86° 56' 46.787" E		

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	(BNK_GR_ZONE1)									23° 30' 50.171" N	86° 57' 55.610" E		available
										23° 30' 18.916" N	86° 57' 52.804" E		
26	Granite/ Quartz/ Feldspar (BNK_GR_ZONE2)	GRANITE GNEISS	57.99	50	23.19641	Virgin	Agricultural land	Yet to explore	Saltora, Gangajal Ghati	23° 28' 53.545" N	87° 1' 15.059" E	No	Road network available
										23° 28' 59.173" N	87° 1' 24.679" E		
										23° 29' 4.265" N	87° 1' 30.152" E		
										23° 29' 5.654" N	87° 1' 52.345" E		
										23° 28' 45.747" N	87° 1' 54.513" E		
										23° 28' 44.258" N	87° 1' 15.575" E		
27	Granite/ Quartz/ Feldspar (BNK_GR_ZONE3)	GRANITE GNEISS	11.18	50	4.470135	Partially excavated	Agricultural land	Partially explored	Saltora	23° 30' 9.380" N	87° 1' 41.252" E	No	Road network available
										23° 30' 9.534" N	87° 1' 48.011" E		
										23° 30' 1.465" N	87° 1' 53.176" E		
										23° 29' 56.299" N	87° 1' 46.315" E		
										23° 30' 1.413" N	87° 1' 37.834" E		
28	Granite/ Quartz/ Feldspar (BNK_GR_ZONE4)	GRANITE GNEISS	122.19	50	48.87471	Virgin	Agricultural land	Yet to explore	Mejhia	23° 30' 56.155" N	87° 8' 11.966" E	No	Road network available
										23° 30' 57.761" N	87° 8' 48.907" E		
										23° 30' 20.177" N	87° 8' 49.870" E		
										23° 30' 19.000" N	87° 8' 11.859" E		
29	Granite/ Quartz/ Feldspar (BNK_GR_ZONE5)	GRANITE GNEISS	18.07	25	3.614814	Virgin	Agricultural land	Yet to explore	Mejhia	23° 36' 34.447" N	87° 2' 10.116" E	No	Road network available
										23° 36' 25.572" N	87° 2' 10.938" E		
										23° 36' 24.019" N	87° 2' 4.103" E		
										23° 36' 23.516" N	87° 1' 57.481" E		
										23° 36' 18.501" N	87° 1' 58.603" E		
										23° 36' 18.608" N	87° 1' 56.333" E		
										23° 36' 25.761" N	87° 1' 52.200" E		
										23° 36' 30.258" N	87° 1' 52.800" E		
										23° 36' 35.372" N	87° 1' 53.498" E		
30	Granite/ Quartz/ Feldspar (BNK_GR_ZONE_6)	GRANITE GNEISS	23694.77	40	7582.33	Virgin	Agricultural land/ forest land	Yet to explore	CHHATNA, INDPUR, BANKURA-I	23° 9' 15.154" N	86° 46' 42.103" E	No	Road network available
										23° 10' 55.754" N	86° 45' 34.869" E		
										23° 11' 36.860" N	86° 45' 35.638" E		
										23° 12' 2.930" N	86° 46' 5.409" E		
										23° 11' 55.196" N	86° 46' 46.209" E		
										23° 12' 4.552" N	86° 47' 12.505" E		
										23° 12' 26.045" N	86° 47' 34.243" E		
										23° 12' 37.338" N	86° 48' 0.351" E		
										23° 12' 44.518" N	86° 48' 56.024" E		
										23° 13' 1.142" N	86° 50' 39.020" E		
										23° 14' 4.851" N	86° 52' 18.141" E		
										23° 14' 33.713" N	86° 54' 49.212" E		
										23° 14' 37.000" N	86° 55' 26.212" E		
										23° 13' 43.646" N	86° 58' 54.022" E		
										23° 13' 32.364" N	87° 0' 32.931" E		

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										23° 13' 0.211" N	87° 1' 33.274" E		
										23° 12' 24.423" N	87° 0' 56.135" E		
										23° 12' 3.736" N	87° 0' 12.097" E		
										23° 11' 44.667" N	87° 0' 2.607" E		
										23° 11' 30.775" N	86° 59' 53.585" E		
										23° 10' 59.746" N	87° 0' 1.500" E		
										23° 10' 18.832" N	86° 59' 42.505" E		
										23° 9' 3.385" N	87° 0' 5.249" E		
										23° 9' 13.457" N	86° 59' 35.838" E		
										23° 9' 14.061" N	86° 58' 47.276" E		
										23° 9' 59.455" N	86° 56' 57.757" E		
										23° 10' 12.757" N	86° 56' 11.219" E		
										23° 9' 50.444" N	86° 55' 7.948" E		
										23° 8' 38.045" N	86° 54' 47.447" E		
										23° 6' 25.383" N	86° 53' 21.485" E		
										23° 6' 29.942" N	86° 52' 12.866" E		
										23° 6' 31.225" N	86° 51' 30.012" E		
										23° 7' 6.189" N	86° 49' 46.575" E		
										23° 7' 39.735" N	86° 48' 29.439" E		
31	Granite/ Quartz/ Feldspar (BNK_GR_ZONE_7)	GRANITE GNEISS	11633.97	30	2792.15	Virgin	Agricultural land/ forest land	Yet to explore	CHHATNA, INDPUR	23° 19' 12.102" N	86° 47' 29.704" E	No	Road network available
										23° 20' 50.714" N	86° 49' 14.681" E		
										23° 20' 50.081" N	86° 49' 16.438" E		
										23° 19' 44.831" N	86° 52' 17.593" E		
										23° 17' 58.556" N	86° 53' 43.375" E		
										23° 17' 42.351" N	86° 53' 25.434" E		
										23° 15' 45.118" N	86° 54' 8.001" E		
										23° 15' 37.327" N	86° 53' 28.277" E		
										23° 15' 18.703" N	86° 51' 53.376" E		
										23° 16' 11.676" N	86° 51' 13.427" E		
										23° 13' 19.247" N	86° 49' 12.287" E		
										23° 12' 55.470" N	86° 47' 26.268" E		
										23° 15' 3.269" N	86° 46' 59.296" E		
										23° 15' 54.955" N	86° 47' 15.522" E		
										23° 17' 7.815" N	86° 47' 38.400" E		
										23° 17' 48.644" N	86° 47' 44.688" E		
										23° 18' 27.780" N	86° 47' 35.911" E		
32	Granite/ Quartz/ Feldspar (BNK_GR_ZONE_8)	GrANITE GNEISS	13743.54	40	4397.93	Virgin	Agricultural land/ forest land	Yet to explore	ONDA, INDPUR, TALDANGRA	23° 4' 57.562" N	86° 53' 23.160" E	No	Road network available
										23° 6' 14.528" N	86° 53' 59.776" E		
										23° 6' 36.571" N	86° 54' 24.972" E		
										23° 6' 42.152" N	86° 54' 40.292" E		
										23° 8' 5.309" N	86° 55' 20.105" E		



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										23° 8' 41.104" N	86° 56' 16.733" E		
										23° 9' 7.626" N	86° 58' 5.929" E		
										23° 8' 37.717" N	86° 59' 17.294" E		
										23° 8' 17.173" N	87° 1' 30.564" E		
										23° 7' 3.886" N	87° 2' 48.823" E		
										23° 6' 29.415" N	87° 3' 7.933" E		
										23° 4' 50.643" N	87° 2' 34.264" E		
										23° 4' 23.669" N	87° 2' 29.749" E		
										23° 3' 25.115" N	87° 2' 45.404" E		
										23° 3' 54.307" N	87° 1' 16.936" E		
										23° 3' 40.371" N	87° 0' 44.005" E		
										23° 3' 18.976" N	87° 0' 22.986" E		
										23° 3' 0.129" N	87° 0' 5.065" E		
										23° 2' 55.336" N	86° 59' 49.491" E		
										23° 2' 57.259" N	86° 59' 12.984" E		
										23° 2' 20.834" N	86° 58' 4.165" E		
										23° 3' 19.368" N	86° 56' 54.598" E		
										23° 3' 49.929" N	86° 54' 41.807" E		
33	Granite/ Quartz/ Feldspar/ Black stone dyke (BNK_GR_BS_ZONE_01)	GrANITE GNEISS	1986.55	35	556.23	Virgin	Agricultural land/ forest land	Yet to explore	RANIBANDH	22° 48' 1.741" N	86° 36' 44.629" E	No	Road network available
										22° 49' 25.688" N	86° 37' 20.264" E		
										22° 49' 7.871" N	86° 38' 33.590" E		
										22° 48' 34.784" N	86° 39' 37.221" E		
										22° 47' 16.514" N	86° 40' 59.294" E		
										22° 46' 29.174" N	86° 41' 55.166" E		
										22° 46' 1.729" N	86° 42' 12.989" E		
										22° 45' 35.081" N	86° 42' 11.384" E		
										22° 46' 11.059" N	86° 41' 43.630" E		
										22° 46' 17.226" N	86° 40' 22.263" E		
										22° 47' 22.971" N	86° 39' 26.847" E		
										22° 47' 57.342" N	86° 37' 49.680" E		
34	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE1)	GRANITE GNEISS	9.25	10	0.74039	Virgin	Agricultural land	Yet to explore	Indpur	23° 3' 15.918" N	86° 56' 52.620" E	No	Road network available
										23° 3' 23.731" N	86° 56' 52.620" E		
										23° 3' 25.581" N	86° 57' 4.544" E		
										23° 3' 17.152" N	86° 57' 6.394" E		
35	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE2)	GRANITE GNEISS	2.30	10	0.184	Virgin	Agricultural land	Yet to explore	Raipur	22° 54' 1.945" N	86° 55' 2.114" E	No	Road network available
										22° 54' 1.121" N	86° 55' 7.714" E		
										22° 53' 56.634" N	86° 55' 6.675" E		
										22° 53' 57.694" N	86° 55' 0.786" E		
36	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_Z	GRANITE GNEISS	962.97	10	77.0376	Virgin	Agricultural land	Yet to explore	Onda, Bishnupur, Taldanga	22° 54' 1.945" N	87° 15' 21.563" E	No	Road network available
										23° 1' 23.031" N	87° 17' 18.996" E		
										22° 59' 48.420" N	87° 17' 21.511" E		

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	ONE3)									22° 59' 42.926" N	87° 15' 24.132" E		
37	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE4)	Sandstone	2714.13	20	434.2609	Virgin	Agricultural land	Yet to explore	Simlapal	22° 55' 16.441" N	86° 54' 59.297" E	No	Road network available
										22° 57' 23.647" N	86° 55' 7.006" E		
										22° 57' 25.091" N	86° 57' 13.342" E		
										22° 57' 26.403" N	86° 59' 8.115" E		
										22° 55' 19.197" N	86° 59' 6.830" E		
										22° 55' 18.583" N	86° 57' 12.927" E		
										22° 55' 16.869" N	86° 55' 31.848" E		
38	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE5)	Sandstone/ Clay	254.28	20	40.68444	Virgin	Agricultural land	Yet to explore	Sarenga, Raipur	22° 52' 17.842" N	86° 55' 46.426" E	No	Road network available
										22° 53' 26.120" N	86° 55' 40.917" E		
										22° 53' 26.456" N	86° 56' 23.174" E		
										22° 52' 18.099" N	86° 56' 29.085" E		
39	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE6)	Sandstone/ Clay	41284.11	20	6605.458	Virgin	Agricultural land	Yet to explore	Bankura-II, Sonamukhi, Barjora, Bishnupur	23° 15' 9.373" N	87° 29' 31.424" E	No	Road network available
										23° 12' 58.740" N	87° 29' 34.636" E		
										23° 12' 44.257" N	87° 23' 26.103" E		
										23° 12' 12.536" N	87° 11' 41.144" E		
										23° 13' 55.671" N	87° 9' 51.331" E		
										23° 12' 10.807" N	87° 13' 52.283" E		
										23° 18' 21.681" N	87° 9' 51.021" E		
										23° 18' 46.308" N	87° 13' 26.243" E		
										23° 17' 24.318" N	87° 17' 48.627" E		
										23° 18' 35.073" N	87° 23' 17.886" E		
										23° 16' 28.555" N	87° 23' 19.017" E		
										23° 16' 28.056" N	87° 27' 22.187" E		
										23° 15' 9.373" N	87° 27' 25.075" E		
40	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE7)	Sandstone/ Clay	7499.81	20	1199.97	Virgin	Agricultural land	Yet to explore	Barjora	23° 23' 44.928" N	87° 12' 5.328" E	No	Road network available
										23° 27' 29.251" N	87° 12' 12.288" E		
										23° 27' 26.939" N	87° 14' 56.392" E		
										23° 27' 29.298" N	87° 17' 30.034" E		
										23° 23' 1.182" N	87° 17' 26.778" E		
										23° 22' 58.468" N	87° 12' 3.301" E		
41	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE8)	Sandstone/ Clay	23851.95	25	4770.39	Virgin	Agricultural land	Yet to explore	SONAMUKHI, PATRASAYAR, INDUS, BISHNUPUR	23° 9' 59.685" N	87° 16' 15.266" E	No	Road network available
										23° 11' 55.094" N	87° 16' 9.763" E		
										23° 13' 0.765" N	87° 38' 18.221" E		
										23° 8' 53.420" N	87° 39' 12.830" E		
										23° 9' 19.767" N	87° 16' 16.294" E		
42	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE9)	Sandstone/ Clay	12125.25	25	2425.05	Virgin	Agricultural land	Yet to explore	BISHNUPUR, JOYPUR	23° 3' 11.962" N	87° 17' 42.061" E	No	Road network available
										23° 4' 20.491" N	87° 24' 55.504" E		
										22° 56' 32.716" N	87° 24' 36.068" E		
										22° 57' 5.875" N	87° 22' 18.601" E		
										22° 59' 27.407" N	87° 22' 35.169" E		



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										23° 0' 25.781" N	87° 19' 59.118" E		
										22° 57' 35.139" N	87° 20' 20.993" E		
										22° 56' 51.629" N	87° 18' 36.884" E		
43	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE10)	Sandstone/ Clay	4813.30	25	962.66	Virgin	Agricultural land	Yet to explore	SIMLAPAL, TALDANGRA	22° 58' 52.345" N	87° 10' 11.279" E	No	Road network available
										23° 0' 13.547" N	87° 12' 55.718" E		
										22° 55' 20.401" N	87° 14' 38.319" E		
										22° 54' 5.876" N	87° 12' 0.276" E		
44	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE11)	Sandstone/ Clay	4143.47	25	828.69	Virgin	Agricultural land	Yet to explore	SIMLAPAL	22° 57' 11.931" N	87° 2' 31.832" E	No	Road network available
										22° 59' 25.561" N	87° 5' 3.451" E		
										22° 55' 31.708" N	87° 8' 57.305" E		
										22° 54' 40.312" N	87° 7' 36.355" E		
45	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE12)	Sandstone/ Clay	3065.98	25	613.20	Virgin	Agricultural land	Yet to explore	SARENGA	22° 49' 49.256" N	87° 0' 41.171" E	No	Road network available
										22° 50' 42.839" N	87° 2' 43.225" E		
										22° 46' 35.471" N	87° 3' 55.794" E		
										22° 45' 43.252" N	87° 1' 43.134" E		
46	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE13)	Sandstone/ Clay	3989.64	25	797.93	Virgin	Agricultural land	Yet to explore	RAIPUR	22° 44' 8.057" N	86° 55' 24.626" E	No	Road network available
										22° 42' 17.372" N	86° 57' 53.683" E		
										22° 39' 0.765" N	86° 56' 1.048" E		
										22° 39' 58.389" N	86° 53' 14.190" E		
47	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE14)	Sandstone/ Clay	1774.48	25	354.90	Virgin	Agricultural land	Yet to explore	TALDANGRA	23° 1' 39.293" N	87° 0' 21.215" E	No	Road network available
										23° 1' 49.921" N	87° 0' 39.802" E		
										23° 2' 4.312" N	87° 0' 42.543" E		
										23° 2' 19.363" N	87° 0' 23.246" E		
										23° 2' 39.947" N	87° 0' 4.853" E		
										23° 2' 56.087" N	87° 0' 5.612" E		
										23° 2' 35.150" N	87° 1' 53.128" E		
										23° 1' 10.860" N	87° 1' 48.331" E		
										23° 1' 3.321" N	87° 3' 53.052" E		
										22° 59' 55.478" N	87° 3' 40.032" E		
										23° 0' 4.387" N	87° 0' 58.990" E		
										23° 0' 54.413" N	87° 0' 48.711" E		
										23° 1' 11.697" N	87° 0' 23.265" E		
48	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE15)	Sandstone/ Clay	1262.58	25	252.52	Virgin	Agricultural land	Yet to explore	SIMLAPAL	22° 54' 53.627" N	86° 58' 53.133" E	No	Road network available
										22° 56' 23.400" N	87° 0' 48.261" E		
										22° 55' 17.612" N	87° 1' 49.937" E		
										22° 54' 7.713" N	87° 1' 1.282" E		
										22° 54' 13.881" N	86° 59' 5.468" E		
49	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE16)	Sandstone/ Clay	779.74	25	155.9474	Virgin	Agricultural land	Yet to explore	RAIPUR	22° 48' 7.573" N	86° 54' 10.098" E	No	Road network available
										22° 49' 19.928" N	86° 54' 47.561" E		
										22° 48' 36.070" N	86° 56' 13.907" E		
										22° 47' 8.778" N	86° 55' 42.047" E		



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50	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE17)	GRANITE GNEISS	34.57	10	2.765552	Partially excavated	Agricultural land	Partially explored	Indpur	23° 5' 30.345" N 23° 5' 30.727" N 23° 5' 10.443" N 23° 5' 10.321" N	87° 0' 15.349" E 87° 0' 35.162" E 87° 0' 35.162" E 87° 0' 15.766" E	No	Road network available
51	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE18)	GRANITE GNEISS	21.68	15	2.601392	Partially excavated	Agricultural land	Partially explored	Bankura-II	23° 16' 1.015" N 23° 16' 2.789" N 23° 15' 49.462" N 23° 15' 47.358" N 23° 15' 55.159" N	87° 8' 52.046" E 87° 9' 4.876" E 87° 9' 6.845" E 87° 8' 46.938" E 87° 8' 45.414" E	No	Road network available
52	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE19)	GRANITE GNEISS	7499.81	15	899.9772	Partially excavated	Agricultural land	Partially explored	Barjora	23° 25' 5.081" N 23° 25' 4.533" N 23° 24' 46.510" N 23° 24' 47.195" N	87° 13' 45.646" E 87° 14' 0.448" E 87° 14' 2.230" E 87° 13' 46.057" E	No	Road network available
53	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE20)	GRANITE GNEISS	602.97	15	72.3564	Virgin	Agricultural land	Yet to explore	Barjora, Gangajalghati, Bankura II	23° 19' 59.834" N 23° 20' 14.274" N 23° 18' 41.764" N 23° 18' 37.545" N	87° 9' 2.313" E 87° 10' 19.200" E 87° 10' 34.220" E 87° 9' 16.194" E	No	Road network available
54	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE21)	GRANITE GNEISS	5.29	10	0.4232	Virgin	Agricultural land	Yet to explore	Taldanga	23° 5' 1.690" N 23° 5' 2.228" N 23° 4' 56.364" N 23° 4' 56.319" N	86° 59' 56.234" E 87° 0' 6.897" E 87° 0' 7.114" E 86° 59' 56.259" E	No	Road network available
55	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE22)	GRANITE GNEISS	408.06	10	32.6448	Virgin	Agricultural land	Yet to explore	Indpur	23° 8' 39.996" N 23° 9' 13.190" N 23° 8' 37.319" N 23° 8' 9.480" N	86° 55' 32.679" E 86° 57' 42.776" E 86° 57' 54.019" E 86° 55' 40.175" E	No	Road network available
56	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE23)	GRANITE GNEISS	2.30	10	0.183688	Virgin	Agricultural land	Yet to explore	Simlapal	22° 55' 57.746" N 22° 55' 57.789" N 22° 55' 53.292" N 22° 55' 53.592" N	86° 59' 45.699" E 86° 59' 51.866" E 86° 59' 51.695" E 86° 59' 45.742" E	No	Road network available
57	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE24)	GRANITE GNEISS	6.73	10	0.538351	Virgin	Agricultural land	Yet to explore	Onda	23° 6' 40.089" N 23° 6' 43.965" N 23° 6' 39.083" N 23° 6' 35.356" N	87° 3' 10.148" E 87° 3' 24.261" E 87° 3' 26.595" E 87° 3' 12.054" E	No	Road network available
58	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE25)	Sandstone/ Clay	1460.45	20	233.6717	Virgin	Agricultural land	Yet to explore	Onda	22° 59' 45.595" N 23° 1' 54.941" N 23° 2' 0.510" N 22° 59' 41.847" N	87° 9' 2.908" E 87° 9' 0.751" E 87° 11' 2.833" E 87° 11' 9.793" E	No	Road network available
59	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE26)	Sandstone/ Clay	5691.28	20	910.6041	Virgin	Agricultural land	Yet to explore	Joypur	22° 55' 18.604" N 23° 1' 35.107" N 23° 1' 33.394" N 22° 54' 53.466" N	87° 25' 32.954" E 87° 25' 35.745" E 87° 28' 31.349" E 87° 28' 10.385" E	No	Road network available



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										22° 54' 53.977" N	87° 27' 25.598" E		
										22° 55' 10.467" N	87° 26' 45.337" E		
60	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE27)	Sandstone/ Clay	19138.27	20	3062.123	Virgin	Agricultural land	Yet to explore	Bankura-I, Onda, Indpur	23° 5' 15.188" N	87° 11' 25.469" E	No	Road network available
										23° 4' 16.939" N	87° 11' 28.895" E		
										23° 4' 17.004" N	87° 13' 32.280" E		
										23° 4' 51.274" N	87° 13' 31.668" E		
										23° 4' 53.844" N	87° 16' 16.137" E		
										23° 3' 16.191" N	87° 16' 16.137" E		
										23° 3' 18.761" N	87° 9' 26.251" E		
										23° 4' 16.715" N	87° 9' 28.183" E		
										23° 4' 16.253" N	87° 5' 18.156" E		
										23° 2' 26.608" N	87° 5' 22.268" E		
										23° 2' 25.922" N	87° 2' 26.835" E		
										23° 6' 11.381" N	87° 2' 22.723" E		
										23° 6' 10.011" N	87° 3' 26.455" E		
										23° 6' 29.921" N	87° 3' 45.431" E		
										23° 7' 0.036" N	87° 3' 46.328" E		
										23° 6' 59.351" N	87° 2' 56.302" E		
										23° 11' 17.018" N	87° 2' 54.932" E		
										23° 11' 18.389" N	87° 3' 31.252" E		
										23° 11' 17.703" N	87° 7' 31.787" E		
										23° 7' 13.057" N	87° 7' 38.640" E		
										23° 7' 6.889" N	87° 12' 53.871" E		
										23° 5' 17.285" N	87° 12' 56.480" E		
61	Laterite/ China Clay/ Fire Clay (BNK_LT_CC_FC_ZONE28)	Sandstone/ Clay	417.37	20	66.7794	Virgin	Agricultural land	Yet to explore	Barjora	23° 21' 49.750" N	87° 14' 57.353" E	No	Road network available
										23° 21' 53.450" N	87° 16' 20.821" E		
										23° 20' 53.008" N	87° 16' 31.717" E		
										23° 21' 12.333" N	87° 14' 40.701" E		
62	Laterite Pyroxinite (BNK_LT_PYX_ZONE1)	Sandstone/ Clay	2101.79	20	336.2871	Virgin	Agricultural land	Yet to explore	Raipur	22° 45' 39.714" N	86° 51' 15.285" E	No	Road network available
										22° 45' 44.584" N	86° 53' 55.508" E		
										22° 43' 20.567" N	86° 54' 7.822" E		
										22° 43' 7.597" N	86° 51' 25.697" E		
63	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_1)	Granite Gneiss	157.82	25	31.56363	Virgin	Agricultural land/ forest land	Yet to explore	CHHATNA	23° 19' 18.193" N	86° 50' 12.467" E	No	Road network available
										23° 19' 53.828" N	86° 51' 25.107" E		
										23° 19' 15.452" N	86° 51' 31.960" E		
										23° 19' 23.675" N	86° 51' 9.346" E		
										23° 18' 59.005" N	86° 50' 27.543" E		
64	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_2)	Granite Gneiss	597.38	25	119.476	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 18' 34.335" N	86° 51' 36.757" E	No	Road network available
										23° 19' 29.843" N	86° 52' 21.301" E		
										23° 17' 59.674" N	86° 53' 36.581" E		
										23° 17' 24.955" N	86° 52' 58.382" E		



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65	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_3)	Granite Gneiss	214.47	25	42.895	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 16' 53.598" N	86° 52' 25.412" E	No	Road network available
										23° 17' 13.471" N	86° 52' 45.971" E		
										23° 16' 46.060" N	86° 53' 49.702" E		
										23° 16' 11.110" N	86° 53' 31.885" E		
66	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_4)	Granite Gneiss	596.58	25	119.3155	Virgin	Agricultural land	Yet to explore	CHHATNA, BANKURA-I	23° 17' 46.416" N	86° 57' 28.856" E	No	Road network available
										23° 17' 42.990" N	86° 58' 8.603" E		
										23° 16' 18.014" N	86° 57' 59.009" E		
										23° 15' 7.430" N	86° 57' 18.577" E		
										23° 15' 14.968" N	86° 56' 50.480" E		
67	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_5)	Mica schist	856.94	25	171.388	Virgin	Agricultural land/ forest land	Yet to explore	HIRABANDH	23° 3' 54.680" N	86° 44' 57.128" E	No	Road network available
										23° 4' 24.126" N	86° 45' 26.573" E		
										23° 3' 35.942" N	86° 47' 7.225" E		
										23° 3' 9.708" N	86° 47' 6.689" E		
										23° 2' 58.465" N	86° 46' 19.040" E		
										23° 2' 28.484" N	86° 45' 56.555" E		
										23° 2' 20.454" N	86° 46' 13.687" E		
										23° 1' 50.472" N	86° 46' 13.151" E		
										23° 2' 34.909" N	86° 44' 53.380" E		
										23° 3' 20.951" N	86° 45' 38.352" E		
68	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_6)	Granite Gneiss	43.17	25	8.633978	Virgin	Agricultural land	Yet to explore	HIRABANDH	23° 7' 14.318" N	86° 43' 16.823" E	No	Road network available
										23° 7' 17.136" N	86° 43' 25.276" E		
										23° 6' 28.310" N	86° 43' 57.185" E		
										23° 6' 21.481" N	86° 43' 52.644" E		
69	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_7)	Mica schist	52.65	25	10.52941	Virgin	Agricultural land	Yet to explore	HIRABANDH	23° 4' 47.367" N	86° 45' 51.962" E	No	Road network available
										23° 6' 13.028" N	86° 45' 56.245" E		
										23° 6' 3.879" N	86° 48' 43.846" E		
										23° 4' 46.850" N	86° 48' 45.168" E		
70	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_8)	Anorthosite	47.55	25	9.509912	Virgin	Agricultural land	Yet to explore	MEJHIA, SALTORA	23° 30' 33.543" N	87° 4' 14.681" E	No	Road network available
										23° 30' 43.856" N	87° 5' 11.127" E		
										23° 30' 5.863" N	87° 5' 21.981" E		
										23° 30' 0.048" N	87° 4' 26.621" E		
71	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_9)	Mica schist	354.78	25	70.955518	Virgin	Agricultural land/ forest land	Yet to explore	KHATRA	22° 58' 44.686" N	86° 52' 27.726" E	No	Road network available
										22° 58' 59.077" N	86° 53' 23.919" E		
										22° 57' 58.772" N	86° 54' 30.392" E		
										22° 57' 38.899" N	86° 54' 11.204" E		
										22° 58' 23.442" N	86° 52' 54.452" E		
72	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_10)	Mica schist	262.45	25	52.49099	Virgin	Agricultural land/ forest land	Yet to explore	KHATRA, RANIBANDH	22° 57' 45.185" N	86° 47' 8.141" E	No	Road network available
										22° 57' 56.911" N	86° 50' 31.845" E		
										22° 57' 8.918" N	86° 50' 36.179" E		
										22° 56' 49.922" N	86° 48' 9.638" E		
73	Quartz/ Feldspar/	Mica schist	136.02	25	27.2045	Virgin	Agricultural	Yet to	RANIBANDH	22° 53' 2.052" N	86° 47' 0.760" E	No	Road



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	Mica (BNK_QT_ZONE_11)				2		land/ forest land	explore		22° 53' 21.325" N	86° 47' 30.570" E		network available
										22° 53' 38.800" N	86° 48' 27.620" E		
										22° 53' 29.549" N	86° 48' 36.101" E		
										22° 53' 7.962" N	86° 47' 50.872" E		
										22° 52' 50.745" N	86° 47' 5.900" E		
74	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_12)	Granite Gneiss	85.25	25	17.04915	Virgin	Agricultural land	Yet to explore	INDPUR	23° 5' 9.298" N	86° 53' 53.110" E	No	Road network available
										23° 6' 19.968" N	86° 55' 39.115" E		
										23° 5' 27.501" N	86° 56' 44.431" E		
										23° 3' 53.274" N	86° 54' 52.002" E		
75	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_13)	Granite Gneiss	57.31	25	11.462	Virgin	Agricultural land/ forest land	Yet to explore	HIRABANDH, KHATRA	23° 2' 49.029" N	86° 51' 47.831" E	No	Road network available
										23° 3' 12.585" N	86° 54' 5.959" E		
										23° 2' 15.835" N	86° 54' 25.233" E		
										23° 1' 55.993" N	86° 52' 54.020" E		
										23° 1' 49.340" N	86° 52' 23.435" E		
76	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_14)	Granite Gneiss	242.09	25	48.4175	Virgin	Agricultural land	Yet to explore	CHHATNA,BANKURA-I, INDPUR	23° 14' 28.662" N	86° 50' 1.098" E	No	Road network available
										23° 15' 22.628" N	86° 53' 42.103" E		
										23° 10' 36.229" N	86° 54' 45.706" E		
										23° 10' 25.521" N	86° 52' 58.630" E		
										23° 13' 47.894" N	86° 50' 35.148" E		
77	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_15)	Granite Gneiss	5.18	25	1.035528	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 22' 47.027" N	86° 56' 51.761" E	No	Road network available
										23° 22' 53.370" N	86° 56' 55.387" E		
										23° 22' 51.187" N	86° 57' 3.029" E		
										23° 22' 43.984" N	86° 56' 58.479" E		
78	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_16)	Granite Gneiss	8.41	25	1.681394	Virgin	Agricultural land	Yet to explore	SALTORA	23° 33' 58.590" N	86° 57' 39.954" E	No	Road network available
										23° 34' 2.273" N	86° 57' 30.558" E		
										23° 34' 9.940" N	86° 57' 37.625" E		
										23° 34' 7.027" N	86° 57' 46.577" E		
79	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_17)	Granite Gneiss	4.02	25	0.80434	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 23' 5.644" N	86° 56' 51.594" E	No	Road network available
										23° 23' 9.284" N	86° 56' 55.020" E		
										23° 23' 5.601" N	86° 57' 1.573" E		
										23° 23' 0.033" N	86° 56' 59.175" E		
80	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_18)	Mica schist	29.91	25	5.981217	Virgin	Agricultural land/ forest land	Yet to explore	RANIBANDH	22° 46' 54.974" N	86° 42' 15.430" E	No	Road network available
										22° 46' 47.504" N	86° 42' 6.110" E		
										22° 47' 3.591" N	86° 41' 49.226" E		
										22° 47' 15.379" N	86° 42' 0.514" E		
81	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_19)	Mica schist	28.37	25	5.673968	Virgin	Agricultural land/ forest land	Yet to explore	RANIBANDH	22° 48' 54.693" N	86° 41' 5.302" E	No	Road network available
										22° 49' 9.906" N	86° 41' 16.609" E		
										22° 49' 4.698" N	86° 41' 30.041" E		
										22° 48' 46.401" N	86° 41' 23.188" E		
82	Quartz/ Feldspar/ Mica	GRANITE GNEISS	14.95	20	2.392	Partially excavated	Agricultural land	Partially explored	CHHATNA	23° 20' 54.349" N	86° 48' 51.414" E	No	Road network
										23° 21' 0.790" N	86° 49' 10.534" E		



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	(BNK_QT_ZONE_20)									23° 20' 53.389" N	86° 49' 14.234" E		available
										23° 20' 46.399" N	86° 48' 55.800" E		
83	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_21)	GRANITE GNEISS	103.89	20	16.62255	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 18' 59.493" N	86° 55' 25.037" E	No	Road network available
										23° 18' 19.080" N	86° 54' 51.095" E		
										23° 18' 26.988" N	86° 54' 34.821" E		
										23° 19' 15.297" N	86° 55' 4.750" E		
84	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_22)	GRANITE GNEISS	158.31	15	18.99676	Virgin	Agricultural land	Yet to explore	Ranibadh	22° 51' 31.524" N	86° 44' 51.383" E	No	Road network available
										22° 51' 45.229" N	86° 46' 34.689" E		
										22° 51' 27.840" N	86° 46' 36.831" E		
										22° 51' 14.477" N	86° 44' 54.124" E		
85	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_23)	GRANITE GNEISS	4.15	15	0.49764	Virgin	Agricultural land	Yet to explore	Ranibadh	22° 53' 12.919" N	86° 49' 55.737" E	No	Road network available
										22° 53' 13.339" N	86° 49' 48.456" E		
										22° 53' 19.669" N	86° 49' 48.785" E		
										22° 53' 19.686" N	86° 49' 51.783" E		
										22° 53' 19.709" N	86° 49' 55.922" E		
86	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_24)	GRANITE GNEISS	490.19	15	58.82286	Virgin	Agricultural land	Yet to explore	Ranibadh	22° 45' 32.789" N	86° 44' 45.379" E	No	Road network available
										22° 46' 26.485" N	86° 44' 46.746" E		
										22° 46' 21.741" N	86° 46' 31.835" E		
										22° 45' 28.795" N	86° 46' 29.689" E		
87	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_25)	GRANITE GNEISS	198.63	15	23.83533	Virgin	Agricultural land	Yet to explore	Chhatna	23° 11' 3.218" N	86° 50' 14.101" E	No	Road network available
										23° 11' 5.788" N	86° 51' 28.840" E		
										23° 10' 33.665" N	86° 51' 30.125" E		
										23° 10' 34.736" N	86° 50' 14.958" E		
88	Quartz/ Feldspar/ Mica (BNK_QT_ZONE_26)	GRANITE GNEISS & PARAGNEIS	0.47	15	0.056012	Virgin	Agricultural land	Yet to explore	Gangajal Ghati	23° 25' 59.661" N	87° 2' 46.790" E	No	Road network available
										23° 26' 0.407" N	87° 2' 49.437" E		
										23° 25' 58.813" N	87° 2' 50.208" E		
										23° 25' 57.940" N	87° 2' 46.764" E		
89	Quartzite/ Quartz (BNK_QTZ_ZONE_1)	Granite Gneiss	875.37	25	175.0736	Virgin	Agricultural land/ forest land	Yet to explore	CHHATNA, GANGAJALGHATI	23° 24' 36.038" N	86° 58' 20.074" E	No	Road network available
										23° 24' 14.875" N	87° 0' 18.936" E		
										23° 22' 51.292" N	87° 0' 09.169" E		
										23° 23' 11.912" N	86° 58' 13.021" E		
90	Quartzite/ Quartz (BNK_QTZ_ZONE_2)	Granite Gneiss	178.99	25	35.79805	Virgin	Agricultural land/ forest land	Yet to explore	GANGAJALGHATI	23° 23' 33.150" N	87° 6' 48.952" E	No	Road network available
										23° 23' 39.575" N	87° 8' 1.764" E		
										23° 23' 7.452" N	87° 7' 52.127" E		
										23° 23' 2.098" N	87° 6' 54.306" E		
91	Quartzite/ Quartz (BNK_QTZ_ZONE_3)	Granite Gneiss	431.17	25	86.23373	Virgin	Agricultural land	Yet to explore	HIRABANDH	23° 6' 43.319" N	86° 50' 8.436" E	No	Road network available
										23° 6' 32.183" N	86° 51' 10.112" E		
										23° 5' 12.519" N	86° 51' 7.542" E		
										23° 5' 5.666" N	86° 50' 17.859" E		
92	Quartzite/ Quartz (BNK_QTZ_ZONE_	Mica schist	231.60	25	46.32	Virgin	Agricultural Land	Yet to explore	HIRABANDH, KHATRA	23° 2' 56.063" N	86° 47' 19.809" E	No	Road network
										23° 2' 10.320" N	86° 51' 16.232" E		



Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining/ forest / agriculture)	Mineral reserve (approx.) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
	4)									23° 1' 46.250" N	86° 52' 0.519" E		available
										23° 1' 33.401" N	86° 51' 56.236" E		
										23° 1' 40.510" N	86° 47' 25.976" E		
93	Quartzite/ Quartz (BNK_QTZ_ZONE_5)	Mica schist	134.98	25	27.00	Virgin	Agricultural / Forest land	Yet to explore	RANIBANDH	22° 51' 6.128" N	86° 43' 5.777" E	No	Road network available
										22° 51' 46.520" N	86° 43' 15.024" E		
										22° 52' 37.330" N	86° 46' 0.352" E		
										22° 52' 16.771" N	86° 46' 3.436" E		
										22° 51' 4.747" N	86° 43' 19.213" E		
94	Quartzite/ Quartz (BNK_QTZ_ZONE_6)	Mica schist	43.57	25	8.713289	Virgin	Agricultural land	Yet to explore	RANIBANDH	22° 50' 51.354" N	86° 39' 42.472" E	No	Road network available
										22° 50' 43.474" N	86° 40' 49.459" E		
										22° 50' 36.107" N	86° 40' 50.487" E		
										22° 50' 43.988" N	86° 39' 41.958" E		
95	Quartzite/ Quartz (BNK_QTZ_ZONE_7)	Granite Gneiss	23.40	25	4.680358	Virgin	Agricultural land	Yet to explore	BANKURA-I	23° 13' 34.052" N	86° 58' 35.762" E	No	Road network available
										23° 13' 38.164" N	86° 58' 47.583" E		
										23° 10' 50.852" N	86° 59' 24.520" E		
										23° 10' 40.572" N	86° 58' 40.833" E		
96	Quartzite/ Quartz (BNK_QTZ_ZONE_8)	Granite Gneiss	31.34	25	6.267656	Virgin	Agricultural land	Yet to explore	HIRABANH, INDPUR	23° 7' 46.531" N	86° 47' 21.274" E	No	Road network available
										23° 8' 55.059" N	86° 48' 37.341" E		
										23° 8' 24.907" N	86° 49' 6.122" E		
										23° 7' 13.637" N	86° 48' 1.706" E		
97	Quartzite/ Quartz (BNK_QTZ_ZONE_9)	Granite Gneiss	65.77	25	13.154	Virgin	Agricultural land	Yet to explore	RANIBANDH	22° 50' 11.953" N	86° 39' 24.080" E	No	Road network available
										22° 50' 32.892" N	86° 39' 31.382" E		
										22° 50' 28.447" N	86° 40' 3.130" E		
										22° 50' 5.785" N	86° 39' 58.203" E		
98	Quartzite/ Quartz (BNK_QTZ_ZONE_10)	Granite Gneiss	49.48	20	7.9168	Partially excavated	Agricultural land	Partially explored	Hirbandh	23° 6' 19.774" N	86° 44' 0.680" E	No	Road network available
										23° 6' 33.685" N	86° 44' 33.094" E		
										23° 6' 19.843" N	86° 44' 41.112" E		
										23° 6' 10.527" N	86° 44' 18.114" E		
										23° 6' 13.460" N	86° 44' 10.818" E		
										23° 6' 14.568" N	86° 44' 7.110" E		
										23° 6' 15.620" N	86° 44' 3.863" E		
										23° 6' 15.945" N	86° 44' 2.149" E		
99	Quartzite/ Quartz (BNK_QTZ_ZONE_11)	GRANITE GNEISS & PARAGNEIS	28.02	15	3.3624	Virgin	Agricultural land	Yet to explore	Indpur	23° 9' 0.542" N	86° 47' 10.978" E	No	Road network available
										23° 9' 10.205" N	86° 47' 11.543" E		
										23° 9' 7.532" N	86° 47' 43.255" E		
										23° 8' 56.945" N	86° 47' 42.021" E		
100	Fire Clay and Silica sand (BNK_FC_SS_ZONE_01)	Sandstone/ Clay	18.32	30	4.39752	Partially excavated	Agricultural land	Partially explored	Malibona	22° 53' 1.590" N	87° 0' 10.869" E	No	Road network available
										22° 52' 44.886" N	87° 0' 13.747" E		
										22° 52' 44.544" N	86° 59' 59.784" E		
										22° 52' 45.941" N	86° 59' 59.790" E		
										22° 53' 1.260" N	86° 59' 59.856" E		



Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining/ forest / agriculture)	Mineral reserve (approx.) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
										22° 53' 1.555" N	87° 0' 9.684" E		
										22° 53' 1.590" N	87° 0' 10.869" E		
101	Silica Sand (BNK_SS_ZONE1)	Sandstone/ Clay	47.81	20	7.649485	Partially excavated	Agricultural land	Partially explored	Sonamukhi	23° 16' 22.433" N	87° 22' 25.721" E	No	Road network available
										23° 16' 24.146" N	87° 22' 59.771" E		
										23° 16' 7.866" N	87° 23' 0.643" E		
										23° 16' 6.828" N	87° 22' 26.158" E		
102	Silica Sand (BNK_SS_ZONE2)	Sandstone/ Clay	56.27	20	9.0032	Virgin	Agricultural land	Yet to explore	Simlapal	22° 53' 42.199" N	87° 8' 41.207" E	No	Road network available
										22° 53' 47.193" N	87° 8' 49.356" E		
										22° 53' 30.209" N	87° 9' 1.441" E		
										22° 53' 16.728" N	87° 9' 7.168" E		
										22° 53' 16.034" N	87° 9' 10.987" E		
										22° 53' 9.813" N	87° 9' 39.548" E		
										22° 53' 11.584" N	87° 9' 47.555" E		
										22° 53' 12.738" N	87° 9' 52.769" E		
										22° 53' 14.762" N	87° 9' 59.195" E		
										22° 53' 4.114" N	87° 9' 58.717" E		
										22° 53' 1.225" N	87° 9' 43.972" E		
										22° 53' 11.568" N	87° 9' 5.073" E		
										22° 53' 26.697" N	87° 8' 57.130" E		
103	Silica Sand (BNK_SS_ZONE3)	Sandstone/ Clay	4.15	20	0.664	Virgin	Agricultural land	Yet to explore	Simlapal	22° 58' 17.236" N	87° 1' 52.278" E	No	Road network available
										22° 58' 21.538" N	87° 1' 55.587" E		
										22° 58' 18.232" N	87° 2' 2.611" E		
										22° 58' 12.761" N	87° 1' 59.599" E		
104	Silica Sand (BNK_SS_ZONE4)	Sandstone/ Clay	4.88	20	0.7808	Partially excavated	Agricultural land	Partially explored	Simlapal	22° 56' 5.137" N	87° 10' 2.465" E	No	Road network available
										22° 56' 4.537" N	87° 10' 12.701" E		
										22° 55' 57.235" N	87° 10' 10.345" E		
										22° 55' 58.220" N	87° 10' 6.298" E		
										22° 56' 2.589" N	87° 10' 2.293" E		
105	Silica Sand (BNK_SS_ZONE5)	Sandstone/ Clay	9.68	20	1.5488	Virgin	Agricultural land	Yet to explore	Taldangra	22° 55' 44.466" N	87° 15' 4.467" E	No	Road network available
										22° 55' 39.613" N	87° 15' 13.743" E		
										22° 55' 33.420" N	87° 15' 12.620" E		
										22° 55' 32.155" N	87° 15' 1.350" E		
										22° 55' 36.376" N	87° 15' 0.519" E		

NOTE: In-situ Minerals Occurrences table also given as Annexure 5.
 # Geological resources given in the table is tentative and determination of actual resources need geological exploration in the means of mapping, drilling etc.

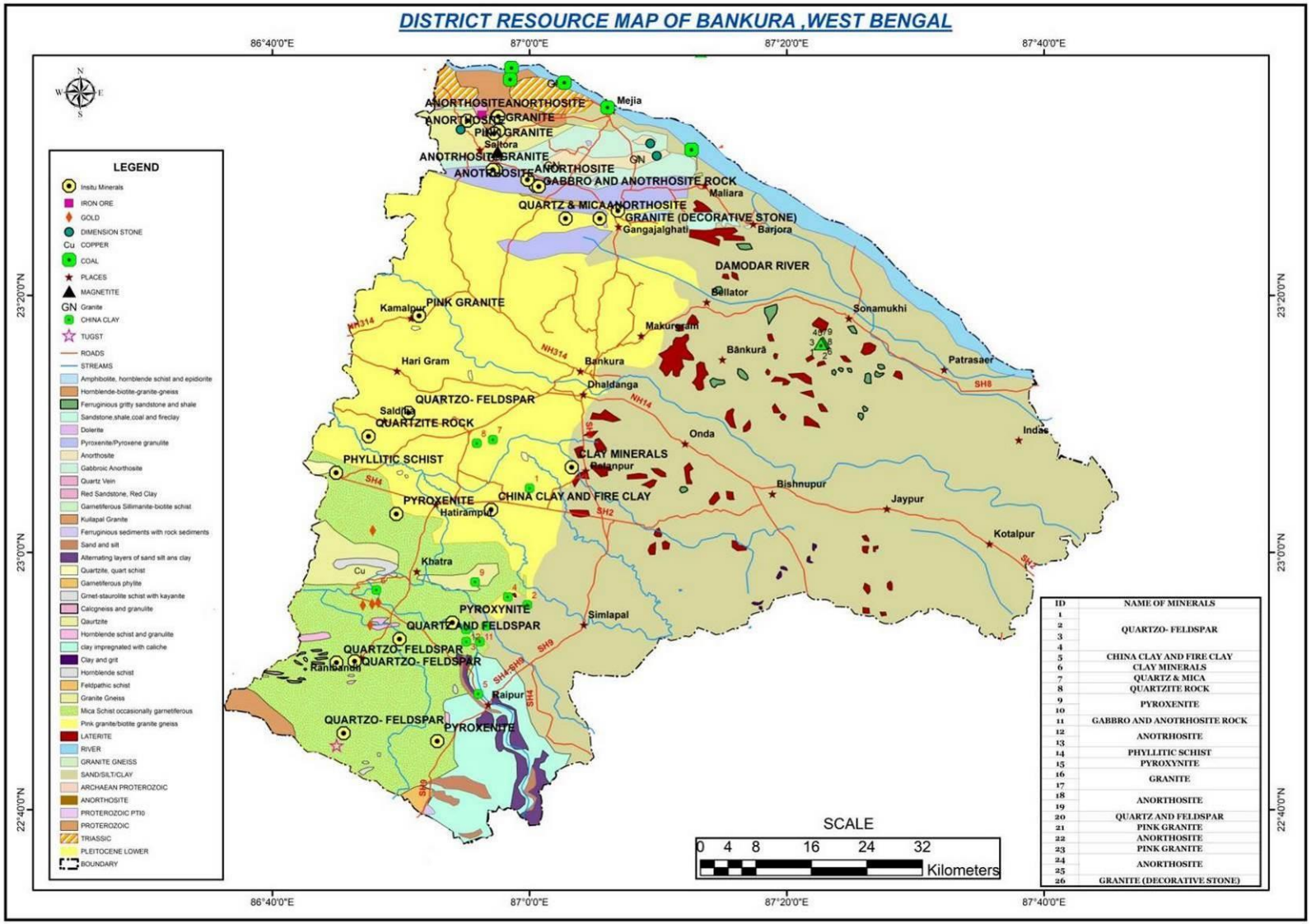

Figure 11.1: In-situ mineral occurrences shown on geological map of Bankura district (Source: GSI, 2001)

11.3 Mineral development prospect of the district with respect to Minor Mineral

The district has good prospects of major mineral resources. Mining of coal is generating a considerable amount of revenue for the district. China clay deposits are holding the next potential resources in terms of revenue generation. Existing insitu minor mineral leases of the district tabulated below.

Table 11.3: List of existing mining leases of the district (other than sand)

SL NO	NAME OF MINERAL	NAME OF THE LESSEE	LOCATION AND AREA OF MINING LEASE			
			Administrative Block	Mouza	Plot No.	Jl No.
1.	Morrum	NA	Raipur	Niljora	26	147
2.	Morrum	NA	Sarenga	kusumtikri	413/512	178
3.	Morrum	NA	Sarenga	Baragarra	644	289
4.	Morrum	NA	Sarenga	Chuagara	280	19
5.	Morrum	NA	Simlapal	Nimaipur	956	80
6.	Morrum	NA	Simlapal	Rasikpur	95	48
7.	Morrum	NA	Simlapal	Parswala	11,44	28
8.	Morrum	NA	Simlapal	Hasapathar	8,18,20,50,51	21
9.	Morrum	NA	Taldangra	Baralakhanpur	83	71
10.	Morrum	NA	Taldangra	Kaniary	1690	135
11.	Morrum	NA	Taldangra	Kadamara	1385	17
12.	Morrum	NA	Indpur	Araldihi	1396	17
13.	Morrum	NA	Indpur	Mukhutidihi	490/681	118
14.	Morrum	NA	Khartra	Chaka	36/982	237
15.	Morrum	NA	Khartra	Tilaboni	325	53
16.	Morrum	NA	Ranibandh	Churapathar	40	106
17.	Morrum	NA	Hirbandh	Jamdahara	468	71
18.	Morrum	Basudeb Mondal, S/O late Kalipada	Barjora	Saharjora	3126	26
19.	Morrum	Samir Kauri S/O Bhaktipada	Barjora	Saharjora	3049	26
20.	Morrum	Tarapada Daira S/O NakulChandra Daira	Barjora	Saharjora	3125	26
21.	Morrum	M K Enterprise, Samir Kapuri	Barjora	Saharjora	9626	26
22.	Morrum	Bidhan Dhibar	Barjora	Saharjora	3123	26
23.	Morrum	Tarapada Daira For BabaDharmaraj Enterprise	Barjora	Saharjora	1893/2259	26
24.	Morrum	Bablu Paramanik S/OShankar	Onda	Medinipur	878	177
25.	Morrum	Basu & Co Road ContractorsPrivate Limited	Barjora	Chandanpur	1078, 1079	170
26.	Morrum	Bibek Brahmachari	Onda	Chandramanipur	17, 21, 23	4
27.	Morrum	Bijoy Kolay	Onda	Ladua	102	17
28.	Morrum	Gangadhar Sar	Onda	Digsuli	2114	14

SL NO	NAME OF MINERAL	NAME OF THE LESSEE	LOCATION AND AREA OF MINING LEASE			
			Administrative Block	Mouza	Plot No.	Jl No.
29.	Morrum	Uttam Mandal	Onda	Daldali	64	15
30.	Morrum	Tapan Kumar Baru	Barjora	Bisanpur	1171	99
31.	Morrum	Satyen Banerjee	Chhatna	Kuludihi	688	115
32.	Morrum	Madan Mohan Kundu	Joypur	Bajemoynapur	2521	53
33.	Morrum	Ram mohan Kundu	Joypur	Adhkata	238	64
34.	Morrum	Ajay Singh	Sonamukhi	Majhdoba	205	176
35.	Morrum	Vam Tara Construction	Patrasayer	Chakpatrasayer	1390	48
36.	Morrum	S.P. Enterprise	Joypur	Betri	325,326	73
37.	Morrum	Sukhdeb Ghosh	Bishnupur	Lohara	1509	09
38.	Morrum	Partha Pratim Ghosh	Sonamukhi	Basumara	02	113
39.	Morrum	Sk. Anisur Rahaman	Sonamukhi	Baronarayanpur	497	71
40.	Morrum	Sushanta Palui	Sonamukhi	Basumara	2	113
41.	Morrum	Paresh nath Banerjee	Sonamukhi	Majhdoba	205	176
42.	Morrum	Pradip Chattopadhyay	Patrasayer	Rarhadamodarp ur	17	103
43.	Morrum	Ramprasad Konar	Sonamukhi	Gopinathpur	249/681	180
44.	Morrum	Danu Roy	Bishnupur	Kharikashuli,K elemele,Benach apra	6/178,416,262	119, 95, 118
45.	Morrum	Ram Mohan Kundu	Joypur	Adhkata	220	64
46.	Silica Sand	Tapas Kumar Dutta & Guljar Mallick	Sarenga	Malibona	362	38
47.	Silica Sand	Sri Bhajan Dutta	Simlapal	Pathar Khamar	494/1501, 493(p)	184
48.	Fire Clay	Nepal Chandra Das	Taldangra	Manipur	40, 49, 50, 52, 55, 480, 483, 492,	01
49.	Quartz & Quartzite	Biswarup Dutta	Hirbandh	Lachhipur	407/722	9
50.	Quartzite Stone	Prasun Kumar Banerjee S/Olate Anil Kumar	Chhatna	Sarenga Fulberia	215	285
51.	Leterite Boulder		Simlapal	Bankata	455, 456, 457	148
52.	Boulder	Madan Mohan Kundu	Joypur	Bajemoynapur	2507,2508,2510	53
53.	Boulder	Madan Mohan Kundu	Joypur	Bajemoynapur	2287	53
54	China Clay and Fire Clay	Nepal Chandra Das	Teldanga	Monipur	36, 37, 38, 481 (p), 483, 492	01
55	Morrum, Fire clay, Silica sand	Shri Susanta Ghosh	Sonamukhi	Tiura	140 to 143, 148, 202 and 204	78
56	China Clay and Fire Clay	Bibhas Kumar Das	Bankura II	Brindabanpur	350, 350/817, 351	289
57	China Clay and Fire Clay	Jitendra Nath Banerjee	Barjora	Muktatore	38, 45, 150 etc	
58	Quartz Quarry	M/S Tirupati Agencies	Chhatna	Dumda	1221	172

11.4 Exploration requirement of the district

The district also has considerable insitu minor mineral deposits; however, extent of these deposits are not well established. Therefore, there is a need for more scientific study. So, the scope of Exploration in this district is very high. Therefore, it is highly recommended to conduct detailed exploration (G2 level) to establish mineral resources of the district.

12 Remedial measure to mitigate the impact of mining

12.1 Environmental Sensitivity

Bankura district represents a unique geo-environmental setup. As human population increases, forests are being depleted for the extension of agricultural lands, introduction of new settlements, roadways etc.

Due to unprecedented growth of population during the last few decades, nature has started reacting sharply to the accumulated human guilt. Soil erosion and its conservation play an important role.

The land use practices play the most important role in determining the stability factors in respect of landslide hazards. Stone quarrying from the slope is another way of human intervention that causes occasional slope failure.

12.2 Impact of mining

Another serious environmental problem around the globe in recent years is sand and gravel mining. Sand mining is a process of extraction of sand from an open pit, riverbed, sea beaches, ocean floor, river banks, deltas and island dunes. The extracted sand could be utilised for various types of manufacturing, such as concrete used in the construction of building and other structures. The sand can also be used as an abrasive. The demand for sand will increase with population growth and urbanization. The high demand of sand has has led to unsustainable sand mining process resulting in illegal mining.

Although most jurisdictions have legal limit on the location and volume of sand that can be mined, illegal sand extraction is taking place in many parts of the country due to rapid urbanisation and industrialisation.

Removal or extraction of too much sand from rivers leads to erosion of river banks. Deltas can recede due to sand mining. These destructive effects of sand mining ultimately results in loss of fertile land and property. It also destabilizes the ground and causes failure of engineering structures.

In-stream mining directly alters the channel geometry and bed elevation. Removing sediment from the channel disrupts the pre-existing balance between sediment supply and transporting capacity, typically inducing incision upstream and downstream of the extraction site. The resultant incision alters the frequency of floodplain inundation along the river courses, lowers valley floor water table and frequently leads to destruction of bridges and channelization structures.

Sand Mining in beaches disturbs the ecosystem of different fauna of the beaches. The sand mining from natural barriers, made up of sand, causes flooding of the natural habitat. The sand mining activity destroys the aesthetic beauty of beaches and river bank and makes the ecosystem unstable. If there are popular tourist destination, tourism potential of such areas will decline.

It can be concluded that there has been little in depth research on the environmental, social and political effects of land use practices and calls for urgent attention by the competent authority.

12.3 Remedial measure

12.3.1 Sustainable Mining Practices:

- The depth of mining in riverbed shall not exceed 3 meter or base flow level whichever is less, provided that where the Joint Inspection Committee certifies about excessive deposit or over accumulation of mineral in certain reaches requiring channelization, it can go above 3 meters.
- Mining shall be done in layers of 1 meter depth to avoid ponding effect and after first layer is excavated, the process will be repeated for the next layers.
- No stream should be diverted for the purpose of sand mining. No natural water course and/ or water resources are obstructed due to mining operations.
- No blasting shall be resorted to in river mining and without permission at any other place.

12.3.2 Monitoring the Mining of Mineral and its Transportation:

- For each mining lease site the access should be controlled in a way that vehicles carrying mineral from that area are tracked and accounted for.
- There should be regular monitoring of the mining activities in the State to ensure effective compliance of stipulated EC conditions and of the provisions under the Minor Mineral Concessions Rules framed by the State Government.

12.3.3 Noise Management:

- Noise arising out of mining and processing shall be abated and controlled at source to keep within permissible limit.
- Restricted sand mining operation has to be carried out between 6 am to 7 pm.

12.3.4 Air Pollution and Dust Management:

- The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly.



- Air pollution due to dust, exhaust emission or fumes during mining and processing phase should be controlled and kept in permissible limits specified under environmental laws.
- The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded. Wheel washing facility should be installed and used.

12.3.5 Bio-Diversity Protection:

- Restoration of flora affected by mining should be done immediately. Five times the number of trees destroyed by mining to be planted preferably of indigenous species. Each EC holder shall have to undertake plantation of trees over at least 20% of the total area of lease in the same plot or plots utilised for such working.
- No mining lease shall be granted in the forest area without forest clearance in accordance with the provisions of the Forest Conservation Act, 1980 and the rules made there under.
- Protection of natural home of any wild animal shall have to be ensured.
- No felling of tree near quarry is allowed. For mining lease within 10km of the National Park / Sanctuary or in Eco-Sensitive Zone of the Protected Area, recommendation of Standing Committee of National Board of Wild Life (NBWL) have to be obtained as per the Hon'ble Supreme Court order in I.A. No. 460 of 2004.
- Spring sources should not be affected due to mining activities. Necessary protection measures are to be incorporated.

12.3.6 Management of Instability and Erosion:

- Removal, stacking and utilization of top soil should be ensured during mining. Where top soil cannot be used concurrently, it shall be stored separately for future use keeping in view that the bacterial organism should not die and should be spread nearby area.
- The EC should stipulate conditions for adequate steps to check soil erosion and control debris flow etc. by constructing engineering structures
- Use of oversize material to control erosion and movement of sediments
- No overhangs shall be allowed to be formed due to mining and mining shall not be allowed in area where subsidence of rocks is likely to occur due to steep angle of slope.
- No extraction of stone / boulder / sand in landslide prone areas.
- Controlled clearance of riparian vegetation to be undertaken.

12.3.7 Waste Management:

- Site clearance and tidiness is very much needed to have less visual impact of mining.
- Dumping of waste shall be done in earmarked places as approved in the Mining Plan.
- Rubbish burial shall not be done in the rivers.

12.3.8 Pollution Prevention:

- Take all possible precautions for the protection of the environment and control of pollution.
- Effluent discharge should be kept to the minimum and it should meet the standards prescribed.

12.3.9 Protection of Infrastructure:

- Mining activities shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical, and archeological importance.
- For carrying out mining in proximity to any bridge or embankment, appropriate safety zone should be worked out on case-to-case basis, taking into account the structural parameters, location aspects and flow rate, and no mining should be carried out in the safety zone so worked out.

Mining shall not be undertaken in a mining lease located in 300-500 meter of bridge, 300 meter upstream and downstream of water supply / irrigation scheme, 100 meters from the edge of National Highway and railway line, 50 meters from a reservoir, canal or building, 25 meters from the edge of State Highway and 10 meters from the edge of other roads except on special exemption by the Sub-Divisional level Joint Inspection Committee.

13 Suggested reclamation plan for already mined out areas

As per statute all mines/quarries are to be properly reclaimed before final closure of the mine. Reclamation plans should include:

a) A baseline survey of river cross section. The study of cross section is basis for delineating channel form. Cross-sections must be surveyed between two monumented endpoints set on the riverbanks, and elevations should be referenced based on benchmark set in the area;

b) The proposed mining cross-section data should be plotted over the baseline data to illustrate the vertical extent of the proposed excavation.

c) The cross-section of the replenished bar should be the same as the baseline data. This illustrates that the bar elevation after the bar is replenished will be the same as the bar before extraction;

d) A planimetric map showing the aerial extent of the excavation and extent of the riparian buffers;

e) A planting plan developed by a plant ecologist familiar with the flora of the river for any areas such as roads that need to be restored;

f) Each EC holder shall have to undertake plantation of trees over at least 20% of the total area of the plot or plots of land as subject to such working in accordance with a plan approved by the concerned Divisional Forest Officer holding jurisdiction, provided further the competent authority l.e, The Divisional Forest Officer may fix up norms for plantation of trees in a particular area regarding choice of species, spacing, nos of trees and maintenance etc.

f) A monitoring plan has to be established.

14 Risk assessment and disaster management plan

Risk analysis is the systematic study of risks encountered during various stages of mining operation. Risk analysis seek to identify the risks involved in mining operations, to understand how and when they arise, and estimate the impact (financial or otherwise) of adverse outcomes. The sand mining operation in the district is mainly done manually.

14.1 Identification of risk due to river sand mining

There is no land degradation due to mining activities as mining is done only on river bed dry surface. There will be no OB or waste generation as the sand is exposed in the river bed and is completely saleable. There will be neither any stacking of soil nor creation of OB dumps. The mining activity will be carried out upto a maximum depth of 3m below the surface level. So there is no chance of slope failure, bench failure in the mines. However there are some identified risks in the mining activity which are as follows:

1. Accident during sand loading and transportation
2. Inundation/ Flooding
3. Quick Sand Condition

14.2 Mitigation measures

14.1.1 Measures to prevent accidents during loading and transportation:

- During the loading, trucks should be brought to a lower level so that the loading operation suits the ergonomic condition of the workers.
- The workers will be provided with gloves and safety shoes during loading.
- Opening of the side covers of the truck should be done carefully and with warning to prevent injury to the loaders.
- Mining operations will be done during daylight only.
- The truck will be covered with tarpaulin and maintained to prevent any spillage.
- To avoid danger while reversing the trackless vehicles especially at the embankment and tipping points, all areas for reversing of lorries should be made man free as far as possible.
- All transportation within the main working will be carried out directly under the supervision and control of the management.
- Overloading should not be permitted and the maximum permissible speed limit should be ensured.
- There will be regular maintenance of the trucks and the drivers will have valid driving license.

14.1.2 Measures to prevent incidents during Inundation/ Flooding:

To minimize the risk of flooding/ inundation following measures should be under taken:

- Mining will be completely closed during the monsoon months.
- Proper weather information particularly on rain should be kept during the operational period of mines so that precautionary measures will be undertaken.

14.1.3 Measures for mitigation to quick sand condition:

- Quick sand zone and deep water zone will be clearly demarcated and all the mine workers will be made aware of the location.
- Mining will be done strictly as per the approved mining plan.

14.3 Disaster management plan

As the depth of mining will be maximum of 3m below the surface level considering local condition, the risk related to mining activity is much less. The mining operation will be carried out under the supervision of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS. All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955 and other laws applicable to mine will strictly be complied. During heavy rainfall and during the monsoon season the mining activities will be closed. Proper coordination with Irrigation Department should be maintained so that at the time of releasing water, if any, from the dam suitable warning/information is given in advance. Special attention and requisite precautions shall be taken while working in areas of geological weakness like existence of slip, fault etc. The mining site will be supplied with first aid facilities and the entire mines worker will have access to that.

15 Conclusions and Recommendations

The District Survey Report has been prepared in conformity with the S O 141 (E), S O 3611 (E) and other sand mining guidelines published by MoEF&CC time to time as well as the requirement specified in WBMMCR, 2016.

Potential areas of economic mineralization and mineral deposition have been identified and list is furnished in the report. Estimation of annual sand deposition by replenishment study has been incorporated in the report.

The district survey report has been prepared by utilizing both primary and secondary data. The primary data generation involved the satellite imagery study, site inspection, survey, ground truthing etc. while secondary data has been acquired through various authenticated sources and satellite imagery studies.

Bankura district is broadly having three types of landforms, upland peneplain in the western part, undulating upper alluvial plain in the middle and lower alluvial plain in the north eastern part of the district. The uplands in the west accounts for around 25% of the total area are sloping, very often unbounded and prone to runoff and erosion.

The district is characterized by humid tropical monsoon climate. The average annual rainfall in the district is 1481.5mm (2016-2020).

The maximum area of the district falls under the Seismic Zone III and rest of the part fall under Zone II, indicating the district is under safe earthquake–prone zone.

The district contains several important mineral deposits. The most important one is coal in Barjora Coalfield followed by china clay and fire clay. Limestone, tungsten, dimension stone (anorthosite and charnokite) and minor occurrences of vermiculite, moulding sand, copper, and iron ore, gold have also been reported. Silica sand is also reported from Bankura.

The district is generating considerable revenue from mining of minor minerals such as riverbed sand deposits. As per the data received from OC Mines, DL&LRO office, Bankura, total 142 blocks have been allotted for mining of river sand in the district. Among these, a total of 49 sand blocks are falling on Damodar River, 75 nos of block located on Dwarakeswar River, 14 blocks on Kangasabati River and the rest 4 blocks are on Silabati River. Revenue generated in the district of Bankura from Minor minerals during the period of April 2017 to January 2020 is Rs. 76.87 crores.

The district has an upside potential for development of riverbed sand. The occurrence has been reported by Directorate of Mines and Minerals, Government of West Bengal and others in previous instances. It requires further systematic and scientific approach to quantify the resource along with their grade assessment. The occurrences are mostly observed in the river Damodar, Dwarakeswar, Kangsabati and Silabati. This report also recommends undertaking



detail exploration (G2 level) program to assess the mineral occurrences in the major rivers of the district and should have a proper development and production plan for the specified minerals.

15.1 Conclusion

I. The riverbeds of the district are enriched with sand which is highly potential for mining.

II. The replenishment study has been carried out during the preparation of this DSR. Both field-based surveys coupled with satellite imagery study and empirical study were carried out to determine the rate of replenishment in each river of the district.

III. The determined values of various methods as adopted for replenishment study gives a comparable value and in all cases the values are found to be much more as compared to the capping limit (60%) as suggested in the Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by Ministry of Environment, Forest and Climate Change (MoEF&CC) 2020.

IV. Field base study shows variation of replenishment from 96.5 to 97% in the district and for theoretical replenishment study based on mining lease shows variation from 70% to 80% with an average of 75.73% of replenishment rate in the district.

V. The total potential riverbed deposit for the district comes to about 166.82 Mcum.

VI. In the district a total 105 in-situ minor mineral potential block have been identified.

15.2 Recommendation:

1. The mining lease distribution for the district must be carried out by involving a district level committee constituted with inter-disciplinary members of various departments including irrigation and waterways, DL&LRO, forest, biodiversity, wetland management, SWID or any other relevant department which the district authority may find suitable to include.
2. While recommending for Mining Leases, the District Level Committee should ensure the protection of Biodiversity Zones as recorded by relevant Government Agenesis from time to time.
3. During finalization of mining leases for the district, strict adherence of Supreme Court orders No 1501 dated 03/06/2022 should be followed.
4. Efforts should be given to restrict distribution of mining leases along the confluence zone of the rivers where rich aquatic habitats are reported.
5. Since the state of West Bengal has royalty system in volumetric measurement, specific gravity for sand and gravel has not been determined during this study. However, during the finalization of mining lease if it is found necessary to conduct such test may be initiated by the state government on case-to-case basis.
6. It is recommended to have a periodical review along with primary data collection during pre- and post-monsoon periods to record the seasonal variance of the sedimentation rate on annual basis and update replenishment rate of the district.

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PLATE 1

DRAINAGE MAP OF THE DISTRICT



Plate 1A: Drainage Map of the District *(Source: National Informatics Centre -NIC Website, Sept 2020)*



Plate No 1B: Location Map of dams, barrages, bridge showing on drainage system of the district *(Source: National Informatics Centre -NIC Website, Sept 2020)*

PLATE 2A

DISTRIBUTION MAP OF SAND BARS ON RIVERS DURING PRE-MONSOON PERIOD OF BANKURA DISTRICT

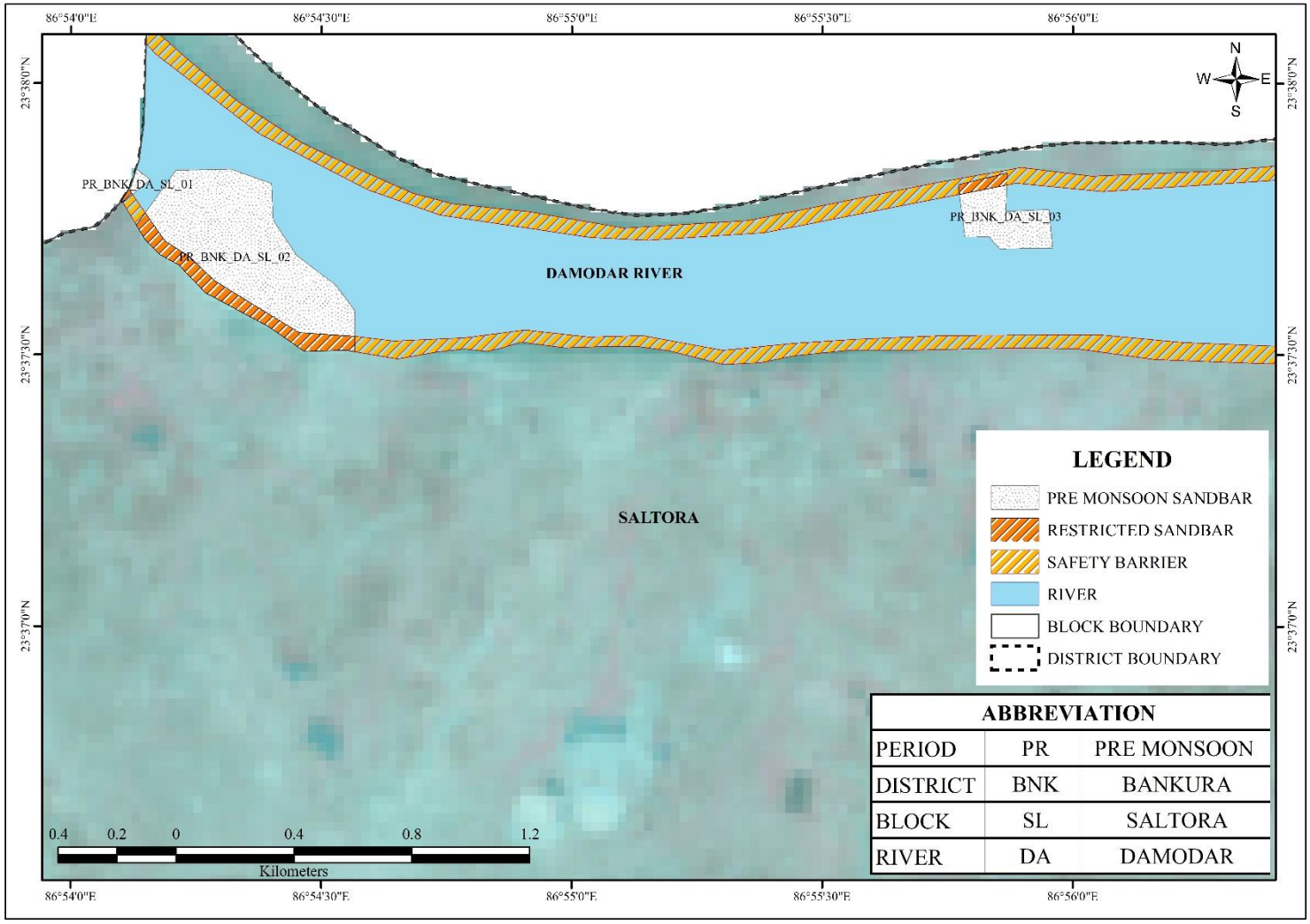


Plate 2A1: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

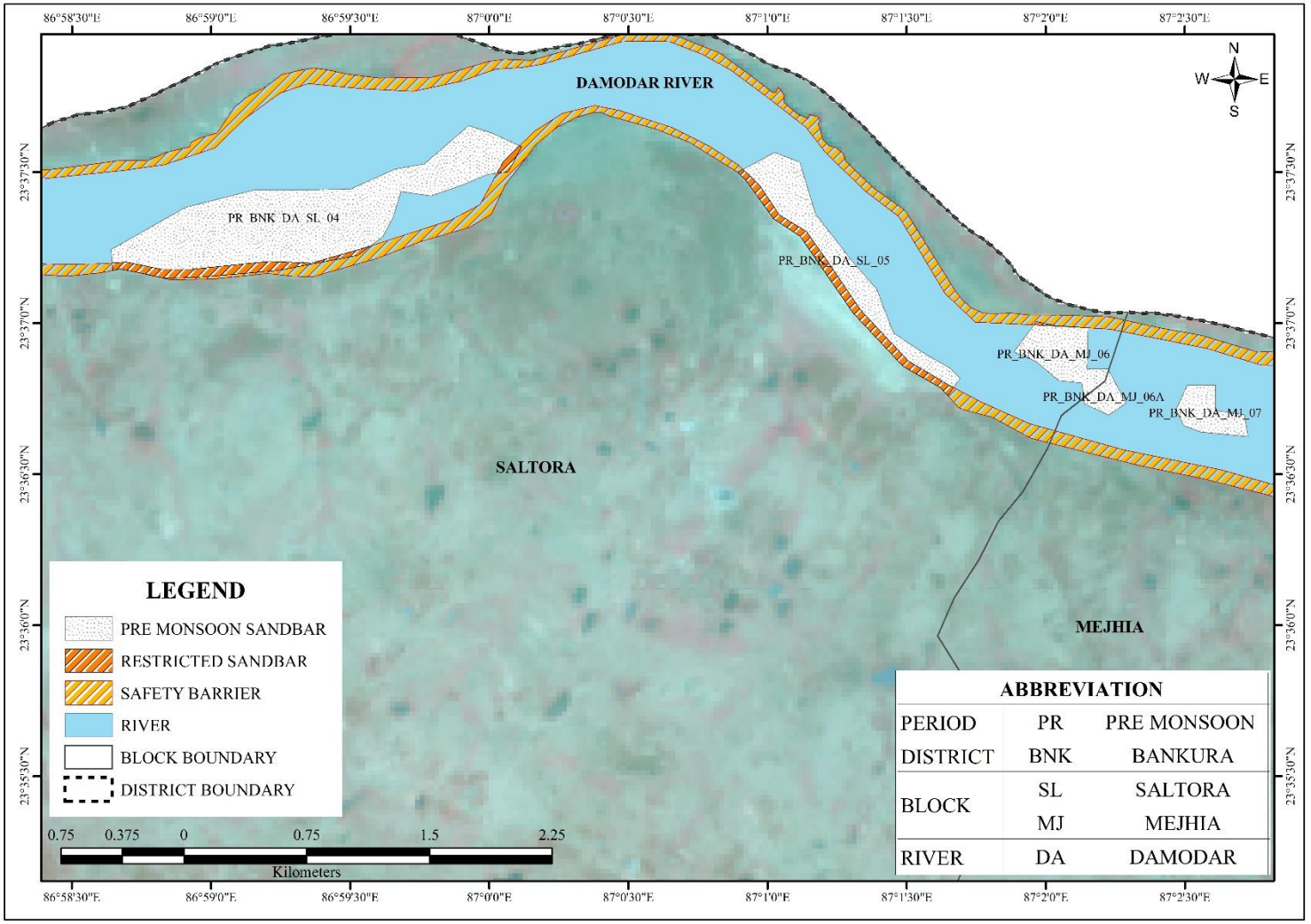


Plate 2A2: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

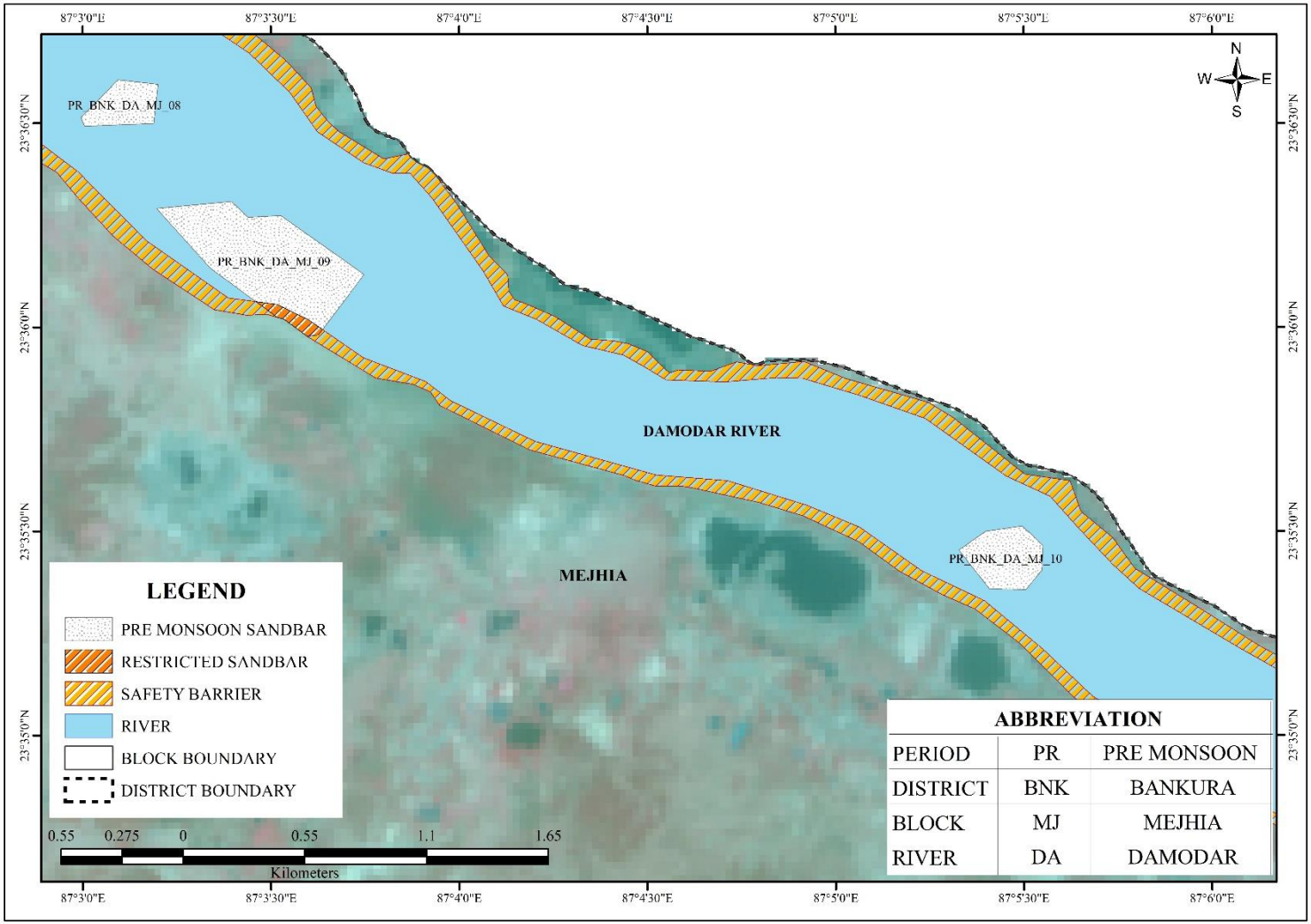


Plate 2A3: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

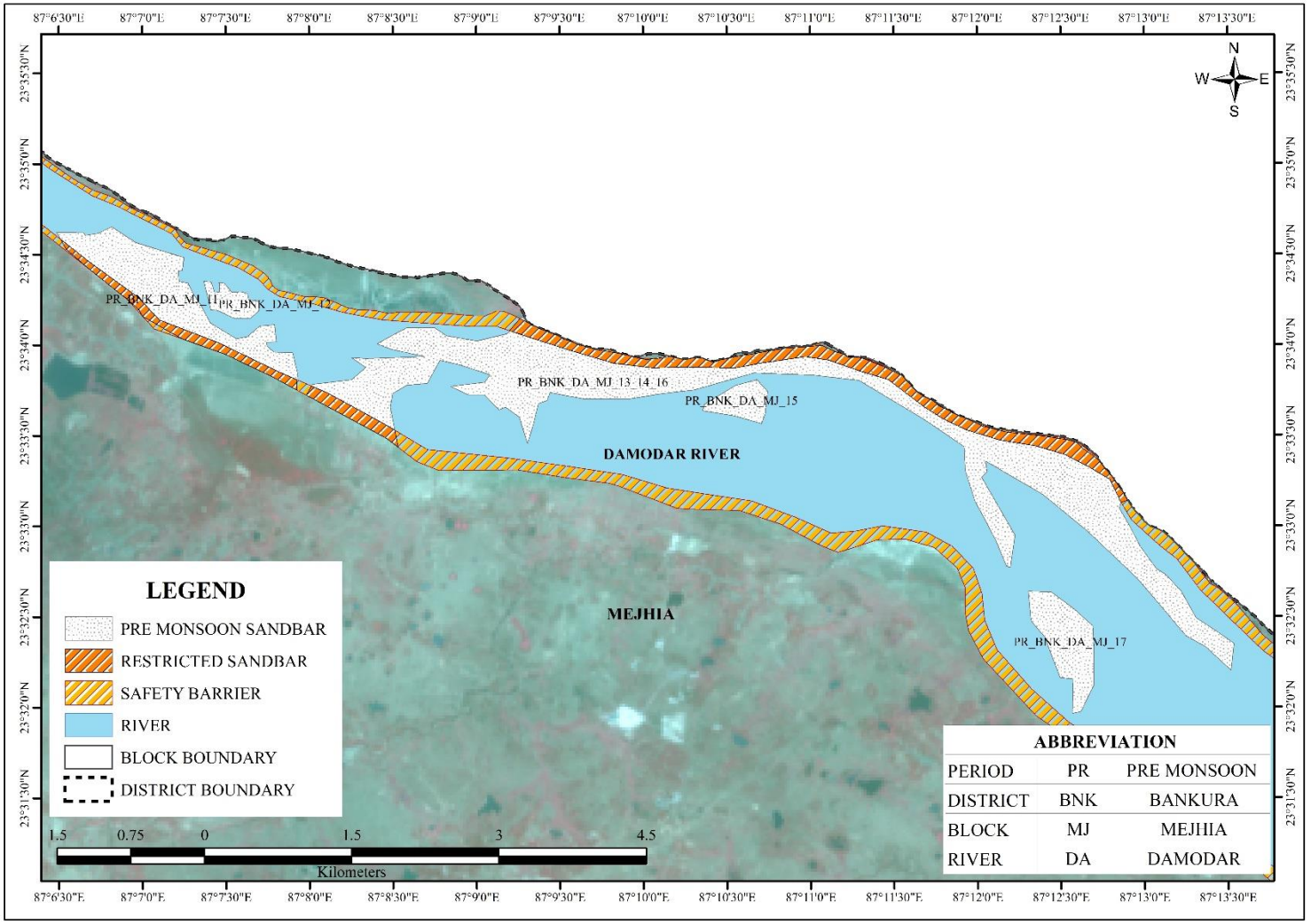


Plate 2A4: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

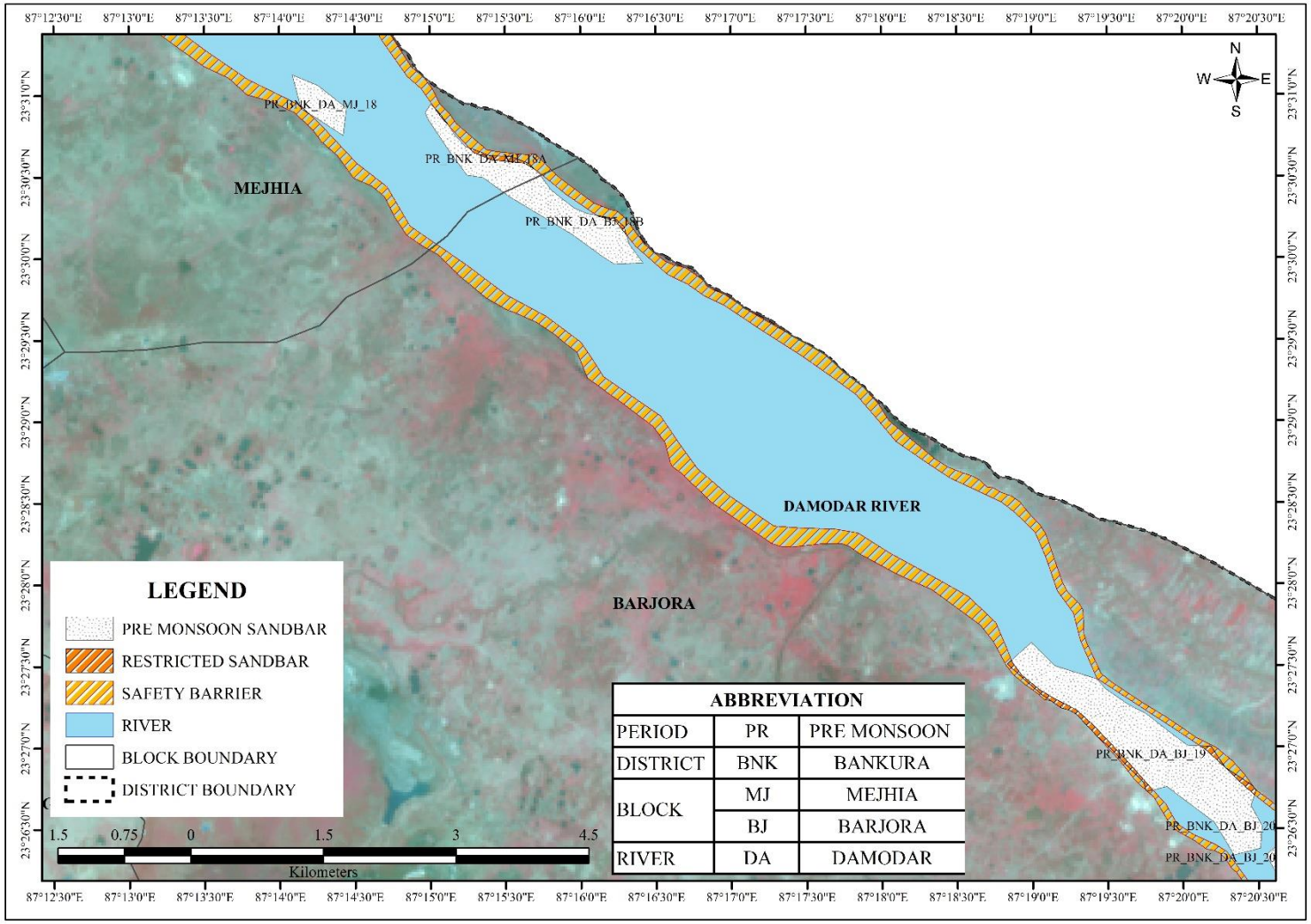


Plate 2A5: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

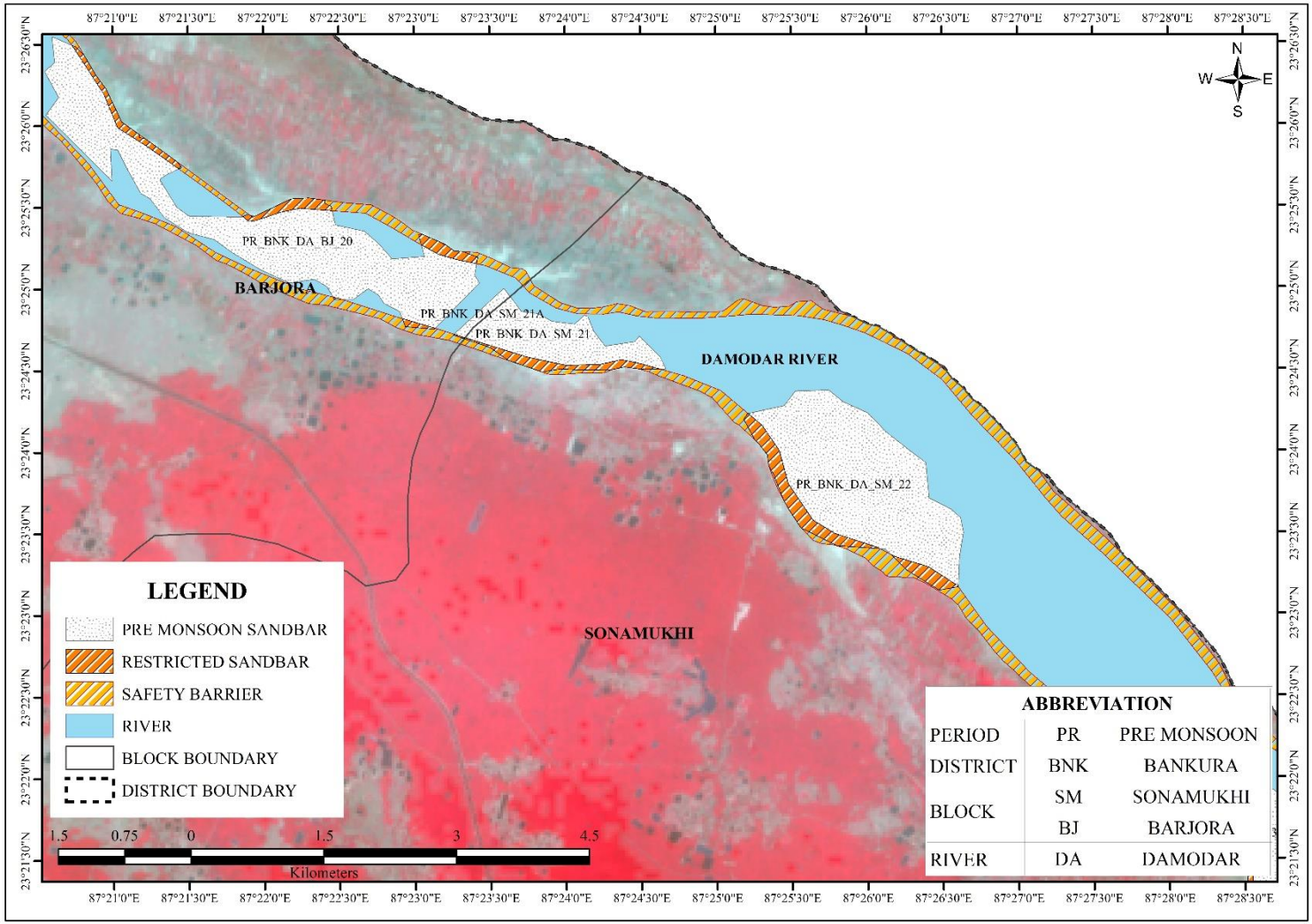


Plate 2A6: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

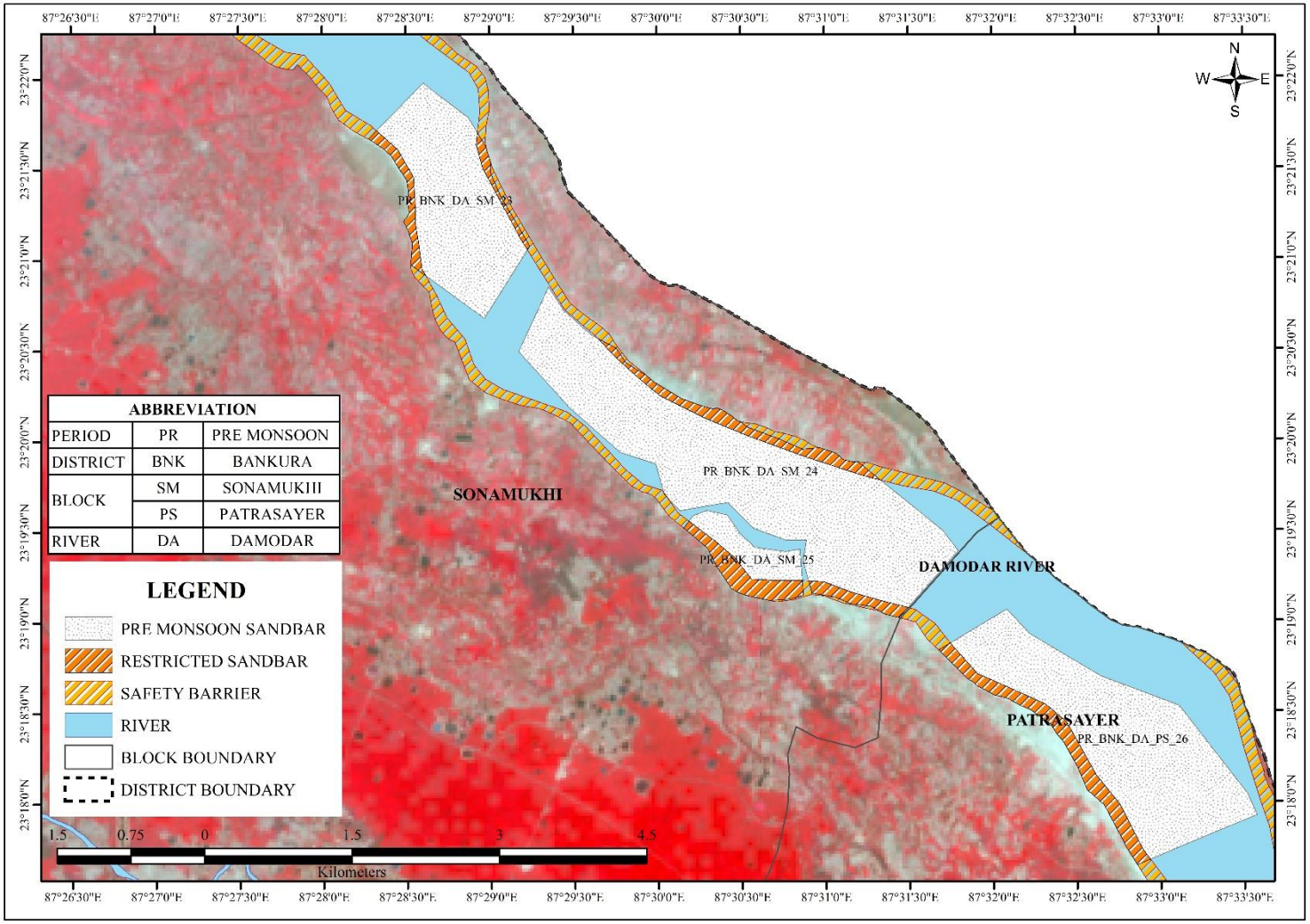


Plate 2A7: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

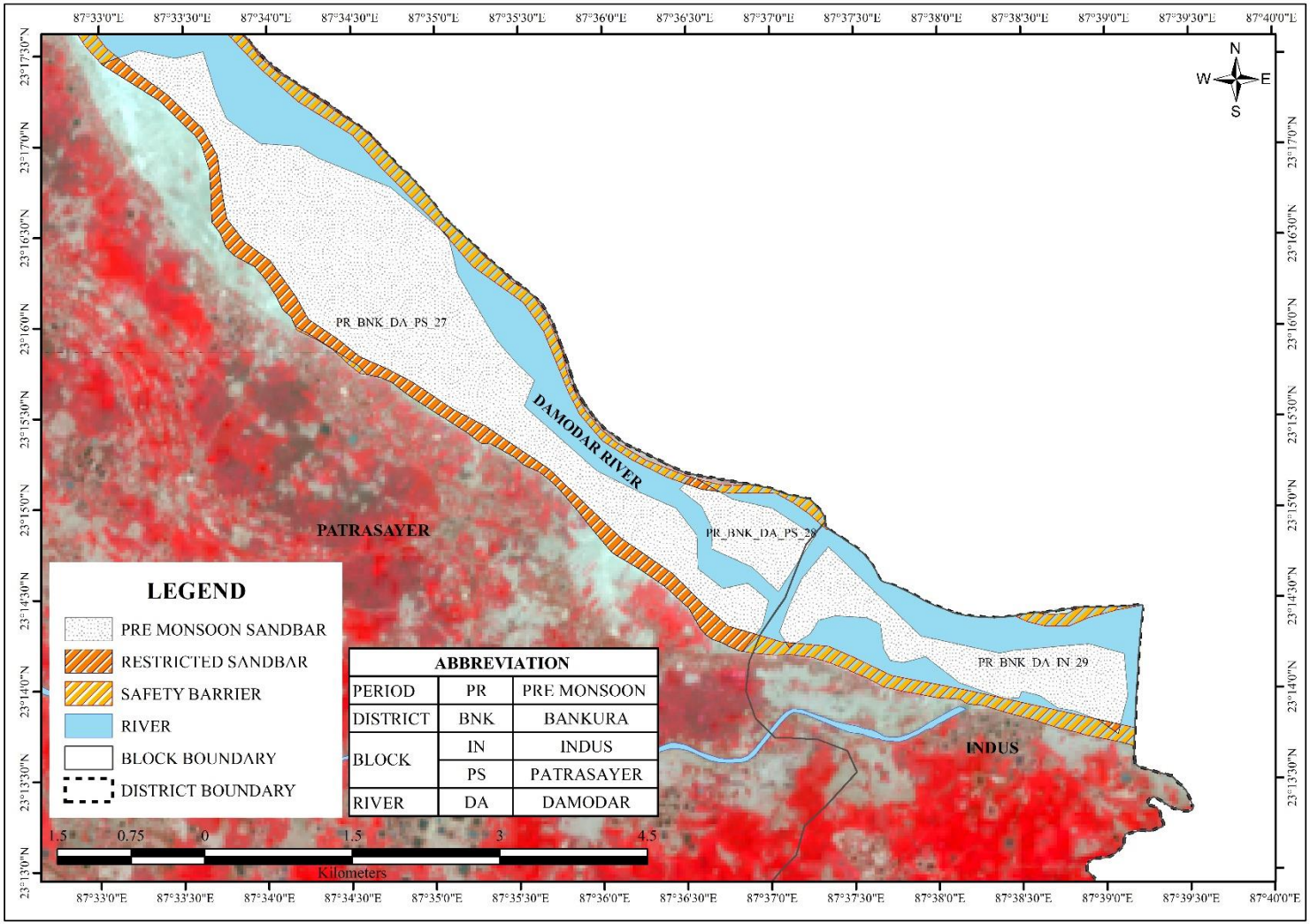


Plate 2A8: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

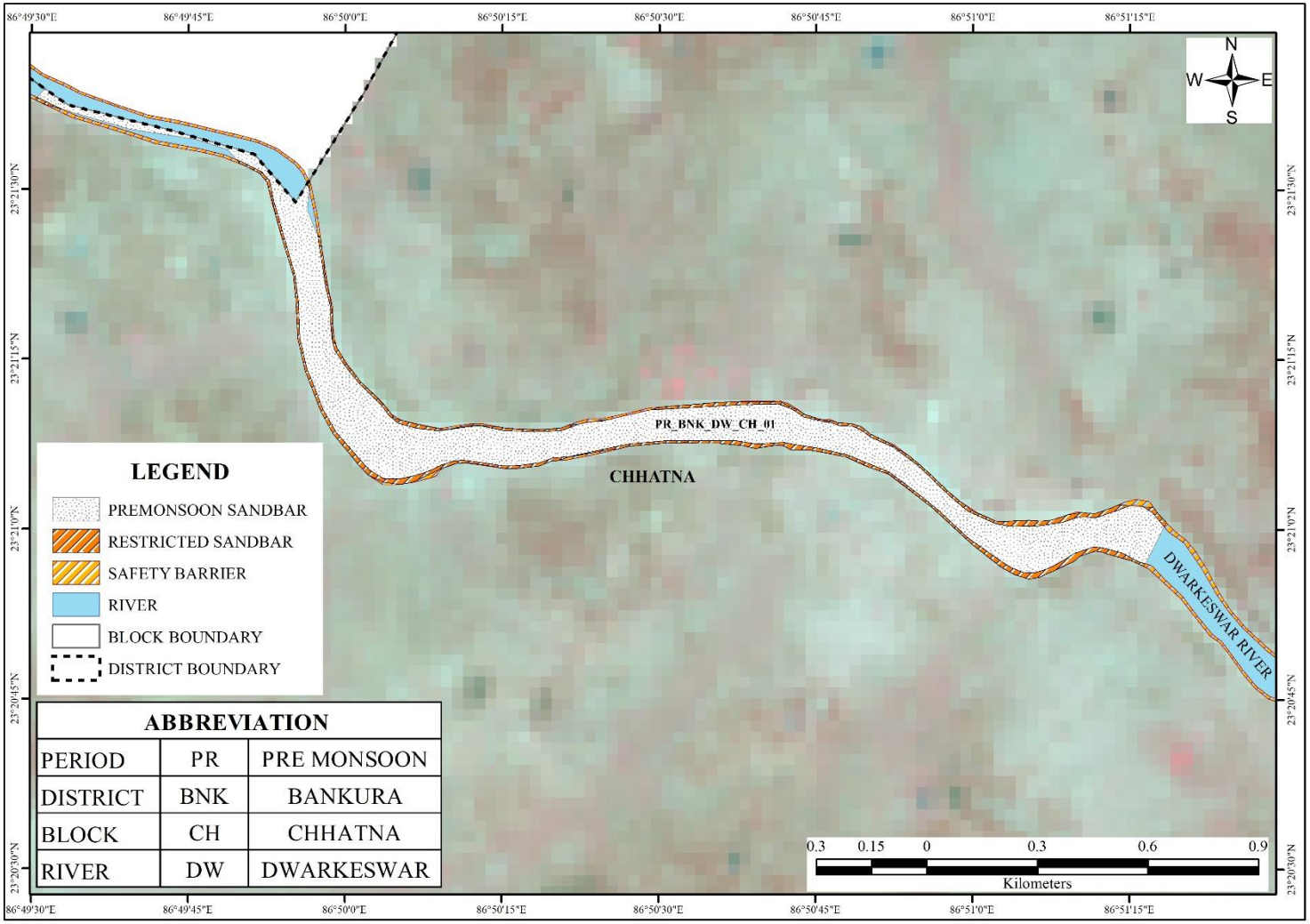


Plate 2A9: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

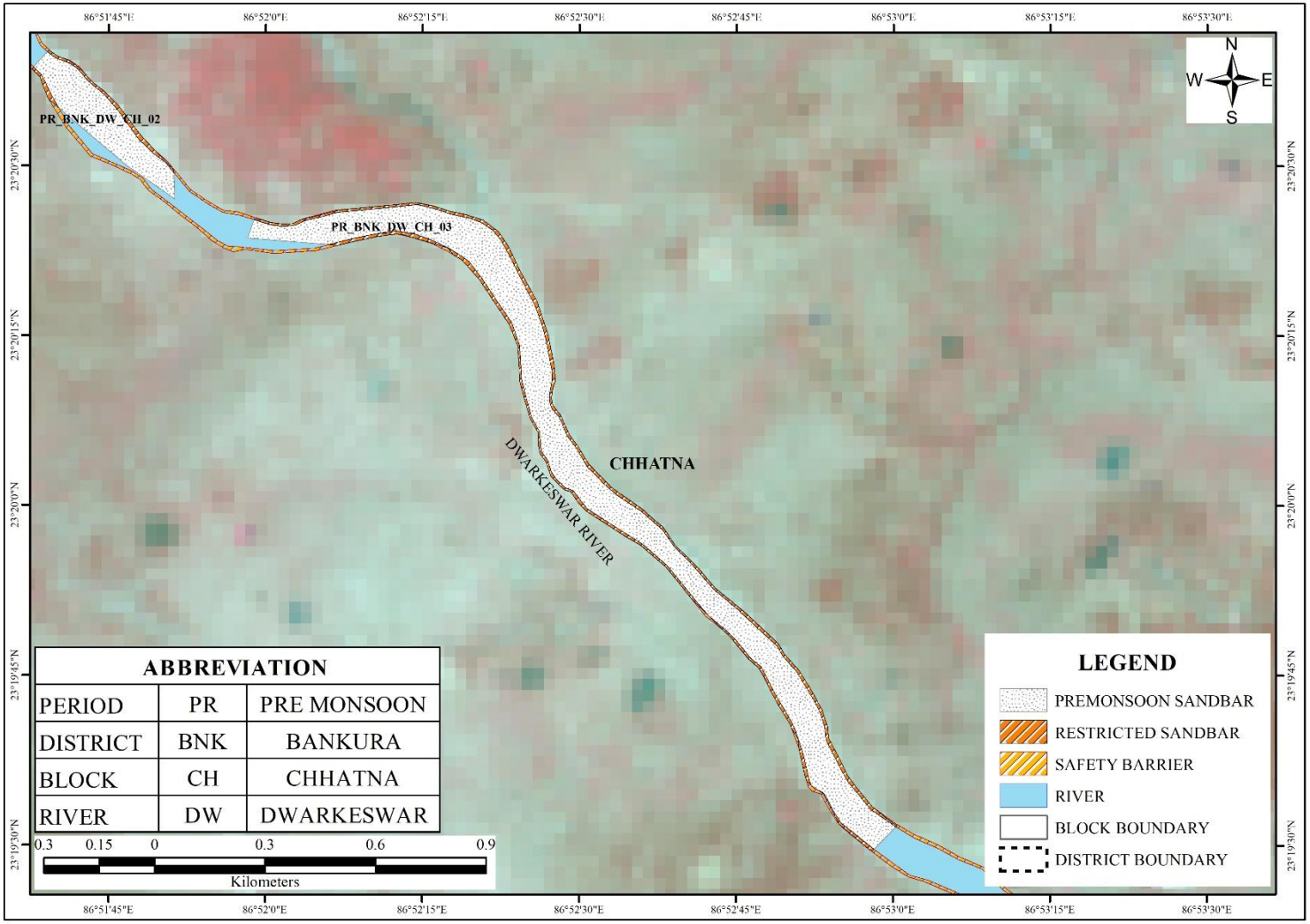


Plate 2A10: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

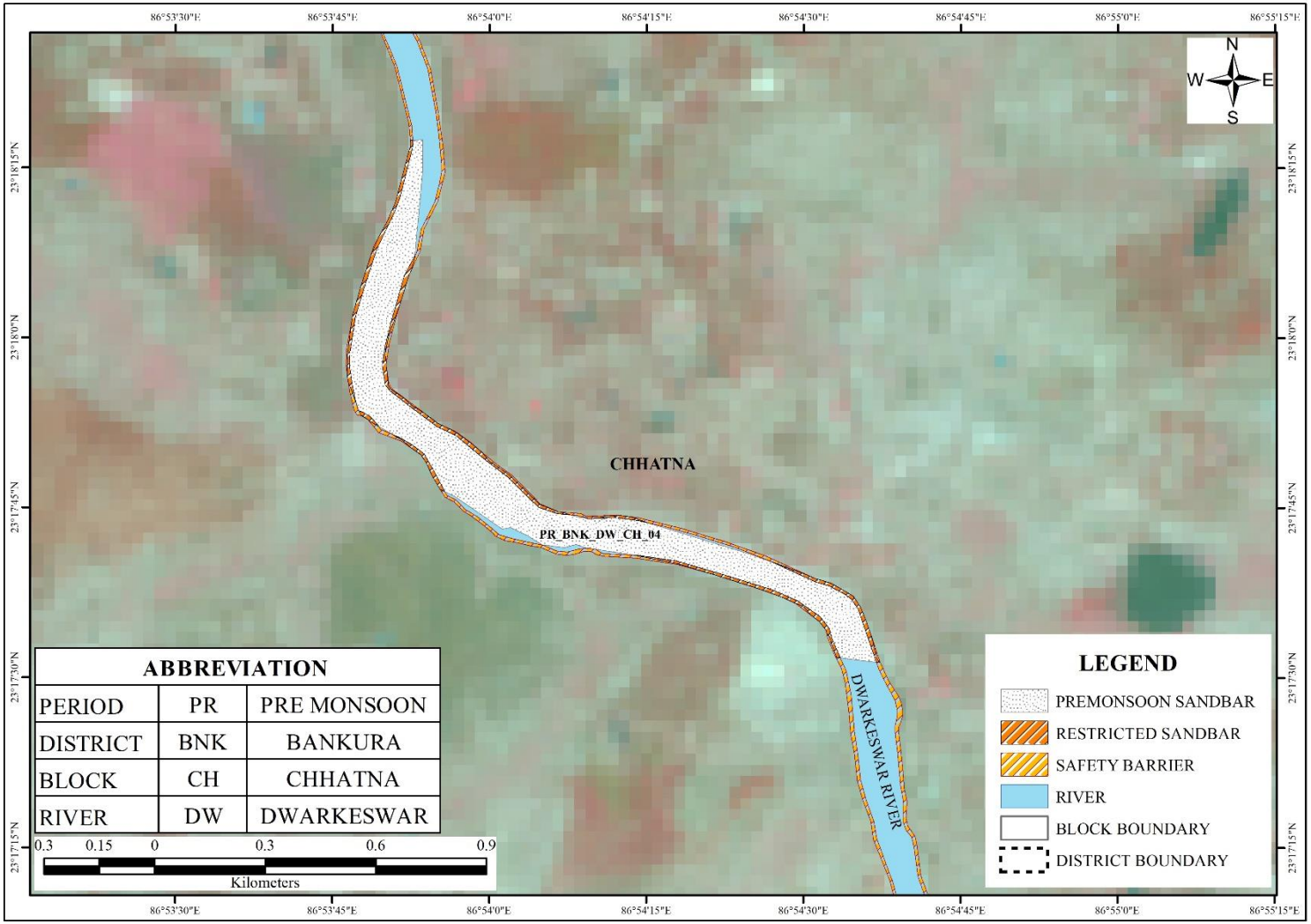


Plate 2A11: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

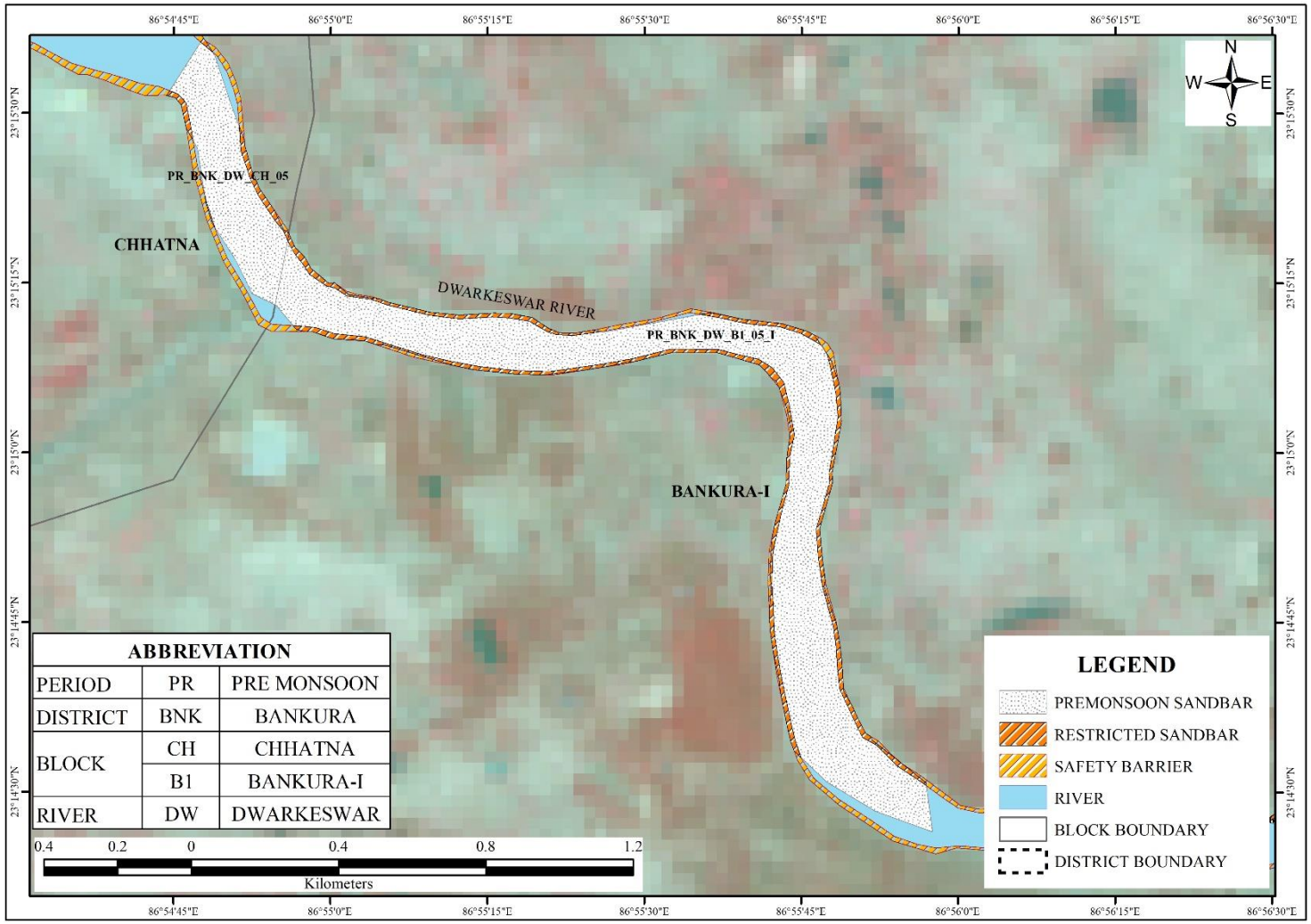


Plate 2A12: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

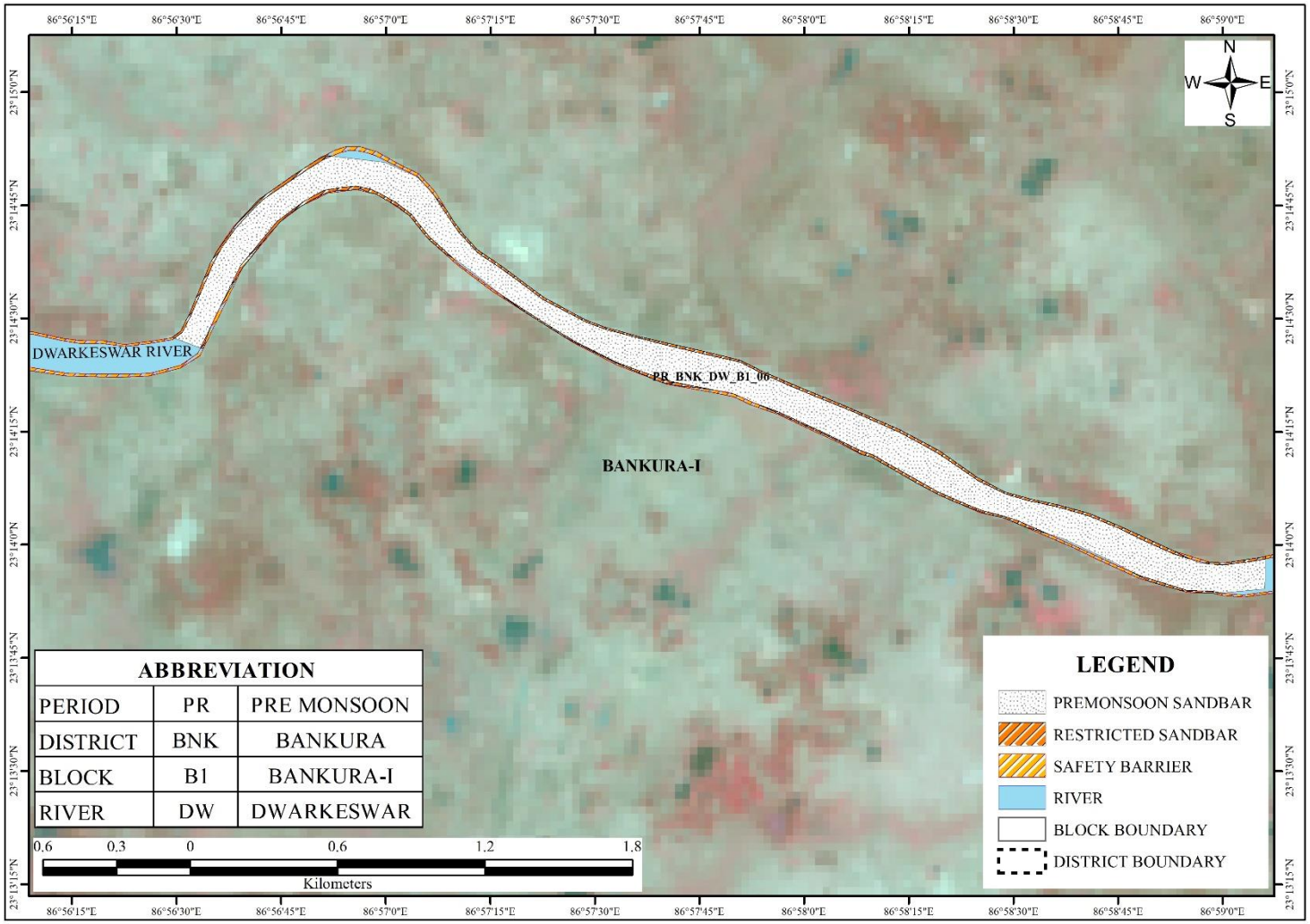


Plate 2A13: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District
(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)

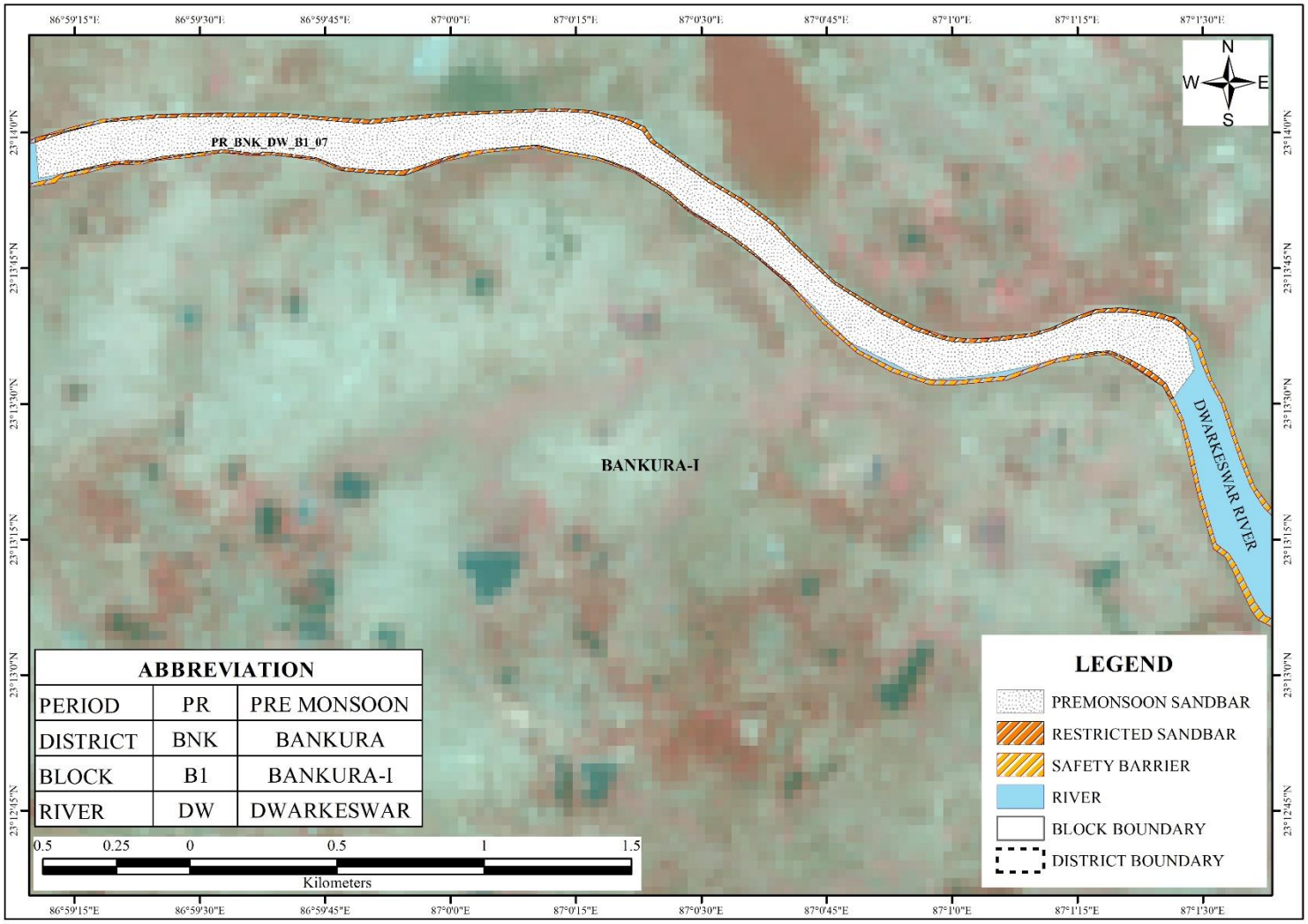


Plate 2A14: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

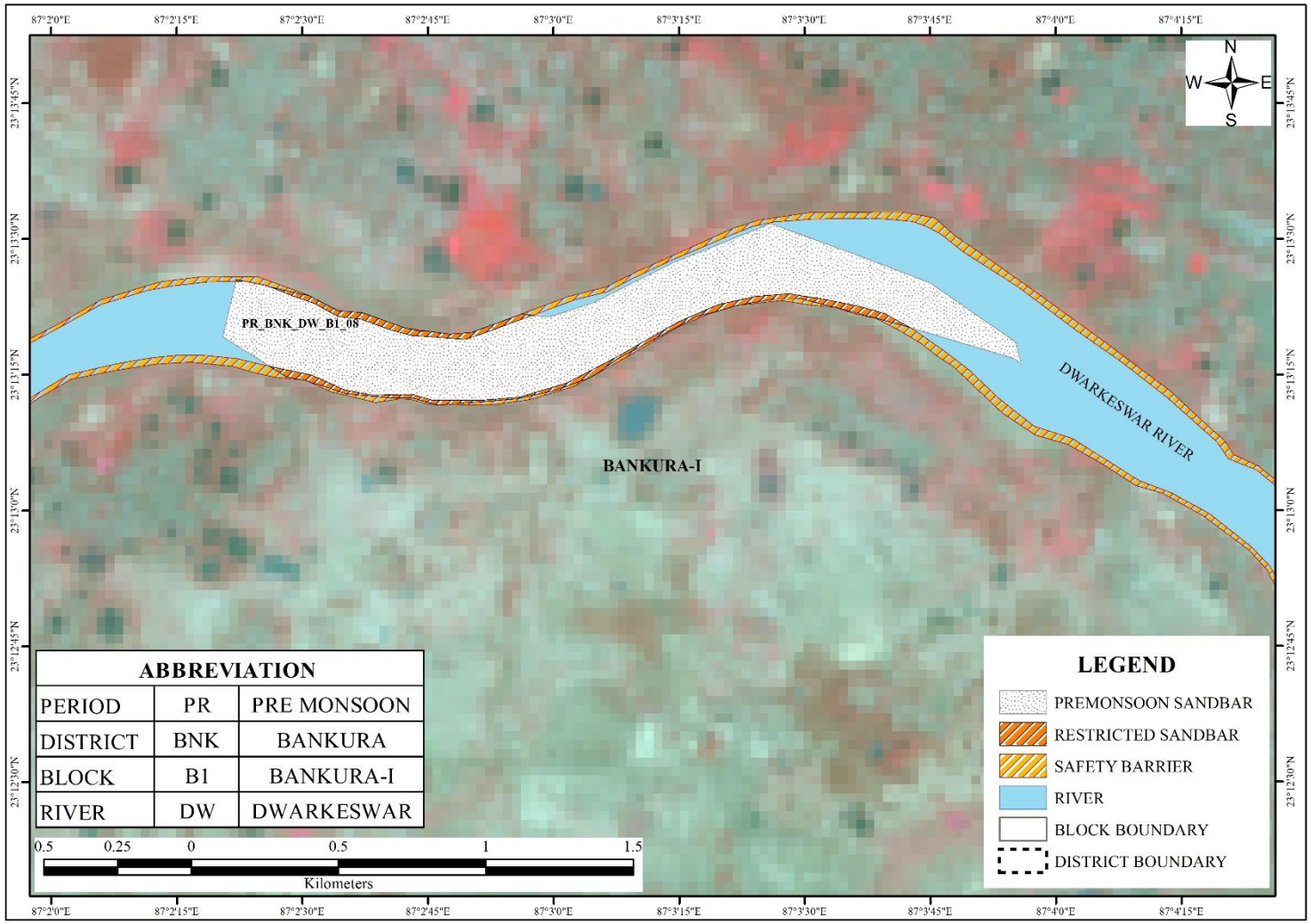


Plate 2A15: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

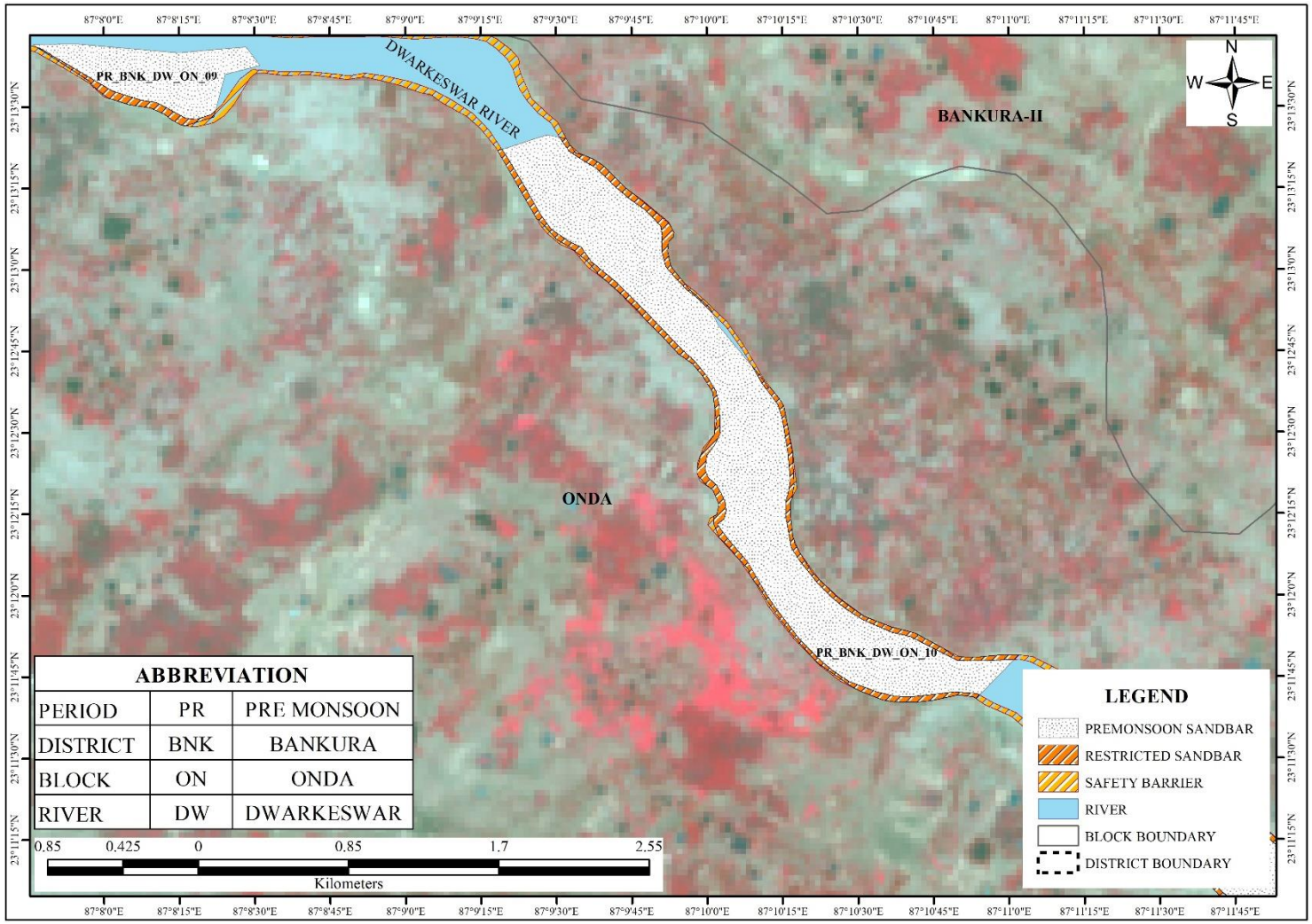


Plate 2A16: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

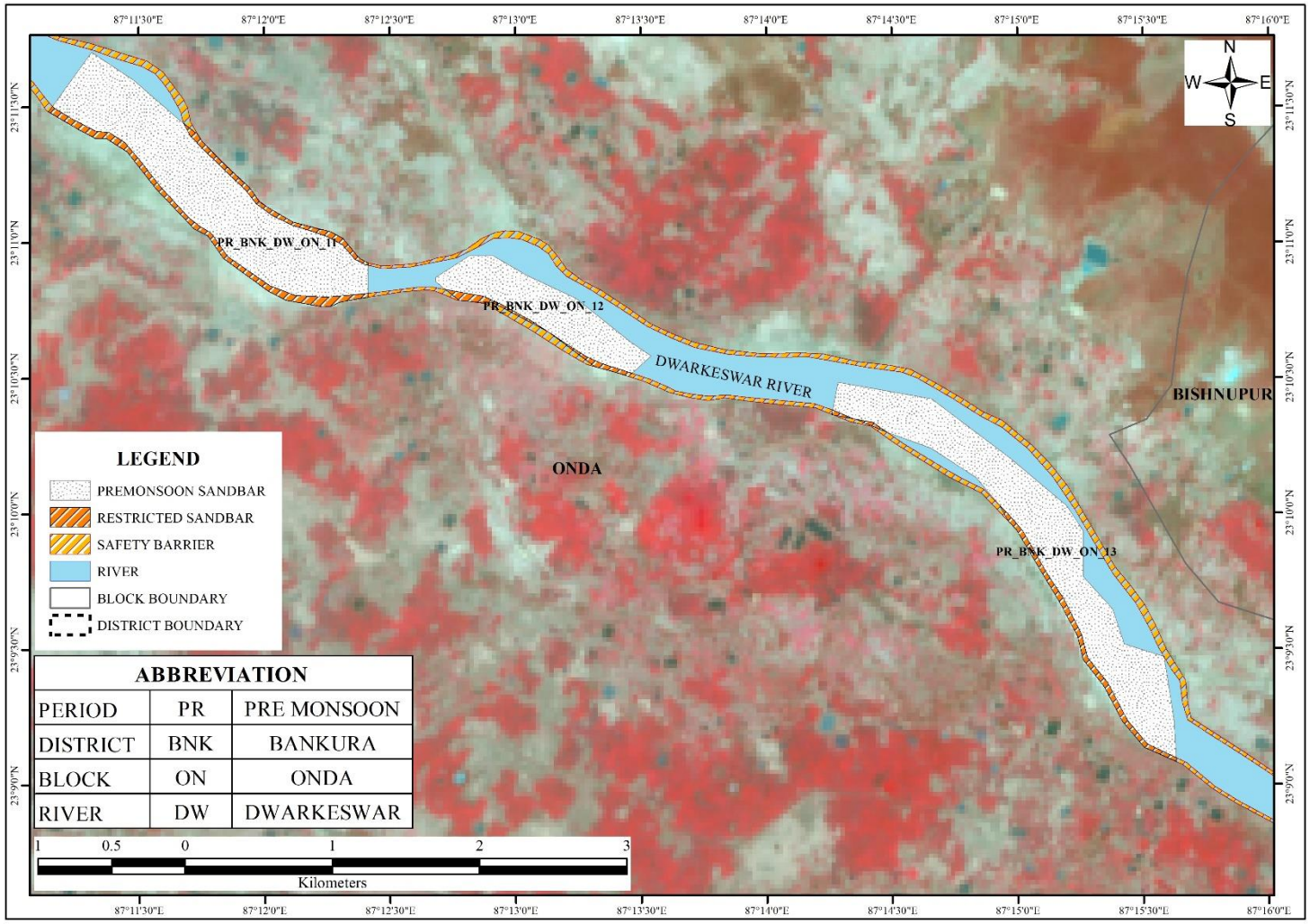


Plate 2A17: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

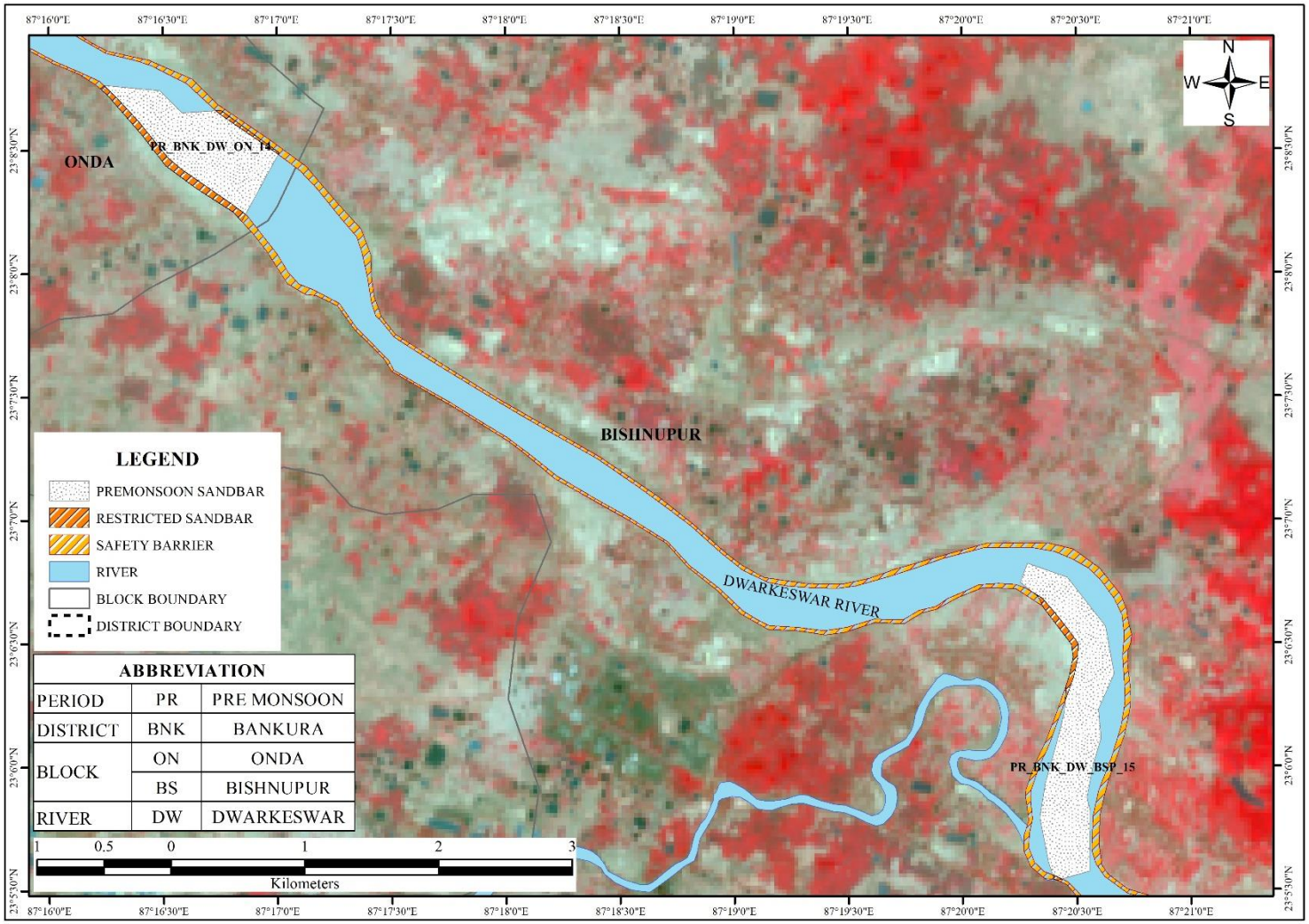


Plate 2A18: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

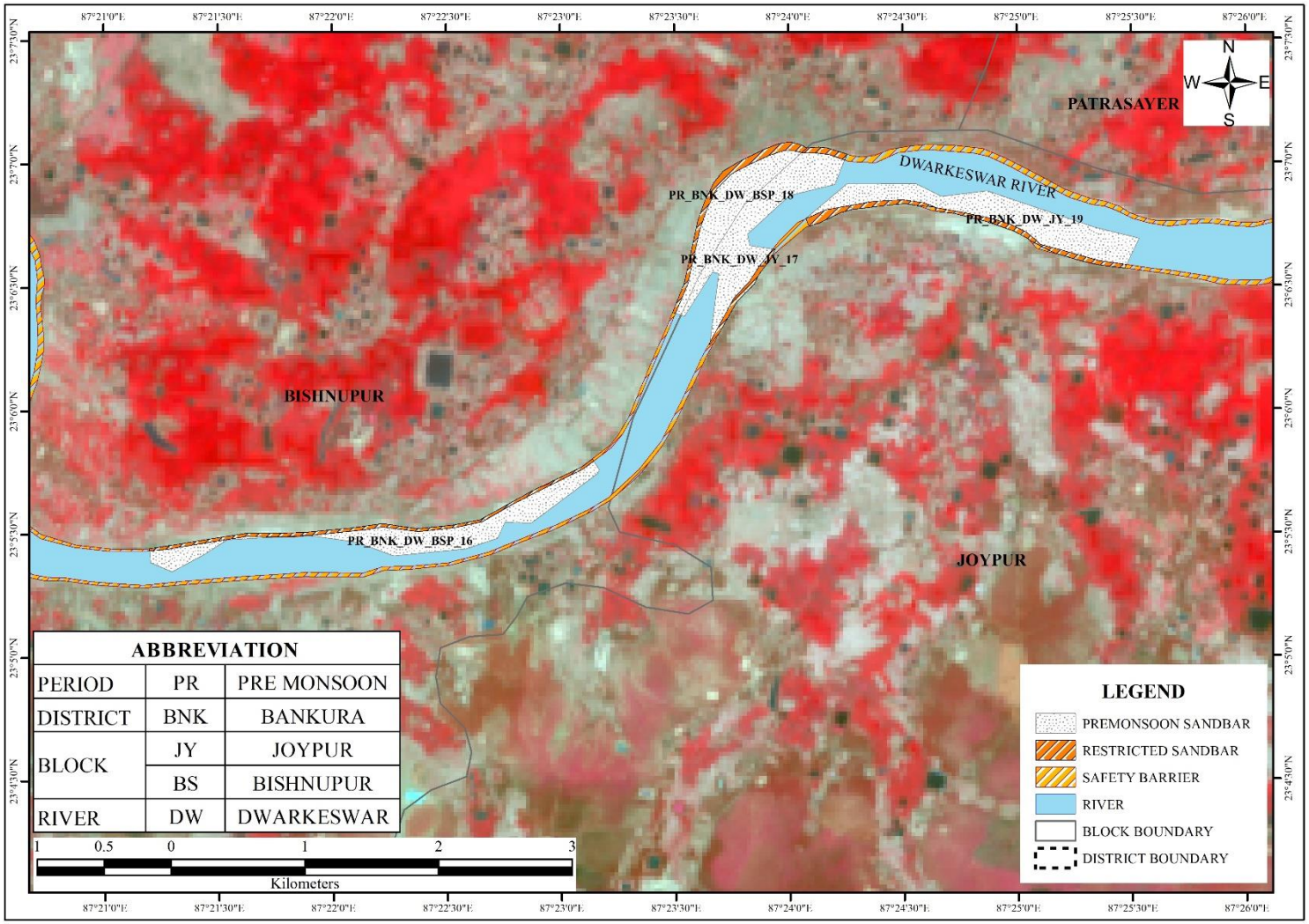


Plate 2A19: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

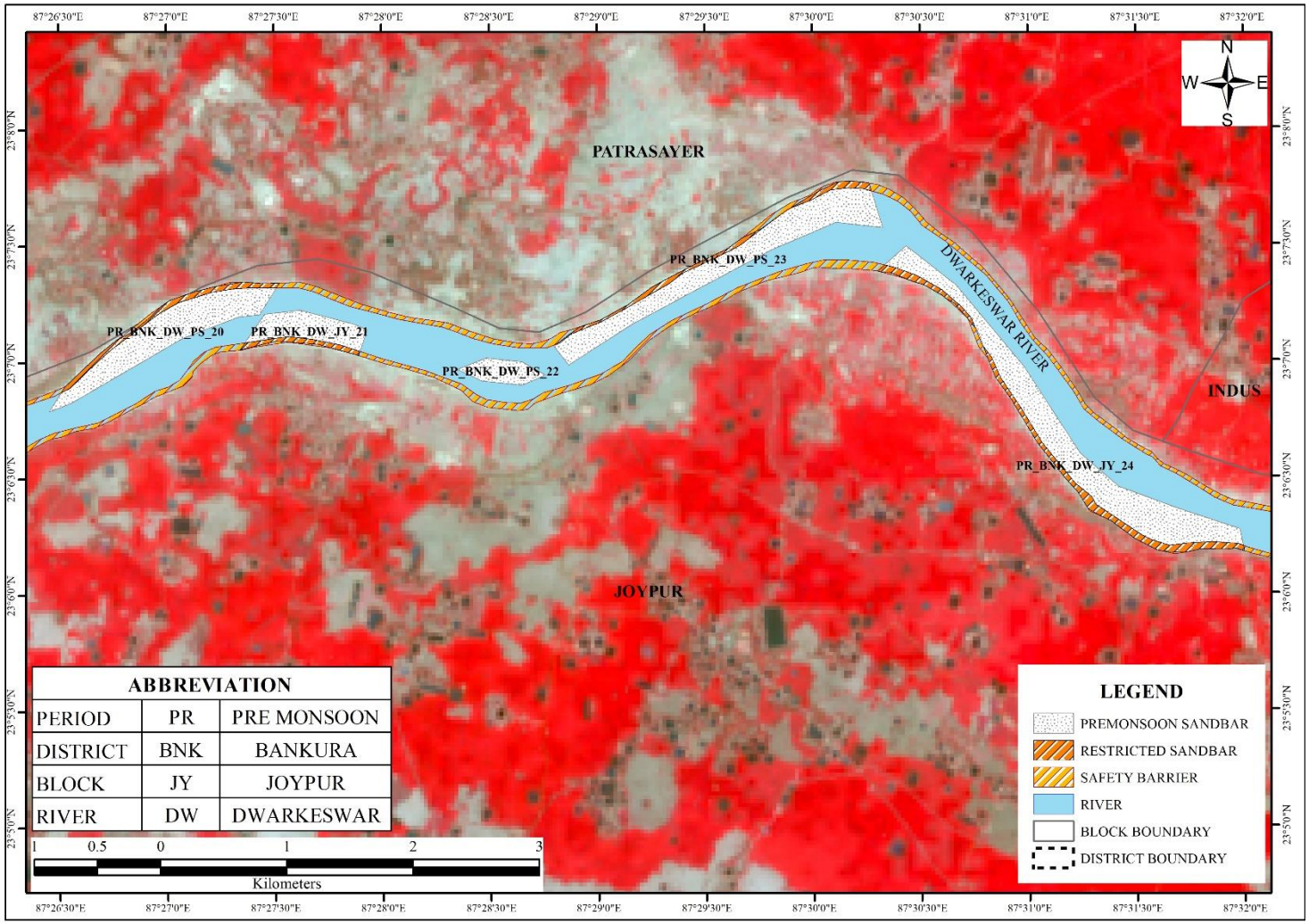


Plate 2A20: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

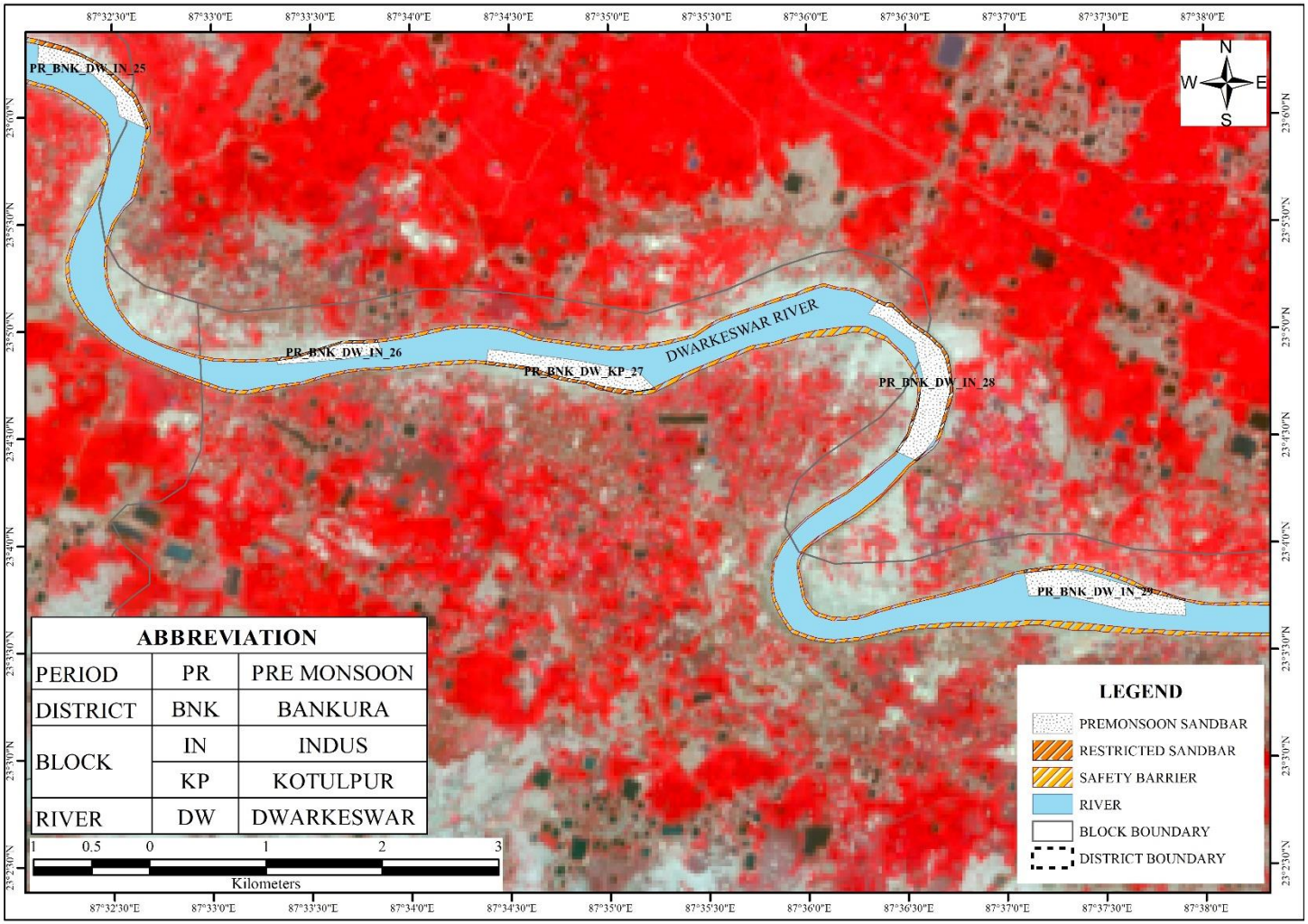


Plate 2A21: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

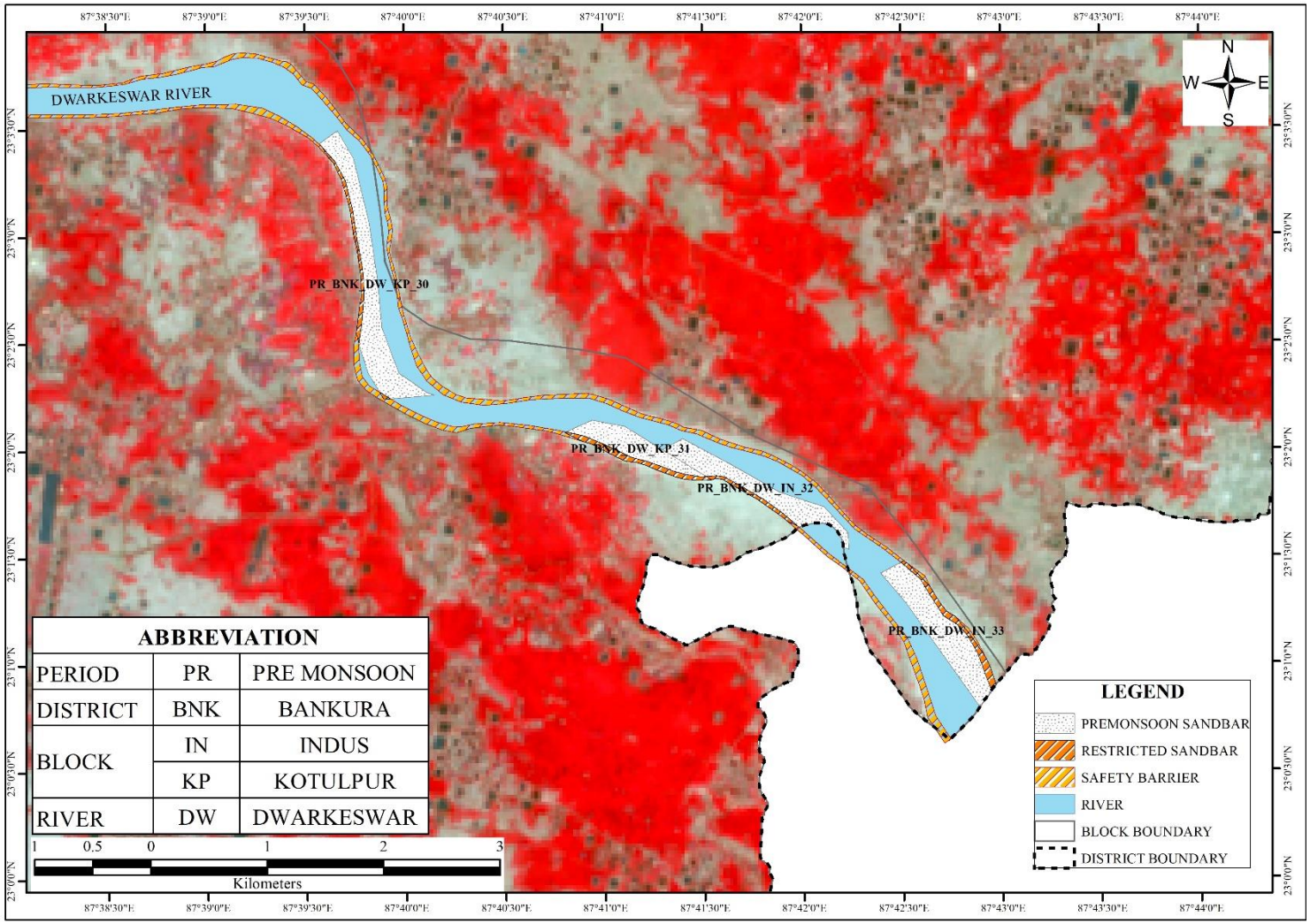


Plate 2A22: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

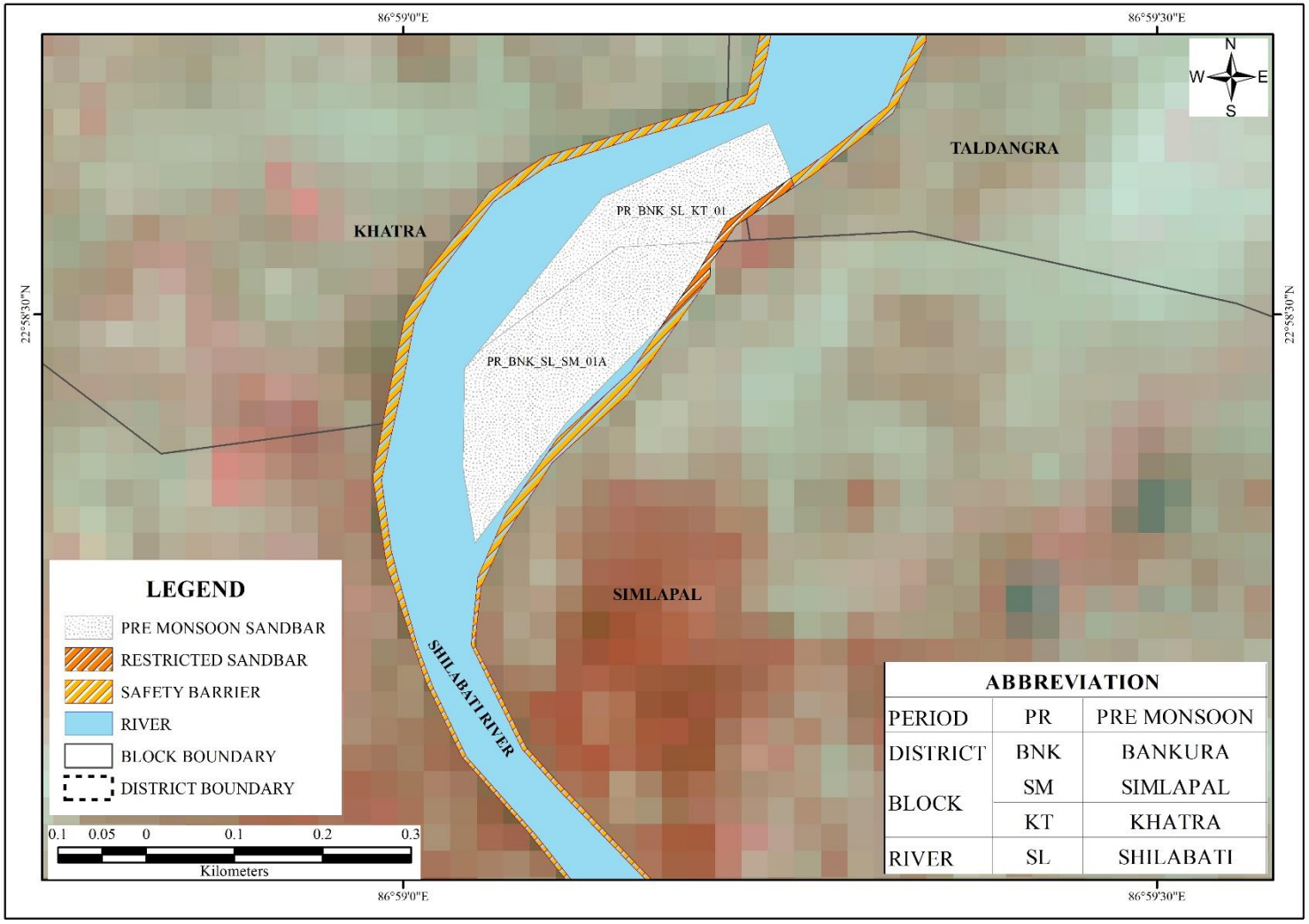


Plate 2A23: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

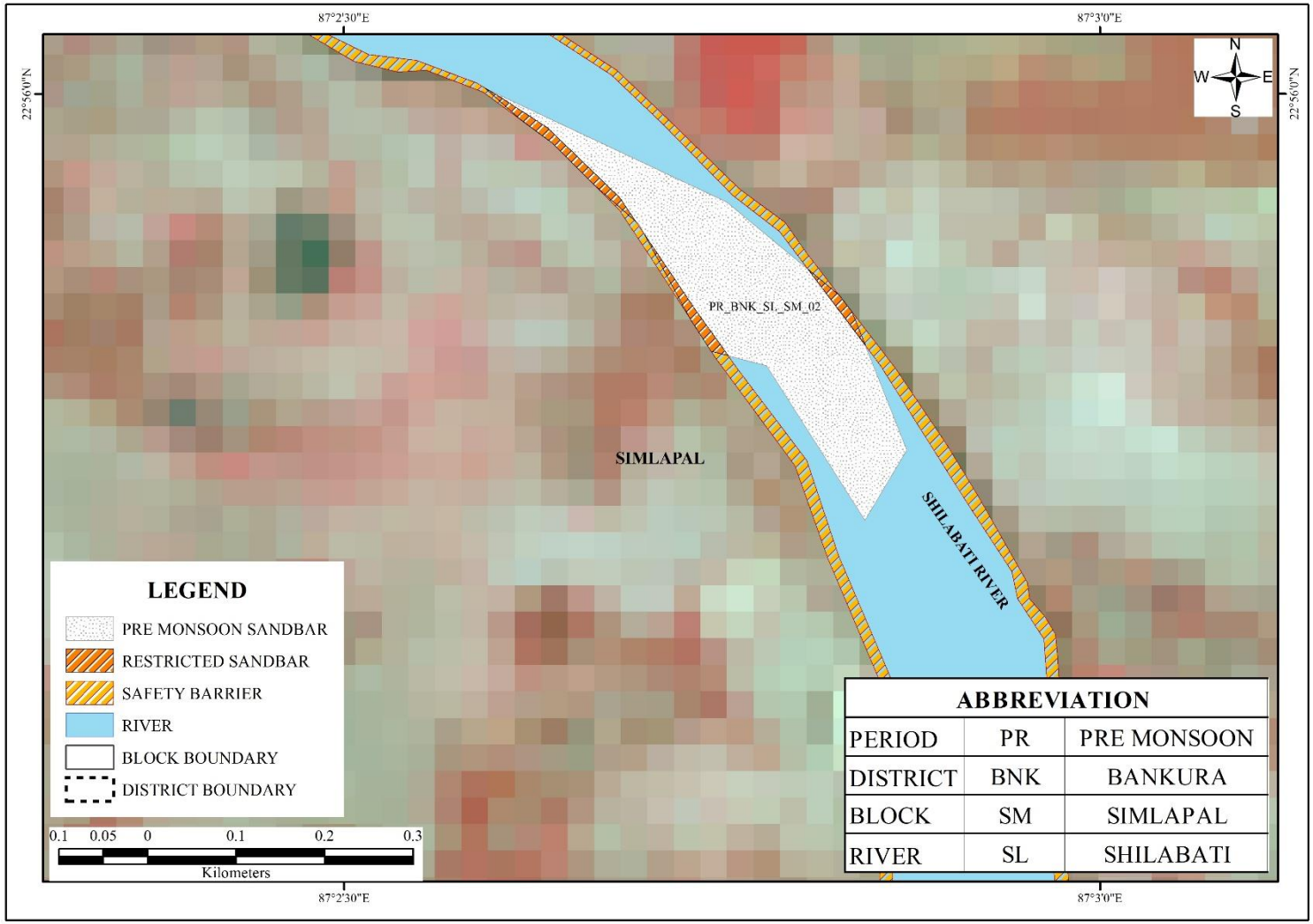


Plate 2A24: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

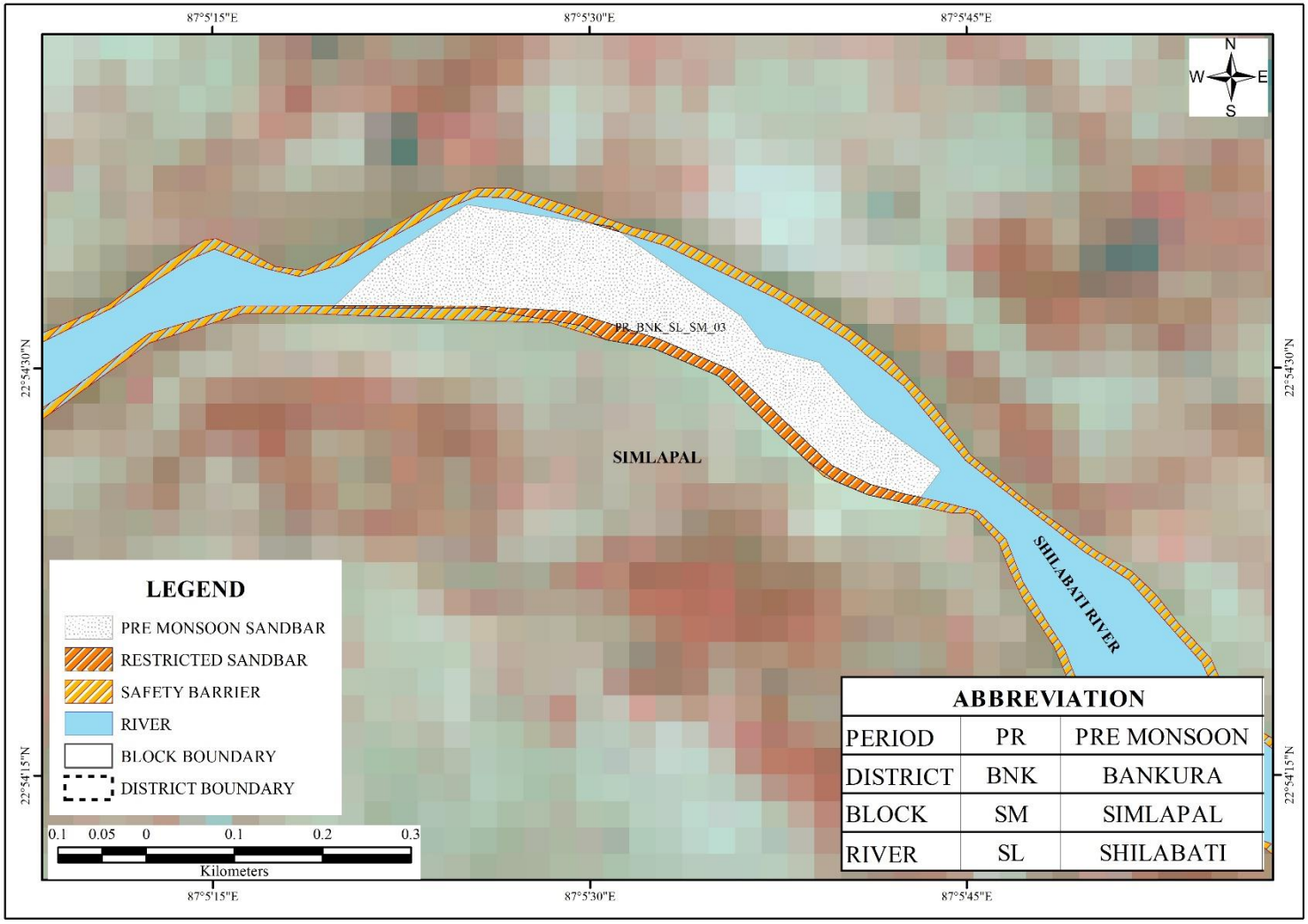


Plate 2A25: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

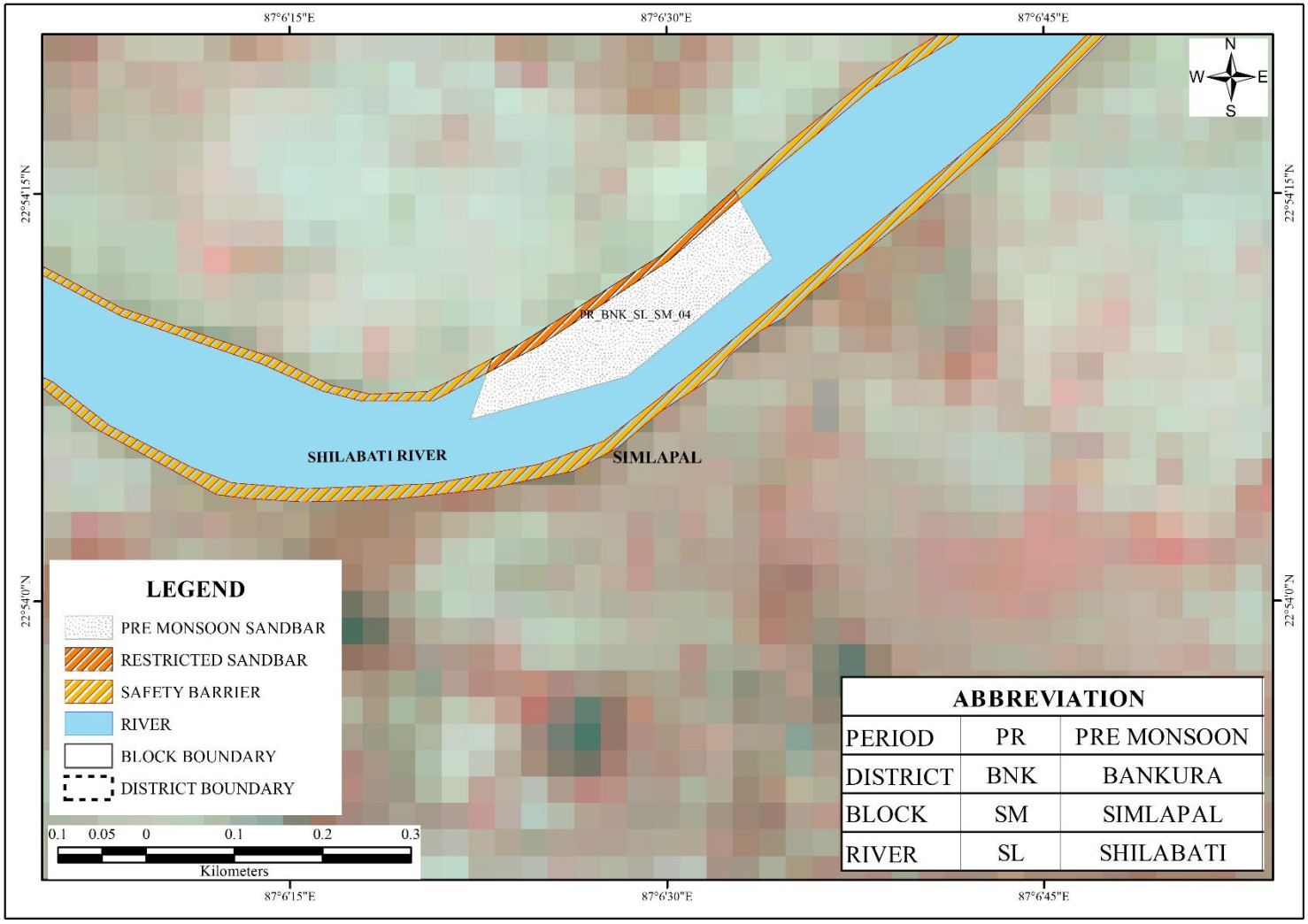


Plate 2A26: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

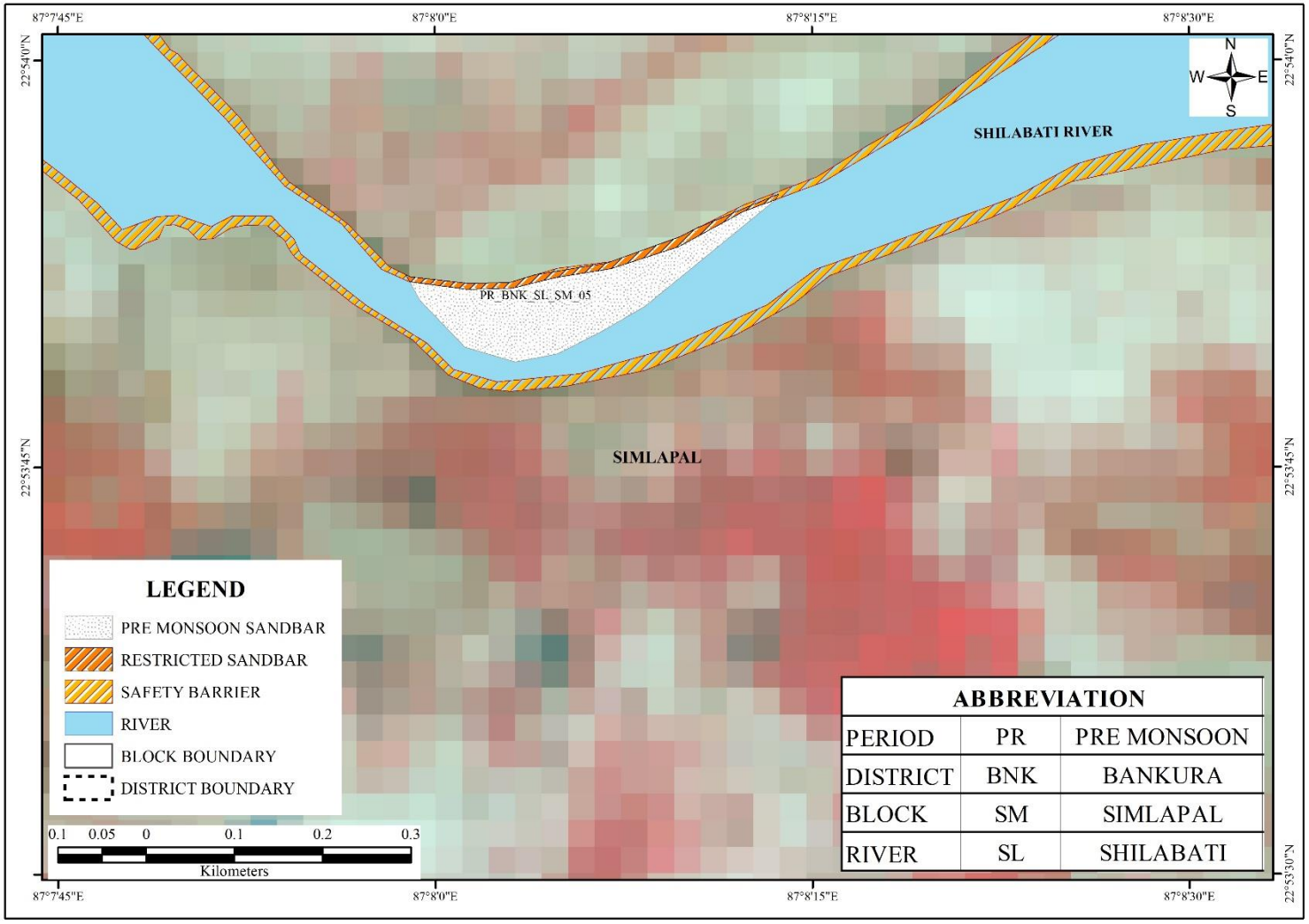


Plate 2A27: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

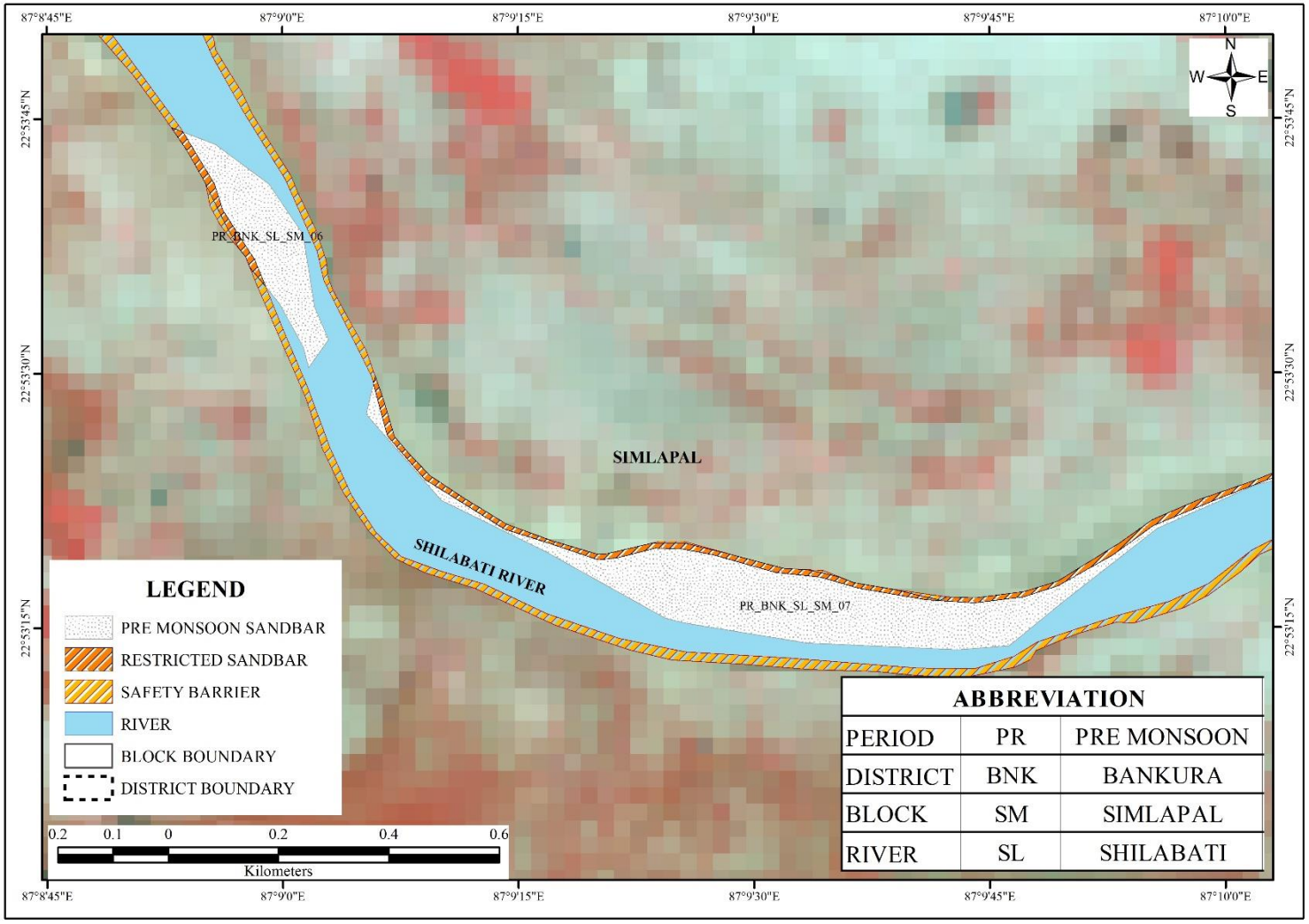


Plate 2A28: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

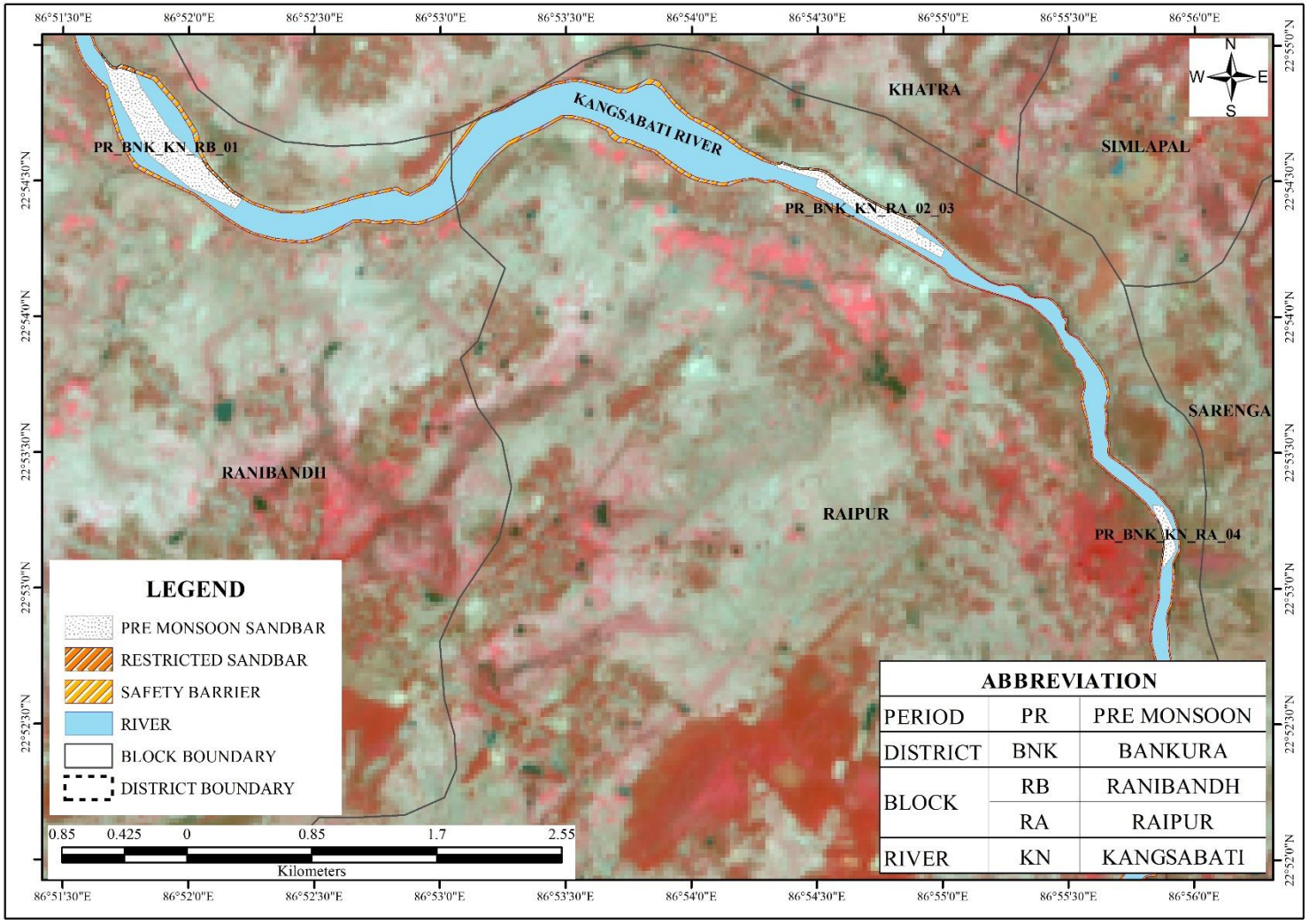


Plate 2A29: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

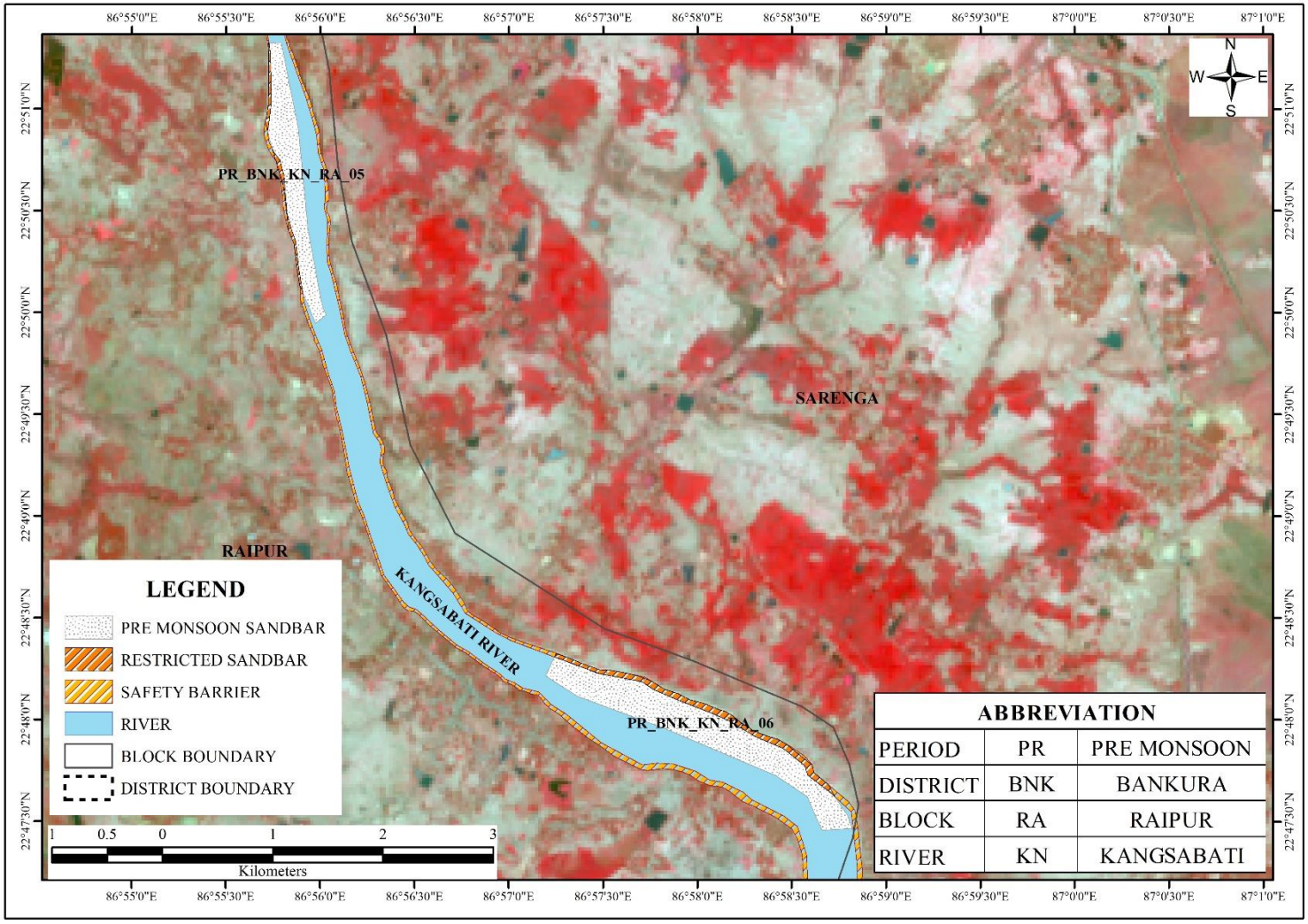


Plate 2A30: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

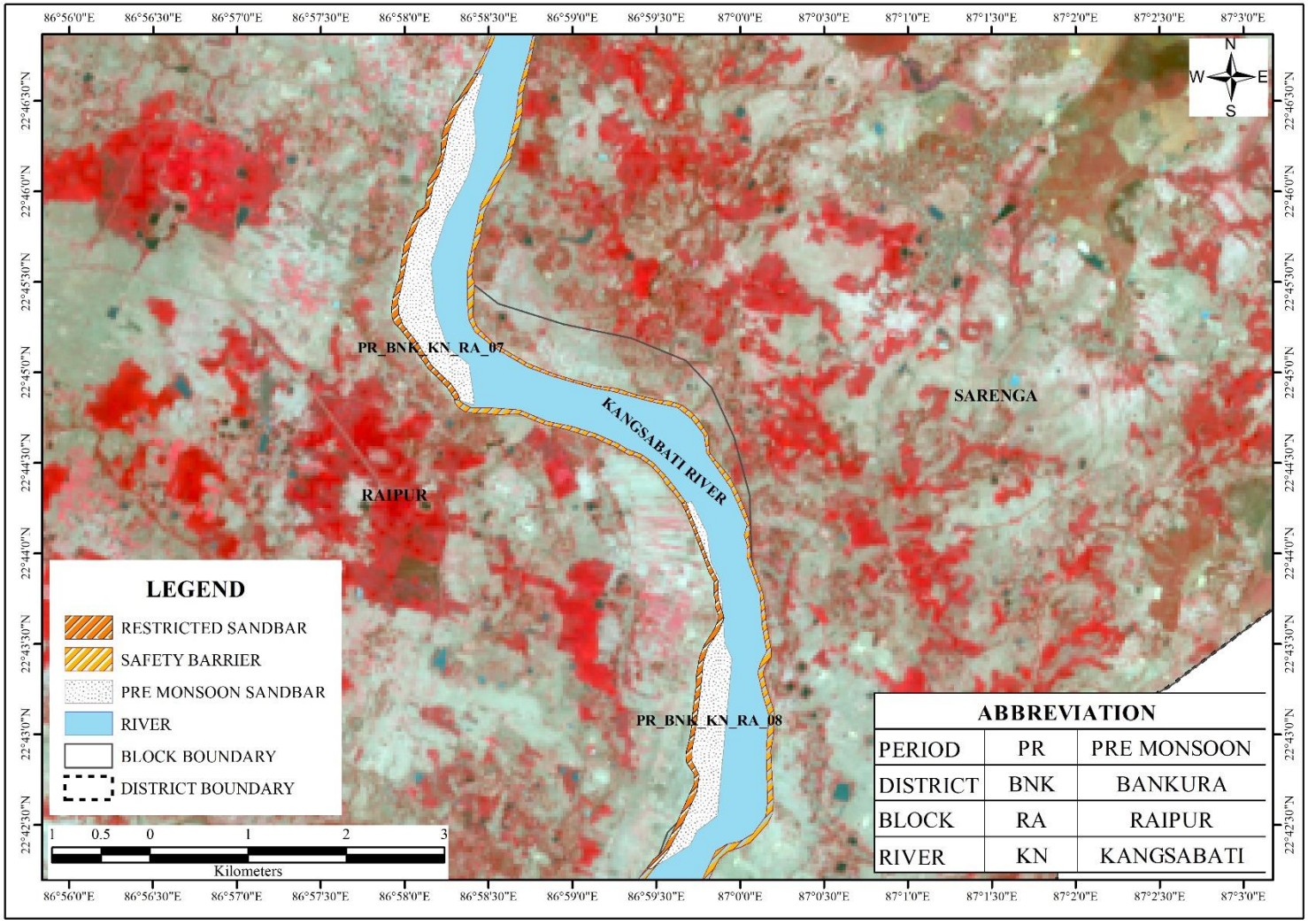


Plate 2A31: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

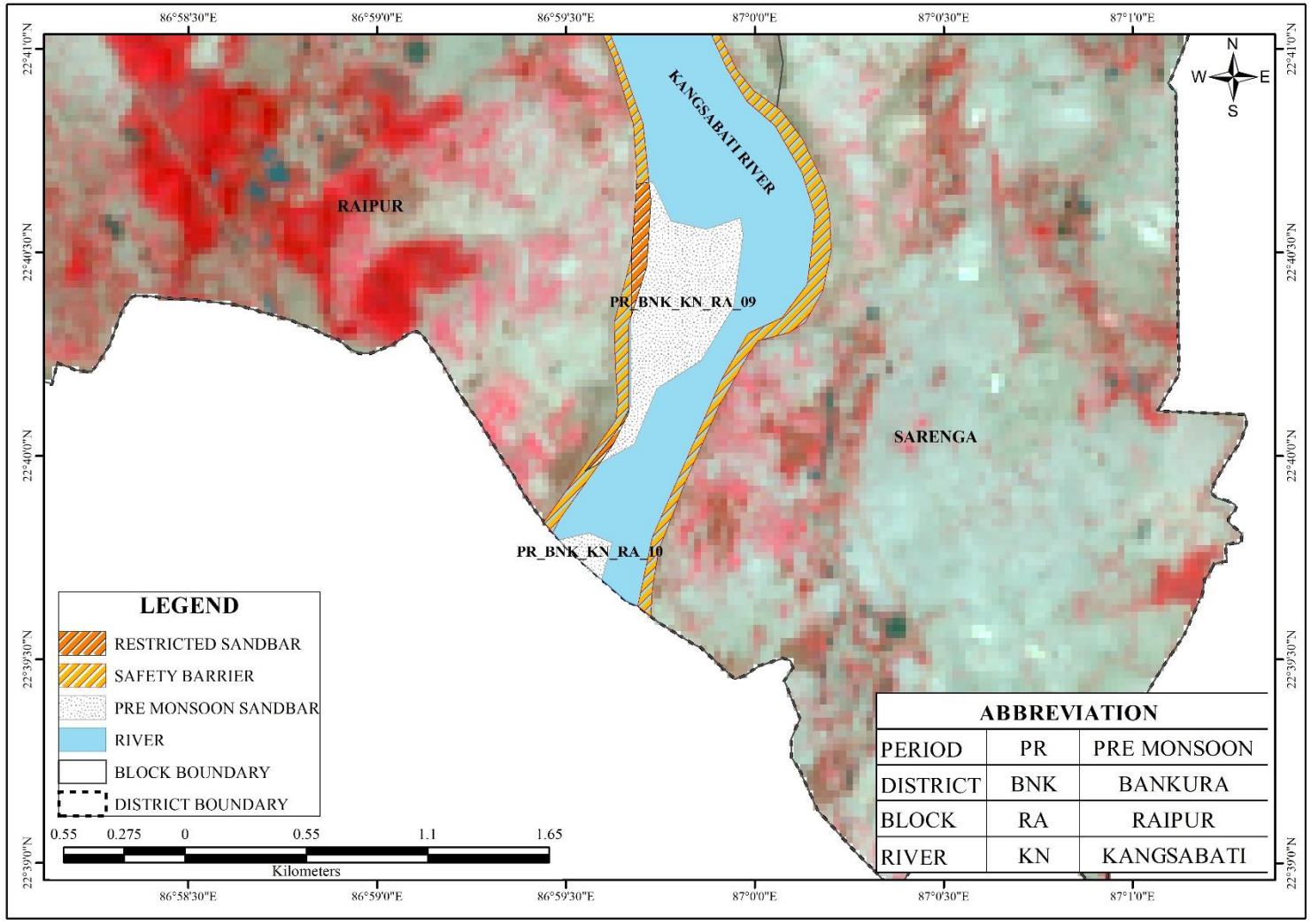


Plate 2A32: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

PLATE 2B

DISTRIBUTION MAP OF SAND BARS ON RIVERS DURING POST-MONSOON PERIOD OF BANKURA DISTRICT

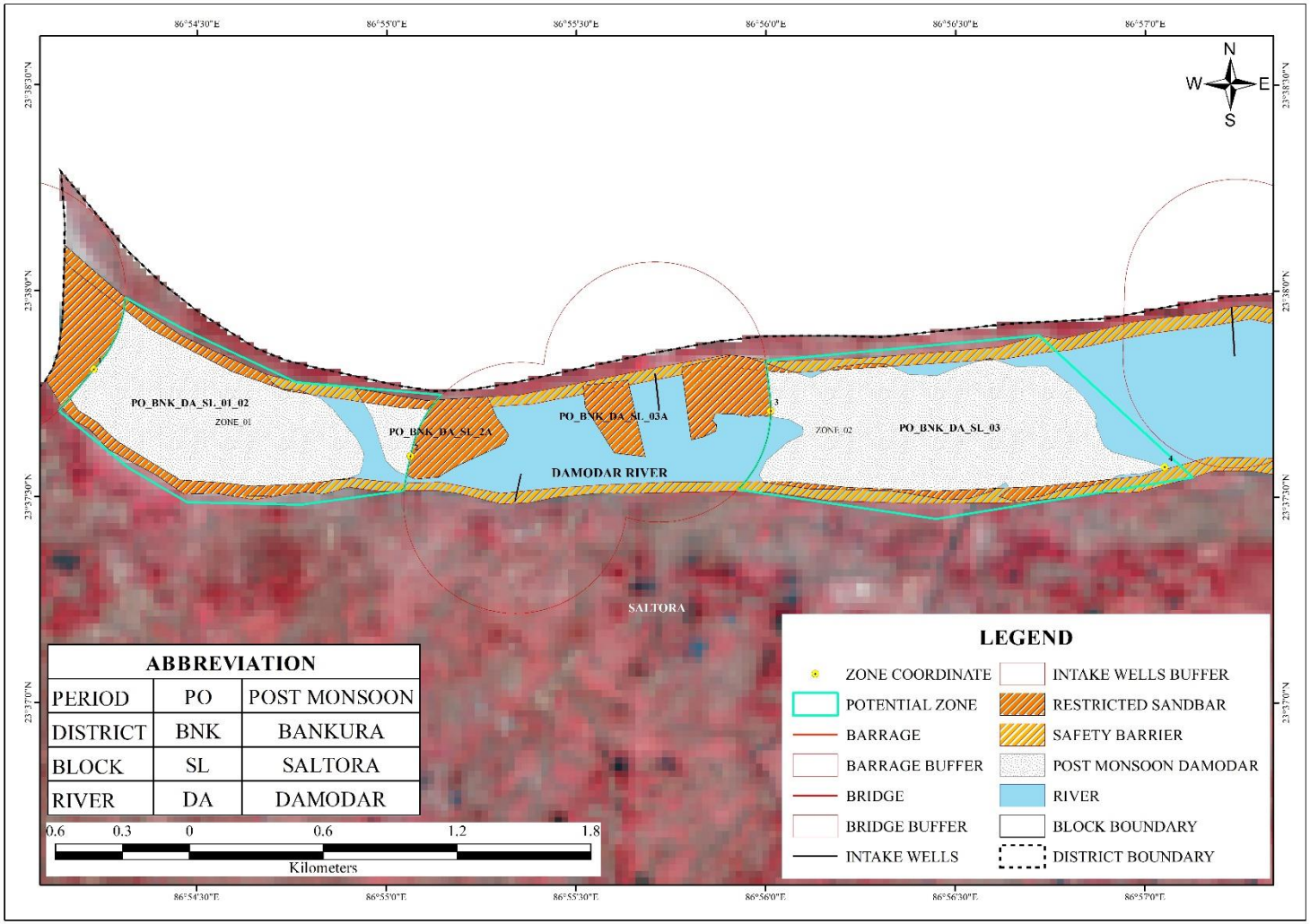


Plate 2B1: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

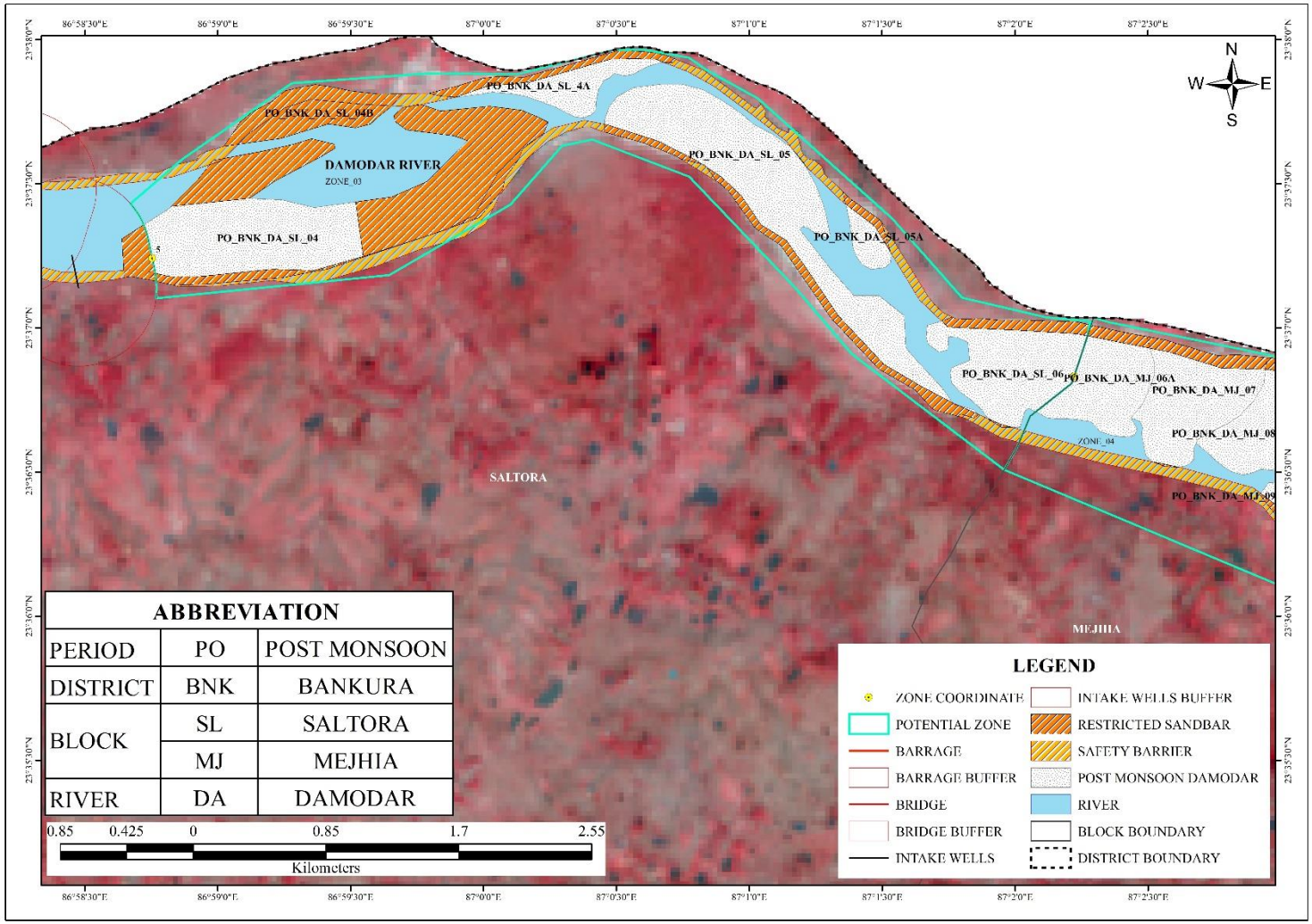


Plate 2B2: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

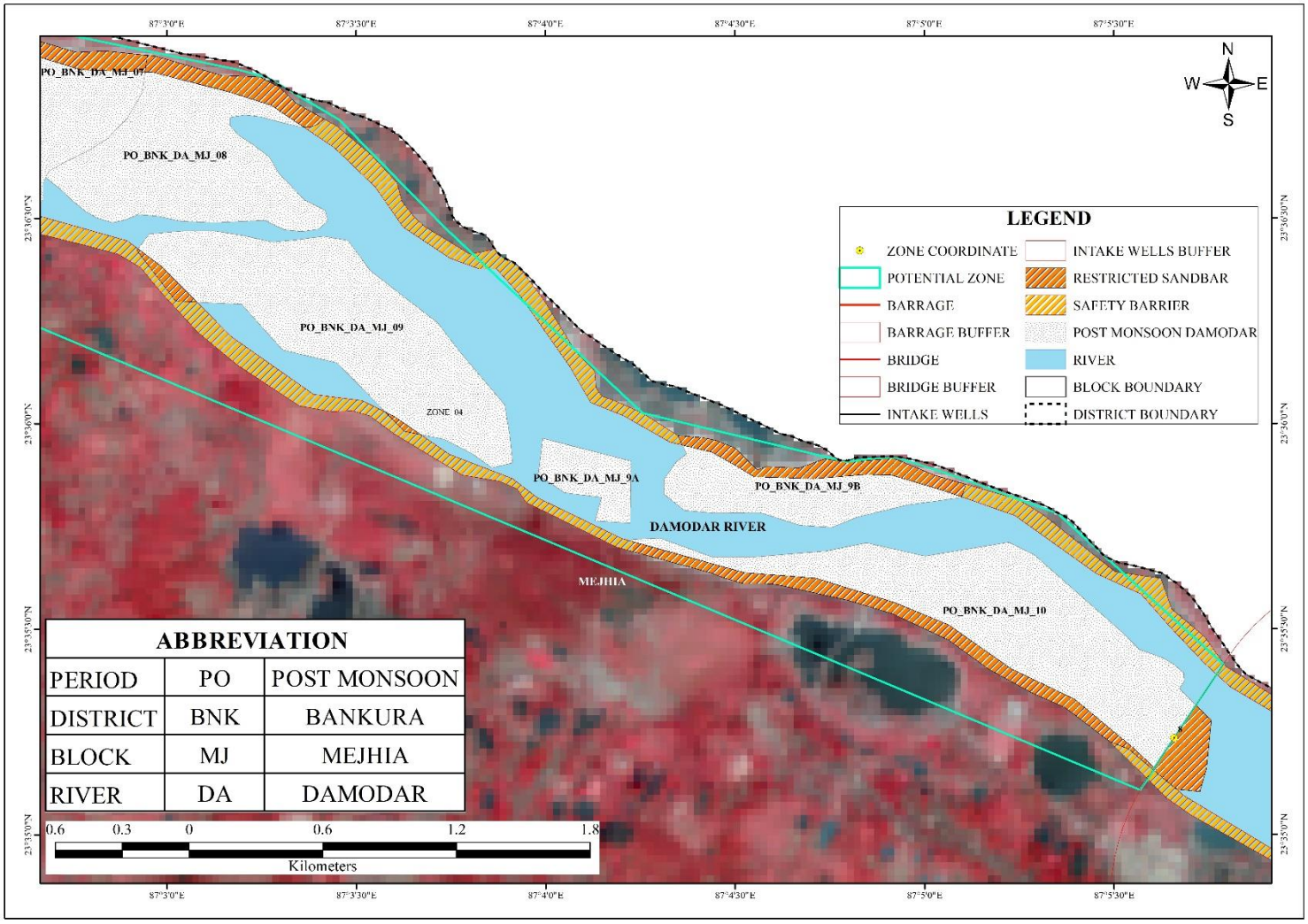


Plate 2B3: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

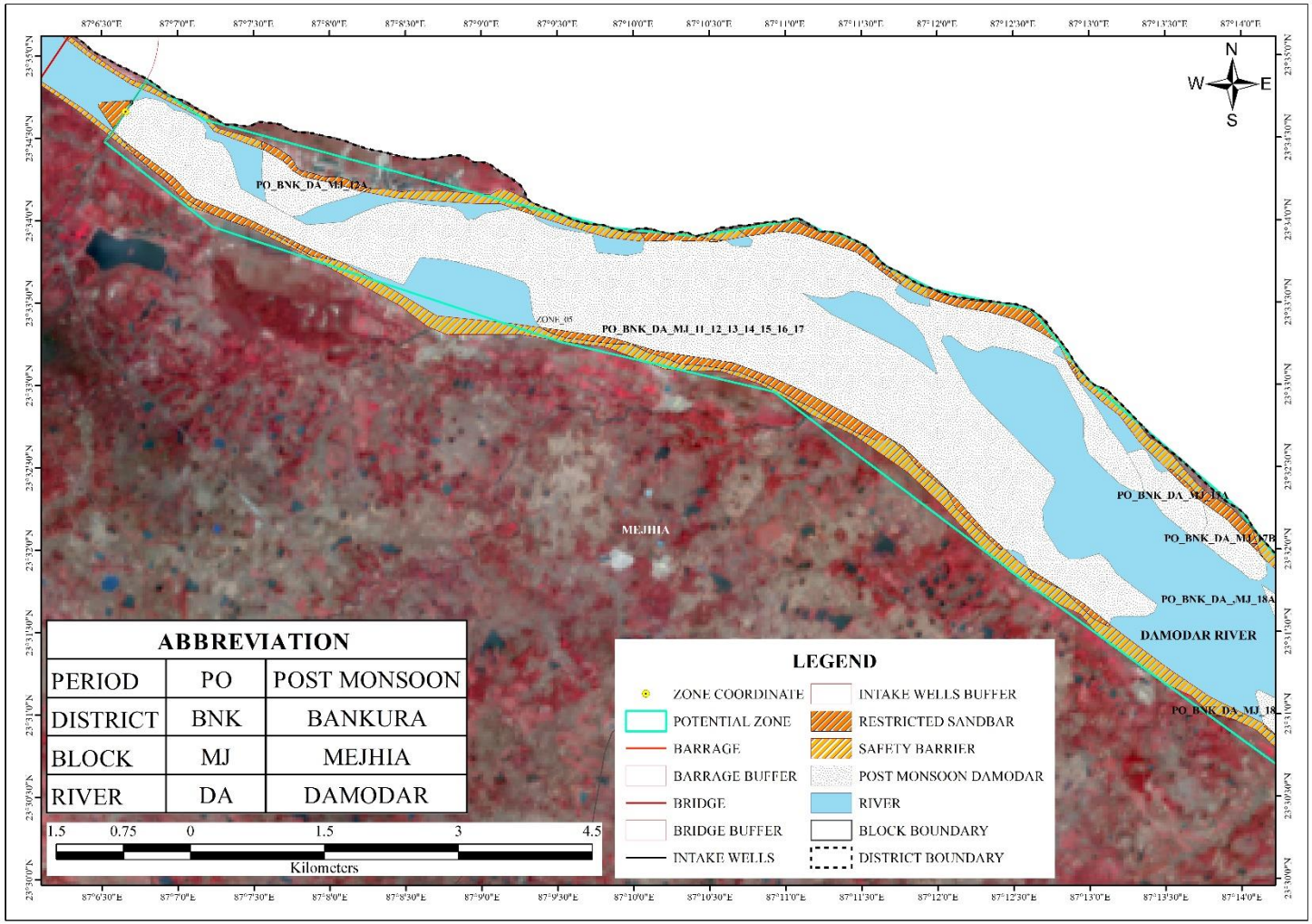


Plate 2B4: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

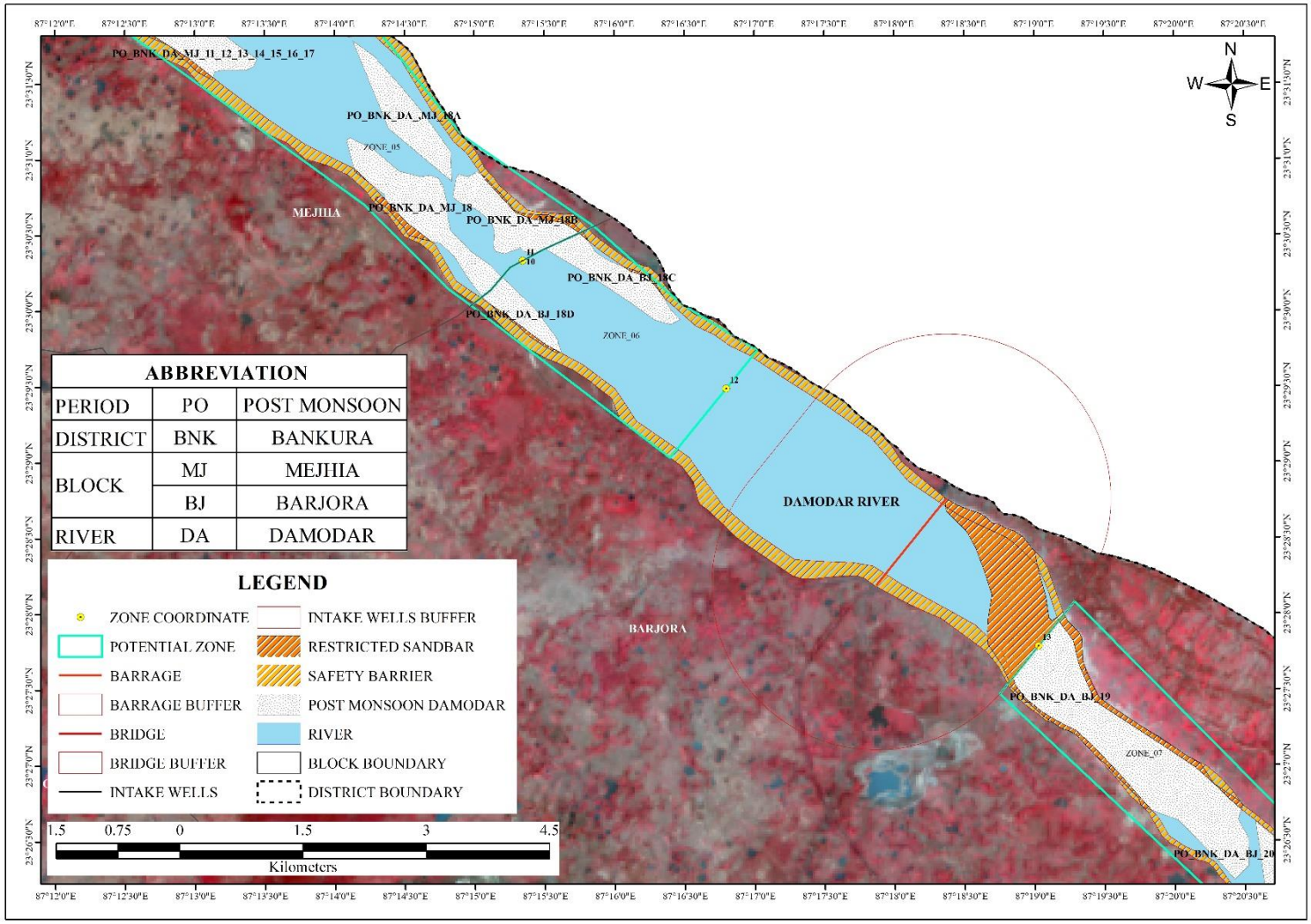


Plate 2B5: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

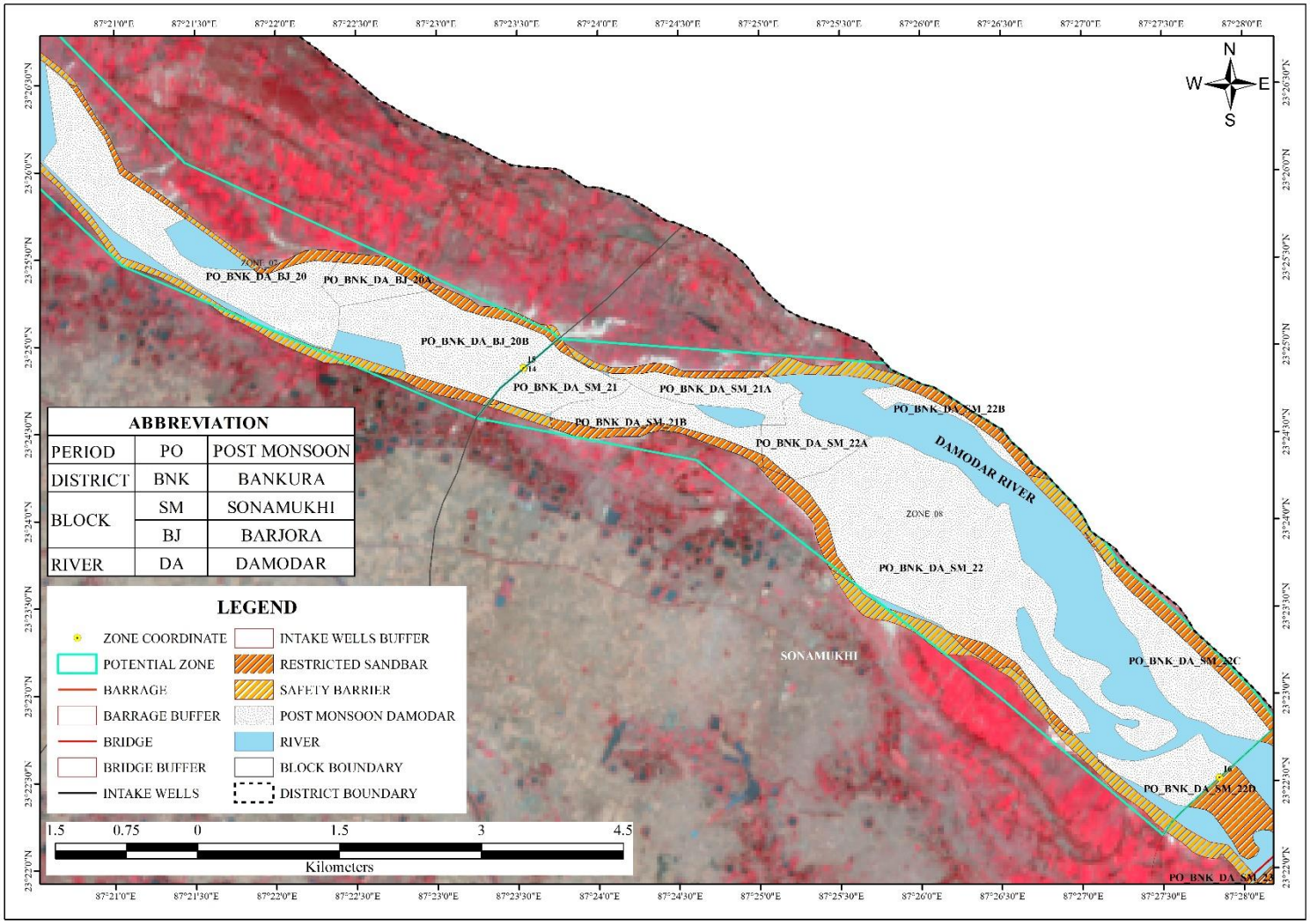


Plate 2B6: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

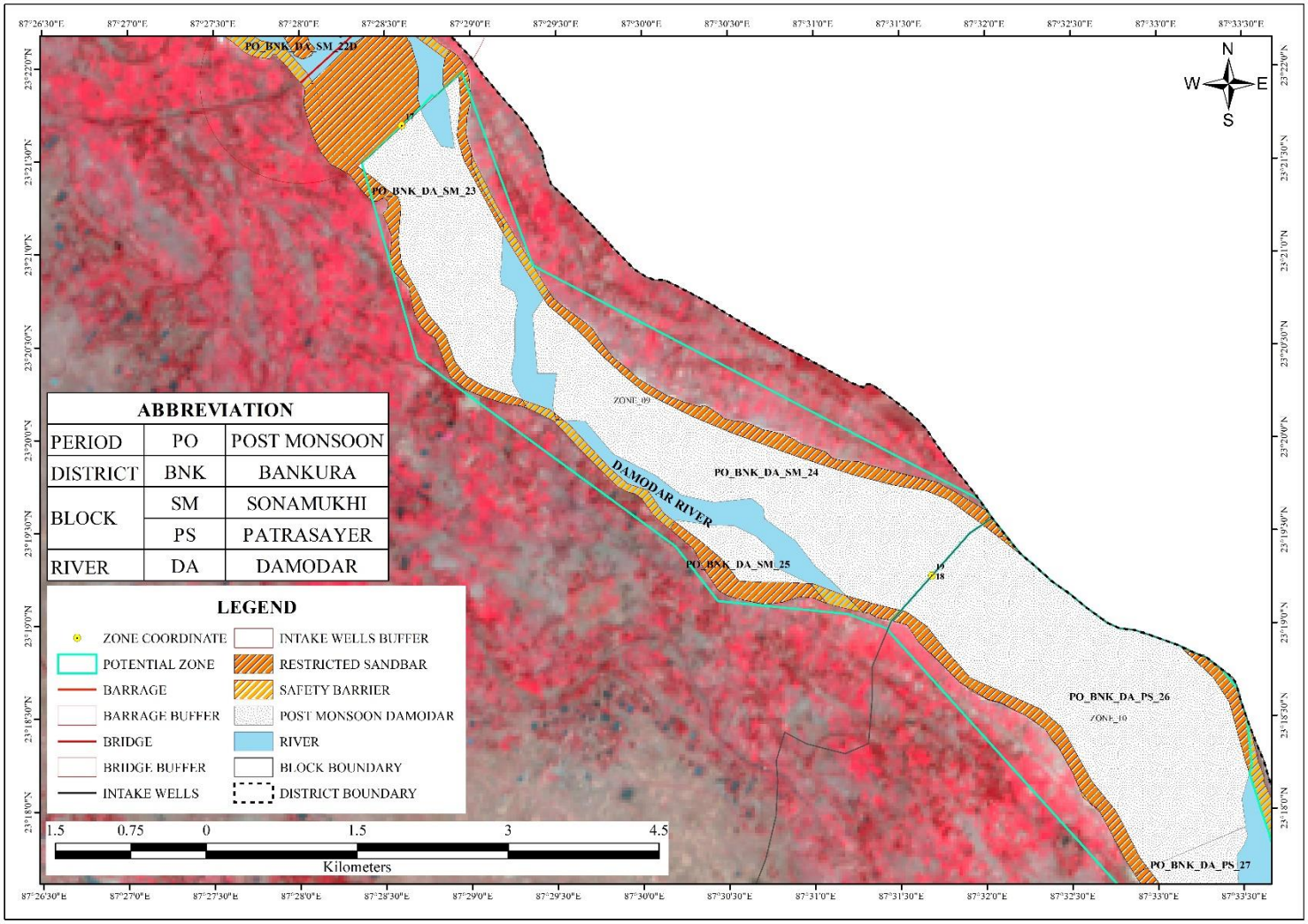


Plate 2B7: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

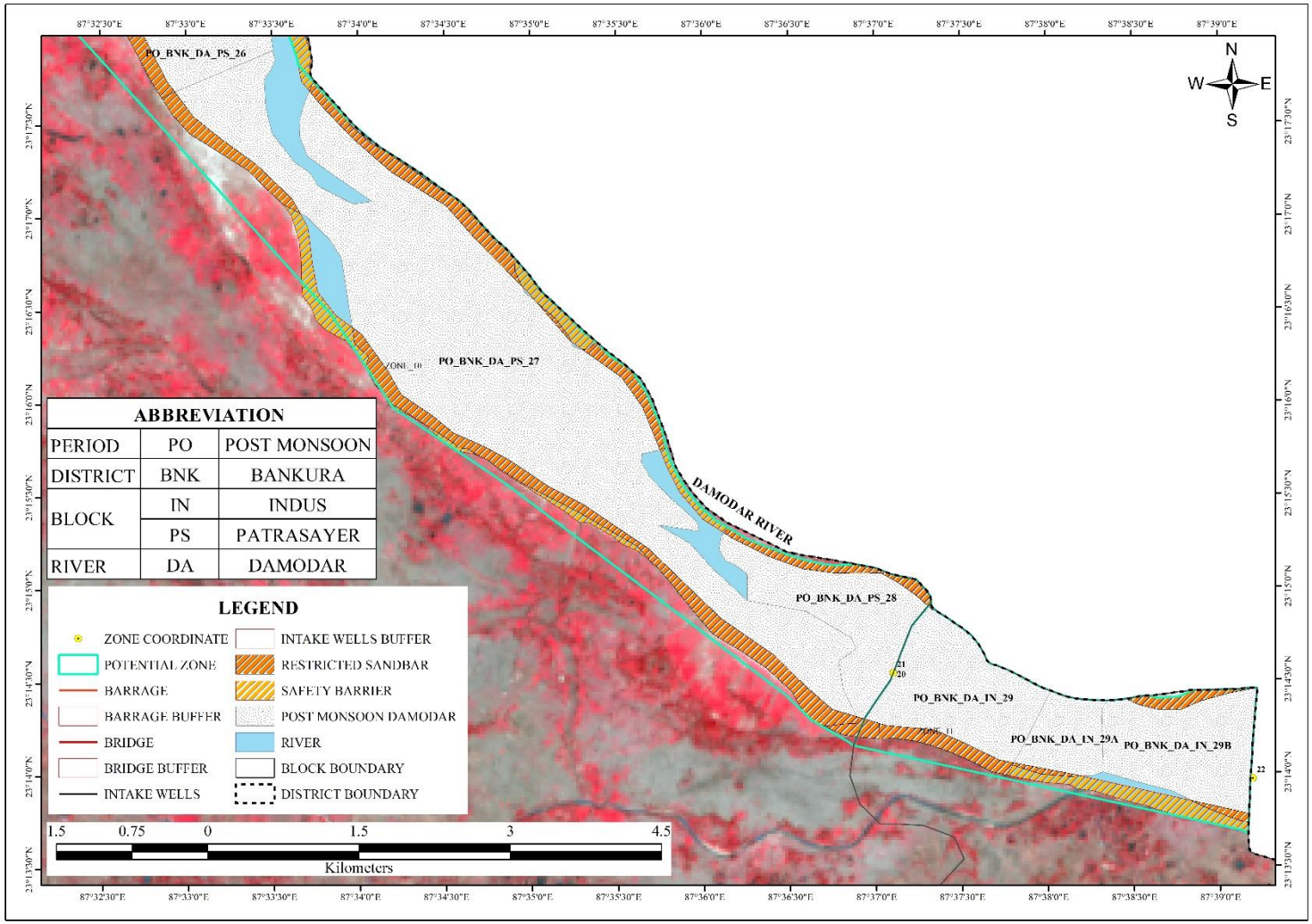


Plate 2B8: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

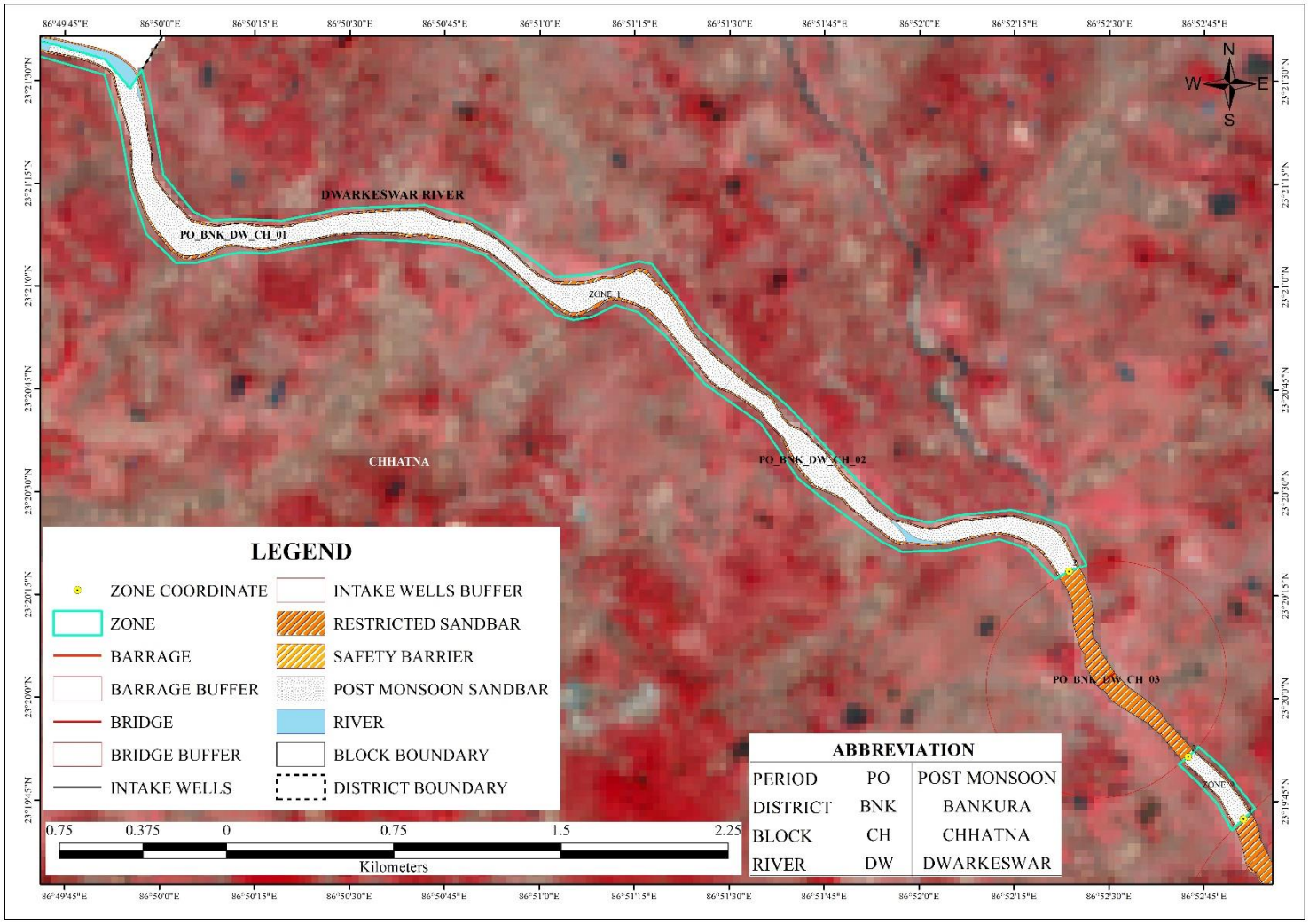


Plate 2B9: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

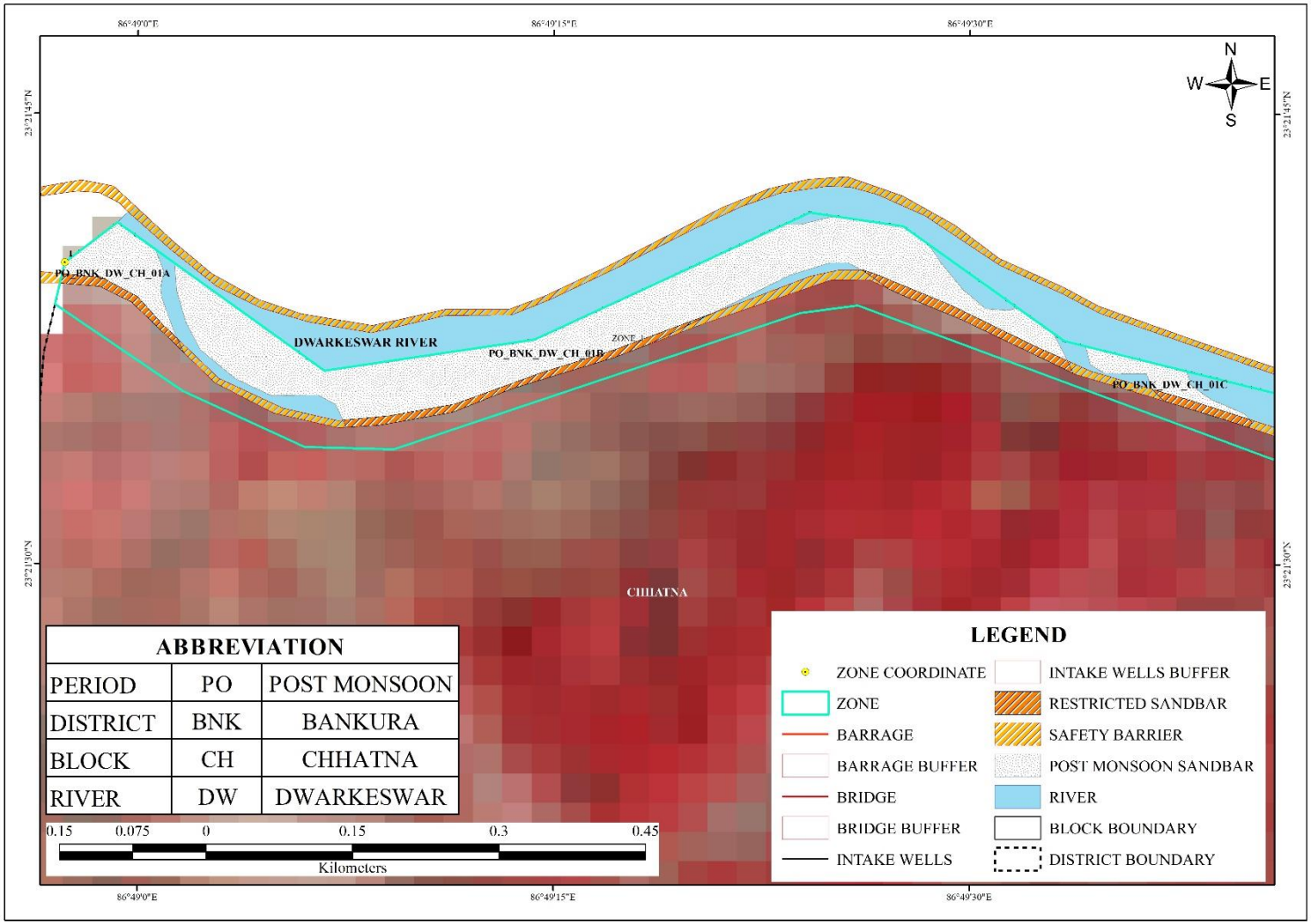


Plate 2B10: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

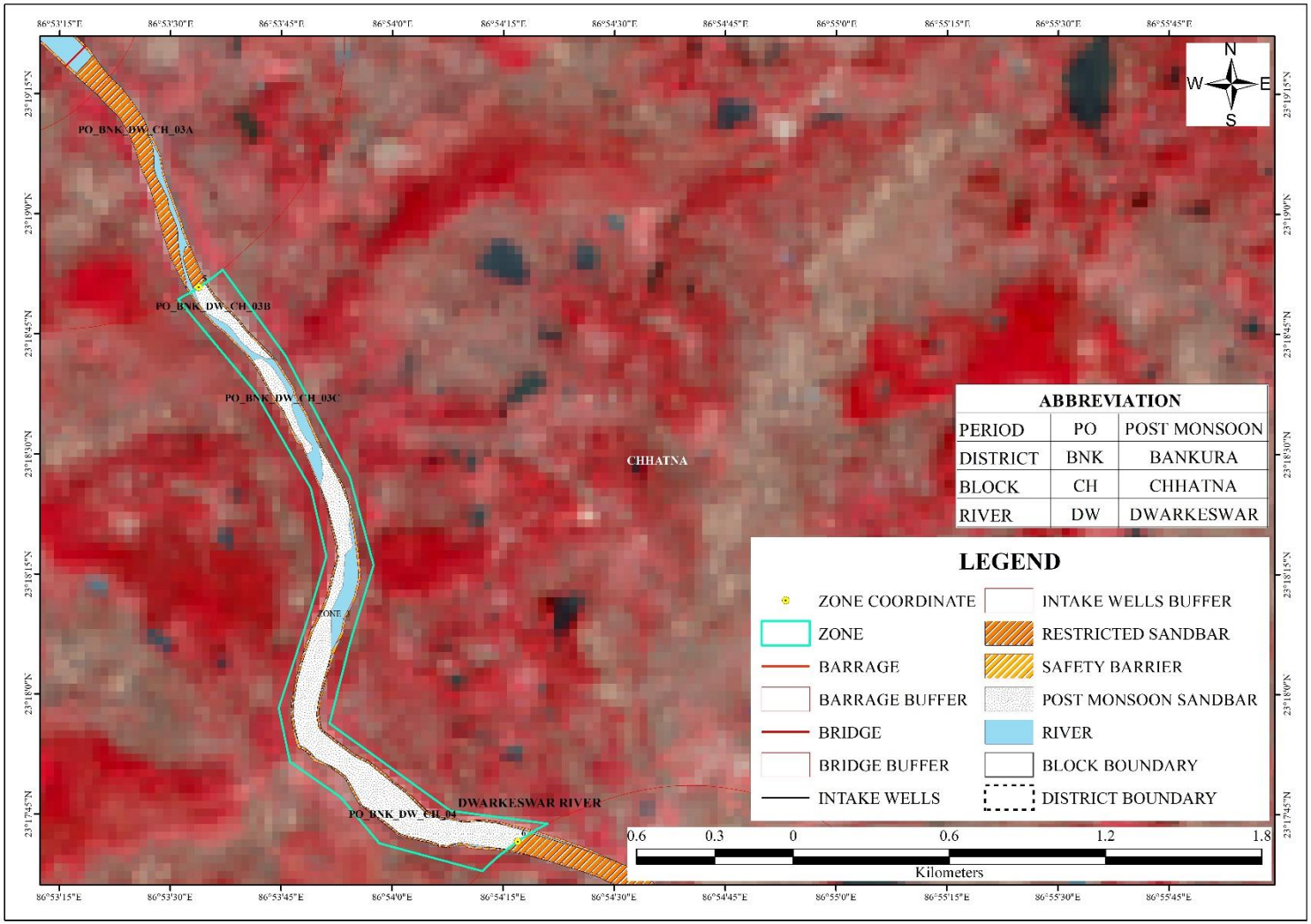


Plate 2B11: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

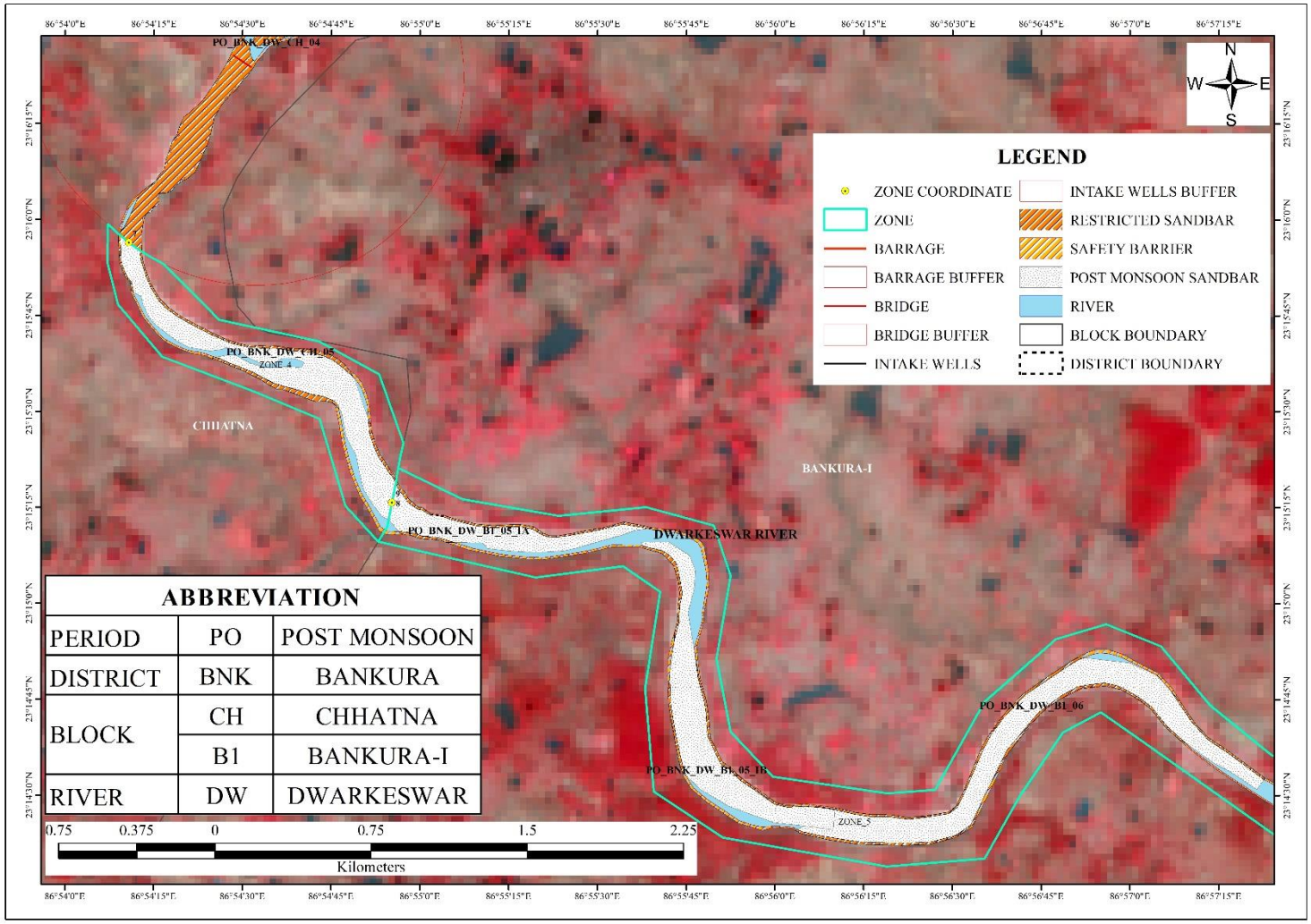


Plate 2B12: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

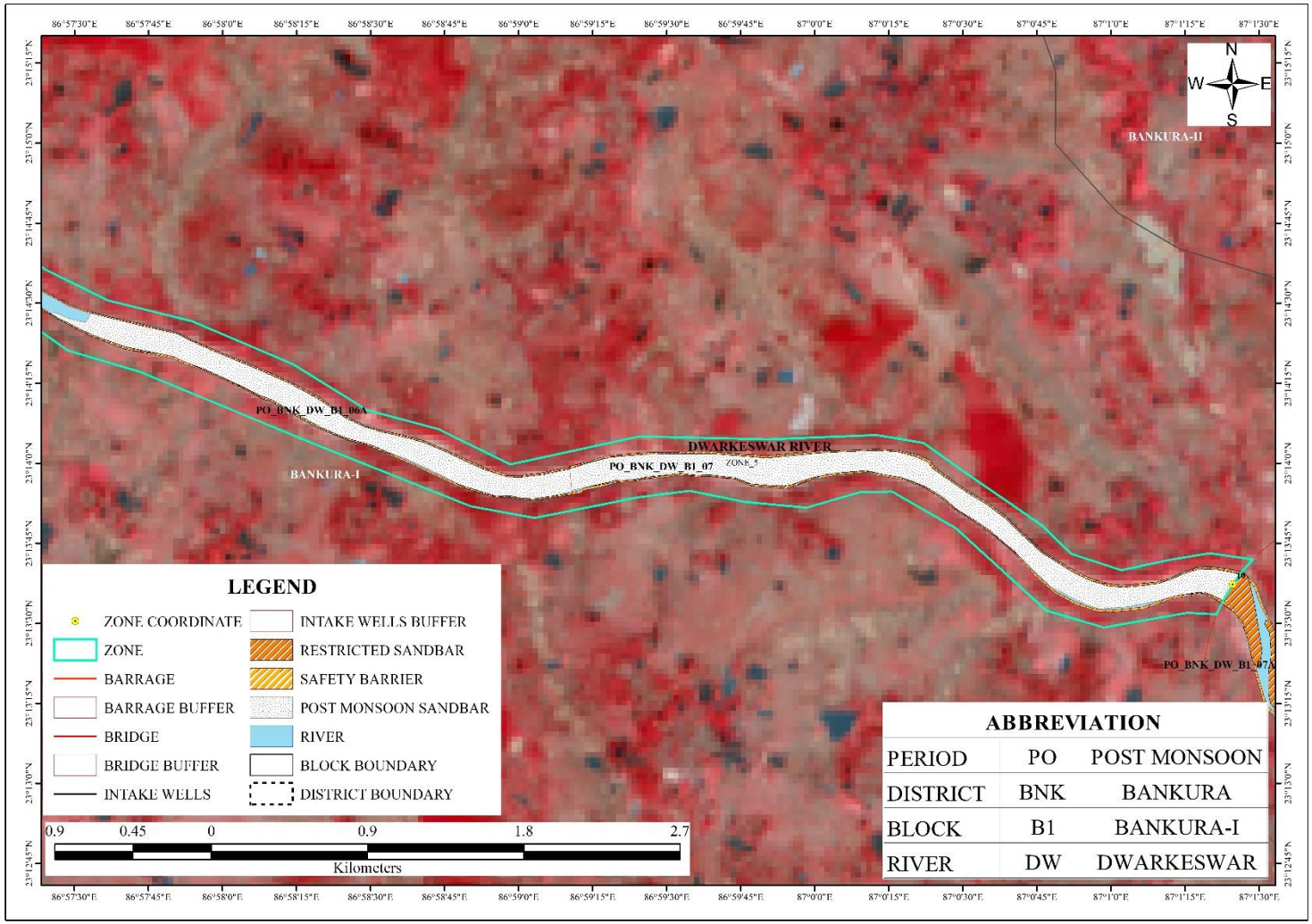


Plate 2B13: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

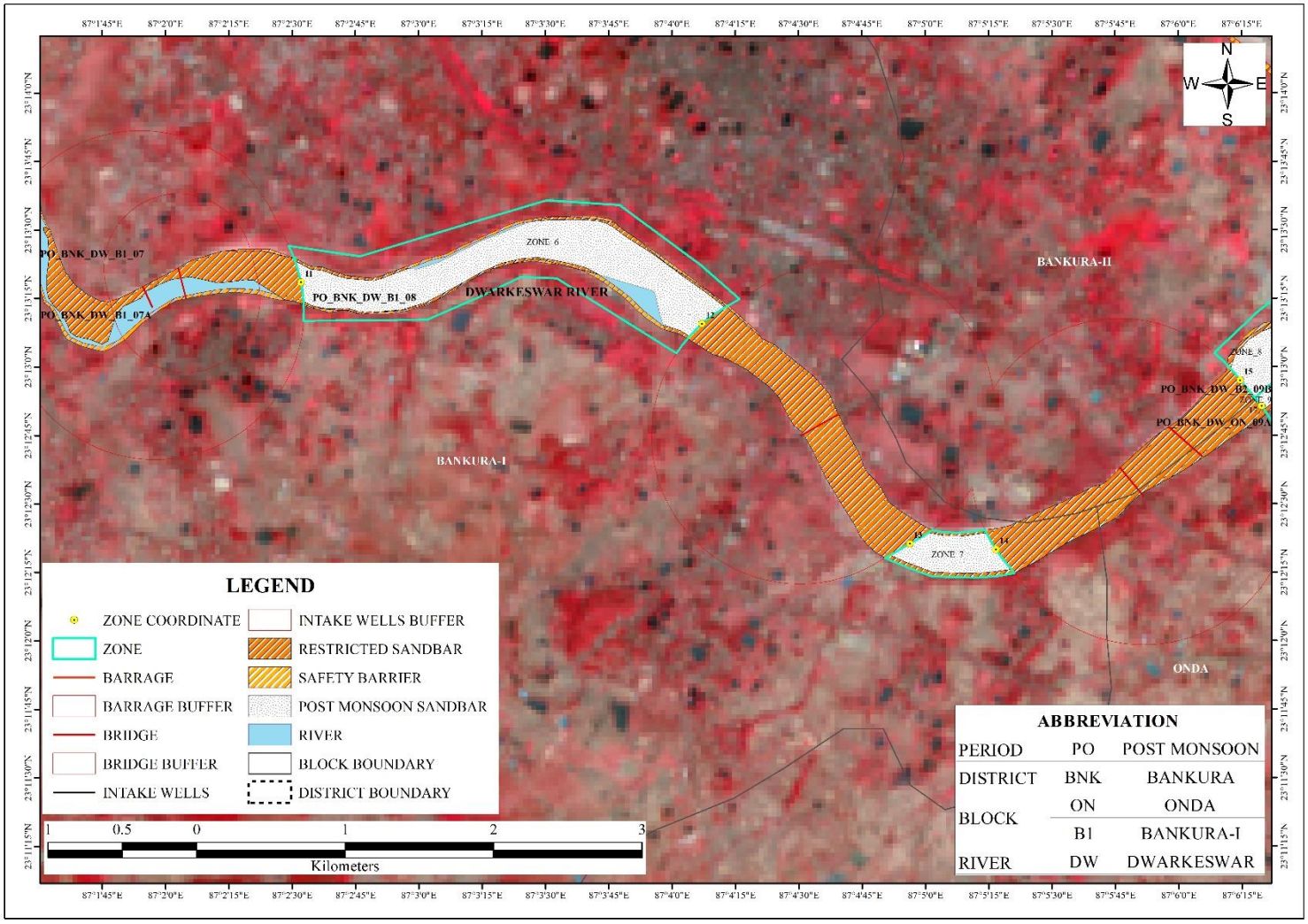


Plate 2B14: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

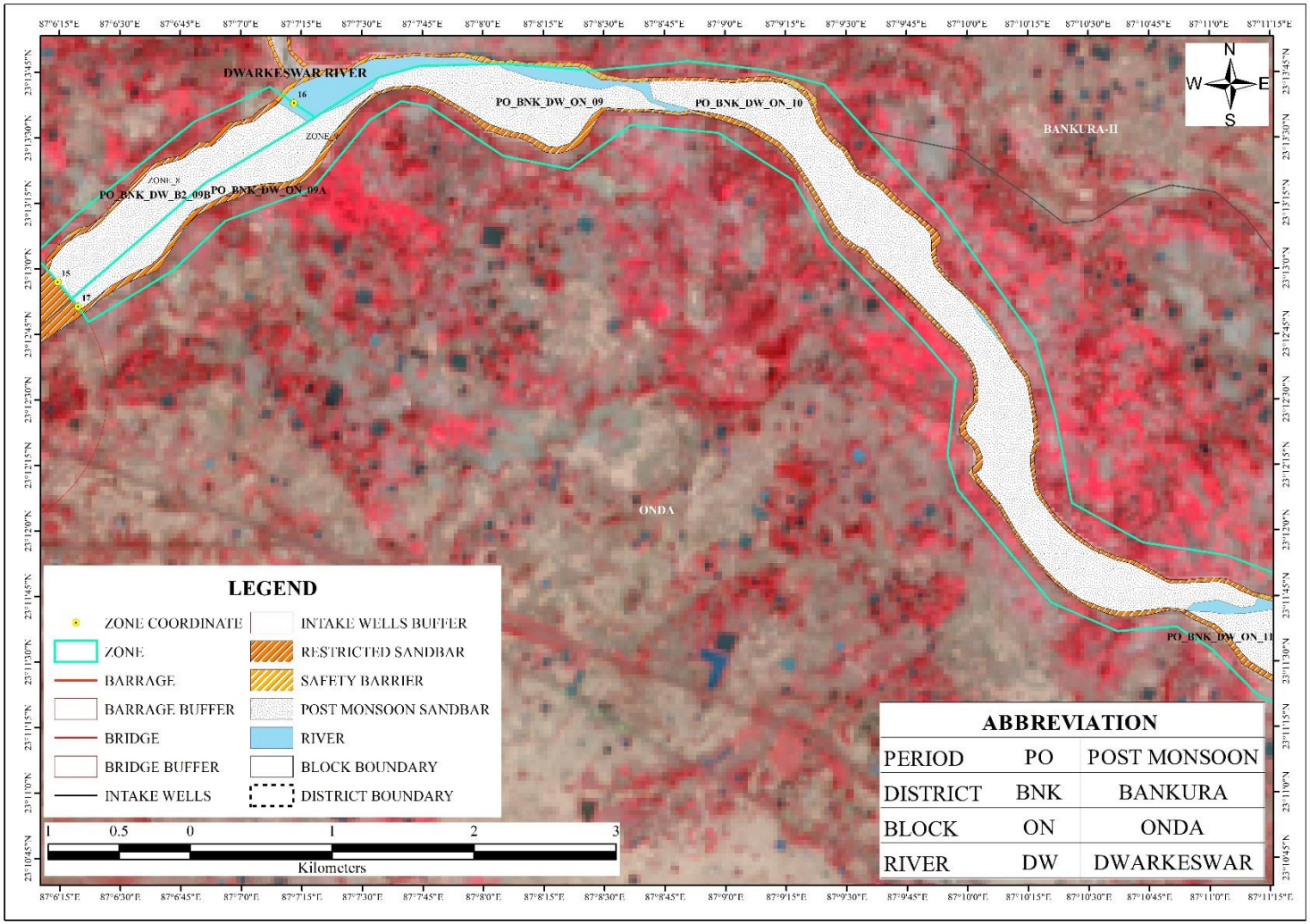


Plate 2B15: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

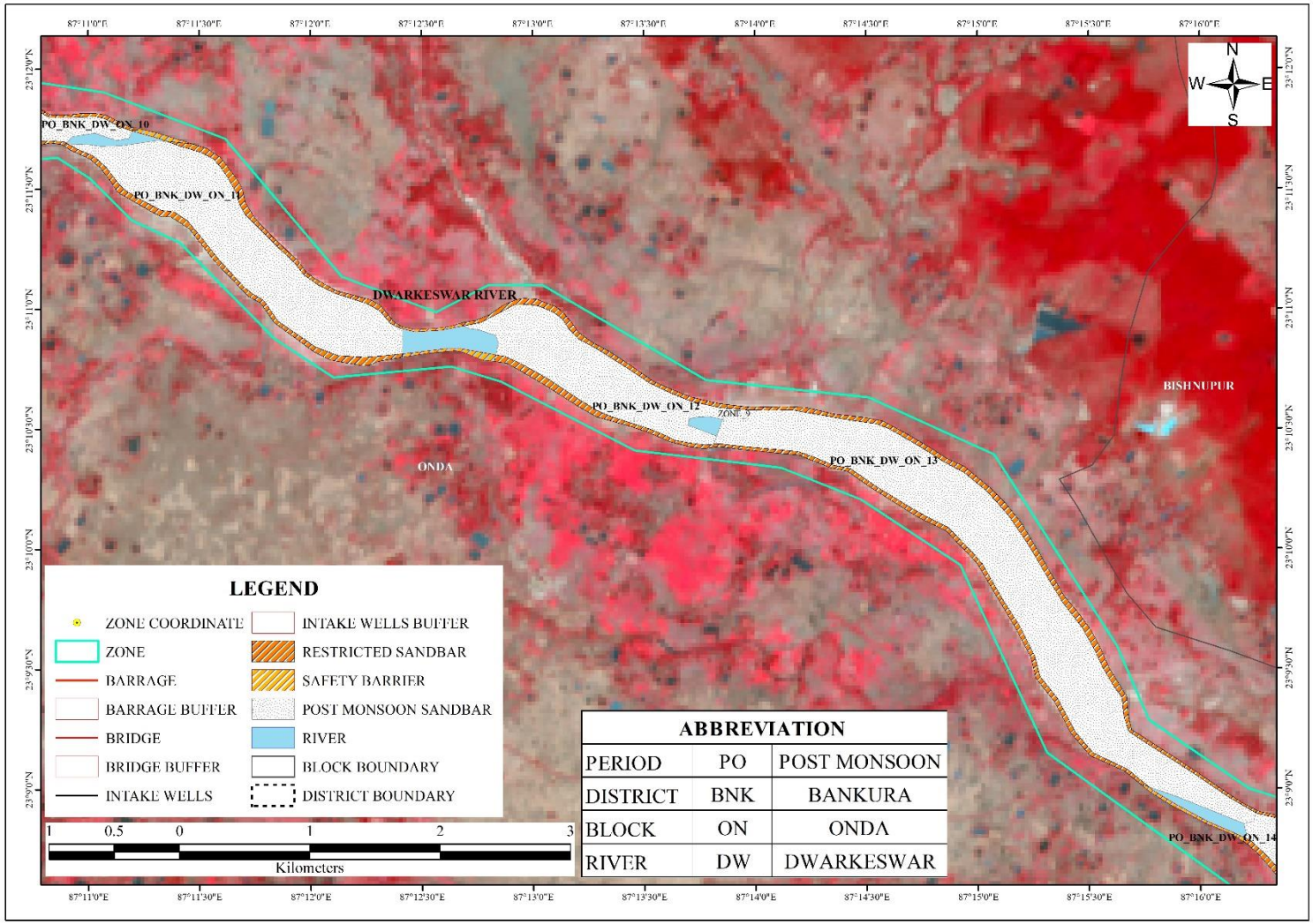


Plate 2B16: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

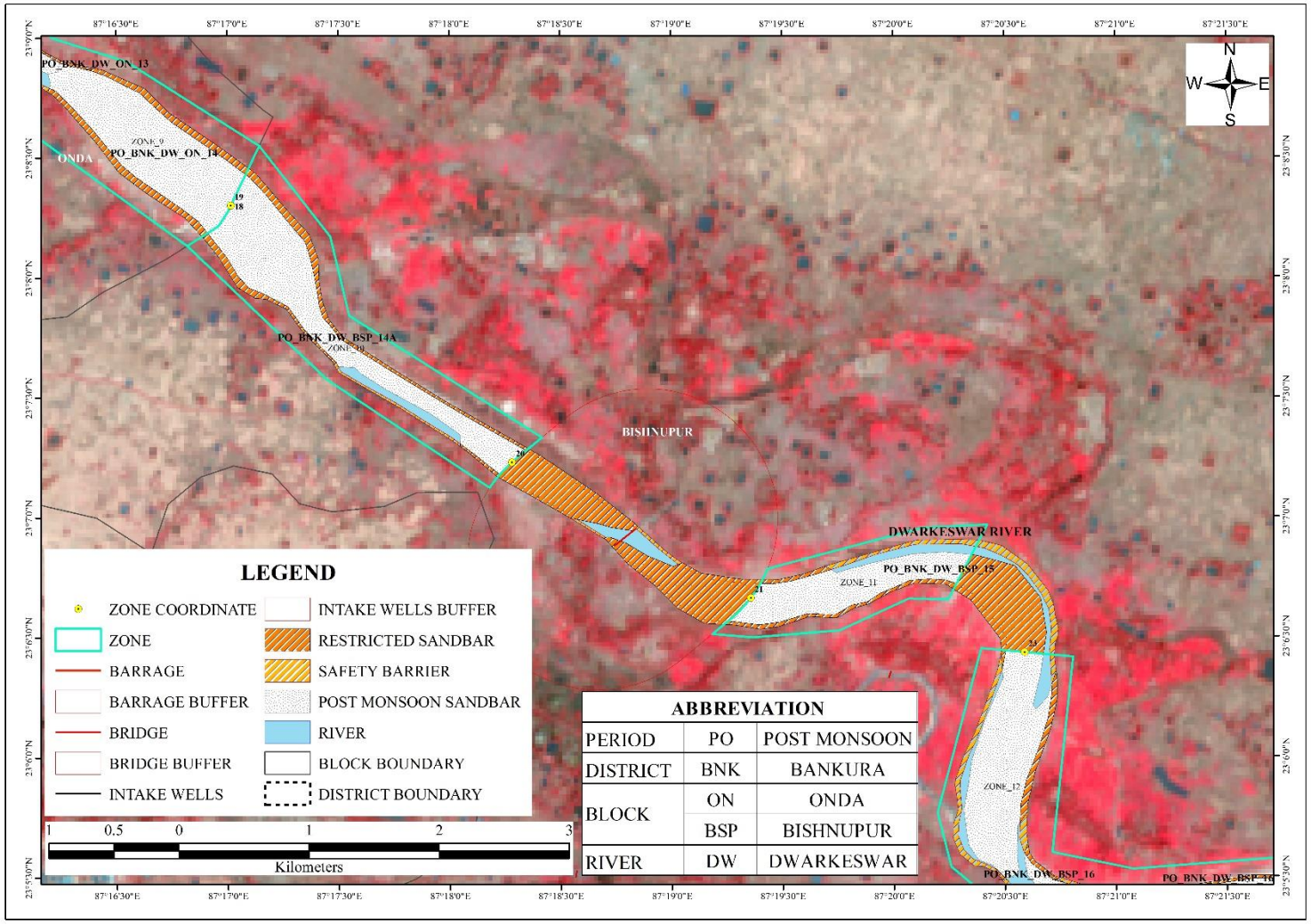


Plate 2B17: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

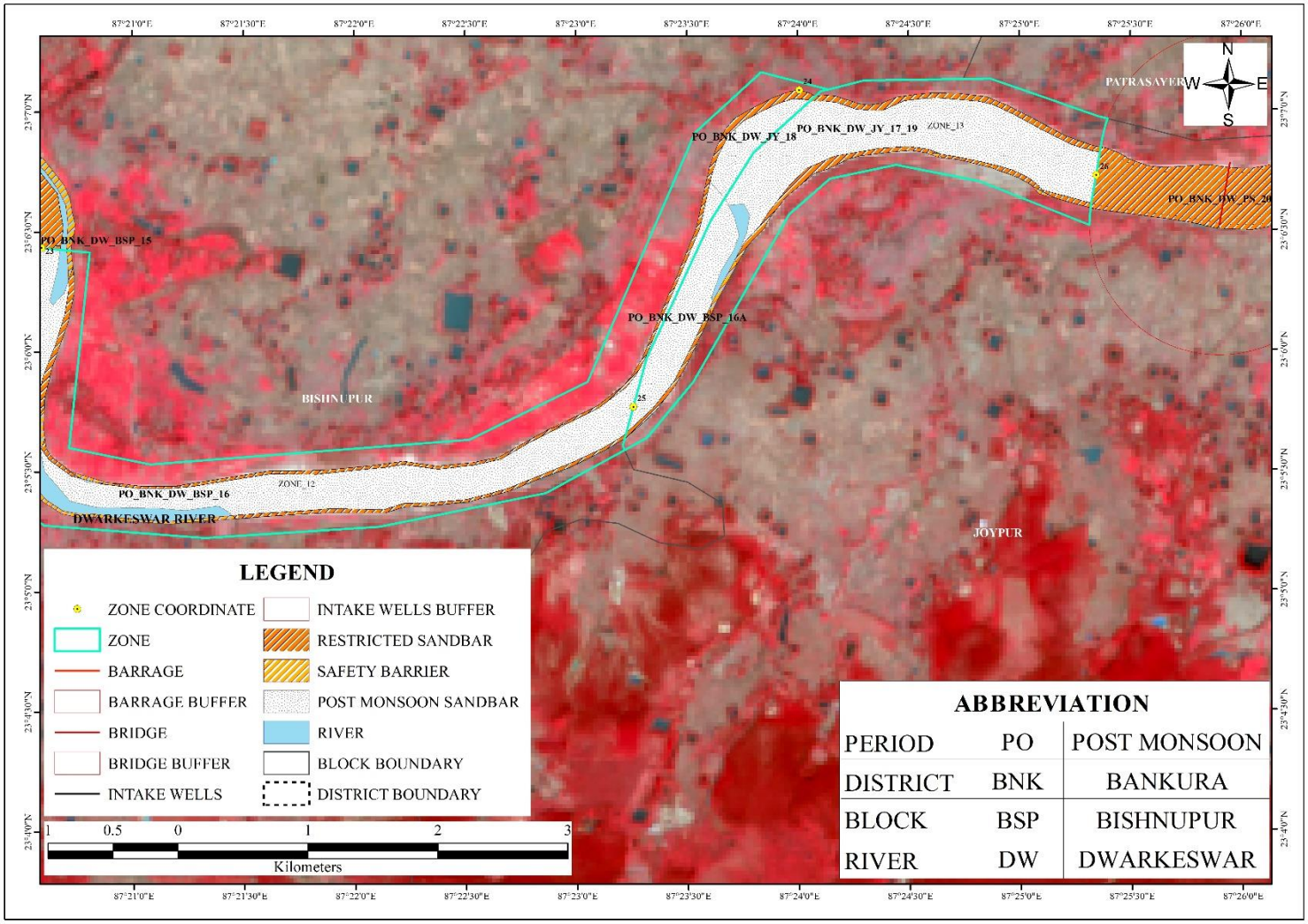


Plate 2B18: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

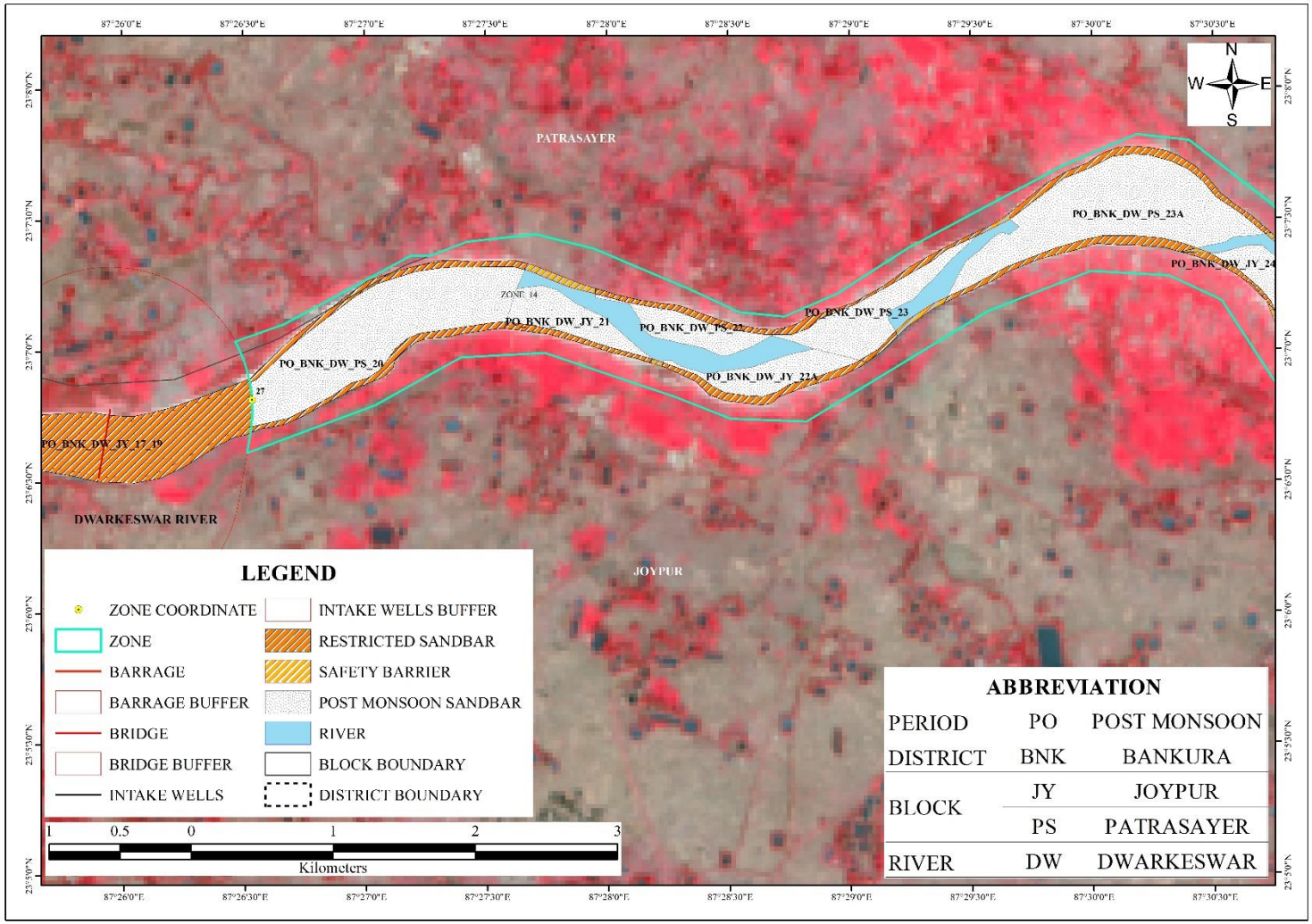


Plate 2B19: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

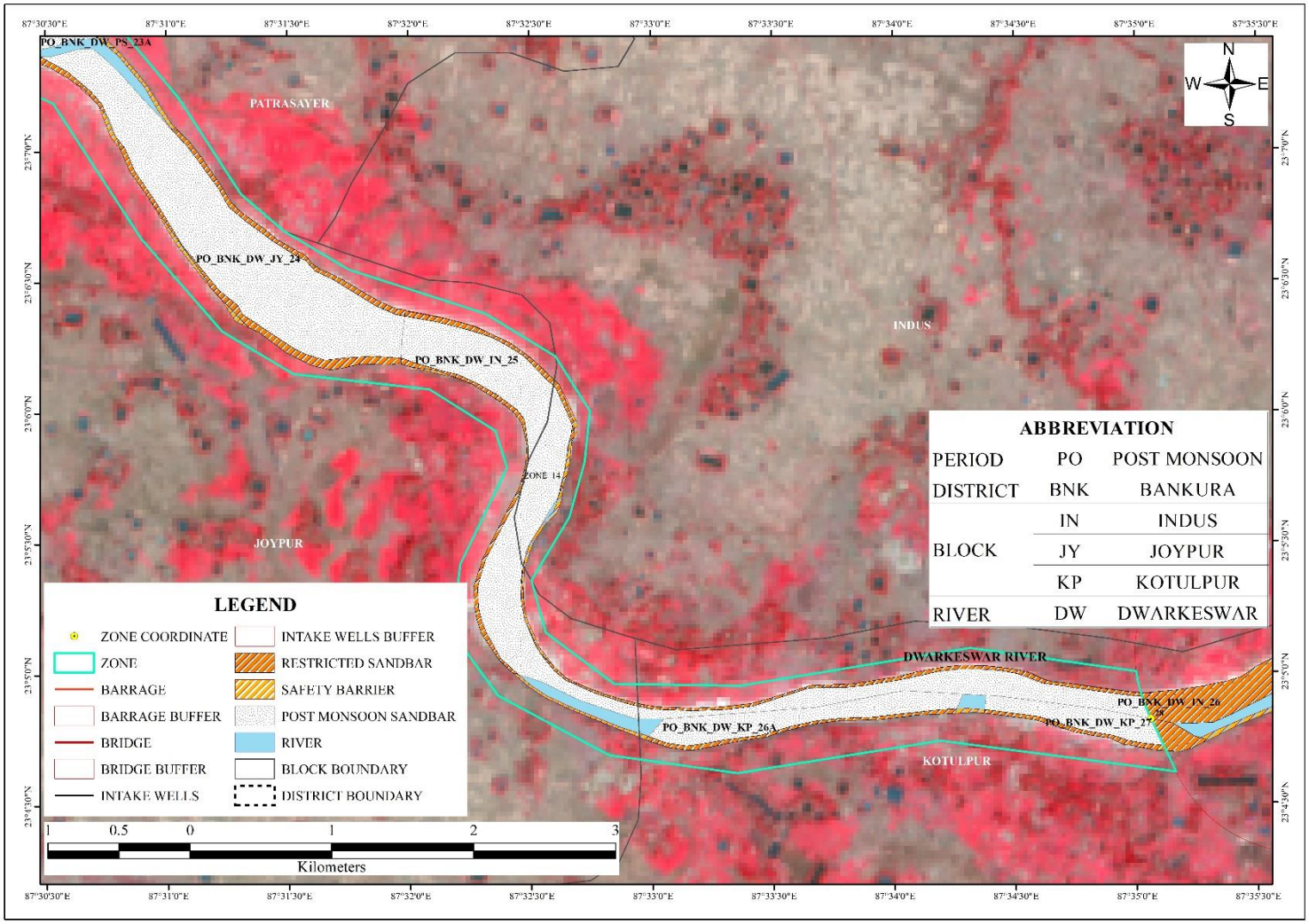


Plate 2B20: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

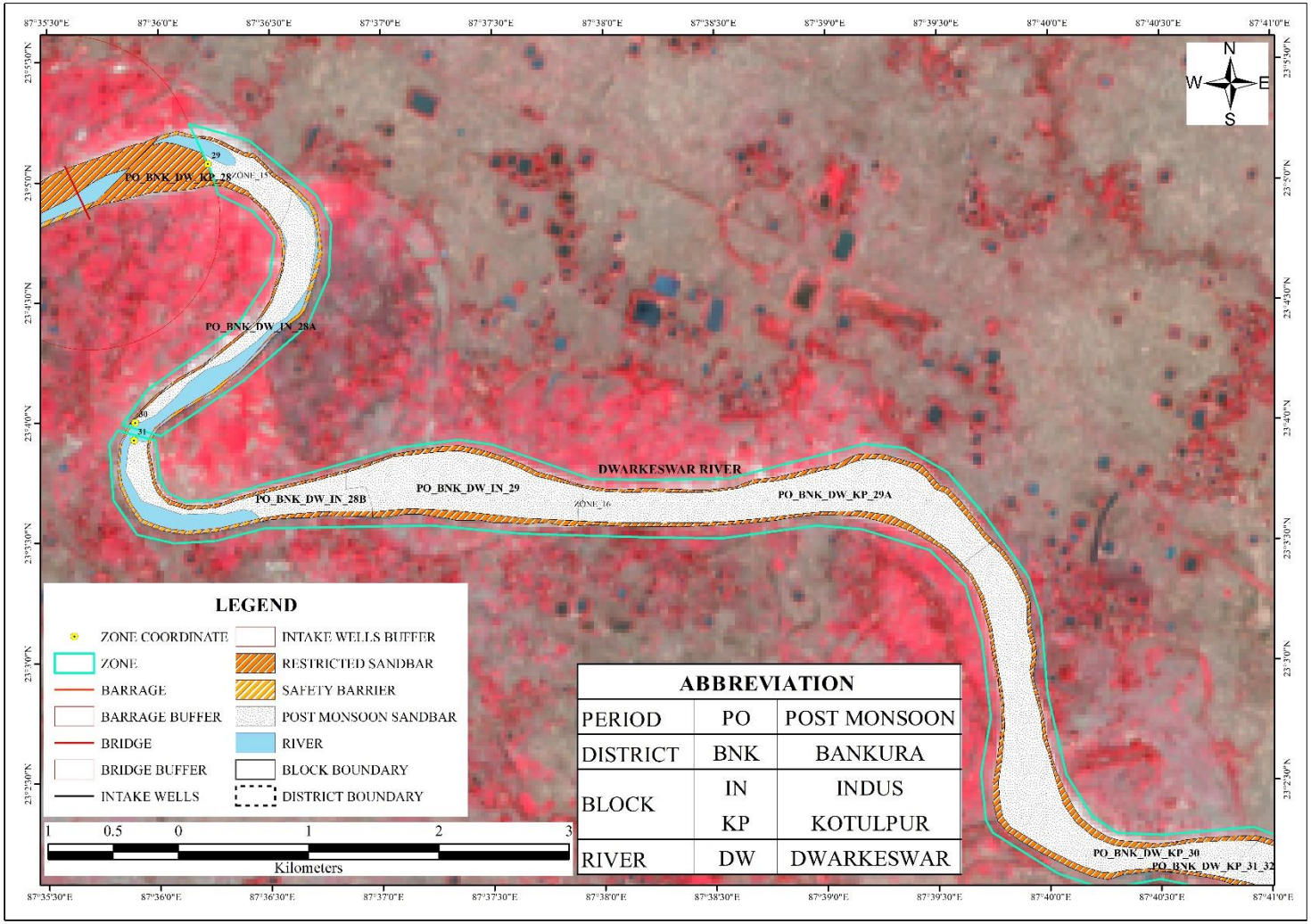


Plate 2B21: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

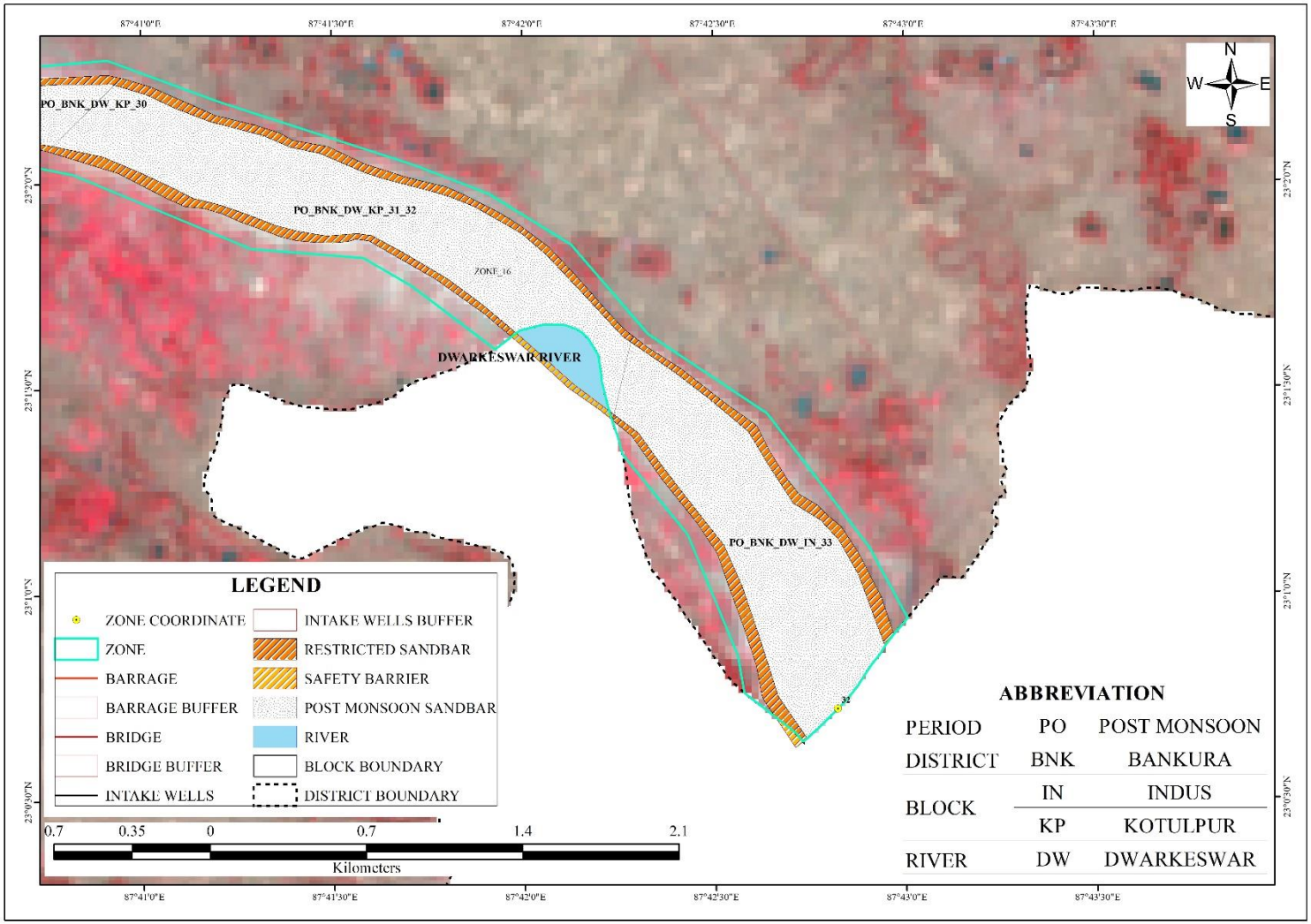


Plate 2B22: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

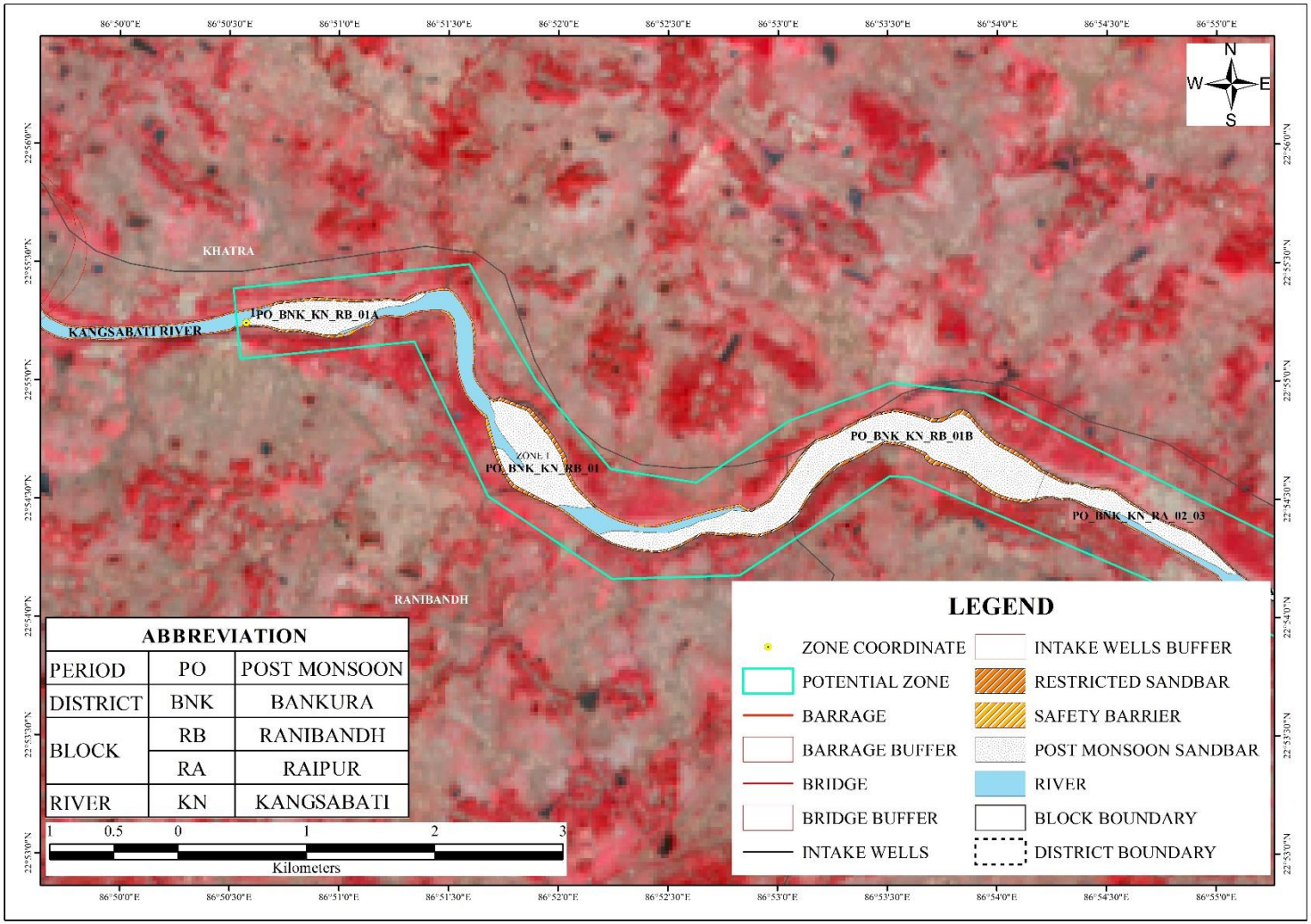


Plate 2B23: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

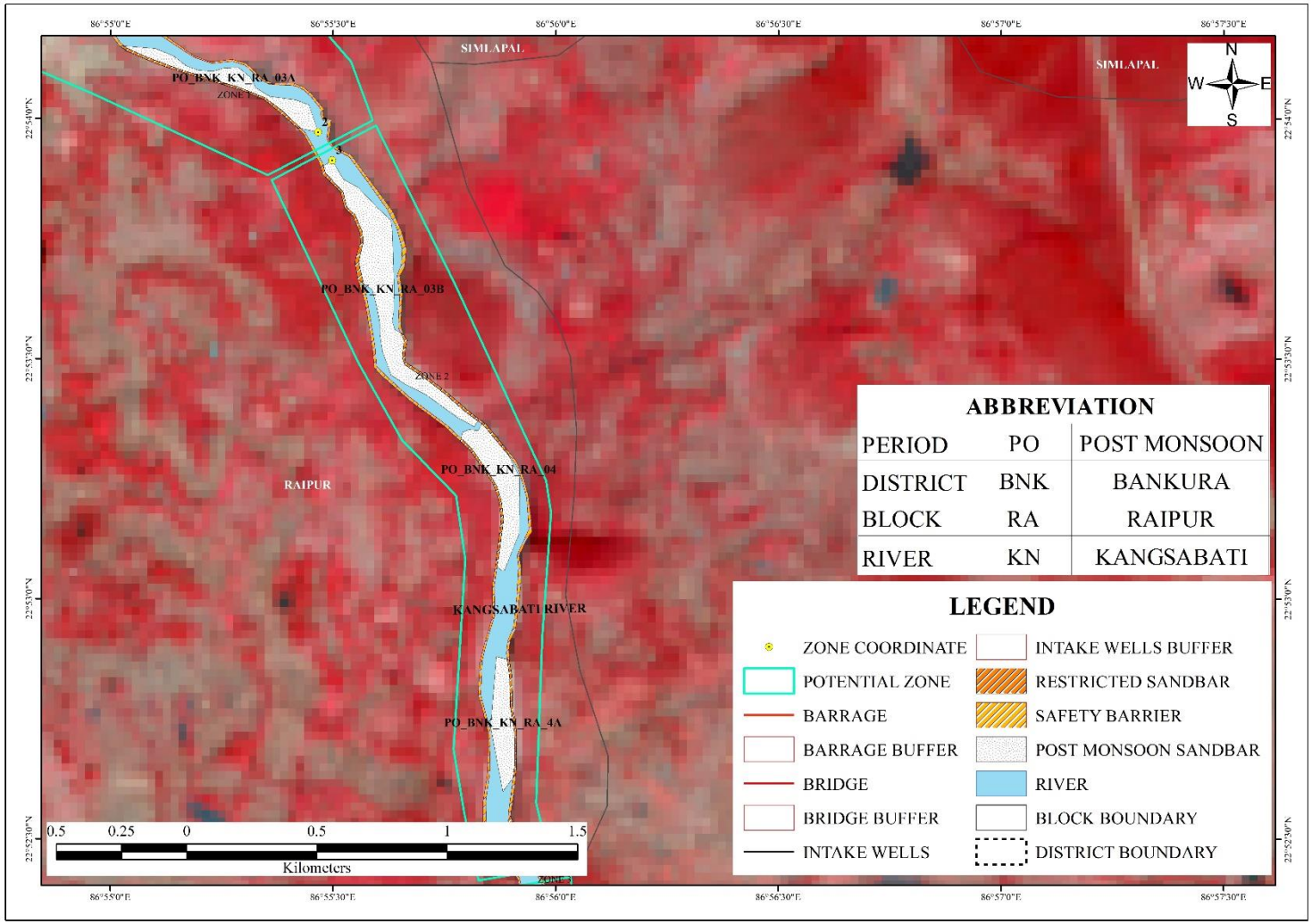


Plate 2B24: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

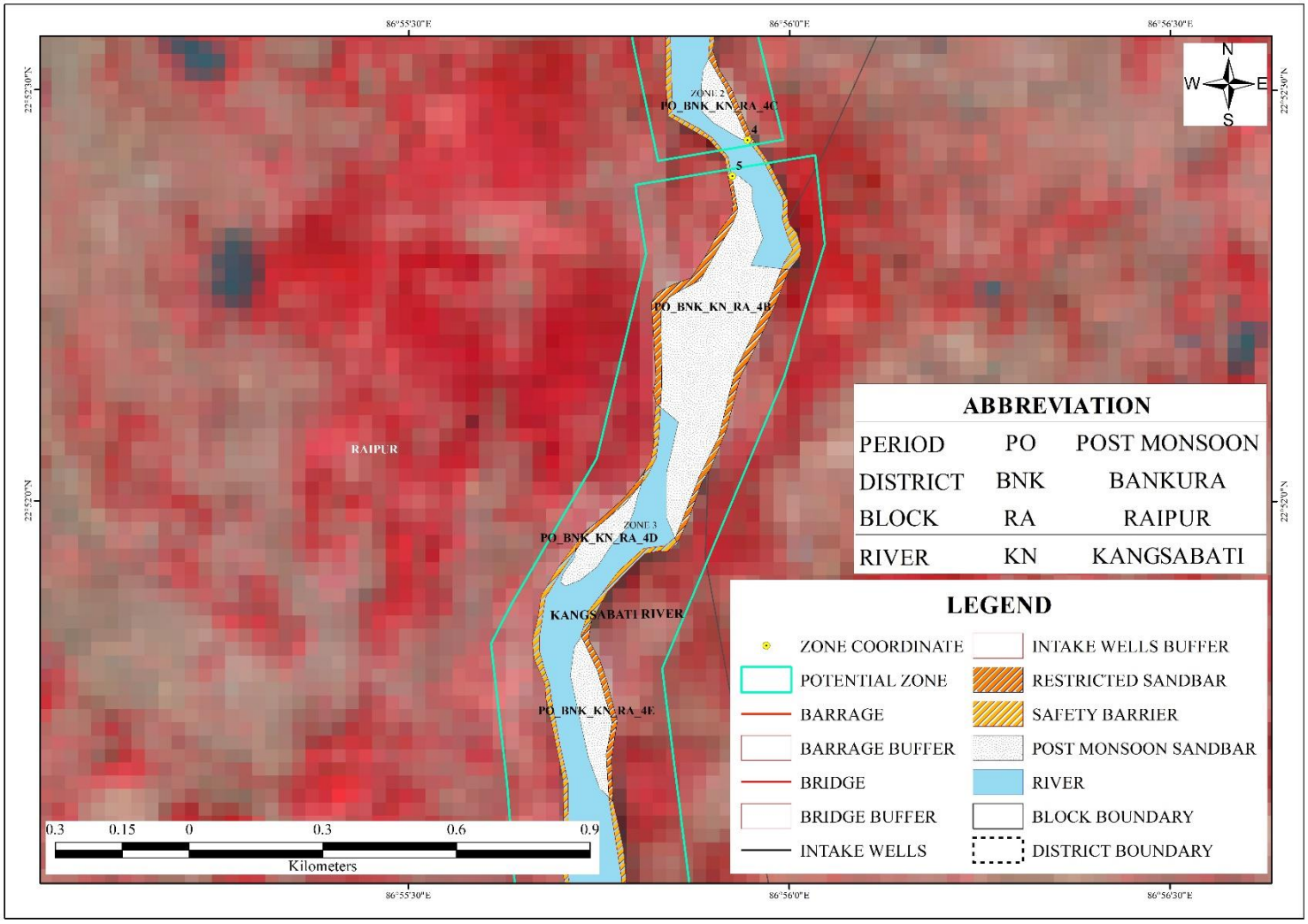


Plate 2B25: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

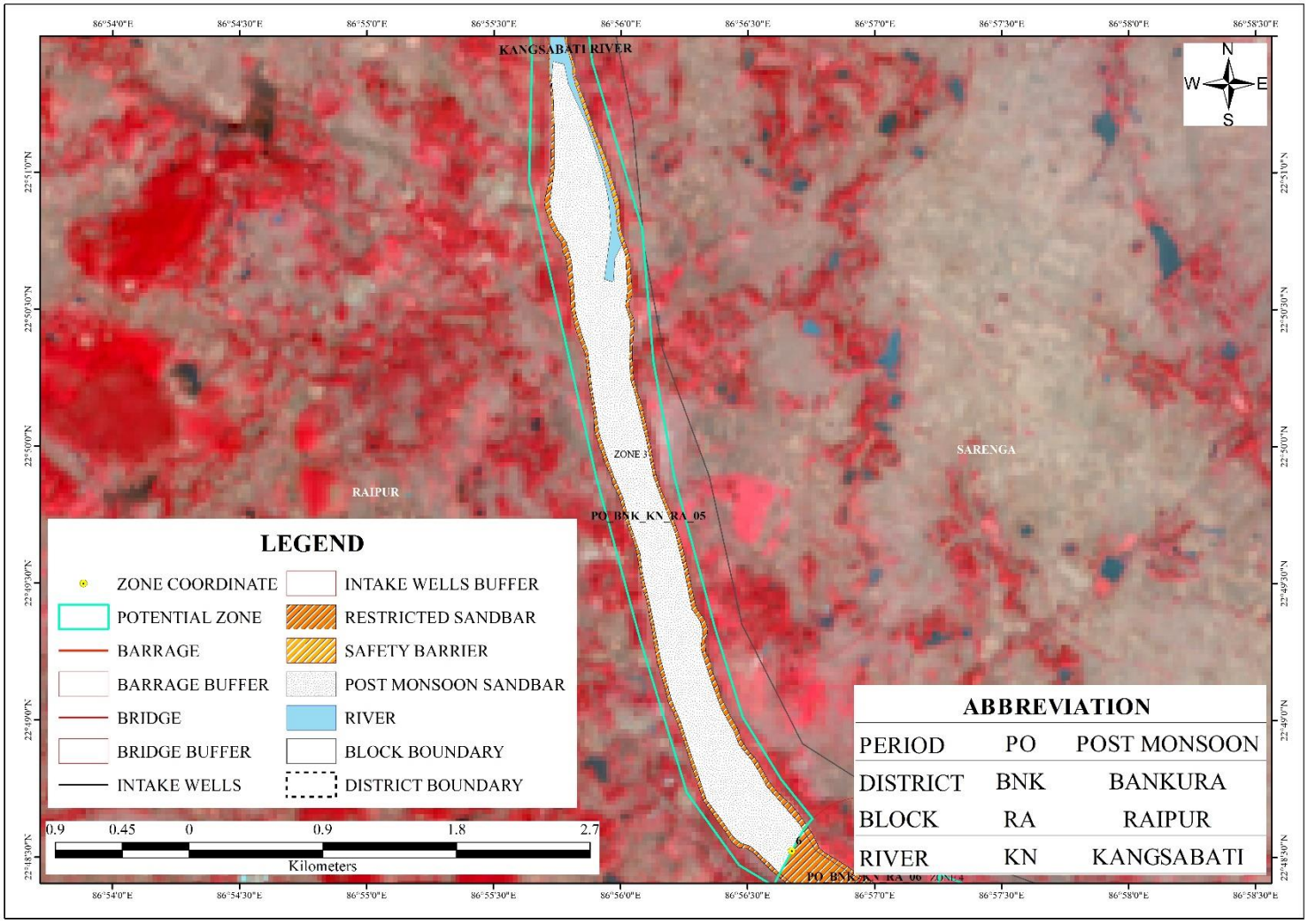


Plate 2B26: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

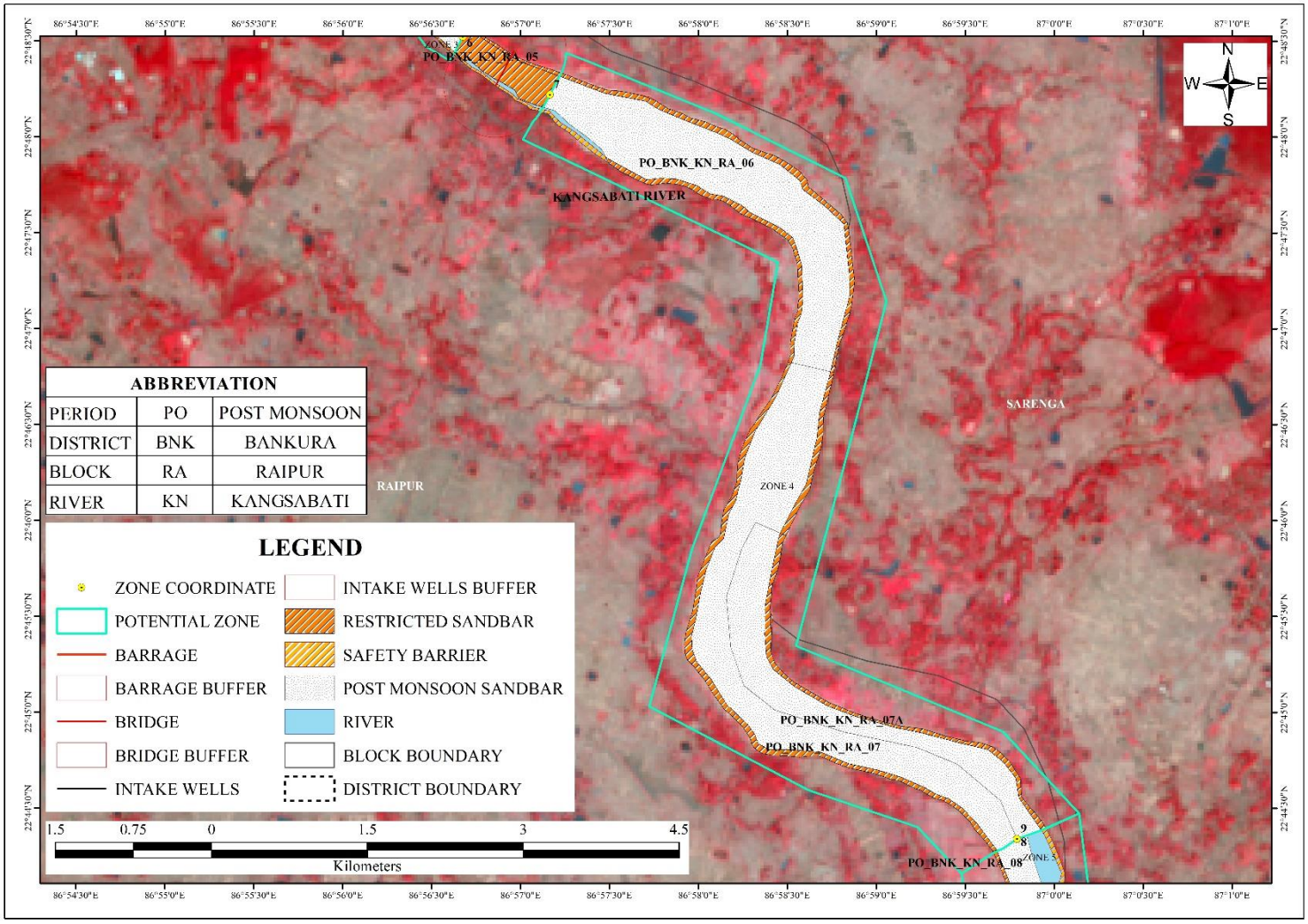


Plate 2B27: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

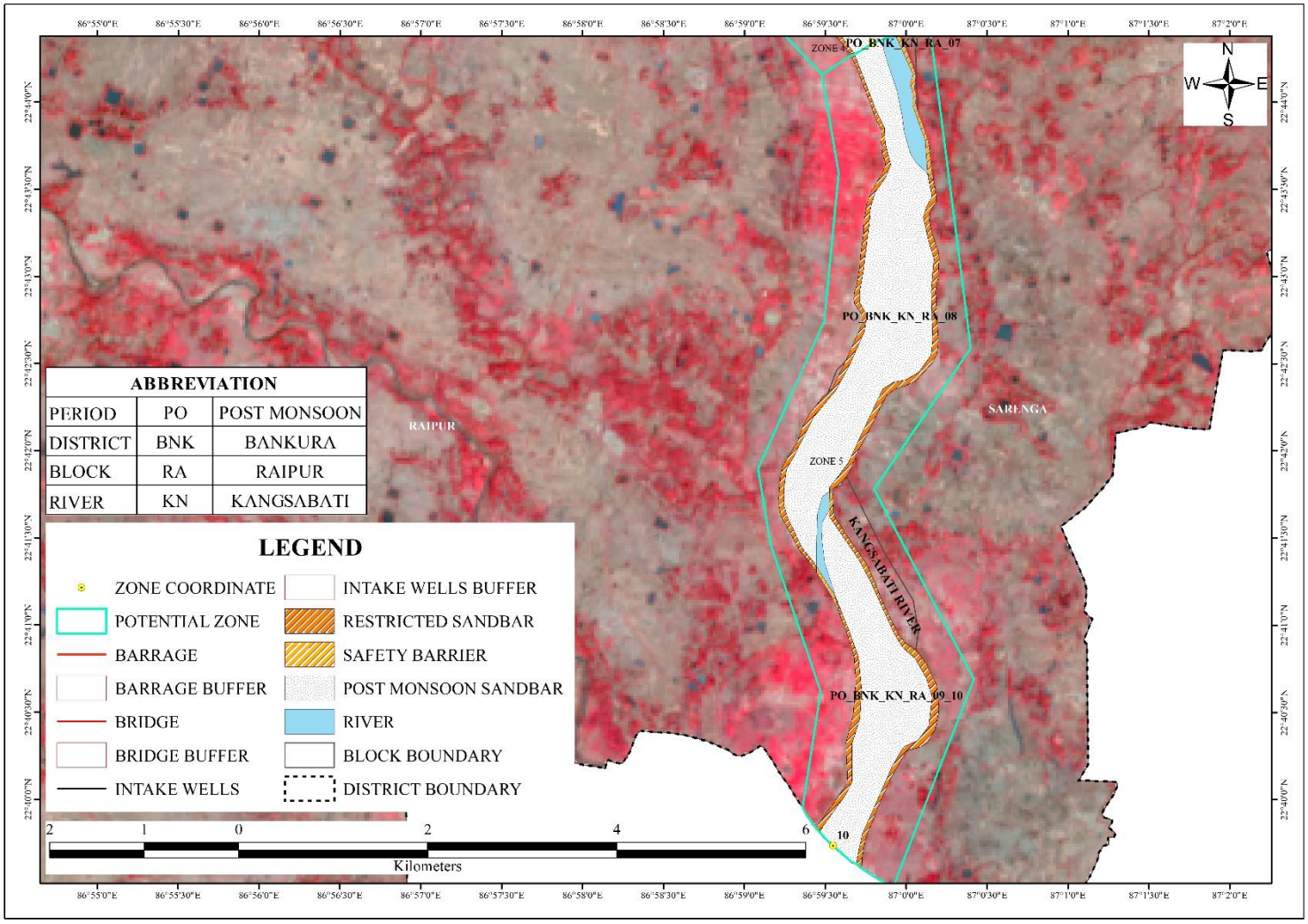


Plate 2B28: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

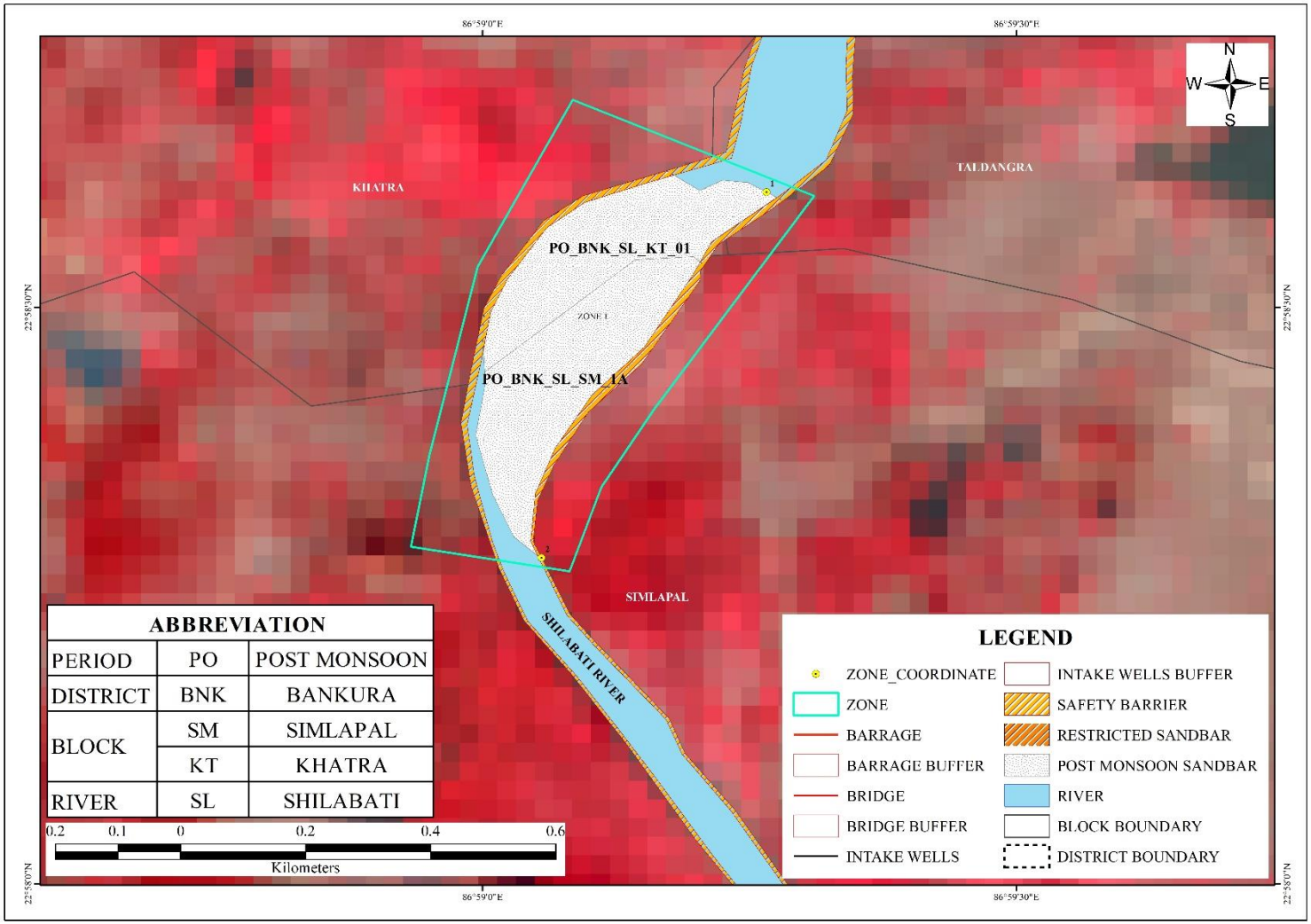


Plate 2B29: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

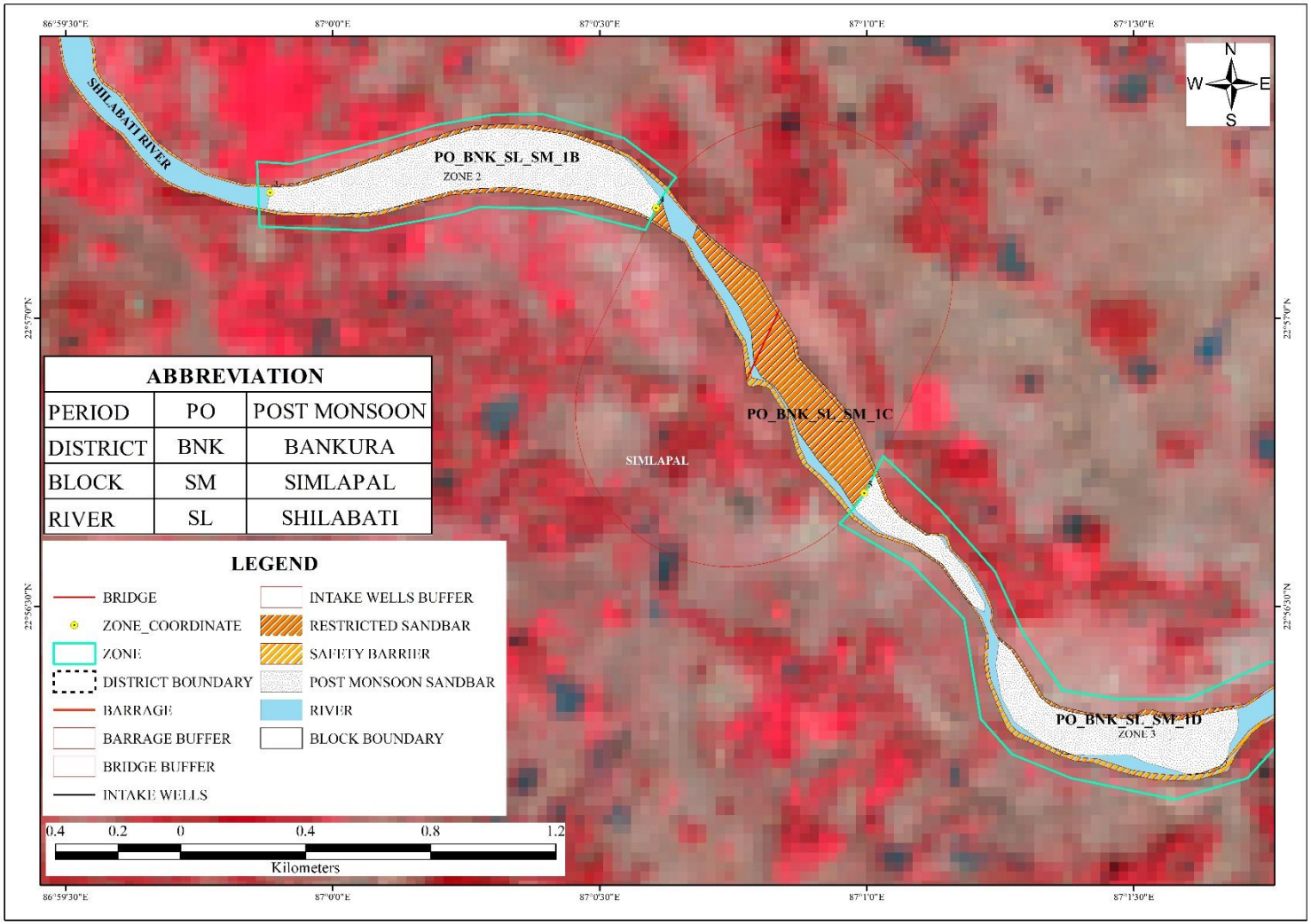


Plate 2B30: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

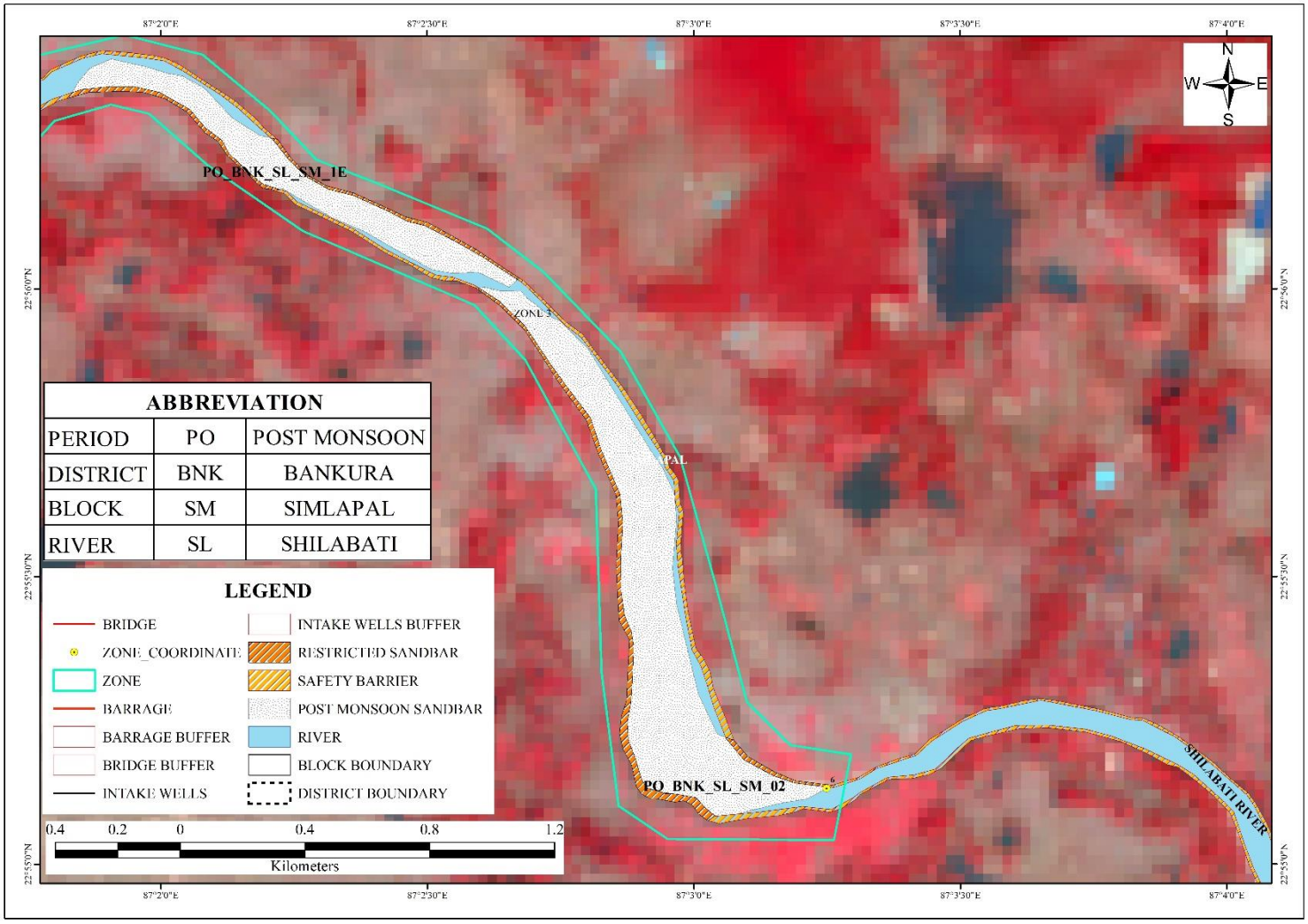


Plate 2B31: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

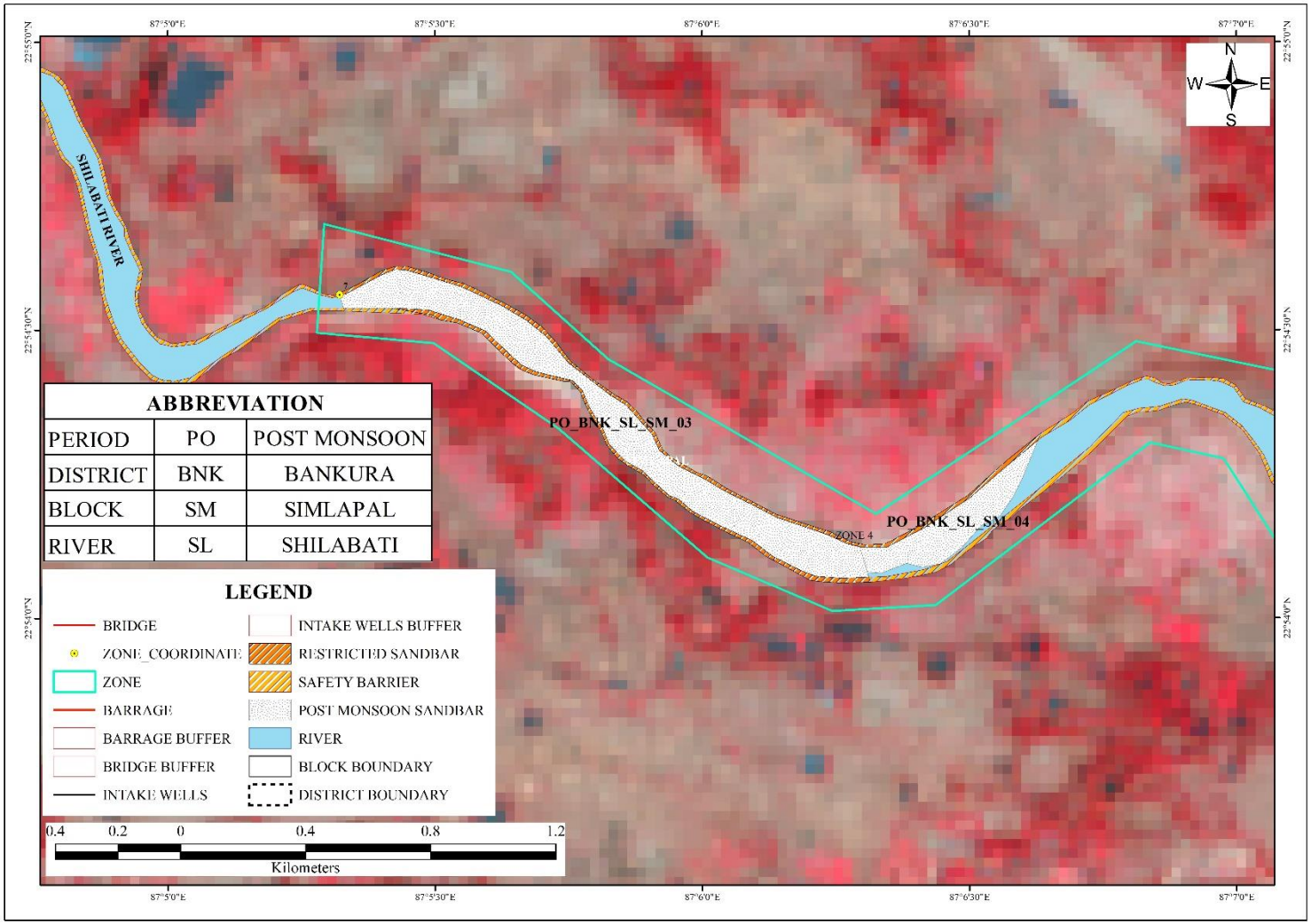


Plate 2B32: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

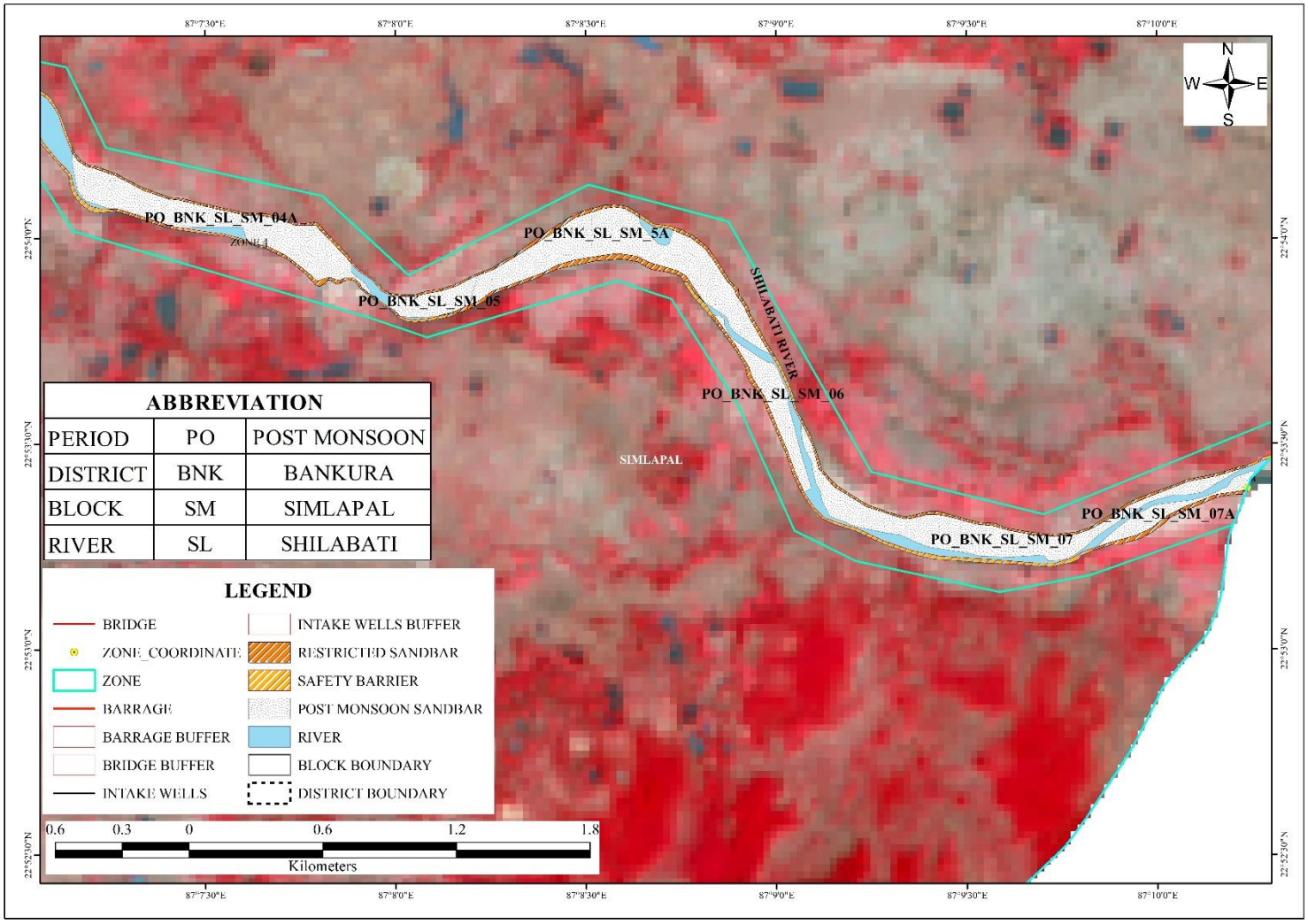
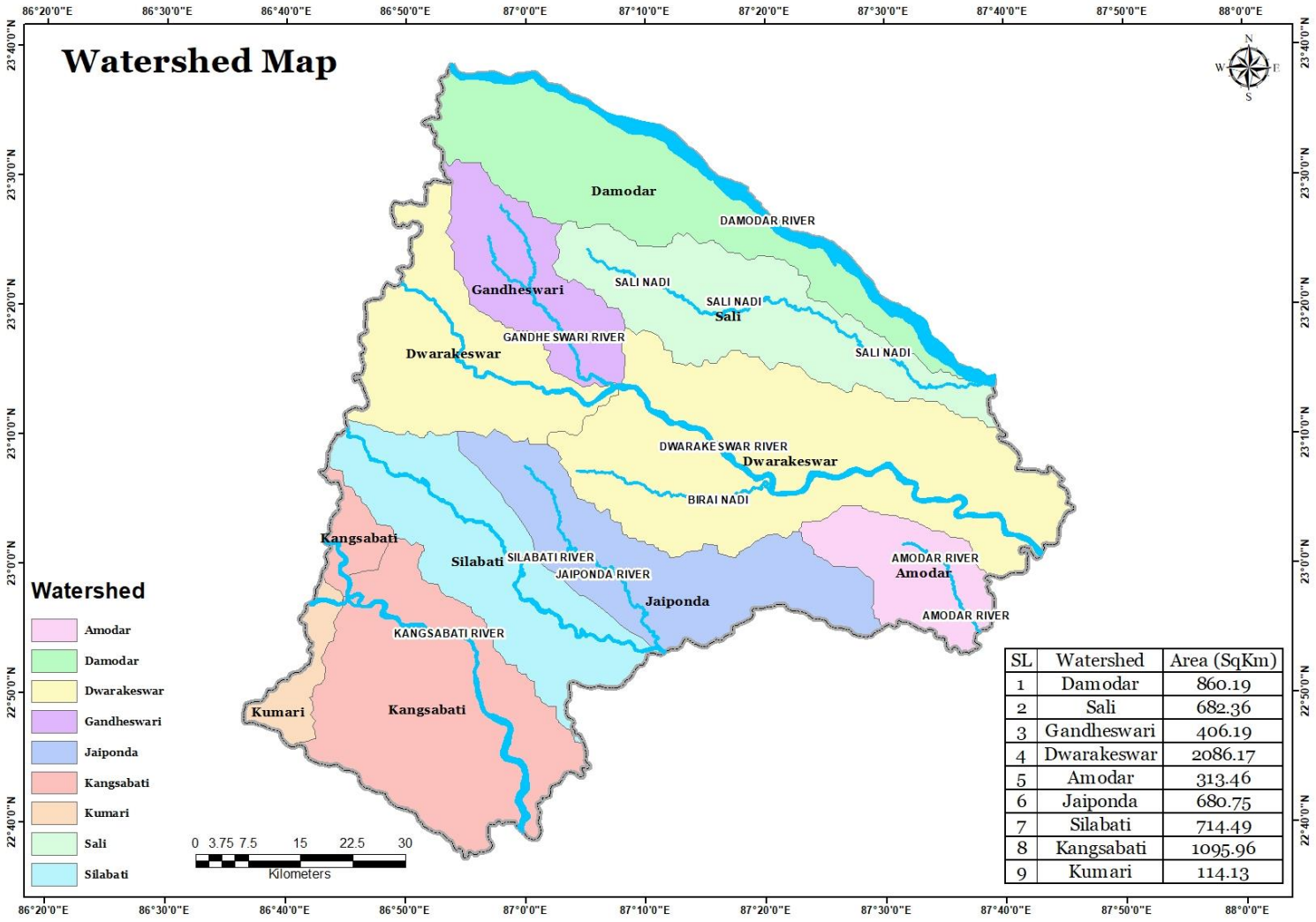


Plate 2B33: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Bankura District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

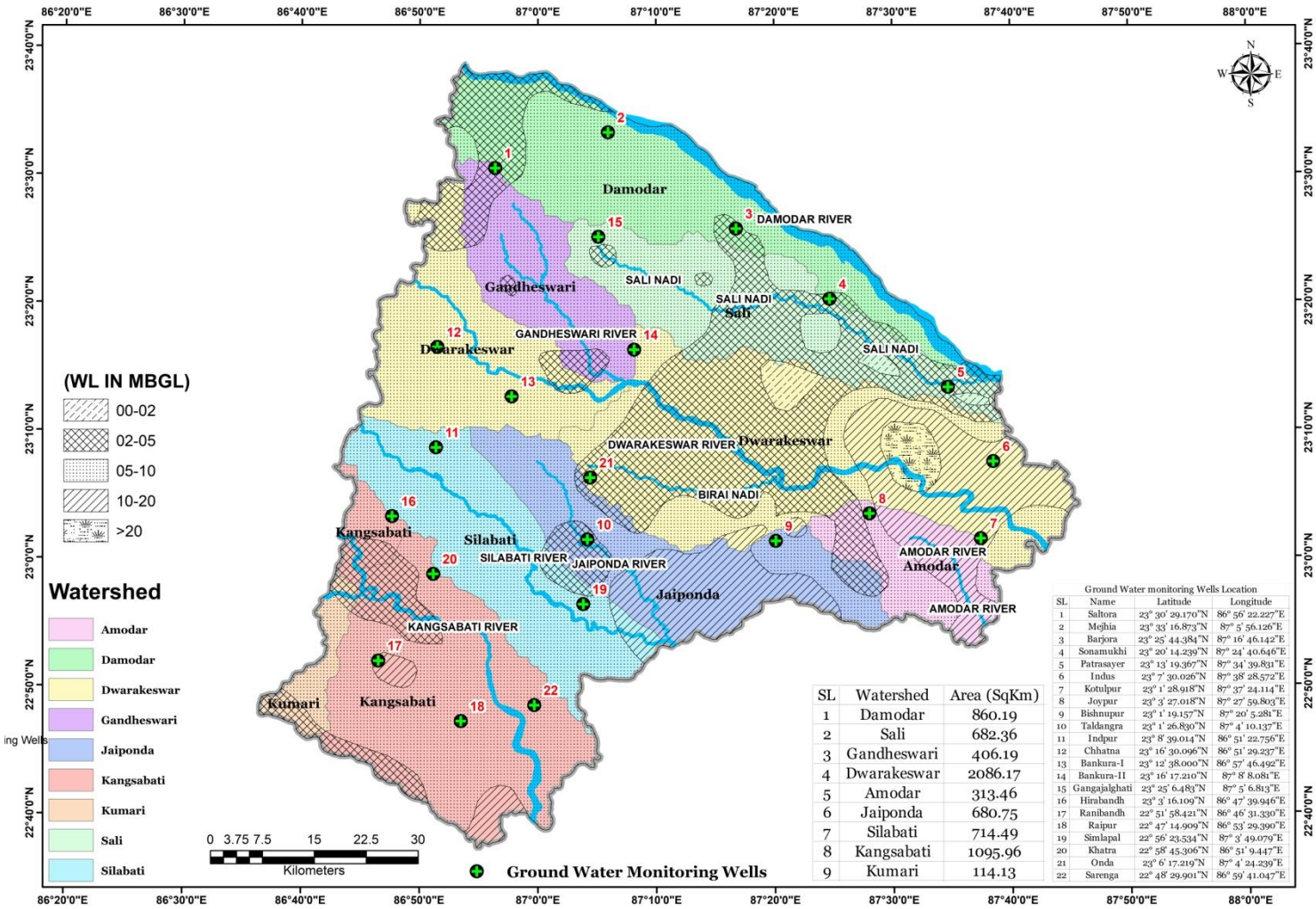
PLATE 3

WATERSHED MAP OF THE DISTRICT



SL	Watershed	Area (SqKm)
1	Damodar	860.19
2	Sali	682.36
3	Gandheswari	406.19
4	Dwarakeswar	2086.17
5	Amodar	313.46
6	Jaiponda	680.75
7	Silabati	714.49
8	Kangsabati	1095.96
9	Kumari	114.13

Plate 3A: Watershed Map of Bankura District *(Source: World Wild Fund for Nature, September 2020)*



SL	Watershed	Area (SqKm)
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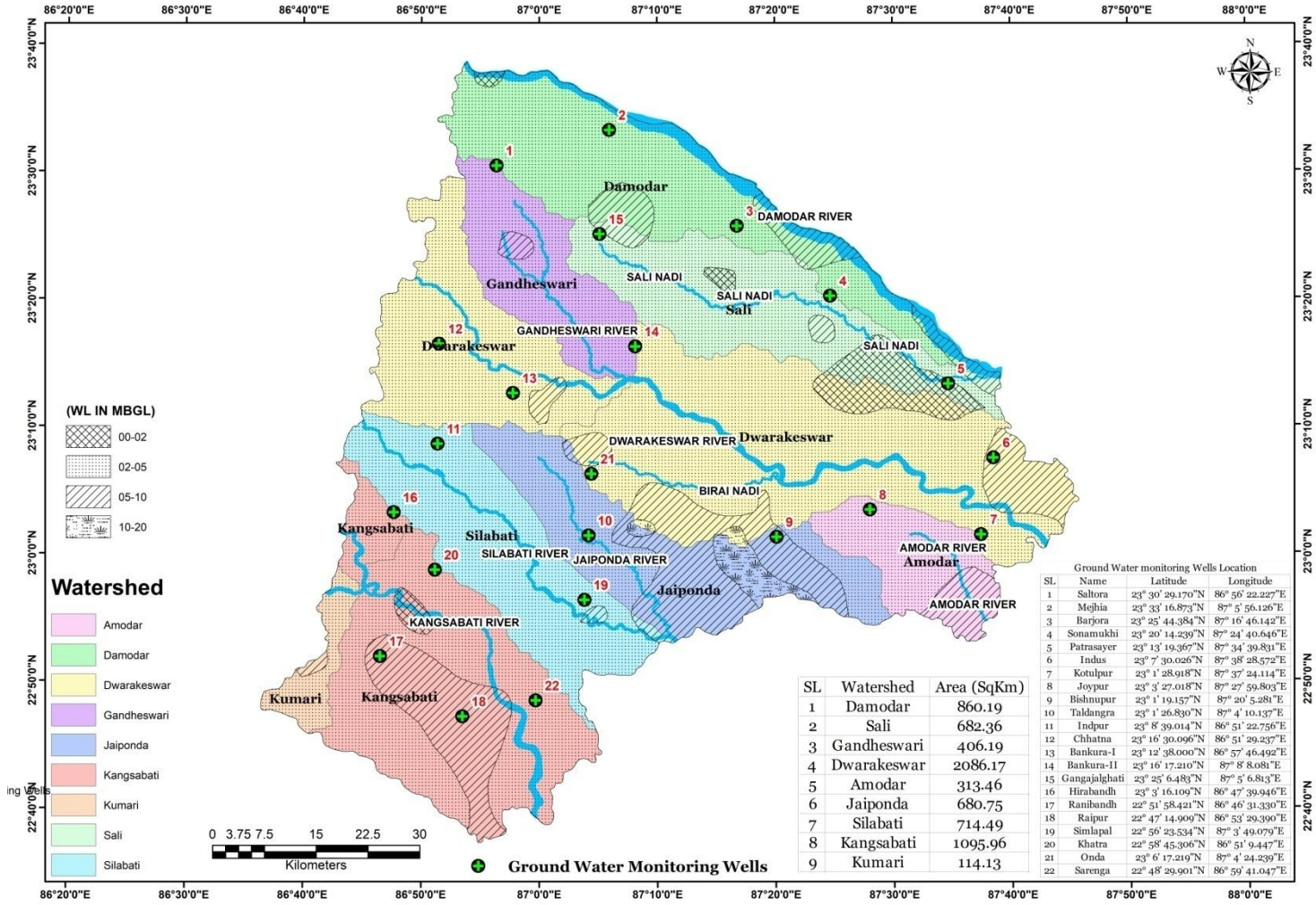
5	Amodar	313.46
6	Jaiponda	680.75
7	Silabati	714.49
8	Kangsabati	1095.96
9	Kumari	114.13

Ground Water monitoring Wells Location

SL	Name	Latitude	Longitude
1	Saltora	23° 30' 29.170"N	86° 56' 22.227"E
2	Mejhia	23° 33' 16.873"N	87° 5' 56.126"E
3	Barjora	23° 25' 44.384"N	87° 16' 46.142"E
4	Sonamukhi	23° 20' 14.239"N	87° 24' 40.646"E
5	Patrasayer	23° 13' 19.367"N	87° 34' 39.831"E
6	Indus	23° 7' 30.026"N	87° 38' 28.572"E
7	Kotulpur	23° 1' 28.918"N	87° 37' 24.114"E
8	Joypur	23° 3' 27.018"N	87° 27' 59.803"E
9	Bishnupur	23° 1' 19.157"N	87° 20' 5.281"E
10	Taldangra	23° 1' 26.830"N	87° 4' 10.137"E
11	Indpur	23° 8' 39.014"N	86° 51' 22.756"E
12	Chhatna	23° 16' 30.096"N	86° 51' 29.237"E
13	Bankura-I	23° 12' 38.000"N	86° 57' 46.492"E
14	Bankura-II	23° 16' 17.210"N	87° 8' 8.081"E
15	Gangajalghati	23° 25' 6.483"N	87° 5' 6.813"E
16	Hirabandh	23° 3' 16.109"N	86° 47' 39.946"E
17	Ranibandh	22° 51' 58.421"N	86° 46' 31.330"E
18	Raipur	22° 47' 14.909"N	86° 53' 29.390"E
19	Simlapal	22° 56' 23.534"N	87° 3' 49.079"E
20	Khatra	22° 58' 45.306"N	86° 51' 9.447"E
21	Onda	23° 6' 17.219"N	87° 4' 24.239"E
22	Sarenga	22° 48' 29.901"N	86° 59' 41.047"E

Plate 3B: District Watershed map showing ground water level during Pre-monsoon period *(Source: World Wild Fund for Nature, September 2020)*



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3	Gandheswari	406.19
4	Dwarakeswar	2086.17
5	Amodar	313.46
6	Jaiponda	680.75
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3	Barjora	23° 25' 44.384"N	87° 16' 46.142"E
4	Sonamukhi	23° 20' 14.239"N	87° 24' 40.646"E
5	Patrasayer	23° 13' 19.367"N	87° 34' 39.831"E
6	Indus	23° 7' 30.026"N	87° 38' 28.572"E
7	Kotulpur	23° 1' 28.918"N	87° 37' 24.114"E
8	Joypur	23° 3' 27.018"N	87° 27' 59.803"E
9	Bishnupur	23° 1' 19.157"N	87° 20' 5.281"E
10	Taldangra	23° 1' 26.830"N	87° 4' 10.137"E
11	Indpur	23° 8' 39.014"N	86° 51' 22.756"E
12	Chhatna	23° 16' 30.096"N	86° 51' 29.237"E
13	Bankura-I	23° 12' 38.000"N	86° 57' 46.492"E
14	Bankura-II	23° 16' 17.210"N	87° 8' 8.081"E
15	Gangajalghati	23° 25' 6.483"N	87° 5' 6.813"E
16	Hirabandh	23° 3' 16.109"N	86° 47' 39.946"E
17	Ranibandh	22° 51' 58.421"N	86° 46' 31.330"E
18	Raipur	22° 47' 14.909"N	86° 53' 29.390"E
19	Simlapal	22° 56' 23.534"N	87° 3' 49.079"E
20	Khatra	22° 58' 45.306"N	86° 51' 9.447"E
21	Onda	23° 6' 17.219"N	87° 4' 24.239"E
22	Sarenga	22° 48' 29.901"N	86° 59' 41.047"E

Plate 3C: District Watershed map showing ground water level during Post-monsoon period *(Source: World Wild Fund for Nature, September 2020)*

PLATE 4

FIELD SURVEY PHOTOGRAPHS

	
4A: Picture of Damodar Riverbed deposit (Date: 12-05-22, Lat: 23. 242967° N and Long: 87. 607275° E)	**4A: Picture of Darakeswar Riverbed deposit (Date: 12-05-22, Lat: 23.08068638° N and Long: 87.57805914° E)**

PLATE 5A & 5B

LONG TERM EROSION-ACCRETION MAP OF RIVER BANK

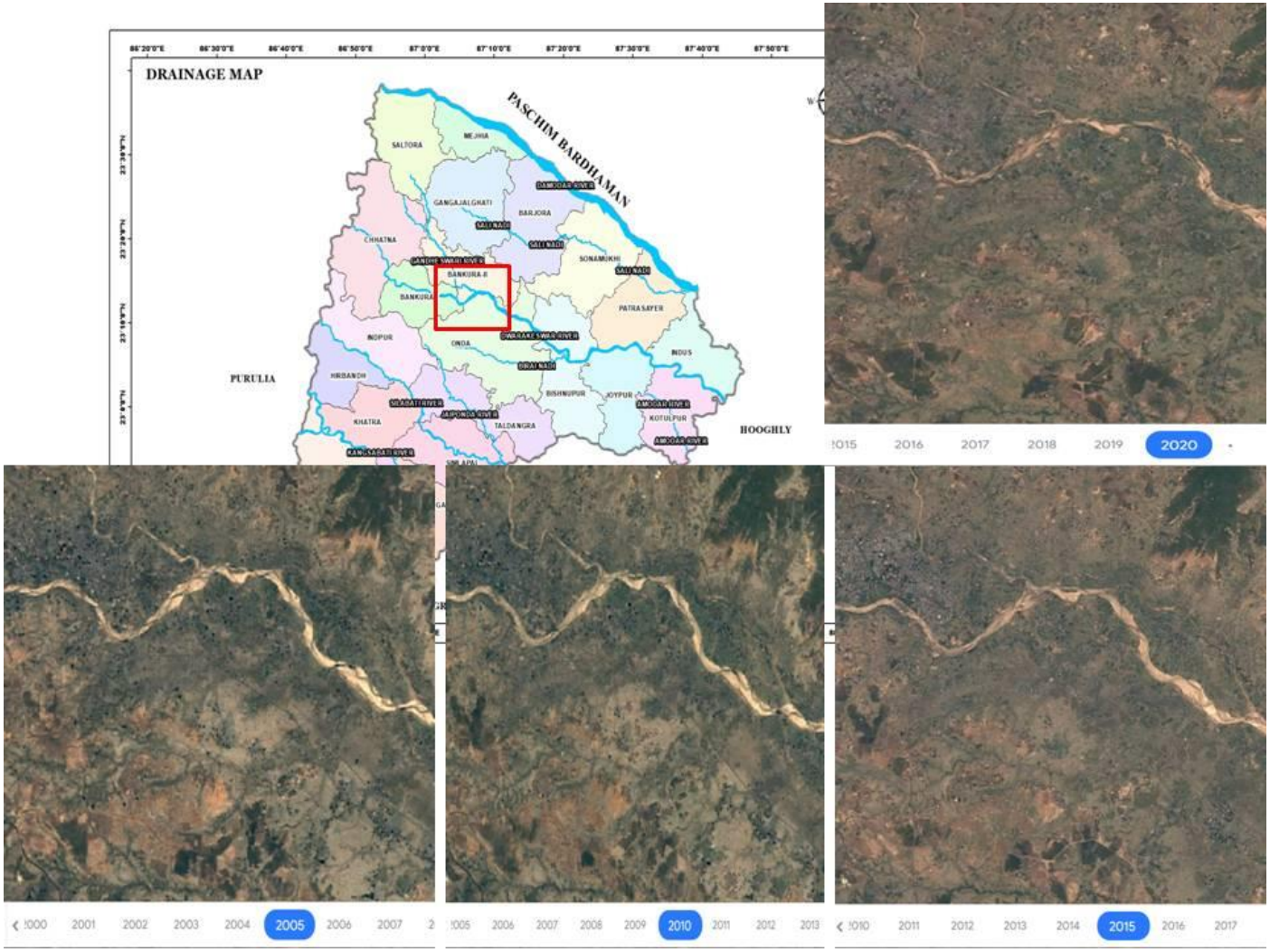


Plate 5A: Long term river course map of Dwarakeswar showing very less erosion/ accretion along its banks
(Source: ISRO RESOURCE Sat 2 LISS III Sensor)

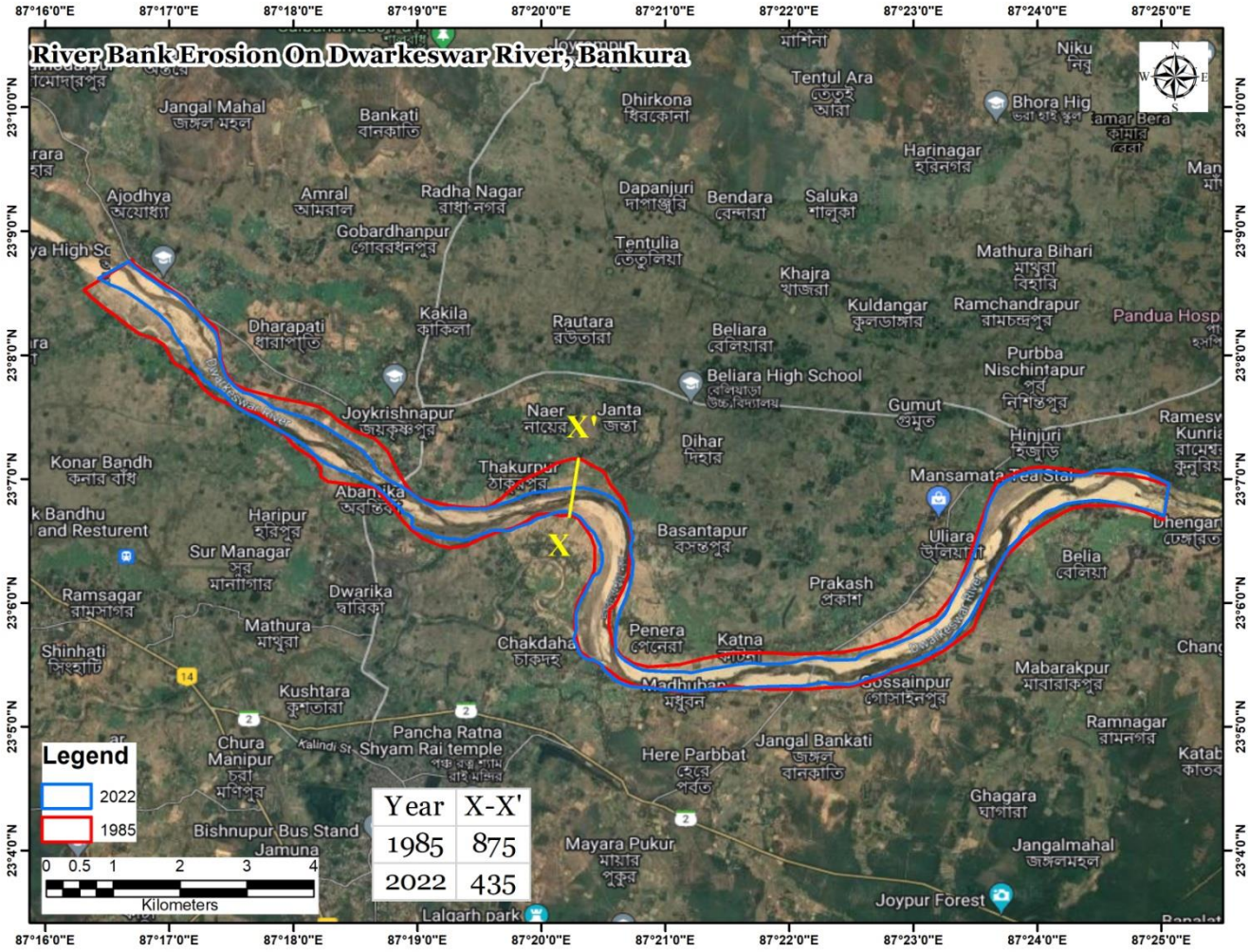


Plate 5B: Map showing long-term (10-year or more) erosion-accretion areas on both the banks of Dwarakeswar River, Bankura *(Source: ISRO RESOURCE Sat 2 LISS III Sensor)*



Annexure 1
Compliance as per Enforcement & Monitoring Guidelines for sand Mining, 2020 (MoEF& CC) for preparation of District Survey Report

Sl. No.	Particulars	Status
1	District Survey Report for sand mining shall be prepared before the auction/e-auction/grant of the mining lease/Letter of Intent (LoI) by Mining department or department dealing the mining activity in respective states.	Noted.
2	In order to make the inventory of River Bed Material, a detailed survey of the district needs to be carried out, to identify the source of River Bed Material and alternative source of sand (M-Sand). The source will include rivers, de-siltation of reservoir/dams, Patta lands/Khatedari Land, M-sand etc.	Complied with and explained in Chapter 7 pg no 54 to 94.
3	District Survey Report is to be prepared in such a way that it not only identifies the mineral-bearing area but also define the mining and no mining zones considering various environmental and social factors.	Complied with and furnished in pg no 82-83.
4	Identification of the source of Sand & M-Sand. The sources may be from Rivers, Lakes, Ponds, Dams, De-silting locations, Patta land/Khtedari lands. The details in case of Rivers such as [name, length of river, type (Perennial or Non-Perennial), Villages, Tehsil, District], in case of Lakes, Ponds, Dams, De-silting locations [Name, owned/maintained by (State Govt./PSU), area, Villages, Tehsil, District] in case of Patta land/Khtedari lands [Owner Name, Sy No, Area, Agricultural/Non-Agricultural, Villages, Tehsil, District], in case of M-Sand Plant [Owner Name, Sy No, Area, Quantity/Annum, Villages, Tehsil, District], needs to be recorded .	Complied with and given in table 7.4 pg 64-67.
5	Defining the sources of Sand/M-Sand in the district is the next step for identification of the potential area of deposition/aggradation wherein mining lease could be granted. Detailed survey needs to be carried out for quantification of minerals. The purpose of mining in the river bed is for channelization of rivers so as to avoid the possibility of flooding and to maintain the flow of the rivers. For this, the entire river stretch needs to be surveyed and original ground level (OGL) to be recorded and area of aggradation/deposition needs to be ascertained by comparing the level difference between the outside riverbed OGL and water level. Once the area of aggradation/deposition is identified, then the quantity of River Bed Material available needs to be calculated. The next step is channelization of the river bed and for this central ¾th part of the river, width needs to be identified on a map. Out of the ¾th part area, where there is a deposition/aggradation of the material needs to be identified. The remaining ¼th area needs to be kept as no mining zone for the protection of banks. The specific gravity of the material also needs to be ascertained by analyzing the sample from a NABL accredited lab. Thus, the quantity of material available in metric ton needs to be calculated for mining and no mining zone.	Complied with and given in table 7.12 pg 79 to 81.

Sl. No.	Particulars	Status
6	The permanent boundary pillars need to be erected after identification of an area of aggradation and deposition outside the bank of the river at a safe location for future surveying. The distance between boundary pillars on each side of the bank shall not be more than 100 meters.	Benchmark Pillars are established in strategic locations while boundary pillars will be fixed while fixation of the mining lease boundary subsequent to district level verification.
7	Identifying the mining and no mining zone shall follow with defining the area of sensitivity by ascertaining the distance of the mining area from the protected area, forest, bridges, important structures, habitation etc. and based on the sensitivity the area needs to be defined in sensitive and non-sensitive area.	Complied with and furnished in pg no 82 to 83.
8	Demand and supply of the Riverbed Material through market survey needs to be carried out. In addition to this future demand for the next 5 years also needs to be considered.	Complied with and given in pg no 8.
9	It is suggested that as far as possible the sensitive areas should be avoided for mining, unless local safety condition arises. Such deviation shall be temporary & shall not be a permanent feature.	Complied with and furnished in pg no 82 to 83.
10	Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two-thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.	Noted. The DSR is composing of all the potential sand zones for defining the resources. In a subsequent phase blocking of potential zones shall be done in due consultation with the district level committee. The areas mentioned in the observation points shall be excluded while blocking of sand mining leases which are part of these potential zones marked in this DSR.
11	The final area selected for the mining should be then divided into mining lease as per the requirement of State Government. It is suggested the mining lease area should be so selected as to cover the entire deposition area. Dividing a large area of deposition/aggradation into smaller mining leases should be avoided as it leads to loss of mineral and indirectly promote illegal mining.	Shall be Complied with.
12	Cluster situation shall be examined. A cluster is formed when one mining lease of homogenous mineral is within 500 meters of the other mining lease. In order to reduce the cluster formation mining lease size should be defined in such a way that distance between any two clusters preferably should not be less than 2.5 Km. Mining lease should be defined in such a way that the total area of the mining leases in a cluster should not be more than 10 Ha.	Noted. Due care will be taken while distribution of mining leases either to prevent cluster situation or keeping the prescribed distance in-between two mining clusters.
13	The number of a contiguous cluster needs to be ascertained. Contiguous cluster is formed when one cluster is at a distance of 2.5 Km from the other cluster.	Noted and shall be complied with.

Sl. No.	Particulars	Status
14	The mining outside the riverbed on Patta land/Khatedari land be granted when there is possibility of replenishment of material. In case, there is no replenishment then mining lease shall only be granted when there is no riverbed mining possibility within 5 KM of the Patta land/Khatedari land. For government projects, mining could be allowed on Patta land/Khatedari land but the mining should only be done by the Government agency and material should not be used for sale in the open market. Cluster situation as mentioned in para k above is also applicable for the mining in Patta land/Khatedari land.	Noted.
15	The State Government should define the transportation route from the mining lease considering the maximum production from the mines as at this stage the size of mining leases, their location, the quantity of mineral that can be mined safely etc. is available with the State Government. It is suggested that the transportation route should be selected in such a way that the movement of trucks/tippers/tractors from the villages having habitation should be avoided. The transportation route so selected should be verified by the State Government for its carrying capacity.	Noted and final transport route will be submitted during preparation of mine plan.
16	Potential site for mining having its impact on the forest, protected area, habitation, bridges etc, shall be avoided. For this, a sub-divisional committee may be formed which after the site visit shall decide its suitability for mining.	Shall be Complied with.
17	Public consultation-The Comments of the various stakeholders may be sought on the list of mining lease to be auctioned. The State Government shall give an advertisement in the local and national newspaper for seeking comments of the general public on the list of mining lease included in the DSR. The DSR should be placed in the public domain for at least one month from the date of publication of the advertisement for obtaining comments of the general public. The comments so received shall be placed before the sub-divisional committee for active consideration. The final list of sand mining areas [leases to be granted on riverbed &Patta land/Khatedari land, de-siltation location (ponds/lakes/dams), M-Sand Plants (alternate source of sand)] after the public hearing needs to be defined in the final DSR.	After publication of the West Bengal Sand Mining Policy, 2021, it is now eminent that State owned The West Bengal Mineral Development and Trading Corporation Limited (WBMDTCL) shall be responsible for mining of sand/ gravel/ river bed materials in whole state of West Bengal. However, the existing mining leases which were in effect before hand of this Gazzate notification July 2021 will be in operation till the year 2027-28. In order to have the rational distribution of mining leases as per the prevailing norms and guidelines grant of mining leases in the state of West Bengal shall be carried out in phases till all the blocks are under the ambit of WBMDTCL. This DSR thus consist of the identified potential sand deposite areas within which the existing and future mining leases shall occur. The details of the mining leases as and when granted shall follow the procedure described in EMGSM 2020 and prevailing norms.
18	The LOI should not be granted for mining area falling on both riverbed and outside riverbed. Therefore, in the same lease, both types of area should not be included.	Shall be Complied with.



Annexure 2

Estimation of Sand Resources based on sediment load comparison between Pre and Post Monsoon period of Bankura District

Abbreviation used in the table as below

PERIOD	PR	PRE MONSOON	RIVER	DW	DWARAKESWAR
PERIOD	PO	POST MONSOON	RIVER	KN	KANGSABATI RIVER
DISTRICT	BNK	BANKURA	RIVER	SL	SILABATI
RIVER	DA	DAMODAR	BLOCK	SL	SALTORA
BLOCK	CH	CHHATNA	BLOCK	BJ	BARJORA
BLOCK	MJ	MEJHIA	BLOCK	PS	PATRASAYER
BLOCK	SM	SONAMUKHI	BLOCK	KP	KOTULPUR
BLOCK	IN	INDUS	BLOCK	BSP	BISHNUPUR
BLOCK	JY	JOYPUR	BLOCK	TD	TALDANGA
BLOCK	ON	ONDA	BLOCK	SR	SARENGA
BLOCK	SMP	SIMLAPAL	BLOCK	KT	KHATRA
BLOCK	RA	RAIPUR	BLOCK	B2	BANKURA-II
BLOCK	B1	BANKURA-I			

Pre monsoon						**Post monsoon**					
SL No	**Sand Bar_Code**	**RL (m)**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**SL No**	**Sand Bar_Code**	**RL (m)**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
Estimation of Sand Resources in Pre monsoon period & Post monsoon period of Damodar River											
						1	PO_BNK_DA_SL_01A	85	161043.8361	3.00	0.48
1	PR_BNK_DA_SL_01	89	43995.13836	2.50	0.11	2	PO_BNK_DA_SL_01_02	85	667797.0973	3.00	2.00
2	PR_BNK_DA_SL_02	88	257260.5246	2.50	0.64						
						3	PO_BNK_DA_SL_2A	83	89332.4602	3.00	0.27
3	PR_BNK_DA__SL_03	83	51416.82135	2.50	0.13	4	PO_BNK_DA_SL_03	83	154482.9612	3.00	0.46
						5	PO_BNK_DA_SL_03A	83	60190.27066	3.00	0.18
4	PR_BNK_DA_SL_04	90	889864.5337	2.50	2.22	6	PO_BNK_DA_SL_04	80	1335359.142	3.00	4.01
						7	PO_BNK_DA_SL_4A	77	112339.0836	3.00	0.34
5	PR_BNK_DA_SL_05	82	427839.9035	2.50	1.07	8	PO_BNK_DA_SL_05	82	832205.8823	3.00	2.50
6	PR_BNK_DA_MJ_06	78	166200.4539	2.50	0.42	9	PO_BNK_DA_MJ_06	78	452071.0086	3.00	1.36
7	PR_BNK_DA_MJ_07	77	83529.7317	2.50	0.21	10	PO_BNK_DA_MJ_07	77	129018.196	3.00	0.39
8	PR_BNK_DA_MJ_08	77	53238.51374	2.50	0.13	11	PO_BNK_DA_MJ_08	77	297361.4956	3.00	0.89
9	PR_BNK_DA_MJ_09	76	277745.9562	2.50	0.69	12	PO_BNK_DA_MJ_09	76	662017.2251	3.00	1.99
						13	PO_BNK_DA_MJ_9A	75	95479.73915	3.00	0.29
10	PR_BNK_DA_MJ_10	74	78406.18746	2.50	0.20	14	PO_BNK_DA_MJ_10	74	517125.06	3.00	1.55
11	PR_BNK_DA_MJ_11	73	1141783.429	2.50	2.85	15	PO_BNK_DA_MJ_11_12_13_14	73	2244187.179	3.00	6.73
12	PR_BNK_DA_MJ_12	72	125595.2893	2.50	0.31						
						16	PO_BNK_DA_MJ_12A	72	232662.8429	3.00	0.70

Pre monsoon						Post monsoon					
SL	**Sand Bar_Code**	**RL (m)**	**Area in sq.m.**	**Sand Thickness**	**Sand Volume**	**SL**	**Sand Bar_Code**	**RL (m)**	**Area in sq.m.**	**Sand Thick**	**Sand Volum**
13	PR_BNK_DA_MJ_13	72	610034.5125	2.50	1.53	17	PO_BNK_DA_MJ_11_12_13_14	71	2244187.179	3.00	6.73
14	PR_BNK_DA_MJ_14	71	218814.323	2.50	0.55						
15	PR_BNK_DA_MJ_15	69	178212.512	2.50	0.45	18	PO_BNK_DA_MJ_15	69	658506.6655	3.00	1.98
16	PR_BNK_DA_MJ_16	69	207749.2894	2.50	0.52	19	PO_BNK_DA_MJ_16_17	68	1359517.072	3.00	4.08
17	PR_BNK_DA_MJ_17	69	444179.3158	2.50	1.11						
18	PR_BNK_DA_MJ_18	67	195766.5206	2.50	0.49	20	PO_BNK_DA_MJ_18	67	257134.9732	3.00	0.77
						21	PO_BNK_DA_,MJ_18A	65	568569.5889	3.00	1.71
19	PR_BNK_DA_BJ_19	57	1783865.564	2.50	4.46	22	PO_BNK_DA_BJ_19	56	2460934.129	3.00	7.38
20	PR_BNK_DA_BJ_20	57	3325268.956	2.50	8.31	23	PO_BNK_DA_BJ_20	56	2163834.8567	3.00	6.49
						24	PO_BNK_DA_BJ_20A	56	59462.1921	3.00	0.18
						25	PO_BNK_DA_BJ_20B	54	1101427.069	3.00	3.30
21	PR_BNK_DA_SM_21	54	1051912.691	2.50	2.63	26	PO_BNK_DA_SM_21	54	561601.6862	3.00	1.68
						27	PO_BNK_DA_SM_21A	54	378464.5432	3.00	1.14
						28	PO_BNK_DA_SM_21B	54	168098.7366	3.00	0.50
22	PR_BNK_DA_SM_22	55	3005383.585	2.50	7.51	29	PO_BNK_DA_SM_22	55	2709399.611	3.00	8.13
						30	PO_BNK_DA_SM_22A	54	305777.2308	3.00	0.92
23	PR_BNK_DA_SM_23	49	2033110.66	2.50	5.08	31	PO_BNK_DA_SM_23	49	1726360.283	3.00	5.18
24	PR_BNK_DA_SM_24	47	4472705.939	2.50	11.18	32	PO_BNK_DA_SM_24	47	3226598.373	3.00	9.68
25	PR_BNK_DA_SM_25	46	615628.3769	2.50	1.54	33	PO_BNK_DA_SM_25	46	342560.7059	3.00	1.03
26	PR_BNK_DA_PS_26	45	3129794.357	2.50	7.82	34	PO_BNK_DA_PS_26	46	3507824.585	3.00	10.52
27	PR_BNK_DA_PS_27	42	9058746.911	2.50	22.65	35	PO_BNK_DA_PS_27	43	7461585.033	3.00	22.38
28	PR_BNK_DA_PS_28	39	675382.9783	2.50	1.69	36	PO_BNK_DA_PS_28	42	983416.716	3.00	2.95
29	PR_BNK_DA_IN_29	37	5754650.41	2.50	14.39	37	PO_BNK_DA_IN_29	35	768131.9429	3.00	2.30
						38	PO_BNK_DA_IN_29A	37	147608.426	3.00	0.44
						39	PO_BNK_DA_IN_29B	36	683331.513	3.00	2.05
Estimation of Sand Resources in Pre monsoon period & Post monsoon period of Dwarakeswar River											
1	PR_BNK_DW_CH_01	114	880374.1622	2.00	1.76	1	PO_BNK_DW_CH_01	114	430583.0953	2.50	1.08
2	PR_BNK_DW_CH_02	111	47884.45759	2.00	0.10	2	PO_BNK_DW_CH_02	111	80357.24347	2.50	0.20
3	PR_BNK_DW_CH_03	109	266137.6304	2.00	0.53	3	PO_BNK_DW_CH_03	109	266087.5083	2.50	0.67
4	PR_BNK_DW_CH_04	103	526588.656	2.00	1.05	4	PO_BNK_DW_CH_04	103	415815.8385	2.50	1.04
5	PR_BNK_DW_B1_05	95	520208.0311	2.00	1.04	5	PO_BNK_DW_B1_05	95	336677.4043	2.50	0.84
						6	PO_BNK_DW_B1_05A	93	226555.6249	2.50	0.57
6	PR_BNK_DW_B1_06	91	727324.6291	2.00	1.45	7	PO_BNK_DW_B1_06	91	286476.556	2.50	0.72
						8	PO_BNK_DW_B1_06A	86	391684.9716	2.50	0.98
7	PR_BNK_DW_B1_07	84	649583.5744	2.00	1.30	9	PO_BNK_DW_B1_07	84	671555.1662	2.50	1.68
8	PR_BNK_DW_B1_08	79	611156.8621	2.00	1.22	10	PO_BNK_DW_B1_08	79	1018273.253	2.50	2.55
9	PR_BNK_DW_ON_09	70	832915.3856	2.00	1.67	11	PO_BNK_DW_ON_09	70	332130.7768	2.50	0.83
						12	PO_BNK_DW_ON_09A	70	437635.5558	2.50	1.09



Pre monsoon						Post monsoon					
SL	**Sand Bar_Code**	**RL (m)**	**Area in sq.m.**	**Sand Thickness**	**Sand Volume**	**SL**	**Sand Bar_Code**	**RL (m)**	**Area in sq.m.**	**Sand Thick**	**Sand Volum**
						13	PO_BNK_DW_B2_09B	71	330936.7675	2.50	0.83
10	PR_BNK_DW_ON_10	65	1690071.686	2.00	3.38	14	PO_BNK_DW_ON_10	65	1916656.026	2.50	4.79
						15	PO_BNK_DW_B2_10A	67	230197.2214	2.50	0.58
11	PR_BNK_DW_ON_11	60	1350861.817	2.00	2.70	16	PO_BNK_DW_ON_11	61	1357229.24	2.50	3.39
12	PR_BNK_DW_ON_12	57	919767.6121	2.00	1.84	17	PO_BNK_DW_ON_12	57	536954.2686	2.50	1.34
13	PR_BNK_DW_ON_13	55	1098663.546	2.00	2.20	18	PO_BNK_DW_ON_13	55	1259778.545	2.50	3.15
14	PR_BNK_DW_ON_14	50	787095.5857	2.00	1.57	19	PO_BNK_DW_ON_14	50	559375.9207	2.50	1.40
						20	PO_BNK_DW_BSP_14A	50	376590.1835	2.50	0.94
15	PR_BNK_DW_BSP_15	47	765413.2921	2.50	1.91	21	PO_BNK_DW_BSP_15	47	571549.8863	3.00	1.71
16	PR_BNK_DW_BSP_16	45	686144.0333	2.50	1.72	22	PO_BNK_DW_BSP_16	45	793385.9169	3.00	2.38
17	PR_BNK_DW_JY_17	46	945574.3428	2.50	2.36	23	PO_BNK_DW_JY_17_19	44	816557.7133	3.00	2.45
18	PR_BNK_DW_JY_19	43	533777.6587	2.50	1.33						
19	PR_BNK_DW_BSP_18	44	710025.7685	2.50	1.78		PO_BNK_DW_JY_18		0		
20	PR_BNK_DW_PS_20	40	508516.1912	2.50	1.27	24	PO_BNK_DW_PS_20	40	525519.5651	3.00	1.58
21	PR_BNK_DW_JY_21	39	809333.5991	2.50	2.02	25	PO_BNK_DW_JY_21	39	201795.8083	3.00	0.61
22	PR_BNK_DW_PS_22	37	142068.3177	2.50	0.36	26	PO_BNK_DW_PS_22	37	133088.1721	3.00	0.40
						27	PO_BNK_DW_JY_22A	39	155703.3419	3.00	0.47
23	PR_BNK_DW_PS_23	35	632804.034	2.50	1.58	28	PO_BNK_DW_PS_23	37	193407.4165	3.00	0.58
						29	PO_BNK_DW_PS_23A	35	400140.0122	3.00	1.20
24	PR_BNK_DW_JY_24	36	898926.1548	2.50	2.25	30	PO_BNK_DW_JY_24	36	740480.5176	3.00	2.22
25						31	PO_BNK_DW_PS_24A		396334.283	3.00	1.19
26						32	PO_BNK_DW_IN_24B		75845.2878	3.00	0.23
27	PR_BNK_DW_IN_25	33	176048.0899	2.50	0.44	33	PO_BNK_DW_IN_25	34	262033.6365	3.00	0.79
28						34	PO_BNK_DW_JY_25A		292160.5242	3.00	0.88
	PR_BNK_DW_IN_26	29	127028.9324	2.50	0.32	35	PO_BNK_DW_IN_26	31	848752.2991	3.00	2.55
29						36	PO_BNK_DW_KP_26A		126436.4109	3.00	0.38
	PR_BNK_DW_KP_27	27	266986.6307	2.50	0.67	37	PO_BNK_DW_KP_27	28	209965.3815	3.00	0.63
30						38	PO_BNK_DW_KP_27A		63756.55189	3.00	0.19
	PR_BNK_DW_IN_28	24	363333.2136	2.50	0.91	39	PO_BNK_DW_IN_28	26	294229.7277	3.00	0.88
31						40	PO_BNK_DW_IN_28A	23	203193.1063	3.00	0.61
32	PR_BNK_DW_IN_29	25	296370.7042	2.50	0.74	41	PO_BNK_DW_IN_29	25	379379.7051	3.00	1.14
						42	PO_BNK_DW_KP_29A	22	273622.931	3.00	0.82
						43	PO_BNK_DW_KP_29B		500821.7382	3.00	1.50
						44	PO_BNK_DW_IN_29C		195808.0109	3.00	0.59
33	PR_BNK_DW_KP_30	23	449410.8659	2.50	1.12	45	PO_BNK_DW_KP_30	23	515164.3636	3.00	1.55
						46	PO_BNK_DW_IN_30A	25	285801.4064	3.00	0.86
34	PR_BNK_DW_KP_31	21	811787.774	2.50	2.03	47	PO_BNK_DW_KP_31	21	312085.1615	3.00	0.94
35	PR_BNK_DW_IN_32	19	943836.867	2.50	2.36	48	PO_BNK_DW_IN_32	19	555357.2045	3.00	1.67

Pre monsoon						Post monsoon					
SL	**Sand Bar_Code**	**RL (m)**	**Area in sq.m.**	**Sand Thickness**	**Sand Volume**	**SL**	**Sand Bar_Code**	**RL (m)**	**Area in sq.m.**	**Sand Thick**	**Sand Volum**
36	PR_BNK_DW_IN_33	19	426185.8646	2.50	1.07	49	PO_BNK_DW_IN_33	19	260603.515	3.00	0.78
Estimation of Sand Resources in Pre monsoon period & Post monsoon period of Kangsabati River											
1	PR_BNK_KN_KT_01	90	337565.4252	2.00	0.68		PO_BNK_KN_KT_01				
2	PR_BNK_KN_RA_02	76	78167.68134	2.00	0.16	1	PO_BNK_KN_RA_02	76	71151.13081	2.00	0.14
3	PR_BNK_KN_KT_03	77	162749.4702	2.00	0.33	2	PO_BNK_KN_KT_03	77	187775.4715	2.00	0.38
4	PR_BNK_KN_SR_04	71	31257.57747	2.00	0.06	3	PO_BNK_KN_SR_04	72	43861.85172	2.00	0.09
						4	PO_BNK_KN_SR_4A	70	46721.19368	2.00	0.09
						5	PO_BNK_KN_RA_4B	71	58627.71097	2.00	0.12
5	PR_BNK_KN_RA_05	70	503532.2612	2.00	1.01	6	PO_BNK_KN_RA_05	70	706716.2315	2.00	1.41
6	PR_BNK_KN_SR_06	67	980451.6875	2.00	1.96	7	PO_BNK_KN_SR_06	69	980451.6875	2.00	1.96
7	PR_BNK_KN_RA_07	65	1325970.726	2.00	2.65	8	PO_BNK_KN_RA_07	66	1325970.726	2.00	2.65
						9	PO_BNK_KN_SR_07A	62	1174804.644	2.00	2.35
8	PR_BNK_KN_RA_08	60	1199752.009	2.00	2.40	10	PO_BNK_KN_RA_08	60	1200854.614	2.00	2.40
9	PR_BNK_KN_RA_09	55	865468.9382	2.00	1.73	11	PO_BNK_KN_RA_09_10	53	628406.8963	2.00	1.26
10	PR_BNK_KN_RA_10	54	128794.2253	2.00	0.26			53			
						12	PO_BNK_KN_SR_10A	54	183320.5778	2.00	0.37
Estimation of Sand Resources in Pre monsoon period & Post monsoon period of Silabati River											
1	PR_BNK_SL_TD_01	69	94589.39895	2.00	0.19	1	PO_BNK_SL_TD_01	69	49005.777	2.00	0.10
						2	PO_BNK_SL_KT_1A	67	39068.15445	2.00	0.08
						3	PO_BNK_SL_SMP_1B	65	67069.62513	2.00	0.13
2	PR_BNK_SL_SMP_02	60	52457.24327	2.00	0.10	4	PO_BNK_SL_SMP_02	60	75592.19347	2.00	0.15
3	PR_BNK_SL_SMP_03	53	69120.9592	2.00	0.14	5	PO_BNK_SL_SMP_03	53	216203.5026	2.00	0.43
4	PR_BNK_SL_SMP_04	51	32021.71552	2.00	0.06	6	PO_BNK_SL_SMP_04	51	31175.60822	2.00	0.06
5	PR_BNK_SL_SMP_05	49	25480.3795	2.00	0.05	7	PO_BNK_SL_SMP_05	49	46287.39953	2.00	0.09
						8	PO_BNK_SL_SMP_5A	47	132030.6354	2.00	0.26
6	PR_BNK_SL_SMP_06	47	36360.05185	2.00	0.07	9	PO_BNK_SL_SMP_06	47	36517.80175	2.00	0.07
7	PR_BNK_SL_SMP_07	46	553556.6112	2.00	1.11	10	PO_BNK_SL_SMP_07	46	227707.5067	2.00	0.46
8	PR_BNK_SL_SMP_08	45	19889.7948	2.00	0.04	11	PO_BNK_SL_SMP_08	45	123252.4518	2.00	0.25
9	PR_BNK_SL_SMP_09	45	145669.4335	2.00	0.29	12	PO_BNK_SL_SMP_09	45	116844.8462	2.00	0.23

Annexure 3
Boundary Coordinates of Potential Blocks of Bankura District

Abbreviation used in the table as below

DISTRICT	BNK	BANKURA	RIVER	DW	DWARAKESWAR
RIVER	DA	DAMODAR	RIVER	KN	KANGSABATI RIVER
BLOCK	CH	CHHATNA	RIVER	SL	SILABATI
BLOCK	MJ	MEJHIA	BLOCK	SL	SALTORA
BLOCK	SM	SONAMUKHI	BLOCK	BJ	BARJORA
BLOCK	IN	INDUS	BLOCK	PS	PATRASAYER
BLOCK	JY	JOYPUR	BLOCK	KP	KOTULPUR
BLOCK	ON	ONDA	BLOCK	BSP	BISHNUPUR
BLOCK	SMP	SIMLAPAL	BLOCK	TD	TALDANGA
BLOCK	RA	RAIPUR	BLOCK	SR	SARENGA
BLOCK	B1	BANKURA-I	BLOCK	KT	KHATRA
			BLOCK	B2	BANKURA-II

POTENTIAL ZONE OF DAMODAR RIVER

CODE	POINT NO	LATITUDE	LONGITUDE
BNK_DA_SL_01_02	1	23° 37' 32.719" N	86° 54' 54.257" E
	2	23° 37' 32.478" N	86° 54' 52.254" E
	3	23° 37' 32.330" N	86° 54' 51.020" E
	4	23° 37' 31.870" N	86° 54' 47.201" E
	5	23° 37' 31.522" N	86° 54' 38.723" E
	6	23° 37' 32.035" N	86° 54' 34.091" E
	7	23° 37' 32.444" N	86° 54' 27.367" E
	8	23° 37' 35.057" N	86° 54' 22.696" E
	9	23° 37' 38.151" N	86° 54' 17.241" E
	10	23° 37' 40.868" N	86° 54' 14.176" E
	11	23° 37' 42.587" N	86° 54' 11.224" E
	12	23° 37' 44.374" N	86° 54' 9.886" E
	13	23° 37' 49.397" N	86° 54' 14.503" E
	14	23° 37' 50.881" N	86° 54' 15.716" E
	15	23° 37' 52.724" N	86° 54' 16.869" E
	16	23° 37' 54.689" N	86° 54' 17.751" E
	17	23° 37' 55.708" N	86° 54' 18.085" E
	18	23° 37' 57.310" N	86° 54' 18.448" E
	19	23° 37' 54.413" N	86° 54' 22.534" E
	20	23° 37' 48.226" N	86° 54' 35.538" E
	21	23° 37' 45.443" N	86° 54' 44.168" E
	22	23° 37' 44.942" N	86° 54' 47.831" E
	23	23° 37' 44.316" N	86° 54' 49.589" E

CODE	POINT NO	LATITUDE	LONGITUDE
	24	23° 37' 42.827" N	86° 54' 51.433" E
	25	23° 37' 38.434" N	86° 54' 55.308" E
	26	23° 37' 36.370" N	86° 54' 56.430" E
	27	23° 37' 34.615" N	86° 54' 56.207" E
	28	23° 37' 33.376" N	86° 54' 55.760" E
BNK_DA_SL_2A	1	23° 37' 36.698" N	86° 55' 3.991" E
	2	23° 37' 33.122" N	86° 55' 3.173" E
	3	23° 37' 33.792" N	86° 55' 1.474" E
	4	23° 37' 35.236" N	86° 54' 59.904" E
	5	23° 37' 41.533" N	86° 54' 57.771" E
	6	23° 37' 43.786" N	86° 54' 56.280" E
	7	23° 37' 42.975" N	86° 55' 2.211" E
	8	23° 37' 42.769" N	86° 55' 6.892" E
	9	23° 37' 41.464" N	86° 55' 5.971" E
	10	23° 37' 40.525" N	86° 55' 5.427" E
	11	23° 37' 39.556" N	86° 55' 4.951" E
	12	23° 37' 38.560" N	86° 55' 4.545" E
BNK_DA_SL_03	1	23° 37' 50.043" N	86° 56' 36.168" E
	2	23° 37' 48.978" N	86° 56' 39.640" E
	3	23° 37' 49.066" N	86° 56' 44.402" E
	4	23° 37' 46.056" N	86° 56' 48.606" E
	5	23° 37' 44.422" N	86° 56' 50.381" E
	6	23° 37' 42.013" N	86° 56' 52.156" E
	7	23° 37' 40.207" N	86° 56' 52.343" E
	8	23° 37' 37.454" N	86° 56' 53.465" E
	9	23° 37' 36.508" N	86° 56' 54.960" E
	10	23° 37' 34.360" N	86° 57' 3.084" E
	11	23° 37' 33.412" N	86° 56' 59.443" E
	12	23° 37' 33.239" N	86° 56' 55.988" E
	13	23° 37' 32.585" N	86° 56' 54.569" E
	14	23° 37' 31.580" N	86° 56' 44.019" E
	15	23° 37' 31.351" N	86° 56' 38.463" E
	16	23° 37' 32.114" N	86° 56' 37.966" E
	17	23° 37' 31.272" N	86° 56' 36.531" E
	18	23° 37' 30.885" N	86° 56' 27.118" E
	19	23° 37' 31.396" N	86° 56' 13.111" E
	20	23° 37' 32.252" N	86° 56' 3.025" E
	21	23° 37' 32.234" N	86° 55' 59.590" E
	22	23° 37' 33.217" N	86° 55' 58.933" E

CODE	POINT NO	LATITUDE	LONGITUDE
	23	23° 37' 35.369" N	86° 56' 0.146" E
	24	23° 37' 37.951" N	86° 56' 3.413" E
	25	23° 37' 39.071" N	86° 56' 5.934" E
	26	23° 37' 40.189" N	86° 56' 5.840" E
	27	23° 37' 41.307" N	86° 56' 3.598" E
	28	23° 37' 41.675" N	86° 56' 0.747" E
	29	23° 37' 42.577" N	86° 56' 0.779" E
	30	23° 37' 43.641" N	86° 56' 0.740" E
	31	23° 37' 48.369" N	86° 56' 0.174" E
	32	23° 37' 48.122" N	86° 56' 4.578" E
	33	23° 37' 47.371" N	86° 56' 7.102" E
	34	23° 37' 48.433" N	86° 56' 9.692" E
	35	23° 37' 49.046" N	86° 56' 19.765" E
	36	23° 37' 47.853" N	86° 56' 22.645" E
	37	23° 37' 47.683" N	86° 56' 27.034" E
	38	23° 37' 48.889" N	86° 56' 30.302" E
	39	23° 37' 49.920" N	86° 56' 34.144" E
BNK_DA_SL_04	1	23° 37' 25.078" N	86° 59' 21.796" E
	2	23° 37' 26.258" N	86° 59' 31.089" E
	3	23° 37' 14.892" N	86° 59' 32.818" E
	4	23° 37' 11.951" N	86° 59' 21.670" E
	5	23° 37' 12.260" N	86° 59' 12.482" E
	6	23° 37' 10.710" N	86° 58' 55.787" E
	7	23° 37' 10.709" N	86° 58' 49.288" E
	8	23° 37' 11.356" N	86° 58' 45.876" E
	9	23° 37' 18.487" N	86° 58' 44.268" E
	10	23° 37' 21.488" N	86° 58' 43.249" E
	11	23° 37' 25.298" N	86° 58' 49.431" E
	12	23° 37' 26.990" N	86° 59' 7.147" E
	13	23° 37' 26.681" N	86° 59' 14.542" E
BNK_DA_SL_4A	1	23° 37' 54.347" N	87° 0' 36.766" E
	2	23° 37' 52.833" N	87° 0' 33.777" E
	3	23° 37' 52.489" N	87° 0' 31.760" E
	4	23° 37' 53.040" N	87° 0' 29.519" E
	5	23° 37' 52.076" N	87° 0' 28.398" E
	6	23° 37' 51.526" N	87° 0' 27.128" E
	7	23° 37' 49.598" N	87° 0' 25.933" E
	8	23° 37' 47.258" N	87° 0' 25.410" E
	9	23° 37' 45.400" N	87° 0' 25.260" E

CODE	POINT NO	LATITUDE	LONGITUDE
	10	23° 37' 44.367" N	87° 0' 24.289" E
	11	23° 37' 43.748" N	87° 0' 22.496" E
	12	23° 37' 43.975" N	87° 0' 20.519" E
	13	23° 37' 46.088" N	87° 0' 15.945" E
	14	23° 37' 48.153" N	87° 0' 9.781" E
	15	23° 37' 48.773" N	87° 0' 6.420" E
	16	23° 37' 49.083" N	87° 0' 2.049" E
	17	23° 37' 48.670" N	86° 59' 59.248" E
	18	23° 37' 48.054" N	86° 59' 53.810" E
	19	23° 37' 50.488" N	87° 0' 1.406" E
	20	23° 37' 50.798" N	87° 0' 7.009" E
	21	23° 37' 51.417" N	87° 0' 11.268" E
	22	23° 37' 55.959" N	87° 0' 28.637" E
	23	23° 37' 56.062" N	87° 0' 34.016" E
	24	23° 37' 55.959" N	87° 0' 38.835" E
	25	23° 37' 55.242" N	87° 0' 40.827" E
	26	23° 37' 55.242" N	87° 0' 39.829" E
BNK_DA_SL_05	1	23° 37' 23.025" N	87° 1' 17.457" E
	2	23° 37' 19.212" N	87° 1' 18.243" E
	3	23° 37' 18.724" N	87° 1' 17.643" E
	4	23° 37' 19.443" N	87° 1' 15.301" E
	5	23° 37' 20.875" N	87° 1' 13.068" E
	6	23° 37' 21.121" N	87° 1' 11.770" E
	7	23° 37' 20.349" N	87° 1' 11.486" E
	8	23° 37' 17.063" N	87° 1' 14.258" E
	9	23° 37' 12.396" N	87° 1' 18.197" E
	10	23° 37' 6.717" N	87° 1' 23.611" E
	11	23° 37' 6.707" N	87° 1' 29.342" E
	12	23° 37' 2.576" N	87° 1' 34.943" E
	13	23° 36' 55.912" N	87° 1' 35.317" E
	14	23° 36' 47.615" N	87° 1' 43.450" E
	15	23° 36' 44.434" N	87° 1' 45.866" E
	16	23° 36' 47.784" N	87° 1' 38.928" E
	17	23° 36' 52.432" N	87° 1' 30.413" E
	18	23° 37' 2.551" N	87° 1' 20.107" E
	19	23° 37' 12.051" N	87° 1' 13.161" E
	20	23° 37' 18.246" N	87° 1' 8.344" E
	21	23° 37' 21.447" N	87° 1' 2.630" E
	22	23° 37' 27.436" N	87° 0' 58.260" E

CODE	POINT NO	LATITUDE	LONGITUDE
	23	23° 37' 31.463" N	87° 0' 53.666" E
	24	23° 37' 33.407" N	87° 0' 50.411" E
	25	23° 37' 33.964" N	87° 0' 49.987" E
	26	23° 37' 34.154" N	87° 0' 49.160" E
	27	23° 37' 35.077" N	87° 0' 47.616" E
	28	23° 37' 38.898" N	87° 0' 39.436" E
	29	23° 37' 42.415" N	87° 0' 27.288" E
	30	23° 37' 43.421" N	87° 0' 27.315" E
	31	23° 37' 46.088" N	87° 0' 28.342" E
	32	23° 37' 48.239" N	87° 0' 30.210" E
	33	23° 37' 50.045" N	87° 0' 33.852" E
	34	23° 37' 50.733" N	87° 0' 39.828" E
	35	23° 37' 50.733" N	87° 0' 44.871" E
	36	23° 37' 49.614" N	87° 0' 49.540" E
	37	23° 37' 46.258" N	87° 0' 55.703" E
	38	23° 37' 44.193" N	87° 0' 58.784" E
	39	23° 37' 42.472" N	87° 1' 0.839" E
	40	23° 37' 40.406" N	87° 1' 5.134" E
	41	23° 37' 37.128" N	87° 1' 9.813" E
	42	23° 37' 33.861" N	87° 1' 12.562" E
	43	23° 37' 29.565" N	87° 1' 15.124" E
	44	23° 37' 25.521" N	87° 1' 16.711" E
BNK_DA_SL_5A	1	23° 37' 12.568" N	87° 1' 30.569" E
	2	23° 37' 12.225" N	87° 1' 27.488" E
	3	23° 37' 13.171" N	87° 1' 25.527" E
	4	23° 37' 14.892" N	87° 1' 24.127" E
	5	23° 37' 16.802" N	87° 1' 23.367" E
	6	23° 37' 22.250" N	87° 1' 22.593" E
	7	23° 37' 25.797" N	87° 1' 21.718" E
	8	23° 37' 21.160" N	87° 1' 28.359" E
	9	23° 37' 15.852" N	87° 1' 31.822" E
	10	23° 37' 15.194" N	87° 1' 32.023" E
	11	23° 37' 13.600" N	87° 1' 31.877" E
BNK_DA_SL_06	1	23° 36' 58.345" N	87° 2' 16.337" E
	2	23° 36' 49.970" N	87° 2' 13.327" E
	3	23° 36' 48.498" N	87° 2' 12.819" E
	4	23° 36' 45.153" N	87° 2' 8.219" E
	5	23° 36' 43.585" N	87° 2' 6.063" E
	6	23° 36' 42.535" N	87° 2' 4.619" E

CODE	POINT NO	LATITUDE	LONGITUDE
	7	23° 36' 43.310" N	87° 2' 2.870" E
	8	23° 36' 42.535" N	87° 2' 2.123" E
	9	23° 36' 39.352" N	87° 2' 1.095" E
	10	23° 36' 39.315" N	87° 1' 59.337" E
	11	23° 36' 40.037" N	87° 1' 56.517" E
	12	23° 36' 41.094" N	87° 1' 53.951" E
	13	23° 36' 43.140" N	87° 1' 52.226" E
	14	23° 36' 45.119" N	87° 1' 49.892" E
	15	23° 36' 46.754" N	87° 1' 47.465" E
	16	23° 36' 48.475" N	87° 1' 45.691" E
	17	23° 36' 50.454" N	87° 1' 45.318" E
	18	23° 36' 51.659" N	87° 1' 45.598" E
	19	23° 36' 52.433" N	87° 1' 47.466" E
	20	23° 36' 53.251" N	87° 1' 49.721" E
	21	23° 36' 56.992" N	87° 1' 49.334" E
	22	23° 36' 58.025" N	87° 1' 46.907" E
	23	23° 36' 58.198" N	87° 1' 44.946" E
	24	23° 36' 55.530" N	87° 1' 44.852" E
	25	23° 36' 54.929" N	87° 1' 42.798" E
	26	23° 36' 56.650" N	87° 1' 40.370" E
	27	23° 36' 58.198" N	87° 1' 39.904" E
	28	23° 37' 0.607" N	87° 1' 40.185" E
	29	23° 37' 0.865" N	87° 1' 41.398" E
	30	23° 37' 1.471" N	87° 1' 43.371" E
	31	23° 37' 0.198" N	87° 1' 44.826" E
	32	23° 36' 59.507" N	87° 2' 0.625" E
	33	23° 36' 58.781" N	87° 2' 13.959" E
BNK_DA_MJ_6A	1	23° 36' 55.749" N	87° 2' 30.475" E
	2	23° 36' 52.508" N	87° 2' 31.444" E
	3	23° 36' 50.444" N	87° 2' 31.443" E
	4	23° 36' 47.863" N	87° 2' 30.602" E
	5	23° 36' 43.992" N	87° 2' 28.640" E
	6	23° 36' 41.239" N	87° 2' 26.118" E
	7	23° 36' 38.916" N	87° 2' 27.612" E
	8	23° 36' 37.711" N	87° 2' 26.958" E
	9	23° 36' 37.281" N	87° 2' 25.930" E
	10	23° 36' 37.368" N	87° 2' 23.876" E
	11	23° 36' 37.713" N	87° 2' 21.542" E
	12	23° 36' 38.402" N	87° 2' 19.208" E

CODE	POINT NO	LATITUDE	LONGITUDE
	13	23° 36' 40.523" N	87° 2' 16.992" E
	14	23° 36' 41.157" N	87° 2' 11.459" E
	15	23° 36' 41.071" N	87° 2' 9.499" E
	16	23° 36' 41.330" N	87° 2' 7.071" E
	17	23° 36' 42.535" N	87° 2' 4.619" E
	18	23° 36' 43.585" N	87° 2' 6.063" E
	19	23° 36' 45.153" N	87° 2' 8.219" E
	20	23° 36' 48.498" N	87° 2' 12.819" E
	21	23° 36' 49.970" N	87° 2' 13.327" E
	22	23° 36' 58.345" N	87° 2' 16.337" E
BNK_DA_MJ_07	1	23° 36' 51.367" N	87° 2' 56.537" E
	2	23° 36' 48.371" N	87° 2' 56.093" E
	3	23° 36' 44.673" N	87° 2' 53.757" E
	4	23° 36' 41.662" N	87° 2' 50.581" E
	5	23° 36' 40.028" N	87° 2' 47.873" E
	6	23° 36' 38.910" N	87° 2' 45.390" E
	7	23° 36' 36.847" N	87° 2' 41.243" E
	8	23° 36' 35.956" N	87° 2' 40.807" E
	9	23° 36' 35.126" N	87° 2' 40.402" E
	10	23° 36' 32.717" N	87° 2' 40.401" E
	11	23° 36' 31.341" N	87° 2' 38.813" E
	12	23° 36' 31.029" N	87° 2' 36.859" E
	13	23° 36' 32.130" N	87° 2' 31.079" E
	14	23° 36' 33.495" N	87° 2' 29.477" E
	15	23° 36' 35.130" N	87° 2' 29.104" E
	16	23° 36' 38.227" N	87° 2' 28.545" E
	17	23° 36' 39.108" N	87° 2' 28.797" E
	18	23° 36' 40.509" N	87° 2' 28.219" E
	19	23° 36' 41.239" N	87° 2' 26.118" E
	20	23° 36' 43.992" N	87° 2' 28.640" E
	21	23° 36' 47.863" N	87° 2' 30.602" E
	22	23° 36' 50.444" N	87° 2' 31.443" E
	23	23° 36' 52.508" N	87° 2' 31.444" E
	24	23° 36' 55.749" N	87° 2' 30.475" E
	25	23° 36' 54.956" N	87° 2' 34.798" E
	26	23° 36' 51.648" N	87° 2' 46.450" E
BNK_DA_MJ_08	1	23° 36' 35.956" N	87° 2' 40.807" E
	2	23° 36' 36.847" N	87° 2' 41.243" E
	3	23° 36' 38.910" N	87° 2' 45.390" E

CODE	POINT NO	LATITUDE	LONGITUDE
	4	23° 36' 40.028" N	87° 2' 47.873" E
	5	23° 36' 41.662" N	87° 2' 50.581" E
	6	23° 36' 44.673" N	87° 2' 53.757" E
	7	23° 36' 48.371" N	87° 2' 56.093" E
	8	23° 36' 51.367" N	87° 2' 56.537" E
	9	23° 36' 51.335" N	87° 2' 57.654" E
	10	23° 36' 48.440" N	87° 3' 9.866" E
	11	23° 36' 46.476" N	87° 3' 16.588" E
	12	23° 36' 43.336" N	87° 3' 21.640" E
	13	23° 36' 44.235" N	87° 3' 17.193" E
	14	23° 36' 44.838" N	87° 3' 14.859" E
	15	23° 36' 45.097" N	87° 3' 12.338" E
	16	23° 36' 44.753" N	87° 3' 10.003" E
	17	23° 36' 43.549" N	87° 3' 10.003" E
	18	23° 36' 42.086" N	87° 3' 11.403" E
	19	23° 36' 40.880" N	87° 3' 13.457" E
	20	23° 36' 38.987" N	87° 3' 16.164" E
	21	23° 36' 36.405" N	87° 3' 17.843" E
	22	23° 36' 34.942" N	87° 3' 19.430" E
	23	23° 36' 32.704" N	87° 3' 21.763" E
	24	23° 36' 31.154" N	87° 3' 25.030" E
	25	23° 36' 29.605" N	87° 3' 25.496" E
	26	23° 36' 28.401" N	87° 3' 24.002" E
	27	23° 36' 28.058" N	87° 3' 21.294" E
	28	23° 36' 28.317" N	87° 3' 18.587" E
	29	23° 36' 29.695" N	87° 3' 15.506" E
	30	23° 36' 29.354" N	87° 3' 7.290" E
	31	23° 36' 29.603" N	87° 3' 2.045" E
	32	23° 36' 30.303" N	87° 2' 58.794" E
	33	23° 36' 30.562" N	87° 2' 55.432" E
	34	23° 36' 29.788" N	87° 2' 53.471" E
	35	23° 36' 29.359" N	87° 2' 51.417" E
	36	23° 36' 30.048" N	87° 2' 48.897" E
	37	23° 36' 31.081" N	87° 2' 47.030" E
	38	23° 36' 32.630" N	87° 2' 44.976" E
	39	23° 36' 34.265" N	87° 2' 43.109" E
BNK_DA_MJ_09	1	23° 36' 27.459" N	87° 3' 12.237" E
	2	23° 36' 26.511" N	87° 3' 16.625" E
	3	23° 36' 27.369" N	87° 3' 24.842" E

CODE	POINT NO	LATITUDE	LONGITUDE
	4	23° 36' 26.765" N	87° 3' 28.670" E
	5	23° 36' 22.324" N	87° 3' 32.232" E
	6	23° 36' 14.746" N	87° 3' 42.873" E
	7	23° 36' 10.593" N	87° 3' 46.321" E
	8	23° 36' 2.755" N	87° 3' 53.477" E
	9	23° 35' 58.535" N	87° 3' 54.238" E
	10	23° 35' 54.279" N	87° 3' 54.742" E
	11	23° 35' 53.546" N	87° 3' 51.435" E
	12	23° 35' 55.698" N	87° 3' 48.168" E
	13	23° 35' 57.702" N	87° 3' 43.899" E
	14	23° 35' 58.378" N	87° 3' 40.232" E
	15	23° 36' 1.749" N	87° 3' 34.521" E
	16	23° 36' 8.880" N	87° 3' 26.947" E
	17	23° 36' 10.762" N	87° 3' 18.323" E
	18	23° 36' 14.074" N	87° 3' 15.079" E
	19	23° 36' 17.460" N	87° 3' 11.821" E
	20	23° 36' 17.766" N	87° 3' 4.746" E
	21	23° 36' 22.882" N	87° 2' 59.255" E
	22	23° 36' 25.568" N	87° 2' 55.397" E
	23	23° 36' 27.722" N	87° 2' 57.205" E
	24	23° 36' 28.151" N	87° 3' 2.527" E
	25	23° 36' 28.149" N	87° 3' 7.663" E
BNK_DA_MJ_9A	1	23° 35' 54.510" N	87° 4' 13.500" E
	2	23° 35' 45.476" N	87° 4' 13.378" E
	3	23° 35' 45.801" N	87° 4' 7.777" E
	4	23° 35' 49.242" N	87° 4' 8.829" E
	5	23° 35' 49.890" N	87° 4' 2.994" E
	6	23° 35' 52.473" N	87° 3' 58.795" E
	7	23° 35' 57.850" N	87° 3' 59.498" E
BNK_DA_MJ_9B	1	23° 35' 52.241" N	87° 4' 32.971" E
	2	23° 35' 51.927" N	87° 4' 42.382" E
	3	23° 35' 52.542" N	87° 4' 50.561" E
	4	23° 35' 52.436" N	87° 4' 54.818" E
	5	23° 35' 49.954" N	87° 5' 3.779" E
	6	23° 35' 49.264" N	87° 5' 5.906" E
	7	23° 35' 48.124" N	87° 4' 57.348" E
	8	23° 35' 46.373" N	87° 4' 49.504" E
	9	23° 35' 44.827" N	87° 4' 45.246" E
	10	23° 35' 45.139" N	87° 4' 40.205" E

CODE	POINT NO	LATITUDE	LONGITUDE
	11	23° 35' 47.001" N	87° 4' 33.933" E
	12	23° 35' 46.901" N	87° 4' 26.763" E
	13	23° 35' 47.316" N	87° 4' 21.945" E
	14	23° 35' 49.692" N	87° 4' 18.698" E
	15	23° 35' 51.860" N	87° 4' 18.699" E
	16	23° 35' 54.337" N	87° 4' 20.605" E
	17	23° 35' 55.576" N	87° 4' 22.286" E
	18	23° 35' 56.875" N	87° 4' 21.613" E
	19	23° 35' 55.858" N	87° 4' 26.252" E
	20	23° 35' 53.998" N	87° 4' 29.836" E
BNK_DA_MJ_10	1	23° 35' 43.274" N	87° 4' 18.078" E
	2	23° 35' 40.517" N	87° 4' 26.292" E
	3	23° 35' 40.514" N	87° 4' 33.014" E
	4	23° 35' 41.369" N	87° 4' 44.404" E
	5	23° 35' 42.570" N	87° 4' 50.753" E
	6	23° 35' 40.609" N	87° 5' 0.041" E
	7	23° 35' 42.646" N	87° 5' 13.288" E
	8	23° 35' 40.822" N	87° 5' 17.353" E
	9	23° 35' 29.515" N	87° 5' 31.230" E
	10	23° 35' 26.946" N	87° 5' 34.056" E
	11	23° 35' 25.788" N	87° 5' 37.566" E
	12	23° 35' 24.840" N	87° 5' 39.432" E
	13	23° 35' 23.549" N	87° 5' 41.018" E
	14	23° 35' 22.344" N	87° 5' 41.111" E
	15	23° 35' 21.261" N	87° 5' 40.310" E
	16	23° 35' 18.846" N	87° 5' 42.967" E
	17	23° 35' 9.714" N	87° 5' 36.359" E
	18	23° 35' 12.709" N	87° 5' 32.923" E
	19	23° 35' 19.735" N	87° 5' 23.742" E
	20	23° 35' 24.180" N	87° 5' 13.663" E
	21	23° 35' 30.587" N	87° 5' 3.809" E
	22	23° 35' 33.792" N	87° 4' 55.409" E
	23	23° 35' 37.412" N	87° 4' 42.752" E
	24	23° 35' 38.243" N	87° 4' 31.437" E
	25	23° 35' 42.767" N	87° 4' 13.780" E
BNK_DA_MJ_11_12_13_14_15_16_17	1	23° 34' 6.724" N	87° 7' 34.843" E
	2	23° 34' 1.472" N	87° 7' 45.215" E
	3	23° 33' 58.574" N	87° 7' 50.939" E
	4	23° 33' 59.505" N	87° 8' 5.023" E

CODE	POINT NO	LATITUDE	LONGITUDE
	5	23° 34' 1.566" N	87° 8' 8.945" E
	6	23° 34' 5.480" N	87° 8' 19.502" E
	7	23° 34' 7.022" N	87° 8' 27.344" E
	8	23° 34' 5.910" N	87° 8' 37.219" E
	9	23° 34' 5.074" N	87° 8' 48.195" E
	10	23° 34' 2.798" N	87° 8' 52.449" E
	11	23° 34' 0.319" N	87° 8' 54.238" E
	12	23° 34' 0.728" N	87° 8' 57.823" E
	13	23° 34' 2.584" N	87° 9' 1.185" E
	14	23° 34' 4.419" N	87° 9' 12.762" E
	15	23° 34' 2.031" N	87° 9' 20.502" E
	16	23° 34' 0.499" N	87° 9' 21.567" E
	17	23° 33' 58.015" N	87° 9' 26.941" E
	18	23° 33' 56.563" N	87° 9' 33.435" E
	19	23° 33' 55.525" N	87° 9' 39.258" E
	20	23° 33' 55.314" N	87° 9' 43.738" E
	21	23° 33' 48.291" N	87° 9' 45.522" E
	22	23° 33' 47.246" N	87° 9' 57.393" E
	23	23° 33' 48.272" N	87° 10' 3.442" E
	24	23° 33' 48.373" N	87° 10' 3.528" E
	25	23° 33' 52.342" N	87° 10' 4.230" E
	26	23° 33' 52.617" N	87° 10' 16.418" E
	27	23° 33' 52.186" N	87° 10' 32.770" E
	28	23° 33' 52.572" N	87° 10' 36.376" E
	29	23° 33' 50.580" N	87° 10' 39.537" E
	30	23° 33' 50.554" N	87° 10' 39.824" E
	31	23° 33' 50.355" N	87° 10' 46.002" E
	32	23° 33' 52.687" N	87° 10' 47.081" E
	33	23° 33' 54.168" N	87° 10' 44.903" E
	34	23° 33' 55.942" N	87° 10' 58.237" E
	35	23° 33' 54.831" N	87° 11' 6.449" E
	36	23° 33' 51.239" N	87° 11' 17.644" E
	37	23° 33' 48.335" N	87° 11' 27.944" E
	38	23° 33' 39.371" N	87° 11' 40.774" E
	39	23° 33' 36.798" N	87° 11' 45.135" E
	40	23° 33' 34.710" N	87° 11' 43.485" E
	41	23° 33' 33.198" N	87° 11' 43.893" E
	42	23° 33' 29.977" N	87° 11' 49.003" E
	43	23° 33' 28.494" N	87° 11' 56.953" E

CODE	POINT NO	LATITUDE	LONGITUDE
	44	23° 33' 31.388" N	87° 11' 56.912" E
	45	23° 33' 28.324" N	87° 12' 7.936" E
	46	23° 33' 26.380" N	87° 12' 20.775" E
	47	23° 33' 23.475" N	87° 12' 31.373" E
	48	23° 33' 19.195" N	87° 12' 40.326" E
	49	23° 33' 15.193" N	87° 12' 47.637" E
	50	23° 33' 13.598" N	87° 12' 48.466" E
	51	23° 33' 12.860" N	87° 12' 46.246" E
	52	23° 33' 11.560" N	87° 12' 45.600" E
	53	23° 33' 8.952" N	87° 12' 50.884" E
	54	23° 33' 1.383" N	87° 12' 55.751" E
	55	23° 32' 50.645" N	87° 13' 3.521" E
	56	23° 32' 44.272" N	87° 13' 7.617" E
	57	23° 32' 38.070" N	87° 13' 12.833" E
	58	23° 32' 26.187" N	87° 13' 20.092" E
	59	23° 32' 21.252" N	87° 13' 21.687" E
	60	23° 32' 20.624" N	87° 13' 20.699" E
	61	23° 32' 21.560" N	87° 13' 16.578" E
	62	23° 32' 23.663" N	87° 13' 12.142" E
	63	23° 32' 29.316" N	87° 13' 5.581" E
	64	23° 32' 35.106" N	87° 12' 59.469" E
	65	23° 32' 40.478" N	87° 12' 57.686" E
	66	23° 32' 47.911" N	87° 12' 57.698" E
	67	23° 33' 6.786" N	87° 12' 46.530" E
	68	23° 33' 11.760" N	87° 12' 33.397" E
	69	23° 33' 13.978" N	87° 12' 21.604" E
	70	23° 33' 11.920" N	87° 12' 16.225" E
	71	23° 33' 13.290" N	87° 12' 11.600" E
	72	23° 33' 17.716" N	87° 12' 5.333" E
	73	23° 33' 17.858" N	87° 12' 2.347" E
	74	23° 33' 15.934" N	87° 12' 1.576" E
	75	23° 32' 56.818" N	87° 12' 13.493" E
	76	23° 32' 26.304" N	87° 12' 45.883" E
	77	23° 32' 24.205" N	87° 12' 46.420" E
	78	23° 32' 14.553" N	87° 12' 41.286" E
	79	23° 32' 7.737" N	87° 12' 41.932" E
	80	23° 31' 59.400" N	87° 12' 47.440" E
	81	23° 31' 56.435" N	87° 12' 51.791" E
	82	23° 31' 56.429" N	87° 12' 56.121" E

CODE	POINT NO	LATITUDE	LONGITUDE
	83	23° 31' 58.345" N	87° 13' 3.739" E
	84	23° 31' 56.276" N	87° 13' 6.870" E
	85	23° 31' 50.902" N	87° 13' 10.743" E
	86	23° 31' 45.384" N	87° 13' 18.498" E
	87	23° 31' 39.866" N	87° 13' 26.700" E
	88	23° 31' 36.977" N	87° 13' 25.351" E
	89	23° 31' 35.468" N	87° 13' 21.915" E
	90	23° 31' 35.476" N	87° 13' 16.540" E
	91	23° 31' 35.483" N	87° 13' 11.166" E
	92	23° 31' 34.936" N	87° 13' 8.627" E
	93	23° 31' 32.634" N	87° 13' 7.894" E
	94	23° 31' 40.436" N	87° 12' 57.286" E
	95	23° 31' 44.816" N	87° 12' 49.813" E
	96	23° 31' 45.201" N	87° 12' 49.377" E
	97	23° 31' 45.478" N	87° 12' 48.684" E
	98	23° 31' 53.087" N	87° 12' 35.702" E
	99	23° 31' 57.811" N	87° 12' 33.526" E
	100	23° 31' 59.493" N	87° 12' 29.998" E
	101	23° 31' 59.816" N	87° 12' 26.710" E
	102	23° 32' 5.954" N	87° 12' 19.255" E
	103	23° 32' 18.876" N	87° 12' 6.958" E
	104	23° 32' 37.626" N	87° 11' 46.255" E
	105	23° 32' 48.885" N	87° 11' 25.666" E
	106	23° 32' 57.495" N	87° 11' 7.475" E
	107	23° 33' 2.672" N	87° 10' 54.976" E
	108	23° 33' 8.197" N	87° 10' 38.932" E
	109	23° 33' 9.932" N	87° 10' 26.241" E
	110	23° 33' 12.532" N	87° 10' 8.513" E
	111	23° 33' 17.024" N	87° 9' 52.466" E
	112	23° 33' 19.797" N	87° 9' 32.683" E
	113	23° 33' 21.001" N	87° 9' 23.370" E
	114	23° 33' 23.005" N	87° 9' 21.285" E
	115	23° 33' 26.103" N	87° 9' 20.169" E
	116	23° 33' 30.062" N	87° 9' 19.613" E
	117	23° 33' 35.201" N	87° 9' 18.849" E
	118	23° 33' 37.377" N	87° 9' 17.195" E
	119	23° 33' 41.643" N	87° 9' 4.773" E
	120	23° 33' 45.493" N	87° 8' 47.618" E
	121	23° 33' 46.661" N	87° 8' 35.795" E

CODE	POINT NO	LATITUDE	LONGITUDE
	122	23° 33' 36.599" N	87° 8' 29.187" E
	123	23° 33' 45.463" N	87° 8' 3.175" E
	124	23° 33' 51.255" N	87° 7' 48.726" E
	125	23° 34' 0.771" N	87° 7' 27.454" E
	126	23° 34' 8.324" N	87° 7' 6.180" E
	127	23° 34' 15.867" N	87° 6' 58.458" E
	128	23° 34' 27.133" N	87° 6' 41.666" E
	129	23° 34' 30.046" N	87° 6' 37.634" E
	130	23° 34' 33.245" N	87° 6' 34.786" E
	131	23° 34' 43.595" N	87° 6' 42.276" E
	132	23° 34' 44.170" N	87° 6' 44.778" E
	133	23° 34' 44.891" N	87° 6' 47.130" E
	134	23° 34' 44.372" N	87° 6' 50.827" E
	135	23° 34' 43.234" N	87° 6' 54.634" E
	136	23° 34' 40.281" N	87° 6' 58.542" E
	137	23° 34' 39.728" N	87° 7' 2.424" E
	138	23° 34' 36.695" N	87° 7' 8.246" E
	139	23° 34' 35.455" N	87° 7' 9.888" E
	140	23° 34' 33.389" N	87° 7' 11.230" E
	141	23° 34' 30.136" N	87° 7' 10.957" E
	142	23° 34' 28.248" N	87° 7' 17.593" E
	143	23° 34' 23.932" N	87° 7' 20.942" E
	144	23° 34' 11.707" N	87° 7' 25.000" E
BNK_DA_MJ_12A	1	23° 34' 1.472" N	87° 7' 45.215" E
	2	23° 34' 6.724" N	87° 7' 34.843" E
	3	23° 34' 10.061" N	87° 7' 34.480" E
	4	23° 34' 16.463" N	87° 7' 33.142" E
	5	23° 34' 23.897" N	87° 7' 33.597" E
	6	23° 34' 26.007" N	87° 7' 33.419" E
	7	23° 34' 21.778" N	87° 7' 41.657" E
	8	23° 34' 18.368" N	87° 7' 45.238" E
	9	23° 34' 15.990" N	87° 7' 49.492" E
	10	23° 34' 13.812" N	87° 8' 0.915" E
	11	23° 34' 10.808" N	87° 8' 12.001" E
	12	23° 34' 10.519" N	87° 8' 13.642" E
	13	23° 34' 9.411" N	87° 8' 11.218" E
	14	23° 34' 7.913" N	87° 8' 5.360" E
	15	23° 34' 6.118" N	87° 7' 58.558" E
	16	23° 34' 4.573" N	87° 7' 53.628" E

CODE	POINT NO	LATITUDE	LONGITUDE
	17	23° 34' 2.125" N	87° 7' 49.608" E
BNK_DA_MJ_17A	1	23° 32' 16.948" N	87° 13' 44.814" E
	2	23° 32' 9.407" N	87° 13' 46.464" E
	3	23° 32' 4.455" N	87° 13' 44.067" E
	4	23° 32' 4.460" N	87° 13' 40.334" E
	5	23° 32' 8.184" N	87° 13' 35.115" E
	6	23° 32' 12.736" N	87° 13' 29.001" E
	7	23° 32' 17.422" N	87° 13' 25.276" E
	8	23° 32' 21.252" N	87° 13' 21.687" E
	9	23° 32' 26.187" N	87° 13' 20.092" E
	10	23° 32' 34.997" N	87° 13' 14.787" E
	11	23° 32' 36.152" N	87° 13' 19.186" E
	12	23° 32' 36.503" N	87° 13' 21.039" E
	13	23° 32' 35.730" N	87° 13' 22.439" E
	14	23° 32' 32.724" N	87° 13' 24.414" E
	15	23° 32' 29.418" N	87° 13' 25.976" E
	16	23° 32' 27.866" N	87° 13' 28.325" E
	17	23° 32' 28.739" N	87° 13' 31.031" E
	18	23° 32' 18.399" N	87° 13' 42.640" E
BNK_DA_MJ_17B	1	23° 32' 4.455" N	87° 13' 44.067" E
	2	23° 32' 9.407" N	87° 13' 46.464" E
	3	23° 32' 16.948" N	87° 13' 44.814" E
	4	23° 32' 10.535" N	87° 13' 54.421" E
	5	23° 31' 56.866" N	87° 14' 8.459" E
	6	23° 31' 55.149" N	87° 14' 9.526" E
	7	23° 31' 50.512" N	87° 14' 10.021" E
	8	23° 31' 48.452" N	87° 14' 7.031" E
	9	23° 31' 49.146" N	87° 14' 3.150" E
	10	23° 31' 52.594" N	87° 13' 58.677" E
	11	23° 31' 56.458" N	87° 13' 52.414" E
	12	23° 31' 59.492" N	87° 13' 48.686" E
	13	23° 32' 3.217" N	87° 13' 43.019" E
BNK_DA_MJ_18	1	23° 30' 13.498" N	87° 15' 11.674" E
	2	23° 30' 8.357" N	87° 15' 6.904" E
	3	23° 30' 5.688" N	87° 15' 3.208" E
	4	23° 30' 12.583" N	87° 14' 57.433" E
	5	23° 30' 21.471" N	87° 14' 51.404" E
	6	23° 30' 26.850" N	87° 14' 45.256" E
	7	23° 30' 27.714" N	87° 14' 41.227" E

CODE	POINT NO	LATITUDE	LONGITUDE
	8	23° 30' 35.081" N	87° 14' 31.037" E
	9	23° 30' 44.787" N	87° 14' 21.180" E
	10	23° 30' 45.906" N	87° 14' 21.694" E
	11	23° 30' 50.912" N	87° 14' 14.778" E
	12	23° 30' 56.517" N	87° 14' 8.357" E
	13	23° 31' 7.703" N	87° 14' 5.143" E
	14	23° 31' 8.677" N	87° 14' 6.649" E
	15	23° 31' 4.015" N	87° 14' 16.829" E
	16	23° 30' 55.358" N	87° 14' 27.752" E
	17	23° 30' 53.294" N	87° 14' 36.909" E
	18	23° 30' 53.803" N	87° 14' 41.052" E
	19	23° 30' 52.662" N	87° 14' 44.521" E
	20	23° 30' 49.562" N	87° 14' 46.530" E
	21	23° 30' 42.435" N	87° 14' 48.308" E
	22	23° 30' 37.479" N	87° 14' 48.411" E
	23	23° 30' 31.695" N	87° 14' 49.856" E
	24	23° 30' 29.006" N	87° 14' 52.985" E
	25	23° 30' 23.525" N	87° 14' 58.461" E
	26	23° 30' 18.557" N	87° 15' 6.288" E
BNK_DA_MJ_18A	1	23° 31' 3.352" N	87° 14' 49.735" E
	2	23° 30' 51.386" N	87° 14' 50.319" E
	3	23° 31' 12.335" N	87° 14' 23.207" E
	4	23° 31' 47.076" N	87° 14' 7.814" E
	5	23° 31' 41.367" N	87° 14' 16.453" E
	6	23° 31' 28.848" N	87° 14' 28.754" E
	7	23° 31' 18.712" N	87° 14' 37.846" E
BNK_DA_MJ_18B	1	23° 30' 30.790" N	87° 15' 44.798" E
	2	23° 30' 24.631" N	87° 15' 30.205" E
	3	23° 30' 22.628" N	87° 15' 26.098" E
	4	23° 30' 23.624" N	87° 15' 20.911" E
	5	23° 30' 24.915" N	87° 15' 19.576" E
	6	23° 30' 22.676" N	87° 15' 12.901" E
	7	23° 30' 23.508" N	87° 15' 9.096" E
	8	23° 30' 25.265" N	87° 15' 8.092" E
	9	23° 30' 31.562" N	87° 15' 8.552" E
	10	23° 30' 35.431" N	87° 15' 7.050" E
	11	23° 30' 39.626" N	87° 15' 1.738" E
	12	23° 30' 41.386" N	87° 14' 58.383" E
	13	23° 30' 43.046" N	87° 14' 53.460" E

CODE	POINT NO	LATITUDE	LONGITUDE
	14	23° 30' 45.116" N	87° 14' 50.664" E
	15	23° 30' 48.728" N	87° 14' 51.343" E
	16	23° 30' 52.753" N	87° 14' 52.134" E
	17	23° 30' 54.222" N	87° 14' 53.212" E
	18	23° 30' 53.262" N	87° 14' 56.949" E
	19	23° 30' 54.084" N	87° 14' 59.414" E
	20	23° 30' 54.938" N	87° 15' 0.160" E
	21	23° 30' 55.017" N	87° 15' 1.363" E
	22	23° 30' 54.001" N	87° 15' 3.116" E
	23	23° 30' 52.236" N	87° 15' 4.446" E
	24	23° 30' 38.999" N	87° 15' 17.557" E
	25	23° 30' 36.372" N	87° 15' 24.718" E
	26	23° 30' 35.111" N	87° 15' 37.851" E
	27	23° 30' 32.212" N	87° 15' 42.921" E
BNK_DA_BJ_18C	1	23° 30' 24.631" N	87° 15' 30.205" E
	2	23° 30' 30.790" N	87° 15' 44.798" E
	3	23° 30' 27.785" N	87° 15' 48.766" E
	4	23° 30' 23.398" N	87° 15' 51.845" E
	5	23° 30' 20.914" N	87° 15' 55.646" E
	6	23° 30' 17.597" N	87° 16' 3.252" E
	7	23° 30' 17.333" N	87° 16' 4.190" E
	8	23° 30' 15.514" N	87° 16' 7.070" E
	9	23° 30' 13.712" N	87° 16' 14.082" E
	10	23° 30' 6.178" N	87° 16' 20.519" E
	11	23° 30' 0.422" N	87° 16' 24.040" E
	12	23° 29' 56.492" N	87° 16' 28.062" E
	13	23° 29' 54.640" N	87° 16' 24.028" E
	14	23° 29' 56.304" N	87° 16' 17.315" E
	15	23° 30' 3.343" N	87° 16' 6.582" E
	16	23° 30' 14.525" N	87° 15' 48.468" E
BNK_DA_BJ_18D	1	23° 30' 5.688" N	87° 15' 3.208" E
	2	23° 30' 8.357" N	87° 15' 6.904" E
	3	23° 30' 13.498" N	87° 15' 11.674" E
	4	23° 30' 0.187" N	87° 15' 26.426" E
	5	23° 29' 48.939" N	87° 15' 35.360" E
	6	23° 29' 43.650" N	87° 15' 37.141" E
	7	23° 29' 46.633" N	87° 15' 30.466" E
	8	23° 30' 2.952" N	87° 15' 6.309" E
BNK_DA_BJ_19	1	23° 26' 20.018" N	87° 20' 31.590" E

CODE	POINT NO	LATITUDE	LONGITUDE
	2	23° 26' 14.439" N	87° 20' 25.515" E
	3	23° 26' 37.987" N	87° 20' 1.273" E
	4	23° 26' 41.864" N	87° 19' 49.996" E
	5	23° 26' 55.299" N	87° 19' 37.069" E
	6	23° 27' 7.714" N	87° 19' 24.417" E
	7	23° 27' 13.579" N	87° 19' 17.530" E
	8	23° 27' 17.382" N	87° 19' 9.332" E
	9	23° 27' 21.009" N	87° 19' 2.813" E
	10	23° 27' 26.530" N	87° 18' 55.552" E
	11	23° 27' 31.183" N	87° 18' 51.832" E
	12	23° 27' 34.442" N	87° 18' 50.474" E
	13	23° 27' 56.946" N	87° 19' 10.224" E
	14	23° 27' 49.236" N	87° 19' 16.287" E
	15	23° 27' 39.043" N	87° 19' 19.097" E
	16	23° 27' 25.126" N	87° 19' 25.629" E
	17	23° 27' 20.429" N	87° 19' 33.377" E
	18	23° 27' 6.891" N	87° 19' 55.874" E
	19	23° 26' 58.879" N	87° 20' 8.835" E
	20	23° 26' 51.978" N	87° 20' 17.024" E
	21	23° 26' 46.459" N	87° 20' 23.127" E
	22	23° 26' 42.141" N	87° 20' 28.367" E
	23	23° 26' 38.327" N	87° 20' 26.919" E
	24	23° 26' 30.831" N	87° 20' 31.376" E
BNK_DA_BJ_20	1	23° 25' 29.050" N	87° 22' 22.915" E
	2	23° 25' 22.679" N	87° 22' 18.416" E
	3	23° 25' 20.747" N	87° 22' 17.051" E
	4	23° 25' 13.791" N	87° 22' 23.821" E
	5	23° 25' 5.653" N	87° 22' 23.054" E
	6	23° 24' 59.034" N	87° 22' 20.569" E
	7	23° 25' 0.621" N	87° 22' 14.155" E
	8	23° 25' 2.242" N	87° 22' 10.180" E
	9	23° 25' 7.001" N	87° 21' 59.005" E
	10	23° 25' 21.374" N	87° 21' 29.163" E
	11	23° 25' 26.261" N	87° 21' 20.673" E
	12	23° 25' 35.104" N	87° 21' 7.396" E
	13	23° 25' 39.766" N	87° 20' 59.786" E
	14	23° 26' 3.984" N	87° 20' 33.443" E
	15	23° 26' 10.581" N	87° 20' 38.607" E
	16	23° 26' 37.555" N	87° 20' 34.458" E

CODE	POINT NO	LATITUDE	LONGITUDE
	17	23° 26' 30.724" N	87° 20' 43.185" E
	18	23° 26' 11.832" N	87° 20' 56.607" E
	19	23° 25' 59.430" N	87° 21' 2.094" E
	20	23° 25' 52.383" N	87° 21' 14.011" E
	21	23° 25' 44.210" N	87° 21' 26.444" E
	22	23° 25' 42.993" N	87° 21' 23.668" E
	23	23° 25' 41.835" N	87° 21' 21.028" E
	24	23° 25' 40.329" N	87° 21' 18.794" E
	25	23° 25' 31.835" N	87° 21' 24.439" E
	26	23° 25' 27.609" N	87° 21' 32.086" E
	27	23° 25' 26.669" N	87° 21' 38.844" E
	28	23° 25' 26.690" N	87° 21' 51.785" E
	29	23° 25' 24.896" N	87° 21' 54.215" E
	30	23° 25' 25.301" N	87° 21' 57.349" E
	31	23° 25' 28.171" N	87° 22' 6.606" E
	32	23° 25' 29.666" N	87° 22' 14.517" E
BNK_DA_BJ_20A	1	23° 25' 19.184" N	87° 22' 57.117" E
	2	23° 25' 17.650" N	87° 22' 47.649" E
	3	23° 25' 13.791" N	87° 22' 23.821" E
	4	23° 25' 20.747" N	87° 22' 17.051" E
	5	23° 25' 22.679" N	87° 22' 18.416" E
	6	23° 25' 29.050" N	87° 22' 22.915" E
	7	23° 25' 28.670" N	87° 22' 28.089" E
	8	23° 25' 27.814" N	87° 22' 40.618" E
	9	23° 25' 22.834" N	87° 22' 50.449" E
BNK_DA_BJ_20B	1	23° 25' 0.970" N	87° 23' 43.172" E
	2	23° 24' 57.500" N	87° 23' 38.793" E
	3	23° 24' 52.468" N	87° 23' 32.279" E
	4	23° 24' 45.627" N	87° 23' 23.422" E
	5	23° 24' 41.913" N	87° 23' 20.201" E
	6	23° 24' 51.033" N	87° 22' 48.210" E
	7	23° 24' 53.830" N	87° 22' 48.035" E
	8	23° 25' 0.605" N	87° 22' 46.346" E
	9	23° 25' 5.653" N	87° 22' 23.054" E
	10	23° 25' 13.791" N	87° 22' 23.821" E
	11	23° 25' 17.650" N	87° 22' 47.649" E
	12	23° 25' 19.184" N	87° 22' 57.117" E
	13	23° 25' 16.473" N	87° 23' 2.067" E
	14	23° 25' 12.600" N	87° 23' 9.664" E

CODE	POINT NO	LATITUDE	LONGITUDE
	15	23° 25' 10.516" N	87° 23' 17.414" E
	16	23° 25' 8.424" N	87° 23' 28.298" E
	17	23° 25' 3.851" N	87° 23' 40.218" E
BNK_DA_SM_21	1	23° 24' 49.611" N	87° 24' 3.981" E
	2	23° 24' 48.981" N	87° 24' 5.300" E
	3	23° 24' 48.359" N	87° 24' 10.359" E
	4	23° 24' 46.909" N	87° 24' 12.032" E
	5	23° 24' 44.951" N	87° 24' 10.460" E
	6	23° 24' 43.100" N	87° 24' 7.882" E
	7	23° 24' 41.767" N	87° 24' 4.074" E
	8	23° 24' 41.678" N	87° 23' 58.368" E
	9	23° 24' 40.969" N	87° 23' 53.108" E
	10	23° 24' 40.463" N	87° 23' 49.191" E
	11	23° 24' 39.128" N	87° 23' 46.390" E
	12	23° 24' 37.176" N	87° 23' 42.693" E
	13	23° 24' 36.565" N	87° 23' 39.223" E
	14	23° 24' 36.941" N	87° 23' 37.214" E
	15	23° 24' 39.515" N	87° 23' 28.311" E
	16	23° 24' 41.913" N	87° 23' 20.201" E
	17	23° 24' 45.627" N	87° 23' 23.422" E
	18	23° 24' 52.468" N	87° 23' 32.279" E
	19	23° 24' 57.500" N	87° 23' 38.793" E
	20	23° 25' 0.970" N	87° 23' 43.172" E
	21	23° 24' 58.193" N	87° 23' 46.019" E
	22	23° 24' 52.660" N	87° 23' 56.444" E
	23	23° 24' 52.098" N	87° 23' 58.770" E
BNK_DA_SM_21A	1	23° 24' 43.464" N	87° 25' 16.232" E
	2	23° 24' 43.668" N	87° 25' 13.570" E
	3	23° 24' 42.984" N	87° 25' 11.890" E
	4	23° 24' 40.584" N	87° 25' 8.526" E
	5	23° 24' 32.665" N	87° 25' 9.806" E
	6	23° 24' 32.690" N	87° 25' 0.484" E
	7	23° 24' 35.937" N	87° 25' 2.117" E
	8	23° 24' 37.392" N	87° 24' 58.207" E
	9	23° 24' 38.659" N	87° 24' 53.194" E
	10	23° 24' 38.634" N	87° 24' 49.665" E
	11	23° 24' 39.719" N	87° 24' 37.517" E
	12	23° 24' 39.867" N	87° 24' 35.199" E
	13	23° 24' 40.042" N	87° 24' 32.484" E

CODE	POINT NO	LATITUDE	LONGITUDE
	14	23° 24' 41.711" N	87° 24' 25.889" E
	15	23° 24' 42.963" N	87° 24' 20.747" E
	16	23° 24' 44.729" N	87° 24' 16.724" E
	17	23° 24' 46.909" N	87° 24' 12.032" E
	18	23° 24' 48.359" N	87° 24' 10.359" E
	19	23° 24' 48.981" N	87° 24' 5.300" E
	20	23° 24' 49.611" N	87° 24' 3.981" E
	21	23° 24' 50.949" N	87° 24' 3.531" E
	22	23° 24' 50.573" N	87° 24' 5.090" E
	23	23° 24' 50.408" N	87° 24' 15.382" E
	24	23° 24' 51.220" N	87° 24' 21.052" E
	25	23° 24' 49.686" N	87° 24' 28.655" E
	26	23° 24' 48.979" N	87° 24' 35.664" E
	27	23° 24' 48.794" N	87° 24' 53.563" E
	28	23° 24' 49.421" N	87° 25' 3.486" E
	29	23° 24' 46.802" N	87° 25' 8.025" E
	30	23° 24' 47.334" N	87° 25' 10.720" E
BNK_DA_SM_21B	1	23° 24' 39.867" N	87° 24' 35.199" E
	2	23° 24' 36.125" N	87° 24' 40.497" E
	3	23° 24' 33.943" N	87° 24' 45.525" E
	4	23° 24' 31.759" N	87° 24' 51.447" E
	5	23° 24' 32.464" N	87° 24' 58.273" E
	6	23° 24' 32.690" N	87° 25' 0.484" E
	7	23° 24' 22.602" N	87° 25' 0.877" E
	8	23° 24' 27.784" N	87° 24' 46.958" E
	9	23° 24' 32.303" N	87° 24' 29.632" E
	10	23° 24' 33.699" N	87° 24' 22.365" E
	11	23° 24' 32.000" N	87° 24' 13.783" E
	12	23° 24' 31.691" N	87° 24' 0.358" E
	13	23° 24' 34.828" N	87° 23' 44.519" E
	14	23° 24' 35.526" N	87° 23' 42.106" E
	15	23° 24' 37.176" N	87° 23' 42.693" E
	16	23° 24' 39.128" N	87° 23' 46.390" E
	17	23° 24' 40.463" N	87° 23' 49.191" E
	18	23° 24' 40.969" N	87° 23' 53.108" E
	19	23° 24' 41.678" N	87° 23' 58.368" E
	20	23° 24' 41.767" N	87° 24' 4.074" E
	21	23° 24' 43.100" N	87° 24' 7.882" E
	22	23° 24' 44.951" N	87° 24' 10.460" E

CODE	POINT NO	LATITUDE	LONGITUDE
	23	23° 24' 46.909" N	87° 24' 12.032" E
	24	23° 24' 44.729" N	87° 24' 16.724" E
	25	23° 24' 42.963" N	87° 24' 20.747" E
	26	23° 24' 41.711" N	87° 24' 25.889" E
	27	23° 24' 40.042" N	87° 24' 32.484" E
BNK_DA_SM_22	1	23° 24' 14.438" N	87° 25' 11.848" E
	2	23° 24' 13.913" N	87° 25' 13.298" E
	3	23° 24' 16.986" N	87° 25' 25.505" E
	4	23° 24' 20.197" N	87° 25' 29.558" E
	5	23° 24' 23.998" N	87° 25' 36.394" E
	6	23° 24' 26.986" N	87° 25' 38.641" E
	7	23° 24' 28.424" N	87° 25' 41.666" E
	8	23° 24' 28.509" N	87° 25' 48.155" E
	9	23° 24' 25.805" N	87° 25' 55.194" E
	10	23° 24' 22.588" N	87° 26' 1.336" E
	11	23° 24' 20.298" N	87° 26' 7.705" E
	12	23° 24' 18.632" N	87° 26' 13.069" E
	13	23° 24' 13.764" N	87° 26' 18.423" E
	14	23° 24' 8.487" N	87° 26' 22.656" E
	15	23° 24' 4.312" N	87° 26' 28.448" E
	16	23° 24' 5.918" N	87° 26' 30.407" E
	17	23° 24' 5.086" N	87° 26' 32.731" E
	18	23° 24' 1.945" N	87° 26' 33.258" E
	19	23° 23' 57.482" N	87° 26' 34.496" E
	20	23° 23' 46.144" N	87° 26' 37.571" E
	21	23° 23' 39.204" N	87° 26' 45.490" E
	22	23° 23' 36.098" N	87° 26' 48.500" E
	23	23° 23' 29.484" N	87° 26' 50.715" E
	24	23° 23' 24.118" N	87° 26' 49.690" E
	25	23° 23' 19.886" N	87° 26' 49.117" E
	26	23° 23' 15.847" N	87° 26' 53.465" E
	27	23° 23' 12.525" N	87° 26' 59.830" E
	28	23° 23' 11.064" N	87° 27' 5.305" E
	29	23° 23' 8.780" N	87° 27' 9.660" E
	30	23° 23' 6.919" N	87° 27' 10.660" E
	31	23° 23' 4.759" N	87° 27' 7.857" E
	32	23° 23' 2.594" N	87° 27' 6.507" E
	33	23° 23' 0.011" N	87° 27' 7.281" E
	34	23° 22' 57.319" N	87° 27' 10.068" E

CODE	POINT NO	LATITUDE	LONGITUDE
	35	23° 22' 55.862" N	87° 27' 13.978" E
	36	23° 22' 55.640" N	87° 27' 19.122" E
	37	23° 22' 52.626" N	87° 27' 25.935" E
	38	23° 22' 50.128" N	87° 27' 33.084" E
	39	23° 22' 47.231" N	87° 27' 35.199" E
	40	23° 22' 45.065" N	87° 27' 34.297" E
	41	23° 22' 40.647" N	87° 27' 26.788" E
	42	23° 22' 40.247" N	87° 27' 22.537" E
	43	23° 22' 43.155" N	87° 27' 16.507" E
	44	23° 22' 45.952" N	87° 27' 13.273" E
	45	23° 22' 48.125" N	87° 27' 11.715" E
	46	23° 22' 49.775" N	87° 27' 12.391" E
	47	23° 22' 48.627" N	87° 27' 16.526" E
	48	23° 22' 47.900" N	87° 27' 18.201" E
	49	23° 22' 48.925" N	87° 27' 20.777" E
	50	23° 22' 50.576" N	87° 27' 20.895" E
	51	23° 22' 51.319" N	87° 27' 14.074" E
	52	23° 22' 56.508" N	87° 27' 4.809" E
	53	23° 23' 1.791" N	87° 26' 58.563" E
	54	23° 23' 5.103" N	87° 26' 56.002" E
	55	23° 23' 6.766" N	87° 26' 51.981" E
	56	23° 23' 9.459" N	87° 26' 48.858" E
	57	23° 23' 17.112" N	87° 26' 44.633" E
	58	23° 23' 21.246" N	87° 26' 43.081" E
	59	23° 23' 25.381" N	87° 26' 41.193" E
	60	23° 23' 29.944" N	87° 26' 38.235" E
	61	23° 23' 28.907" N	87° 26' 35.724" E
	62	23° 23' 24.056" N	87° 26' 35.261" E
	63	23° 23' 14.860" N	87° 26' 37.803" E
	64	23° 23' 7.922" N	87° 26' 44.714" E
	65	23° 23' 0.779" N	87° 26' 51.513" E
	66	23° 22' 57.565" N	87° 26' 56.088" E
	67	23° 22' 53.320" N	87° 27' 0.212" E
	68	23° 22' 49.598" N	87° 27' 2.101" E
	69	23° 22' 46.653" N	87° 27' 2.590" E
	70	23° 22' 46.818" N	87° 26' 59.631" E
	71	23° 22' 45.895" N	87° 26' 56.879" E
	72	23° 22' 55.393" N	87° 26' 47.281" E
	73	23° 23' 10.396" N	87° 26' 35.773" E

CODE	POINT NO	LATITUDE	LONGITUDE
	74	23° 23' 17.312" N	87° 26' 24.238" E
	75	23° 23' 21.871" N	87° 26' 9.292" E
	76	23° 23' 23.836" N	87° 26' 7.120" E
	77	23° 23' 35.284" N	87° 25' 39.268" E
	78	23° 23' 37.272" N	87° 25' 36.386" E
	79	23° 23' 47.923" N	87° 25' 28.596" E
	80	23° 24' 0.150" N	87° 25' 25.092" E
	81	23° 24' 9.460" N	87° 25' 18.224" E
BNK_DA_SM_22A	1	23° 24' 43.464" N	87° 25' 16.232" E
	2	23° 24' 40.700" N	87° 25' 14.849" E
	3	23° 24' 39.840" N	87° 25' 14.683" E
	4	23° 24' 37.289" N	87° 25' 16.106" E
	5	23° 24' 34.762" N	87° 25' 21.542" E
	6	23° 24' 33.371" N	87° 25' 26.907" E
	7	23° 24' 31.842" N	87° 25' 32.571" E
	8	23° 24' 28.424" N	87° 25' 41.666" E
	9	23° 24' 26.986" N	87° 25' 38.641" E
	10	23° 24' 23.998" N	87° 25' 36.394" E
	11	23° 24' 20.197" N	87° 25' 29.558" E
	12	23° 24' 16.986" N	87° 25' 25.505" E
	13	23° 24' 13.913" N	87° 25' 13.298" E
	14	23° 24' 14.438" N	87° 25' 11.848" E
	15	23° 24' 22.238" N	87° 25' 1.857" E
	16	23° 24' 22.602" N	87° 25' 0.877" E
	17	23° 24' 32.690" N	87° 25' 0.484" E
	18	23° 24' 32.665" N	87° 25' 9.806" E
	19	23° 24' 40.584" N	87° 25' 8.526" E
	20	23° 24' 42.984" N	87° 25' 11.890" E
	21	23° 24' 43.668" N	87° 25' 13.570" E
	22	23° 24' 43.668" N	87° 25' 13.570" E
BNK_DA_SM_22B	1	23° 24' 43.108" N	87° 25' 59.625" E
	2	23° 24' 35.490" N	87° 26' 16.306" E
	3	23° 24' 25.953" N	87° 26' 29.997" E
	4	23° 24' 15.158" N	87° 26' 39.684" E
	5	23° 24' 15.163" N	87° 26' 39.652" E
	6	23° 24' 20.972" N	87° 26' 30.006" E
	7	23° 24' 25.943" N	87° 26' 24.832" E
	8	23° 24' 31.904" N	87° 26' 19.661" E
	9	23° 24' 35.392" N	87° 26' 13.049" E

CODE	POINT NO	LATITUDE	LONGITUDE
	10	23° 24' 37.723" N	87° 26' 6.255" E
	11	23° 24' 40.382" N	87° 25' 51.403" E
	12	23° 24' 37.752" N	87° 25' 46.764" E
	13	23° 24' 41.953" N	87° 25' 40.948" E
	14	23° 24' 43.726" N	87° 25' 37.948" E
	15	23° 24' 45.059" N	87° 25' 40.045" E
	16	23° 24' 45.051" N	87° 25' 43.028" E
	17	23° 24' 46.099" N	87° 25' 50.410" E
	18	23° 24' 43.108" N	87° 25' 59.625" E
BNK_DA_SM_22C	1	23° 23' 42.473" N	87° 27' 10.868" E
	2	23° 23' 35.571" N	87° 27' 17.407" E
	3	23° 23' 21.342" N	87° 27' 34.509" E
	4	23° 22' 58.139" N	87° 28' 0.378" E
	5	23° 22' 46.876" N	87° 28' 9.870" E
	6	23° 22' 43.446" N	87° 28' 5.667" E
	7	23° 22' 44.234" N	87° 28' 1.573" E
	8	23° 22' 46.156" N	87° 27' 51.887" E
	9	23° 22' 49.961" N	87° 27' 45.376" E
	10	23° 22' 51.874" N	87° 27' 38.485" E
	11	23° 22' 56.883" N	87° 27' 31.978" E
	12	23° 23' 1.541" N	87° 27' 28.079" E
	13	23° 23' 11.708" N	87° 27' 22.894" E
	14	23° 23' 18.771" N	87° 27' 20.309" E
	15	23° 23' 24.984" N	87° 27' 13.992" E
	16	23° 23' 28.947" N	87° 27' 12.141" E
	17	23° 23' 35.842" N	87° 27' 7.876" E
	18	23° 23' 42.556" N	87° 27' 6.967" E
	19	23° 23' 51.796" N	87° 27' 2.859" E
BNK_DA_SM_22D	1	23° 22' 37.342" N	87° 27' 53.161" E
	2	23° 22' 35.379" N	87° 27' 55.977" E
	3	23° 22' 21.109" N	87° 27' 38.840" E
	4	23° 22' 21.808" N	87° 27' 34.206" E
	5	23° 22' 29.804" N	87° 27' 18.128" E
	6	23° 22' 32.751" N	87° 27' 11.708" E
	7	23° 22' 37.661" N	87° 27' 5.422" E
	8	23° 22' 39.844" N	87° 27' 5.134" E
	9	23° 22' 40.081" N	87° 27' 5.596" E
	10	23° 22' 37.252" N	87° 27' 13.344" E
	11	23° 22' 36.717" N	87° 27' 19.941" E

CODE	POINT NO	LATITUDE	LONGITUDE
	12	23° 22' 38.655" N	87° 27' 27.777" E
	13	23° 22' 41.625" N	87° 27' 36.175" E
	14	23° 22' 45.943" N	87° 27' 42.454" E
	15	23° 22' 45.834" N	87° 27' 44.243" E
	16	23° 22' 40.250" N	87° 27' 47.243" E
BNK_DA_SM_23	1	23° 21' 38.267" N	87° 28' 55.267" E
	2	23° 21' 30.276" N	87° 28' 57.624" E
	3	23° 21' 6.721" N	87° 29' 11.228" E
	4	23° 20' 56.315" N	87° 29' 10.649" E
	5	23° 20' 53.343" N	87° 29' 10.101" E
	6	23° 20' 50.037" N	87° 29' 10.805" E
	7	23° 20' 47.545" N	87° 29' 15.269" E
	8	23° 20' 44.073" N	87° 29' 16.329" E
	9	23° 20' 38.955" N	87° 29' 15.416" E
	10	23° 20' 28.548" N	87° 29' 15.378" E
	11	23° 20' 22.274" N	87° 29' 14.103" E
	12	23° 20' 18.474" N	87° 29' 14.447" E
	13	23° 20' 12.763" N	87° 29' 17.836" E
	14	23° 20' 17.019" N	87° 29' 4.650" E
	15	23° 20' 20.480" N	87° 28' 58.327" E
	16	23° 20' 25.310" N	87° 28' 54.244" E
	17	23° 20' 33.752" N	87° 28' 51.107" E
	18	23° 20' 40.827" N	87° 28' 44.610" E
	19	23° 20' 47.720" N	87° 28' 41.280" E
	20	23° 20' 57.029" N	87° 28' 35.722" E
	21	23° 21' 5.120" N	87° 28' 34.633" E
	22	23° 21' 15.149" N	87° 28' 35.617" E
	23	23° 21' 18.271" N	87° 28' 34.696" E
	24	23° 21' 21.357" N	87° 28' 29.973" E
	25	23° 21' 26.731" N	87° 28' 22.784" E
	26	23° 21' 29.551" N	87° 28' 21.923" E
	27	23° 21' 32.808" N	87° 28' 25.895" E
	28	23° 21' 34.816" N	87° 28' 28.225" E
	29	23° 21' 47.127" N	87° 28' 42.513" E
	30	23° 21' 44.570" N	87° 28' 43.375" E
	31	23° 21' 34.845" N	87° 28' 49.603" E
	32	23° 21' 34.005" N	87° 28' 54.408" E
	33	23° 21' 41.545" N	87° 28' 53.205" E
	34	23° 21' 46.857" N	87° 28' 52.566" E

CODE	POINT NO	LATITUDE	LONGITUDE
	35	23° 21' 49.910" N	87° 28' 52.453" E
	36	23° 21' 53.549" N	87° 28' 50.926" E
	37	23° 21' 57.455" N	87° 28' 55.617" E
	38	23° 21' 49.000" N	87° 28' 56.648" E
BNK_DA_SM_24	1	23° 19' 31.943" N	87° 31' 58.749" E
	2	23° 19' 29.248" N	87° 31' 54.365" E
	3	23° 19' 4.252" N	87° 31' 30.077" E
	4	23° 19' 6.721" N	87° 31' 19.852" E
	5	23° 19' 9.112" N	87° 31' 10.988" E
	6	23° 19' 13.911" N	87° 31' 5.700" E
	7	23° 19' 18.886" N	87° 30' 59.906" E
	8	23° 19' 26.908" N	87° 30' 53.258" E
	9	23° 19' 34.017" N	87° 30' 42.524" E
	10	23° 19' 37.529" N	87° 30' 42.090" E
	11	23° 19' 40.640" N	87° 30' 37.853" E
	12	23° 19' 39.390" N	87° 30' 24.984" E
	13	23° 19' 41.751" N	87° 30' 13.485" E
	14	23° 19' 48.182" N	87° 30' 4.341" E
	15	23° 19' 55.189" N	87° 29' 49.450" E
	16	23° 20' 5.811" N	87° 29' 39.810" E
	17	23° 20' 6.140" N	87° 29' 32.220" E
	18	23° 20' 8.479" N	87° 29' 29.011" E
	19	23° 20' 10.888" N	87° 29' 28.454" E
	20	23° 20' 21.185" N	87° 29' 29.871" E
	21	23° 20' 21.206" N	87° 29' 23.162" E
	22	23° 20' 40.311" N	87° 29' 21.555" E
	23	23° 20' 45.409" N	87° 29' 25.467" E
	24	23° 20' 43.380" N	87° 29' 26.825" E
	25	23° 20' 34.397" N	87° 29' 38.122" E
	26	23° 20' 26.939" N	87° 29' 45.698" E
	27	23° 20' 20.168" N	87° 29' 53.872" E
	28	23° 20' 14.915" N	87° 30' 0.710" E
	29	23° 20' 7.153" N	87° 30' 17.378" E
	30	23° 20' 1.599" N	87° 30' 31.817" E
	31	23° 19' 54.650" N	87° 30' 52.213" E
	32	23° 19' 48.249" N	87° 31' 13.059" E
	33	23° 19' 44.758" N	87° 31' 27.654" E
	34	23° 19' 42.931" N	87° 31' 38.976" E
	35	23° 19' 39.875" N	87° 31' 47.163" E

CODE	POINT NO	LATITUDE	LONGITUDE
BNK_DA_SM_25	1	23° 19' 18.505" N	87° 30' 45.883" E
	2	23° 19' 13.064" N	87° 30' 58.159" E
	3	23° 19' 13.531" N	87° 30' 50.066" E
	4	23° 19' 13.558" N	87° 30' 41.682" E
	5	23° 19' 13.929" N	87° 30' 33.485" E
	6	23° 19' 21.003" N	87° 30' 27.549" E
	7	23° 19' 26.878" N	87° 30' 20.119" E
	8	23° 19' 33.190" N	87° 30' 11.114" E
	9	23° 19' 33.747" N	87° 30' 11.575" E
	10	23° 19' 32.128" N	87° 30' 23.576" E
	11	23° 19' 31.815" N	87° 30' 31.813" E
	12	23° 19' 28.348" N	87° 30' 39.626" E
	13	23° 19' 23.093" N	87° 30' 45.746" E
BNK_DA_PS_26	1	23° 17' 49.605" N	87° 33' 18.871" E
	2	23° 17' 40.845" N	87° 32' 56.109" E
	3	23° 17' 44.150" N	87° 32' 53.420" E
	4	23° 17' 58.977" N	87° 32' 45.283" E
	5	23° 18' 8.815" N	87° 32' 36.754" E
	6	23° 18' 26.403" N	87° 32' 26.206" E
	7	23° 18' 32.279" N	87° 32' 18.777" E
	8	23° 18' 36.963" N	87° 32' 7.617" E
	9	23° 18' 42.515" N	87° 31' 54.225" E
	10	23° 18' 52.528" N	87° 31' 44.763" E
	11	23° 18' 59.085" N	87° 31' 39.199" E
	12	23° 19' 3.755" N	87° 31' 32.137" E
	13	23° 19' 4.252" N	87° 31' 30.077" E
	14	23° 19' 26.906" N	87° 31' 52.089" E
	15	23° 19' 29.248" N	87° 31' 54.365" E
	16	23° 19' 31.943" N	87° 31' 58.749" E
	17	23° 19' 21.711" N	87° 32' 12.922" E
	18	23° 19' 13.553" N	87° 32' 22.955" E
	19	23° 19' 9.315" N	87° 32' 29.399" E
	20	23° 19' 0.122" N	87° 32' 42.182" E
	21	23° 18' 58.288" N	87° 32' 46.547" E
	22	23° 18' 57.657" N	87° 32' 51.968" E
	23	23° 18' 52.688" N	87° 33' 7.290" E
	24	23° 18' 42.427" N	87° 33' 19.197" E
	25	23° 18' 34.423" N	87° 33' 24.827" E
	26	23° 18' 16.371" N	87° 33' 30.118" E

CODE	POINT NO	LATITUDE	LONGITUDE
	27	23° 18' 11.281" N	87° 33' 31.844" E
	28	23° 18' 3.060" N	87° 33' 29.109" E
	29	23° 17' 54.073" N	87° 33' 30.512" E
BNK_DA_PS_27	1	23° 14' 56.006" N	87° 36' 15.137" E
	2	23° 14' 53.894" N	87° 36' 27.195" E
	3	23° 14' 52.416" N	87° 36' 35.680" E
	4	23° 14' 43.889" N	87° 36' 51.284" E
	5	23° 14' 40.298" N	87° 36' 53.142" E
	6	23° 14' 36.266" N	87° 36' 47.003" E
	7	23° 14' 27.174" N	87° 36' 48.526" E
	8	23° 14' 18.380" N	87° 36' 53.254" E
	9	23° 14' 20.762" N	87° 36' 44.792" E
	10	23° 14' 28.370" N	87° 36' 35.330" E
	11	23° 14' 38.392" N	87° 36' 24.575" E
	12	23° 14' 50.164" N	87° 36' 6.192" E
	13	23° 15' 1.915" N	87° 35' 53.023" E
	14	23° 15' 12.974" N	87° 35' 40.781" E
	15	23° 15' 19.726" N	87° 35' 30.010" E
	16	23° 15' 27.169" N	87° 35' 18.310" E
	17	23° 15' 32.892" N	87° 35' 6.416" E
	18	23° 15' 41.894" N	87° 34' 51.928" E
	19	23° 15' 46.228" N	87° 34' 43.193" E
	20	23° 15' 50.395" N	87° 34' 32.968" E
	21	23° 15' 56.101" N	87° 34' 25.542" E
	22	23° 16' 2.851" N	87° 34' 14.769" E
	23	23° 16' 10.267" N	87° 34' 10.330" E
	24	23° 16' 22.346" N	87° 34' 1.069" E
	25	23° 16' 24.634" N	87° 33' 57.725" E
	26	23° 16' 47.032" N	87° 33' 54.077" E
	27	23° 16' 53.007" N	87° 33' 49.928" E
	28	23° 17' 1.518" N	87° 33' 39.751" E
	29	23° 17' 6.139" N	87° 33' 37.039" E
	30	23° 17' 17.369" N	87° 33' 24.419" E
	31	23° 17' 25.153" N	87° 33' 12.901" E
	32	23° 17' 32.760" N	87° 33' 2.687" E
	33	23° 17' 40.845" N	87° 32' 56.109" E
	34	23° 17' 49.605" N	87° 33' 18.871" E
	35	23° 17' 53.970" N	87° 33' 30.246" E
	36	23° 17' 51.159" N	87° 33' 31.206" E

CODE	POINT NO	LATITUDE	LONGITUDE
	37	23° 17' 48.025" N	87° 33' 29.762" E
	38	23° 17' 44.780" N	87° 33' 27.293" E
	39	23° 17' 35.771" N	87° 33' 27.840" E
	40	23° 17' 27.428" N	87° 33' 29.954" E
	41	23° 17' 17.998" N	87° 33' 37.803" E
	42	23° 17' 14.437" N	87° 33' 43.325" E
	43	23° 17' 10.349" N	87° 33' 45.869" E
	44	23° 17' 4.472" N	87° 33' 58.445" E
	45	23° 17' 5.252" N	87° 34' 4.761" E
	46	23° 17' 13.088" N	87° 33' 52.506" E
	47	23° 17' 19.897" N	87° 33' 42.341" E
	48	23° 17' 26.184" N	87° 33' 39.685" E
	49	23° 17' 32.626" N	87° 33' 39.891" E
	50	23° 17' 38.071" N	87° 33' 41.702" E
	51	23° 17' 40.946" N	87° 33' 43.079" E
	52	23° 17' 36.250" N	87° 33' 47.238" E
	53	23° 17' 25.611" N	87° 33' 58.072" E
	54	23° 17' 14.687" N	87° 34' 11.587" E
	55	23° 17' 3.743" N	87° 34' 30.615" E
	56	23° 16' 52.968" N	87° 34' 40.850" E
	57	23° 16' 37.778" N	87° 34' 57.028" E
	58	23° 16' 35.616" N	87° 34' 58.071" E
	59	23° 16' 32.266" N	87° 35' 2.357" E
	60	23° 16' 18.273" N	87° 35' 14.704" E
	61	23° 16' 17.187" N	87° 35' 18.056" E
	62	23° 16' 8.176" N	87° 35' 31.616" E
	63	23° 15' 58.650" N	87° 35' 38.874" E
	64	23° 15' 44.757" N	87° 35' 44.940" E
	65	23° 15' 43.433" N	87° 35' 38.759" E
	66	23° 15' 40.957" N	87° 35' 38.391" E
	67	23° 15' 35.990" N	87° 35' 41.408" E
	68	23° 15' 29.561" N	87° 35' 48.103" E
	69	23° 15' 21.470" N	87° 35' 57.820" E
	70	23° 15' 18.371" N	87° 35' 58.477" E
	71	23° 15' 20.490" N	87° 35' 44.184" E
	72	23° 15' 14.511" N	87° 35' 55.233" E
	73	23° 15' 6.584" N	87° 36' 2.894" E
BNK_DA_PS_28	1	23° 14' 53.949" N	87° 37' 18.289" E
	2	23° 14' 50.711" N	87° 37' 15.371" E

CODE	POINT NO	LATITUDE	LONGITUDE
	3	23° 14' 47.593" N	87° 37' 12.561" E
	4	23° 14' 42.653" N	87° 37' 10.447" E
	5	23° 14' 38.931" N	87° 37' 8.854" E
	6	23° 14' 36.019" N	87° 37' 7.608" E
	7	23° 14' 29.984" N	87° 37' 5.025" E
	8	23° 14' 24.880" N	87° 37' 1.106" E
	9	23° 14' 23.490" N	87° 37' 0.099" E
	10	23° 14' 17.606" N	87° 36' 56.003" E
	11	23° 14' 18.380" N	87° 36' 53.254" E
	12	23° 14' 27.174" N	87° 36' 48.526" E
	13	23° 14' 36.266" N	87° 36' 47.003" E
	14	23° 14' 40.298" N	87° 36' 53.142" E
	15	23° 14' 43.889" N	87° 36' 51.284" E
	16	23° 14' 52.416" N	87° 36' 35.680" E
	17	23° 14' 53.894" N	87° 36' 27.195" E
	18	23° 14' 56.006" N	87° 36' 15.137" E
	19	23° 15' 4.474" N	87° 36' 15.236" E
	20	23° 15' 7.297" N	87° 36' 11.316" E
	21	23° 15' 8.964" N	87° 36' 7.569" E
	22	23° 15' 12.514" N	87° 36' 5.382" E
	23	23° 15' 17.848" N	87° 36' 7.176" E
	24	23° 15' 10.164" N	87° 36' 22.759" E
	25	23° 15' 6.125" N	87° 36' 34.957" E
	26	23° 15' 4.706" N	87° 36' 45.826" E
	27	23° 15' 4.808" N	87° 36' 54.914" E
	28	23° 15' 4.643" N	87° 37' 1.916" E
	29	23° 15' 1.591" N	87° 37' 7.861" E
	30	23° 14' 57.713" N	87° 37' 13.802" E
BNK_DA_IN_29	1	23° 14' 26.489" N	87° 38' 0.982" E
	2	23° 14' 15.180" N	87° 37' 54.773" E
	3	23° 14' 8.263" N	87° 37' 50.975" E
	4	23° 14' 3.274" N	87° 37' 48.025" E
	5	23° 14' 4.185" N	87° 37' 42.998" E
	6	23° 14' 10.261" N	87° 37' 29.620" E
	7	23° 14' 13.910" N	87° 37' 20.513" E
	8	23° 14' 15.527" N	87° 37' 3.389" E
	9	23° 14' 17.606" N	87° 36' 56.003" E
	10	23° 14' 23.490" N	87° 37' 0.099" E
	11	23° 14' 24.880" N	87° 37' 1.106" E

CODE	POINT NO	LATITUDE	LONGITUDE
	12	23° 14' 29.984" N	87° 37' 5.025" E
	13	23° 14' 36.019" N	87° 37' 7.608" E
	14	23° 14' 38.931" N	87° 37' 8.854" E
	15	23° 14' 42.653" N	87° 37' 10.447" E
	16	23° 14' 47.593" N	87° 37' 12.561" E
	17	23° 14' 50.711" N	87° 37' 15.371" E
	18	23° 14' 53.949" N	87° 37' 18.289" E
	19	23° 14' 52.734" N	87° 37' 19.738" E
	20	23° 14' 52.415" N	87° 37' 21.248" E
	21	23° 14' 50.163" N	87° 37' 24.981" E
	22	23° 14' 48.050" N	87° 37' 28.221" E
	23	23° 14' 45.626" N	87° 37' 31.821" E
	24	23° 14' 44.361" N	87° 37' 33.428" E
	25	23° 14' 41.435" N	87° 37' 35.960" E
	26	23° 14' 37.973" N	87° 37' 38.036" E
	27	23° 14' 35.747" N	87° 37' 39.425" E
	28	23° 14' 33.350" N	87° 37' 41.515" E
	29	23° 14' 28.758" N	87° 37' 49.501" E
	30	23° 14' 27.911" N	87° 37' 57.196" E
BNK_DA_IN_29A	1	23° 14' 23.307" N	87° 38' 18.679" E
	2	23° 14' 10.042" N	87° 38' 18.967" E
	3	23° 14' 0.220" N	87° 38' 19.180" E
	4	23° 13' 59.078" N	87° 38' 15.600" E
	5	23° 13' 58.919" N	87° 38' 11.664" E
	6	23° 13' 59.433" N	87° 38' 9.230" E
	7	23° 14' 3.274" N	87° 37' 48.025" E
	8	23° 14' 8.263" N	87° 37' 50.975" E
	9	23° 14' 15.180" N	87° 37' 54.773" E
	10	23° 14' 26.489" N	87° 38' 0.982" E
	11	23° 14' 24.742" N	87° 38' 5.860" E
	12	23° 14' 23.994" N	87° 38' 9.466" E
	13	23° 14' 23.587" N	87° 38' 12.860" E
BNK_DA_IN_29B	1	23° 14' 0.220" N	87° 38' 19.180" E
	2	23° 14' 10.042" N	87° 38' 18.967" E
	3	23° 14' 23.307" N	87° 38' 18.679" E
	4	23° 14' 23.780" N	87° 38' 27.224" E
	5	23° 14' 21.884" N	87° 38' 31.547" E
	6	23° 14' 20.343" N	87° 38' 38.094" E
	7	23° 14' 20.308" N	87° 38' 46.585" E

CODE	POINT NO	LATITUDE	LONGITUDE
	8	23° 14' 23.033" N	87° 38' 53.450" E
	9	23° 14' 25.471" N	87° 39' 3.145" E
	10	23° 14' 27.154" N	87° 39' 12.943" E
	11	23° 14' 23.058" N	87° 39' 12.591" E
	12	23° 14' 18.587" N	87° 39' 12.165" E
	13	23° 14' 14.347" N	87° 39' 11.762" E
	14	23° 14' 10.934" N	87° 39' 11.427" E
	15	23° 14' 5.619" N	87° 39' 11.162" E
	16	23° 13' 56.745" N	87° 39' 10.456" E
	17	23° 13' 49.840" N	87° 39' 10.173" E
	18	23° 13' 46.650" N	87° 39' 9.981" E
	19	23° 13' 48.201" N	87° 39' 2.802" E
	20	23° 13' 50.901" N	87° 38' 49.845" E
	21	23° 13' 53.885" N	87° 38' 43.624" E
	22	23° 13' 55.248" N	87° 38' 38.082" E
	23	23° 13' 56.866" N	87° 38' 31.498" E

POTENTIAL ZONE OF DWARAKESWAR RIVER

CODE	LATITUDE	LONGITUDE
BNK_DW_CH_01	23° 20' 47.370" N	86° 51' 30.739" E
	23° 20' 45.129" N	86° 51' 29.211" E
	23° 20' 45.098" N	86° 51' 29.031" E
	23° 20' 45.305" N	86° 51' 28.394" E
	23° 20' 46.216" N	86° 51' 27.126" E
	23° 20' 47.523" N	86° 51' 25.951" E
	23° 20' 50.171" N	86° 51' 23.823" E
	23° 20' 50.635" N	86° 51' 23.096" E
	23° 20' 51.013" N	86° 51' 22.723" E
	23° 20' 52.372" N	86° 51' 21.510" E
	23° 20' 54.160" N	86° 51' 20.054" E
	23° 20' 55.604" N	86° 51' 18.413" E
	23° 20' 56.790" N	86° 51' 17.181" E
	23° 20' 56.914" N	86° 51' 16.962" E
	23° 20' 57.141" N	86° 51' 15.961" E
	23° 20' 57.934" N	86° 51' 14.322" E
	23° 20' 58.420" N	86° 51' 12.446" E
	23° 20' 58.488" N	86° 51' 11.551" E
	23° 20' 57.902" N	86° 51' 9.725" E
	23° 20' 57.195" N	86° 51' 8.496" E

CODE	LATITUDE	LONGITUDE
	23° 20' 56.540" N	86° 51' 7.174" E
	23° 20' 56.212" N	86° 51' 5.907" E
	23° 20' 56.228" N	86° 51' 4.863" E
	23° 20' 56.674" N	86° 51' 3.651" E
	23° 20' 57.671" N	86° 51' 2.047" E
	23° 20' 59.303" N	86° 50' 59.548" E
	23° 21' 1.675" N	86° 50' 56.787" E
	23° 21' 3.101" N	86° 50' 54.866" E
	23° 21' 5.095" N	86° 50' 52.012" E
	23° 21' 6.588" N	86° 50' 48.059" E
	23° 21' 7.187" N	86° 50' 45.244" E
	23° 21' 7.495" N	86° 50' 42.989" E
	23° 21' 7.700" N	86° 50' 41.945" E
	23° 21' 7.560" N	86° 50' 39.336" E
	23° 21' 7.834" N	86° 50' 37.453" E
	23° 21' 7.831" N	86° 50' 34.974" E
	23° 21' 7.844" N	86° 50' 30.781" E
	23° 21' 7.565" N	86° 50' 27.259" E
	23° 21' 7.254" N	86° 50' 25.656" E
	23° 21' 6.406" N	86° 50' 21.408" E
	23° 21' 6.284" N	86° 50' 19.805" E
	23° 21' 5.870" N	86° 50' 18.557" E
	23° 21' 5.610" N	86° 50' 16.619" E
	23° 21' 5.591" N	86° 50' 15.147" E
	23° 21' 5.967" N	86° 50' 12.388" E
	23° 21' 6.121" N	86° 50' 11.270" E
	23° 21' 6.016" N	86° 50' 10.357" E
	23° 21' 5.636" N	86° 50' 9.164" E
	23° 21' 5.136" N	86° 50' 8.047" E
	23° 21' 4.756" N	86° 50' 6.836" E
	23° 21' 4.445" N	86° 50' 5.252" E
	23° 21' 4.443" N	86° 50' 3.742" E
	23° 21' 5.199" N	86° 50' 2.344" E
	23° 21' 6.591" N	86° 50' 0.981" E
	23° 21' 8.534" N	86° 49' 59.152" E
	23° 21' 10.520" N	86° 49' 57.899" E
	23° 21' 12.481" N	86° 49' 57.086" E
	23° 21' 14.038" N	86° 49' 56.375" E
	23° 21' 15.250" N	86° 49' 56.066" E

CODE	LATITUDE	LONGITUDE
	23° 21' 16.807" N	86° 49' 55.673" E
	23° 21' 17.805" N	86° 49' 55.597" E
	23° 21' 19.973" N	86° 49' 55.511" E
	23° 21' 22.391" N	86° 49' 55.209" E
	23° 21' 23.088" N	86° 49' 54.994" E
	23° 21' 24.722" N	86° 49' 54.461" E
	23° 21' 26.072" N	86° 49' 54.031" E
	23° 21' 27.422" N	86° 49' 53.647" E
	23° 21' 28.945" N	86° 49' 53.160" E
	23° 21' 30.715" N	86° 49' 52.780" E
	23° 21' 31.551" N	86° 49' 51.996" E
	23° 21' 32.344" N	86° 49' 50.284" E
	23° 21' 33.023" N	86° 49' 48.494" E
	23° 21' 33.588" N	86° 49' 45.977" E
	23° 21' 34.227" N	86° 49' 42.249" E
	23° 21' 34.563" N	86° 49' 42.372" E
	23° 21' 35.299" N	86° 49' 42.834" E
	23° 21' 34.784" N	86° 49' 44.870" E
	23° 21' 33.947" N	86° 49' 48.043" E
	23° 21' 33.096" N	86° 49' 51.270" E
	23° 21' 31.564" N	86° 49' 52.707" E
	23° 21' 28.855" N	86° 49' 55.249" E
	23° 21' 30.518" N	86° 49' 56.370" E
	23° 21' 29.945" N	86° 49' 56.549" E
	23° 21' 28.193" N	86° 49' 56.358" E
	23° 21' 26.207" N	86° 49' 57.227" E
	23° 21' 26.029" N	86° 49' 57.350" E
	23° 21' 25.809" N	86° 49' 57.386" E
	23° 21' 24.449" N	86° 49' 57.623" E
	23° 21' 21.317" N	86° 49' 58.121" E
	23° 21' 19.520" N	86° 49' 58.608" E
	23° 21' 18.289" N	86° 49' 58.581" E
	23° 21' 16.835" N	86° 49' 58.732" E
	23° 21' 15.846" N	86° 49' 58.967" E
	23° 21' 14.410" N	86° 50' 0.000" E
	23° 21' 12.855" N	86° 50' 1.328" E
	23° 21' 10.938" N	86° 50' 3.474" E
	23° 21' 10.044" N	86° 50' 4.183" E
	23° 21' 9.348" N	86° 50' 5.097" E

CODE	LATITUDE	LONGITUDE
	23° 21' 8.903" N	86° 50' 6.803" E
	23° 21' 8.673" N	86° 50' 8.993" E
	23° 21' 9.071" N	86° 50' 11.863" E
	23° 21' 9.124" N	86° 50' 12.934" E
	23° 21' 8.722" N	86° 50' 15.125" E
	23° 21' 8.647" N	86° 50' 17.520" E
	23° 21' 8.614" N	86° 50' 18.946" E
	23° 21' 8.736" N	86° 50' 20.818" E
	23° 21' 9.323" N	86° 50' 22.393" E
	23° 21' 9.329" N	86° 50' 22.418" E
	23° 21' 9.420" N	86° 50' 23.093" E
	23° 21' 9.529" N	86° 50' 23.897" E
	23° 21' 9.549" N	86° 50' 24.489" E
	23° 21' 9.701" N	86° 50' 25.175" E
	23° 21' 10.554" N	86° 50' 29.215" E
	23° 21' 10.714" N	86° 50' 32.462" E
	23° 21' 11.012" N	86° 50' 37.829" E
	23° 21' 11.066" N	86° 50' 40.513" E
	23° 21' 11.101" N	86° 50' 41.389" E
	23° 21' 10.655" N	86° 50' 42.676" E
	23° 21' 9.934" N	86° 50' 43.869" E
	23° 21' 9.488" N	86° 50' 45.920" E
	23° 21' 9.489" N	86° 50' 46.293" E
	23° 21' 9.163" N	86° 50' 47.281" E
	23° 21' 9.112" N	86° 50' 48.530" E
	23° 21' 8.855" N	86° 50' 49.238" E
	23° 21' 8.133" N	86° 50' 50.320" E
	23° 21' 7.292" N	86° 50' 52.390" E
	23° 21' 5.694" N	86° 50' 54.758" E
	23° 21' 2.961" N	86° 50' 57.818" E
	23° 21' 1.637" N	86° 50' 59.553" E
	23° 21' 0.556" N	86° 51' 2.107" E
	23° 21' 0.299" N	86° 51' 3.561" E
	23° 21' 0.336" N	86° 51' 6.357" E
	23° 21' 0.665" N	86° 51' 8.630" E
	23° 21' 1.148" N	86° 51' 10.102" E
	23° 21' 1.098" N	86° 51' 11.854" E
	23° 21' 1.651" N	86° 51' 13.624" E
	23° 21' 2.186" N	86° 51' 15.189" E

CODE	LATITUDE	LONGITUDE
	23° 21' 2.118" N	86° 51' 16.177" E
	23° 21' 1.534" N	86° 51' 17.165" E
	23° 20' 59.831" N	86° 51' 18.714" E
	23° 20' 58.852" N	86° 51' 20.224" E
	23° 20' 56.651" N	86° 51' 21.867" E
	23° 20' 54.295" N	86° 51' 23.323" E
	23° 20' 52.902" N	86° 51' 24.368" E
	23° 20' 51.372" N	86° 51' 25.805" E
	23° 20' 49.309" N	86° 51' 28.137" E
	23° 20' 47.882" N	86° 51' 30.170" E
BNK_DW_CH_01A	23° 21' 37.501" N	86° 49' 1.420" E
	23° 21' 37.996" N	86° 49' 0.862" E
	23° 21' 38.890" N	86° 48' 59.985" E
	23° 21' 39.534" N	86° 48' 58.689" E
	23° 21' 39.654" N	86° 48' 57.267" E
	23° 21' 40.034" N	86° 48' 57.363" E
	23° 21' 41.368" N	86° 48' 59.263" E
	23° 21' 40.469" N	86° 49' 0.621" E
	23° 21' 39.742" N	86° 49' 0.929" E
	23° 21' 38.854" N	86° 49' 0.863" E
BNK_DW_CH_01B	23° 21' 40.046" N	86° 49' 28.946" E
	23° 21' 38.516" N	86° 49' 30.569" E
	23° 21' 38.465" N	86° 49' 31.352" E
	23° 21' 38.539" N	86° 49' 31.737" E
	23° 21' 37.717" N	86° 49' 32.988" E
	23° 21' 36.793" N	86° 49' 33.511" E
	23° 21' 37.290" N	86° 49' 32.306" E
	23° 21' 38.619" N	86° 49' 29.352" E
	23° 21' 39.607" N	86° 49' 26.756" E
	23° 21' 39.802" N	86° 49' 26.096" E
	23° 21' 40.042" N	86° 49' 25.591" E
	23° 21' 40.041" N	86° 49' 24.957" E
	23° 21' 39.627" N	86° 49' 23.504" E
	23° 21' 38.833" N	86° 49' 21.772" E
	23° 21' 38.367" N	86° 49' 20.735" E
	23° 21' 37.118" N	86° 49' 17.131" E
	23° 21' 36.393" N	86° 49' 14.605" E
	23° 21' 35.325" N	86° 49' 11.430" E
	23° 21' 34.930" N	86° 49' 9.060" E

CODE	LATITUDE	LONGITUDE
	23° 21' 34.780" N	86° 49' 7.398" E
	23° 21' 35.309" N	86° 49' 7.130" E
	23° 21' 35.618" N	86° 49' 6.481" E
	23° 21' 35.596" N	86° 49' 4.826" E
	23° 21' 36.152" N	86° 49' 3.528" E
	23° 21' 37.121" N	86° 49' 2.252" E
	23° 21' 38.029" N	86° 49' 1.736" E
	23° 21' 39.082" N	86° 49' 1.399" E
	23° 21' 40.007" N	86° 49' 1.321" E
	23° 21' 36.430" N	86° 49' 6.730" E
	23° 21' 37.473" N	86° 49' 14.299" E
	23° 21' 39.184" N	86° 49' 18.299" E
	23° 21' 41.321" N	86° 49' 23.297" E
	23° 21' 41.331" N	86° 49' 23.930" E
	23° 21' 41.590" N	86° 49' 25.104" E
	23° 21' 41.264" N	86° 49' 27.589" E
	23° 21' 40.669" N	86° 49' 28.495" E
BNK_DW_CH_01C	23° 21' 36.440" N	86° 49' 37.823" E
	23° 21' 35.984" N	86° 49' 37.957" E
	23° 21' 35.201" N	86° 49' 39.479" E
	23° 21' 35.016" N	86° 49' 39.904" E
	23° 21' 34.847" N	86° 49' 40.074" E
	23° 21' 35.490" N	86° 49' 37.889" E
	23° 21' 35.842" N	86° 49' 36.586" E
	23° 21' 36.354" N	86° 49' 36.369" E
	23° 21' 36.373" N	86° 49' 34.848" E
	23° 21' 36.662" N	86° 49' 34.333" E
	23° 21' 37.272" N	86° 49' 34.167" E
BNK_DW_CH_02	23° 20' 45.098" N	86° 51' 29.031" E
	23° 20' 45.129" N	86° 51' 29.211" E
	23° 20' 47.370" N	86° 51' 30.739" E
	23° 20' 46.473" N	86° 51' 31.737" E
	23° 20' 45.390" N	86° 51' 33.266" E
	23° 20' 43.999" N	86° 51' 36.007" E
	23° 20' 43.294" N	86° 51' 36.809" E
	23° 20' 42.176" N	86° 51' 37.481" E
	23° 20' 41.609" N	86° 51' 37.966" E
	23° 20' 40.662" N	86° 51' 38.396" E
	23° 20' 39.992" N	86° 51' 39.161" E

CODE	LATITUDE	LONGITUDE
	23° 20' 39.476" N	86° 51' 39.925" E
	23° 20' 39.047" N	86° 51' 41.249" E
	23° 20' 38.515" N	86° 51' 42.032" E
	23° 20' 37.449" N	86° 51' 43.040" E
	23° 20' 36.263" N	86° 51' 44.569" E
	23° 20' 34.939" N	86° 51' 45.819" E
	23° 20' 32.291" N	86° 51' 47.872" E
	23° 20' 31.018" N	86° 51' 49.308" E
	23° 20' 30.297" N	86° 51' 50.390" E
	23° 20' 28.732" N	86° 51' 51.808" E
	23° 20' 27.700" N	86° 51' 52.722" E
	23° 20' 26.566" N	86° 51' 54.531" E
	23° 20' 26.349" N	86° 51' 54.955" E
	23° 20' 25.712" N	86° 51' 55.580" E
	23° 20' 24.061" N	86° 51' 57.304" E
	23° 20' 23.278" N	86° 51' 57.849" E
	23° 20' 22.770" N	86° 51' 58.023" E
	23° 20' 22.823" N	86° 51' 57.434" E
	23° 20' 22.891" N	86° 51' 56.428" E
	23° 20' 23.355" N	86° 51' 55.421" E
	23° 20' 24.300" N	86° 51' 54.153" E
	23° 20' 26.552" N	86° 51' 51.001" E
	23° 20' 27.892" N	86° 51' 49.099" E
	23° 20' 28.872" N	86° 51' 48.278" E
	23° 20' 29.542" N	86° 51' 47.122" E
	23° 20' 31.053" N	86° 51' 43.430" E
	23° 20' 33.564" N	86° 51' 41.154" E
	23° 20' 36.092" N	86° 51' 39.567" E
	23° 20' 37.984" N	86° 51' 38.578" E
	23° 20' 40.459" N	86° 51' 35.910" E
	23° 20' 41.835" N	86° 51' 34.958" E
	23° 20' 43.622" N	86° 51' 32.198" E
	23° 20' 44.705" N	86° 51' 30.240" E
BNK_DW_CH_03	23° 20' 25.039" N	86° 52' 20.529" E
	23° 20' 24.283" N	86° 52' 21.741" E
	23° 20' 23.492" N	86° 52' 22.431" E
	23° 20' 22.047" N	86° 52' 23.327" E
	23° 20' 19.012" N	86° 52' 24.973" E
	23° 20' 18.273" N	86° 52' 23.068" E

CODE	LATITUDE	LONGITUDE
	23° 20' 17.868" N	86° 52' 22.249" E
	23° 20' 20.020" N	86° 52' 20.676" E
	23° 20' 21.534" N	86° 52' 19.444" E
	23° 20' 22.066" N	86° 52' 18.642" E
	23° 20' 22.719" N	86° 52' 17.505" E
	23° 20' 23.458" N	86° 52' 15.790" E
	23° 20' 23.956" N	86° 52' 14.280" E
	23° 20' 24.264" N	86° 52' 12.416" E
	23° 20' 24.004" N	86° 52' 10.664" E
	23° 20' 23.538" N	86° 52' 8.149" E
	23° 20' 22.939" N	86° 52' 5.674" E
	23° 20' 22.838" N	86° 52' 2.601" E
	23° 20' 23.134" N	86° 52' 0.156" E
	23° 20' 23.541" N	86° 51' 59.131" E
	23° 20' 24.839" N	86° 51' 57.262" E
	23° 20' 25.827" N	86° 51' 56.149" E
	23° 20' 25.639" N	86° 51' 57.439" E
	23° 20' 24.713" N	86° 52' 0.738" E
	23° 20' 24.628" N	86° 52' 1.745" E
	23° 20' 24.749" N	86° 52' 2.807" E
	23° 20' 25.163" N	86° 52' 3.831" E
	23° 20' 25.491" N	86° 52' 5.359" E
	23° 20' 25.871" N	86° 52' 6.812" E
	23° 20' 26.236" N	86° 52' 11.024" E
	23° 20' 26.566" N	86° 52' 14.508" E
	23° 20' 26.086" N	86° 52' 16.596" E
	23° 20' 25.742" N	86° 52' 17.565" E
	23° 20' 25.382" N	86° 52' 19.429" E
BNK_DW_CH_03A	23° 19' 41.367" N	86° 52' 50.038" E
	23° 19' 43.321" N	86° 52' 48.774" E
	23° 19' 45.763" N	86° 52' 47.392" E
	23° 19' 46.502" N	86° 52' 46.404" E
	23° 19' 48.050" N	86° 52' 45.061" E
	23° 19' 48.858" N	86° 52' 44.185" E
	23° 19' 50.188" N	86° 52' 42.475" E
	23° 19' 50.917" N	86° 52' 41.755" E
	23° 19' 51.482" N	86° 52' 42.490" E
	23° 19' 52.227" N	86° 52' 43.348" E
	23° 19' 50.918" N	86° 52' 45.029" E

CODE	LATITUDE	LONGITUDE
	23° 19' 48.820" N	86° 52' 47.490" E
	23° 19' 47.634" N	86° 52' 48.908" E
	23° 19' 46.723" N	86° 52' 49.467" E
	23° 19' 45.381" N	86° 52' 50.754" E
	23° 19' 43.216" N	86° 52' 52.173" E
BNK_DW_CH_03B	23° 18' 41.930" N	86° 53' 43.797" E
	23° 18' 41.895" N	86° 53' 43.046" E
	23° 18' 42.376" N	86° 53' 41.853" E
	23° 18' 42.960" N	86° 53' 40.809" E
	23° 18' 43.992" N	86° 53' 39.542" E
	23° 18' 45.196" N	86° 53' 38.609" E
	23° 18' 46.124" N	86° 53' 37.714" E
	23° 18' 46.605" N	86° 53' 36.708" E
	23° 18' 47.534" N	86° 53' 35.030" E
	23° 18' 48.565" N	86° 53' 33.948" E
	23° 18' 50.465" N	86° 53' 33.170" E
	23° 18' 51.049" N	86° 53' 34.185" E
	23° 18' 51.337" N	86° 53' 34.619" E
	23° 18' 49.439" N	86° 53' 35.964" E
	23° 18' 47.926" N	86° 53' 37.664" E
	23° 18' 46.716" N	86° 53' 39.007" E
	23° 18' 45.244" N	86° 53' 40.260" E
	23° 18' 42.630" N	86° 53' 43.049" E
BNK_DW_CH_03C	23° 18' 30.301" N	86° 53' 49.054" E
	23° 18' 30.045" N	86° 53' 48.557" E
	23° 18' 30.100" N	86° 53' 48.318" E
	23° 18' 31.263" N	86° 53' 47.787" E
	23° 18' 33.020" N	86° 53' 46.496" E
	23° 18' 34.541" N	86° 53' 45.723" E
	23° 18' 34.944" N	86° 53' 45.548" E
	23° 18' 35.109" N	86° 53' 45.434" E
	23° 18' 35.544" N	86° 53' 45.213" E
	23° 18' 35.958" N	86° 53' 44.849" E
	23° 18' 37.311" N	86° 53' 43.853" E
	23° 18' 40.653" N	86° 53' 41.893" E
	23° 18' 41.650" N	86° 53' 41.095" E
	23° 18' 41.894" N	86° 53' 41.593" E
	23° 18' 41.826" N	86° 53' 42.562" E
	23° 18' 40.588" N	86° 53' 43.941" E

CODE	LATITUDE	LONGITUDE
	23° 18' 38.661" N	86° 53' 45.322" E
	23° 18' 36.562" N	86° 53' 46.367" E
	23° 18' 35.668" N	86° 53' 46.442" E
	23° 18' 33.018" N	86° 53' 47.525" E
	23° 18' 31.711" N	86° 53' 48.457" E
	23° 18' 31.058" N	86° 53' 49.203" E
BNK_DW_CH_04	23° 17' 44.387" N	86° 54' 7.699" E
	23° 17' 44.159" N	86° 54' 8.610" E
	23° 17' 44.164" N	86° 54' 8.954" E
	23° 17' 44.015" N	86° 54' 9.430" E
	23° 17' 44.127" N	86° 54' 12.023" E
	23° 17' 43.990" N	86° 54' 13.185" E
	23° 17' 43.853" N	86° 54' 14.288" E
	23° 17' 43.679" N	86° 54' 15.108" E
	23° 17' 42.663" N	86° 54' 18.723" E
	23° 17' 40.628" N	86° 54' 15.511" E
	23° 17' 40.822" N	86° 54' 13.839" E
	23° 17' 41.468" N	86° 54' 9.187" E
	23° 17' 41.095" N	86° 54' 7.443" E
	23° 17' 41.197" N	86° 54' 6.363" E
	23° 17' 41.661" N	86° 54' 5.245" E
	23° 17' 42.227" N	86° 54' 2.375" E
	23° 17' 42.605" N	86° 54' 0.959" E
	23° 17' 43.276" N	86° 54' 0.120" E
	23° 17' 44.238" N	86° 53' 58.797" E
	23° 17' 44.857" N	86° 53' 57.660" E
	23° 17' 45.665" N	86° 53' 56.840" E
	23° 17' 46.095" N	86° 53' 55.927" E
	23° 17' 48.245" N	86° 53' 54.695" E
	23° 17' 49.759" N	86° 53' 53.744" E
	23° 17' 51.117" N	86° 53' 51.563" E
	23° 17' 51.409" N	86° 53' 50.833" E
	23° 17' 52.158" N	86° 53' 49.427" E
	23° 17' 52.372" N	86° 53' 49.290" E
	23° 17' 53.060" N	86° 53' 48.563" E
	23° 17' 53.438" N	86° 53' 47.892" E
	23° 17' 53.541" N	86° 53' 47.557" E
	23° 17' 55.932" N	86° 53' 46.865" E
	23° 17' 57.618" N	86° 53' 46.603" E

CODE	LATITUDE	LONGITUDE
	23° 17' 58.806" N	86° 53' 46.676" E
	23° 18' 1.835" N	86° 53' 47.196" E
	23° 18' 4.399" N	86° 53' 48.014" E
	23° 18' 7.876" N	86° 53' 49.259" E
	23° 18' 10.957" N	86° 53' 50.859" E
	23° 18' 12.420" N	86° 53' 51.454" E
	23° 18' 17.102" N	86° 53' 52.680" E
	23° 18' 18.702" N	86° 53' 52.548" E
	23° 18' 24.019" N	86° 53' 51.110" E
	23° 18' 26.022" N	86° 53' 50.199" E
	23° 18' 27.273" N	86° 53' 50.585" E
	23° 18' 28.718" N	86° 53' 50.509" E
	23° 18' 30.404" N	86° 53' 50.098" E
	23° 18' 30.958" N	86° 53' 50.132" E
	23° 18' 29.447" N	86° 53' 51.093" E
	23° 18' 26.185" N	86° 53' 53.048" E
	23° 18' 23.749" N	86° 53' 54.079" E
	23° 18' 22.862" N	86° 53' 54.255" E
	23° 18' 21.046" N	86° 53' 54.139" E
	23° 18' 18.485" N	86° 53' 54.653" E
	23° 18' 17.469" N	86° 53' 53.620" E
	23° 18' 14.700" N	86° 53' 53.398" E
	23° 18' 13.495" N	86° 53' 53.306" E
	23° 18' 12.294" N	86° 53' 52.686" E
	23° 18' 10.569" N	86° 53' 51.794" E
	23° 18' 9.127" N	86° 53' 51.749" E
	23° 18' 4.861" N	86° 53' 51.682" E
	23° 18' 1.115" N	86° 53' 50.534" E
	23° 17' 59.394" N	86° 53' 50.058" E
	23° 17' 57.535" N	86° 53' 49.747" E
	23° 17' 55.787" N	86° 53' 50.061" E
	23° 17' 55.319" N	86° 53' 50.508" E
	23° 17' 54.040" N	86° 53' 52.238" E
	23° 17' 52.170" N	86° 53' 54.952" E
	23° 17' 51.359" N	86° 53' 56.816" E
	23° 17' 49.227" N	86° 53' 59.604" E
	23° 17' 47.686" N	86° 54' 1.767" E
	23° 17' 46.352" N	86° 54' 3.228" E
	23° 17' 45.031" N	86° 54' 4.690" E

CODE	LATITUDE	LONGITUDE
	23° 17' 44.482" N	86° 54' 6.493" E
	23° 17' 44.387" N	86° 54' 7.699" E
BNK_DW_CH_05	23° 15' 18.754" N	86° 54' 55.892" E
	23° 15' 13.054" N	86° 54' 54.695" E
	23° 15' 13.237" N	86° 54' 54.296" E
	23° 15' 13.567" N	86° 54' 53.572" E
	23° 15' 15.884" N	86° 54' 51.648" E
	23° 15' 17.976" N	86° 54' 50.336" E
	23° 15' 20.123" N	86° 54' 49.798" E
	23° 15' 23.187" N	86° 54' 49.162" E
	23° 15' 24.955" N	86° 54' 48.079" E
	23° 15' 26.323" N	86° 54' 47.366" E
	23° 15' 28.086" N	86° 54' 47.108" E
	23° 15' 30.116" N	86° 54' 46.623" E
	23° 15' 30.423" N	86° 54' 46.273" E
	23° 15' 30.921" N	86° 54' 46.166" E
	23° 15' 31.678" N	86° 54' 45.401" E
	23° 15' 32.348" N	86° 54' 43.576" E
	23° 15' 32.622" N	86° 54' 41.844" E
	23° 15' 33.429" N	86° 54' 39.012" E
	23° 15' 33.841" N	86° 54' 37.336" E
	23° 15' 34.408" N	86° 54' 35.249" E
	23° 15' 35.285" N	86° 54' 33.386" E
	23° 15' 36.161" N	86° 54' 31.691" E
	23° 15' 36.917" N	86° 54' 29.567" E
	23° 15' 37.604" N	86° 54' 27.592" E
	23° 15' 38.274" N	86° 54' 26.065" E
	23° 15' 38.427" N	86° 54' 25.535" E
	23° 15' 38.557" N	86° 54' 26.066" E
	23° 15' 38.778" N	86° 54' 27.317" E
	23° 15' 38.779" N	86° 54' 28.807" E
	23° 15' 38.064" N	86° 54' 30.179" E
	23° 15' 37.514" N	86° 54' 31.311" E
	23° 15' 36.799" N	86° 54' 33.934" E
	23° 15' 36.911" N	86° 54' 36.020" E
	23° 15' 37.022" N	86° 54' 37.570" E
	23° 15' 36.803" N	86° 54' 39.954" E
	23° 15' 37.114" N	86° 54' 40.101" E
	23° 15' 37.684" N	86° 54' 40.370" E

CODE	LATITUDE	LONGITUDE
	23° 15' 38.234" N	86° 54' 38.820" E
	23° 15' 38.288" N	86° 54' 36.794" E
	23° 15' 37.914" N	86° 54' 36.063" E
	23° 15' 37.406" N	86° 54' 35.066" E
	23° 15' 37.405" N	86° 54' 33.278" E
	23° 15' 37.955" N	86° 54' 31.967" E
	23° 15' 39.493" N	86° 54' 29.159" E
	23° 15' 39.713" N	86° 54' 28.665" E
	23° 15' 39.970" N	86° 54' 27.031" E
	23° 15' 39.688" N	86° 54' 26.563" E
	23° 15' 39.437" N	86° 54' 24.456" E
	23° 15' 39.986" N	86° 54' 20.999" E
	23° 15' 40.866" N	86° 54' 19.066" E
	23° 15' 41.802" N	86° 54' 17.693" E
	23° 15' 43.781" N	86° 54' 14.913" E
	23° 15' 44.696" N	86° 54' 14.207" E
	23° 15' 45.099" N	86° 54' 13.896" E
	23° 15' 45.122" N	86° 54' 13.878" E
	23° 15' 46.180" N	86° 54' 13.528" E
	23° 15' 46.528" N	86° 54' 13.164" E
	23° 15' 47.906" N	86° 54' 12.860" E
	23° 15' 48.343" N	86° 54' 12.031" E
	23° 15' 48.701" N	86° 54' 11.489" E
	23° 15' 49.038" N	86° 54' 11.418" E
	23° 15' 50.208" N	86° 54' 11.212" E
	23° 15' 50.758" N	86° 54' 10.634" E
	23° 15' 51.446" N	86° 54' 10.280" E
	23° 15' 52.737" N	86° 54' 9.665" E
	23° 15' 53.459" N	86° 54' 9.440" E
	23° 15' 56.746" N	86° 54' 9.308" E
	23° 15' 57.452" N	86° 54' 9.352" E
	23° 15' 56.378" N	86° 54' 10.771" E
	23° 15' 55.151" N	86° 54' 12.626" E
	23° 15' 54.891" N	86° 54' 12.628" E
	23° 15' 53.446" N	86° 54' 12.882" E
	23° 15' 51.010" N	86° 54' 13.674" E
	23° 15' 49.221" N	86° 54' 14.569" E
	23° 15' 47.446" N	86° 54' 15.703" E
	23° 15' 46.111" N	86° 54' 17.000" E

CODE	LATITUDE	LONGITUDE
	23° 15' 44.791" N	86° 54' 19.027" E
	23° 15' 43.457" N	86° 54' 21.516" E
	23° 15' 41.972" N	86° 54' 24.706" E
	23° 15' 40.597" N	86° 54' 28.119" E
	23° 15' 40.089" N	86° 54' 30.667" E
	23° 15' 39.885" N	86° 54' 34.333" E
	23° 15' 39.845" N	86° 54' 35.793" E
	23° 15' 39.570" N	86° 54' 37.685" E
	23° 15' 39.269" N	86° 54' 40.740" E
	23° 15' 38.899" N	86° 54' 42.722" E
	23° 15' 38.569" N	86° 54' 43.944" E
	23° 15' 37.923" N	86° 54' 45.420" E
	23° 15' 37.152" N	86° 54' 46.508" E
	23° 15' 36.396" N	86° 54' 47.417" E
	23° 15' 35.377" N	86° 54' 48.713" E
	23° 15' 34.998" N	86° 54' 48.964" E
	23° 15' 30.482" N	86° 54' 50.596" E
	23° 15' 28.844" N	86° 54' 51.254" E
	23° 15' 28.055" N	86° 54' 51.326" E
	23° 15' 26.651" N	86° 54' 51.416" E
	23° 15' 24.270" N	86° 54' 52.297" E
	23° 15' 22.742" N	86° 54' 53.073" E
	23° 15' 20.417" N	86° 54' 54.743" E
	23° 15' 19.605" N	86° 54' 55.474" E
BNK_DW_B1_05_IA	23° 15' 13.054" N	86° 54' 54.695" E
	23° 15' 18.754" N	86° 54' 55.892" E
	23° 15' 18.270" N	86° 54' 56.130" E
	23° 15' 17.582" N	86° 54' 56.562" E
	23° 15' 16.715" N	86° 54' 57.308" E
	23° 15' 15.724" N	86° 54' 57.994" E
	23° 15' 14.706" N	86° 54' 59.633" E
	23° 15' 14.596" N	86° 55' 0.334" E
	23° 15' 13.854" N	86° 55' 1.556" E
	23° 15' 13.552" N	86° 55' 3.851" E
	23° 15' 13.057" N	86° 55' 5.415" E
	23° 15' 12.137" N	86° 55' 9.468" E
	23° 15' 11.822" N	86° 55' 12.270" E
	23° 15' 12.002" N	86° 55' 15.458" E
	23° 15' 11.907" N	86° 55' 17.186" E

CODE	LATITUDE	LONGITUDE
	23° 15' 11.619" N	86° 55' 18.974" E
	23° 15' 10.697" N	86° 55' 20.688" E
	23° 15' 10.436" N	86° 55' 21.567" E
	23° 15' 10.368" N	86° 55' 23.102" E
	23° 15' 10.589" N	86° 55' 25.054" E
	23° 15' 11.418" N	86° 55' 30.029" E
	23° 15' 12.011" N	86° 55' 32.651" E
	23° 15' 12.397" N	86° 55' 34.305" E
	23° 15' 11.917" N	86° 55' 37.330" E
	23° 15' 11.684" N	86° 55' 38.474" E
	23° 15' 11.391" N	86° 55' 36.229" E
	23° 15' 10.674" N	86° 55' 34.143" E
	23° 15' 9.792" N	86° 55' 30.628" E
	23° 15' 8.627" N	86° 55' 26.361" E
	23° 15' 8.213" N	86° 55' 24.238" E
	23° 15' 7.979" N	86° 55' 20.411" E
	23° 15' 8.055" N	86° 55' 17.478" E
	23° 15' 8.208" N	86° 55' 14.936" E
	23° 15' 8.568" N	86° 55' 11.406" E
	23° 15' 9.456" N	86° 55' 10.566" E
	23° 15' 9.473" N	86° 55' 9.543" E
	23° 15' 9.474" N	86° 55' 9.487" E
	23° 15' 9.535" N	86° 55' 5.739" E
	23° 15' 10.242" N	86° 55' 3.249" E
	23° 15' 10.489" N	86° 55' 0.433" E
	23° 15' 11.045" N	86° 54' 58.623" E
	23° 15' 11.189" N	86° 54' 56.991" E
	23° 15' 11.221" N	86° 54' 56.414" E
BNK_DW_B1_05A	23° 14' 27.773" N	86° 56' 10.117" E
	23° 14' 24.626" N	86° 56' 9.875" E
	23° 14' 25.221" N	86° 56' 4.987" E
	23° 14' 25.769" N	86° 55' 59.771" E
	23° 14' 26.517" N	86° 55' 57.545" E
	23° 14' 28.347" N	86° 55' 52.089" E
	23° 14' 29.029" N	86° 55' 50.858" E
	23° 14' 30.926" N	86° 55' 47.432" E
	23° 14' 32.718" N	86° 55' 45.389" E
	23° 14' 33.079" N	86° 55' 44.977" E
	23° 14' 34.728" N	86° 55' 44.382" E

CODE	LATITUDE	LONGITUDE
	23° 14' 36.345" N	86° 55' 43.971" E
	23° 14' 39.993" N	86° 55' 43.131" E
	23° 14' 41.972" N	86° 55' 42.776" E
	23° 14' 44.191" N	86° 55' 42.403" E
	23° 14' 46.411" N	86° 55' 42.327" E
	23° 14' 48.614" N	86° 55' 42.195" E
	23° 14' 48.892" N	86° 55' 42.207" E
	23° 14' 49.543" N	86° 55' 42.270" E
	23° 14' 49.853" N	86° 55' 42.301" E
	23° 14' 54.161" N	86° 55' 42.964" E
	23° 14' 57.064" N	86° 55' 43.774" E
	23° 14' 58.509" N	86° 55' 43.829" E
	23° 14' 59.851" N	86° 55' 43.940" E
	23° 15' 1.569" N	86° 55' 44.330" E
	23° 15' 4.274" N	86° 55' 43.837" E
	23° 15' 6.235" N	86° 55' 43.322" E
	23° 15' 7.494" N	86° 55' 42.249" E
	23° 15' 8.258" N	86° 55' 40.930" E
	23° 15' 8.711" N	86° 55' 38.851" E
	23° 15' 8.994" N	86° 55' 37.641" E
	23° 15' 9.560" N	86° 55' 37.411" E
	23° 15' 9.645" N	86° 55' 42.013" E
	23° 15' 8.479" N	86° 55' 43.869" E
	23° 15' 7.516" N	86° 55' 45.545" E
	23° 15' 5.090" N	86° 55' 46.553" E
	23° 15' 2.319" N	86° 55' 46.354" E
	23° 14' 58.533" N	86° 55' 45.289" E
	23° 14' 51.642" N	86° 55' 46.557" E
	23° 14' 50.803" N	86° 55' 46.623" E
	23° 14' 48.325" N	86° 55' 46.996" E
	23° 14' 46.673" N	86° 55' 47.444" E
	23° 14' 44.622" N	86° 55' 48.086" E
	23° 14' 42.971" N	86° 55' 48.325" E
	23° 14' 41.085" N	86° 55' 48.460" E
	23° 14' 39.130" N	86° 55' 48.670" E
	23° 14' 36.061" N	86° 55' 50.221" E
	23° 14' 34.849" N	86° 55' 50.847" E
	23° 14' 34.148" N	86° 55' 52.233" E
	23° 14' 32.304" N	86° 55' 54.185" E

CODE	LATITUDE	LONGITUDE
	23° 14' 30.887" N	86° 55' 56.495" E
	23° 14' 29.456" N	86° 55' 58.626" E
	23° 14' 28.603" N	86° 56' 0.027" E
	23° 14' 28.177" N	86° 56' 2.113" E
	23° 14' 28.330" N	86° 56' 5.003" E
	23° 14' 28.125" N	86° 56' 7.432" E
	23° 14' 27.905" N	86° 56' 9.473" E
BNK_DW_B1_06	23° 14' 25.221" N	86° 56' 4.987" E
	23° 14' 24.626" N	86° 56' 9.875" E
	23° 14' 27.773" N	86° 56' 10.117" E
	23° 14' 27.067" N	86° 56' 13.555" E
	23° 14' 26.683" N	86° 56' 16.266" E
	23° 14' 26.711" N	86° 56' 19.157" E
	23° 14' 26.505" N	86° 56' 20.795" E
	23° 14' 26.286" N	86° 56' 22.598" E
	23° 14' 26.617" N	86° 56' 25.652" E
	23° 14' 27.183" N	86° 56' 29.421" E
	23° 14' 28.161" N	86° 56' 30.821" E
	23° 14' 30.351" N	86° 56' 32.012" E
	23° 14' 34.082" N	86° 56' 33.738" E
	23° 14' 37.373" N	86° 56' 35.271" E
	23° 14' 39.507" N	86° 56' 36.537" E
	23° 14' 42.068" N	86° 56' 38.547" E
	23° 14' 44.423" N	86° 56' 40.870" E
	23° 14' 45.828" N	86° 56' 42.434" E
	23° 14' 47.977" N	86° 56' 45.859" E
	23° 14' 49.836" N	86° 56' 48.868" E
	23° 14' 51.186" N	86° 56' 51.207" E
	23° 14' 51.546" N	86° 56' 52.195" E
	23° 14' 50.744" N	86° 56' 59.818" E
	23° 14' 48.817" N	86° 57' 4.513" E
	23° 14' 48.128" N	86° 57' 5.217" E
	23° 14' 46.242" N	86° 57' 6.987" E
	23° 14' 44.460" N	86° 57' 8.223" E
	23° 14' 41.528" N	86° 57' 10.399" E
	23° 14' 38.748" N	86° 57' 13.171" E
	23° 14' 36.574" N	86° 57' 16.643" E
	23° 14' 34.785" N	86° 57' 19.310" E
	23° 14' 32.514" N	86° 57' 22.641" E

CODE	LATITUDE	LONGITUDE
	23° 14' 30.989" N	86° 57' 21.416" E
	23° 14' 31.396" N	86° 57' 20.747" E
	23° 14' 32.705" N	86° 57' 18.599" E
	23° 14' 33.873" N	86° 57' 16.681" E
	23° 14' 35.046" N	86° 57' 14.256" E
	23° 14' 36.651" N	86° 57' 11.773" E
	23° 14' 38.101" N	86° 57' 9.514" E
	23° 14' 40.764" N	86° 57' 6.336" E
	23° 14' 42.037" N	86° 57' 5.181" E
	23° 14' 43.827" N	86° 57' 3.690" E
	23° 14' 45.392" N	86° 57' 1.455" E
	23° 14' 46.630" N	86° 56' 59.127" E
	23° 14' 47.198" N	86° 56' 57.730" E
	23° 14' 47.593" N	86° 56' 55.663" E
	23° 14' 47.351" N	86° 56' 53.298" E
	23° 14' 47.023" N	86° 56' 51.119" E
	23° 14' 45.628" N	86° 56' 48.382" E
	23° 14' 42.925" N	86° 56' 44.454" E
	23° 14' 37.056" N	86° 56' 39.186" E
	23° 14' 30.386" N	86° 56' 35.551" E
	23° 14' 28.829" N	86° 56' 34.861" E
	23° 14' 25.386" N	86° 56' 33.046" E
	23° 14' 23.785" N	86° 56' 30.514" E
	23° 14' 22.751" N	86° 56' 26.324" E
	23° 14' 22.629" N	86° 56' 23.680" E
	23° 14' 22.628" N	86° 56' 18.931" E
	23° 14' 22.712" N	86° 56' 14.425" E
	23° 14' 23.089" N	86° 56' 11.911" E
	23° 14' 23.673" N	86° 56' 7.925" E
	23° 14' 24.360" N	86° 56' 4.610" E
	23° 14' 24.727" N	86° 56' 3.745" E
BNK_DW_B1_06A	23° 13' 58.963" N	86° 59' 10.337" E
	23° 13' 54.948" N	86° 59' 10.698" E
	23° 13' 54.604" N	86° 59' 10.769" E
	23° 13' 53.879" N	86° 59' 6.940" E
	23° 13' 53.362" N	86° 59' 2.974" E
	23° 13' 53.534" N	86° 59' 0.330" E
	23° 13' 53.895" N	86° 58' 58.468" E
	23° 13' 53.998" N	86° 58' 54.911" E

CODE	LATITUDE	LONGITUDE
	23° 13' 55.942" N	86° 58' 48.189" E
	23° 13' 56.339" N	86° 58' 47.196" E
	23° 13' 57.852" N	86° 58' 44.114" E
	23° 14' 0.862" N	86° 58' 37.131" E
	23° 14' 1.472" N	86° 58' 34.986" E
	23° 14' 3.287" N	86° 58' 30.479" E
	23° 14' 3.855" N	86° 58' 28.561" E
	23° 14' 4.560" N	86° 58' 25.582" E
	23° 14' 5.385" N	86° 58' 23.254" E
	23° 14' 7.054" N	86° 58' 19.176" E
	23° 14' 8.378" N	86° 58' 16.624" E
	23° 14' 10.374" N	86° 58' 12.769" E
	23° 14' 11.957" N	86° 58' 9.882" E
	23° 14' 12.627" N	86° 58' 7.815" E
	23° 14' 14.915" N	86° 58' 2.750" E
	23° 14' 16.067" N	86° 58' 0.031" E
	23° 14' 17.650" N	86° 57' 56.287" E
	23° 14' 18.582" N	86° 57' 53.483" E
	23° 14' 19.783" N	86° 57' 50.483" E
	23° 14' 19.989" N	86° 57' 49.993" E
	23° 14' 20.213" N	86° 57' 49.409" E
	23° 14' 20.522" N	86° 57' 47.135" E
	23° 14' 20.968" N	86° 57' 44.741" E
	23° 14' 21.742" N	86° 57' 40.514" E
	23° 14' 22.653" N	86° 57' 37.739" E
	23° 14' 24.166" N	86° 57' 33.195" E
	23° 14' 26.987" N	86° 57' 27.104" E
	23° 14' 28.086" N	86° 57' 25.100" E
	23° 14' 28.184" N	86° 57' 26.323" E
	23° 14' 27.014" N	86° 57' 29.229" E
	23° 14' 26.396" N	86° 57' 32.208" E
	23° 14' 28.157" N	86° 57' 33.282" E
	23° 14' 27.645" N	86° 57' 35.357" E
	23° 14' 26.562" N	86° 57' 40.035" E
	23° 14' 25.571" N	86° 57' 44.393" E
	23° 14' 24.829" N	86° 57' 47.991" E
	23° 14' 24.238" N	86° 57' 50.822" E
	23° 14' 22.862" N	86° 57' 53.709" E
	23° 14' 21.279" N	86° 57' 57.545" E

CODE	LATITUDE	LONGITUDE
	23° 14' 19.542" N	86° 58' 2.071" E
	23° 14' 17.616" N	86° 58' 7.136" E
	23° 14' 15.724" N	86° 58' 11.736" E
	23° 14' 14.812" N	86° 58' 13.971" E
	23° 14' 12.146" N	86° 58' 19.241" E
	23° 14' 9.892" N	86° 58' 22.798" E
	23° 14' 8.550" N	86° 58' 24.866" E
	23° 14' 6.813" N	86° 58' 28.758" E
	23° 14' 5.919" N	86° 58' 31.961" E
	23° 14' 5.059" N	86° 58' 36.263" E
	23° 14' 3.855" N	86° 58' 40.899" E
	23° 14' 2.238" N	86° 58' 45.034" E
	23° 14' 0.690" N	86° 58' 48.516" E
	23° 13' 58.780" N	86° 58' 53.041" E
	23° 13' 58.171" N	86° 58' 55.304" E
	23° 13' 57.592" N	86° 58' 56.734" E
	23° 13' 57.641" N	86° 58' 57.277" E
	23° 13' 57.473" N	86° 58' 57.901" E
	23° 13' 57.387" N	86° 59' 0.303" E
	23° 13' 57.921" N	86° 59' 4.810" E
	23° 13' 58.902" N	86° 59' 10.135" E
BNK_DW_B1_07	23° 13' 54.948" N	86° 59' 10.698" E
	23° 13' 58.963" N	86° 59' 10.337" E
	23° 14' 0.142" N	86° 59' 14.231" E
	23° 14' 1.078" N	86° 59' 18.111" E
	23° 14' 1.162" N	86° 59' 18.505" E
	23° 14' 1.812" N	86° 59' 30.860" E
	23° 14' 1.761" N	86° 59' 36.465" E
	23° 14' 1.744" N	86° 59' 40.114" E
	23° 14' 0.987" N	86° 59' 50.244" E
	23° 14' 1.383" N	86° 59' 54.415" E
	23° 14' 1.933" N	87° 0' 0.504" E
	23° 14' 2.209" N	87° 0' 7.133" E
	23° 14' 2.398" N	87° 0' 12.534" E
	23° 14' 2.174" N	87° 0' 16.574" E
	23° 14' 1.331" N	87° 0' 20.261" E
	23° 14' 0.677" N	87° 0' 21.844" E
	23° 14' 0.264" N	87° 0' 22.868" E
	23° 13' 58.973" N	87° 0' 23.892" E

CODE	LATITUDE	LONGITUDE
	23° 13' 57.097" N	87° 0' 26.853" E
	23° 13' 54.498" N	87° 0' 30.893" E
	23° 13' 52.330" N	87° 0' 34.748" E
	23° 13' 49.731" N	87° 0' 38.546" E
	23° 13' 46.737" N	87° 0' 41.767" E
	23° 13' 43.295" N	87° 0' 45.882" E
	23° 13' 39.973" N	87° 0' 51.561" E
	23° 13' 38.183" N	87° 0' 55.378" E
	23° 13' 37.254" N	87° 0' 58.543" E
	23° 13' 36.927" N	87° 0' 59.828" E
	23° 13' 36.737" N	87° 1' 2.472" E
	23° 13' 37.098" N	87° 1' 6.475" E
	23° 13' 37.493" N	87° 1' 9.566" E
	23° 13' 38.164" N	87° 1' 11.912" E
	23° 13' 39.282" N	87° 1' 14.687" E
	23° 13' 40.091" N	87° 1' 17.387" E
	23° 13' 40.159" N	87° 1' 19.659" E
	23° 13' 40.090" N	87° 1' 21.409" E
	23° 13' 39.728" N	87° 1' 23.699" E
	23° 13' 39.453" N	87° 1' 24.984" E
	23° 13' 39.132" N	87° 1' 26.085" E
	23° 13' 37.303" N	87° 1' 24.656" E
	23° 13' 34.218" N	87° 1' 22.700" E
	23° 13' 34.843" N	87° 1' 21.490" E
	23° 13' 35.515" N	87° 1' 19.889" E
	23° 13' 35.859" N	87° 1' 18.828" E
	23° 13' 35.756" N	87° 1' 17.003" E
	23° 13' 35.504" N	87° 1' 15.443" E
	23° 13' 35.556" N	87° 1' 14.680" E
	23° 13' 34.248" N	87° 1' 9.429" E
	23° 13' 33.148" N	87° 1' 3.582" E
	23° 13' 32.727" N	87° 0' 57.504" E
	23° 13' 33.665" N	87° 0' 54.608" E
	23° 13' 36.816" N	87° 0' 47.787" E
	23° 13' 37.214" N	87° 0' 47.302" E
	23° 13' 41.375" N	87° 0' 42.841" E
	23° 13' 42.367" N	87° 0' 41.580" E
	23° 13' 43.452" N	87° 0' 40.546" E
	23° 13' 45.396" N	87° 0' 37.995" E

CODE	LATITUDE	LONGITUDE
	23° 13' 47.410" N	87° 0' 35.444" E
	23° 13' 48.804" N	87° 0' 33.265" E
	23° 13' 50.146" N	87° 0' 30.938" E
	23° 13' 51.282" N	87° 0' 28.908" E
	23° 13' 53.519" N	87° 0' 26.134" E
	23° 13' 55.103" N	87° 0' 23.378" E
	23° 13' 55.877" N	87° 0' 21.907" E
	23° 13' 56.755" N	87° 0' 19.375" E
	23° 13' 57.357" N	87° 0' 17.494" E
	23° 13' 57.994" N	87° 0' 13.509" E
	23° 13' 58.665" N	87° 0' 10.381" E
	23° 13' 58.269" N	87° 0' 5.670" E
	23° 13' 58.141" N	87° 0' 4.561" E
	23° 13' 57.937" N	87° 0' 2.107" E
	23° 13' 57.659" N	87° 0' 1.287" E
	23° 13' 57.357" N	86° 59' 59.581" E
	23° 13' 56.032" N	86° 59' 55.335" E
	23° 13' 55.757" N	86° 59' 53.827" E
	23° 13' 55.843" N	86° 59' 51.220" E
	23° 13' 56.187" N	86° 59' 46.937" E
	23° 13' 57.271" N	86° 59' 43.921" E
	23° 13' 57.856" N	86° 59' 38.651" E
	23° 13' 57.770" N	86° 59' 36.119" E
	23° 13' 58.131" N	86° 59' 32.786" E
	23° 13' 57.391" N	86° 59' 25.542" E
	23° 13' 56.943" N	86° 59' 23.252" E
	23° 13' 56.857" N	86° 59' 19.881" E
	23° 13' 55.444" N	86° 59' 13.438" E
BNK_DW_B1_08	23° 13' 24.630" N	87° 3' 55.602" E
	23° 13' 19.912" N	87° 4' 2.415" E
	23° 13' 16.503" N	87° 4' 7.701" E
	23° 13' 13.014" N	87° 4' 12.544" E
	23° 13' 11.979" N	87° 4' 10.741" E
	23° 13' 7.937" N	87° 4' 5.407" E
	23° 13' 6.669" N	87° 4' 4.120" E
	23° 13' 7.931" N	87° 4' 1.957" E
	23° 13' 9.145" N	87° 3' 57.889" E
	23° 13' 10.767" N	87° 3' 57.294" E
	23° 13' 16.135" N	87° 3' 55.882" E

CODE	LATITUDE	LONGITUDE
	23° 13' 16.755" N	87° 3' 55.138" E
	23° 13' 20.200" N	87° 3' 42.615" E
	23° 13' 21.741" N	87° 3' 39.584" E
	23° 13' 22.568" N	87° 3' 36.381" E
	23° 13' 23.362" N	87° 3' 32.174" E
	23° 13' 23.948" N	87° 3' 28.115" E
	23° 13' 23.674" N	87° 3' 24.242" E
	23° 13' 22.747" N	87° 3' 19.661" E
	23° 13' 20.890" N	87° 3' 15.006" E
	23° 13' 16.934" N	87° 3' 7.445" E
	23° 13' 14.080" N	87° 3' 1.560" E
	23° 13' 12.533" N	87° 2' 55.899" E
	23° 13' 12.190" N	87° 2' 51.244" E
	23° 13' 12.192" N	87° 2' 45.584" E
	23° 13' 12.846" N	87° 2' 43.127" E
	23° 13' 12.744" N	87° 2' 38.323" E
	23° 13' 13.365" N	87° 2' 34.934" E
	23° 13' 14.322" N	87° 2' 32.665" E
	23° 13' 14.350" N	87° 2' 32.665" E
	23° 13' 16.468" N	87° 2' 32.440" E
	23° 13' 20.640" N	87° 2' 31.543" E
	23° 13' 23.119" N	87° 2' 30.695" E
	23° 13' 21.457" N	87° 2' 34.234" E
	23° 13' 21.147" N	87° 2' 37.101" E
	23° 13' 20.010" N	87° 2' 40.415" E
	23° 13' 19.356" N	87° 2' 42.984" E
	23° 13' 19.114" N	87° 2' 46.447" E
	23° 13' 18.906" N	87° 2' 49.426" E
	23° 13' 19.559" N	87° 2' 51.586" E
	23° 13' 21.072" N	87° 2' 55.981" E
	23° 13' 21.582" N	87° 2' 57.544" E
	23° 13' 21.387" N	87° 2' 59.443" E
	23° 13' 22.977" N	87° 3' 4.750" E
	23° 13' 31.654" N	87° 3' 25.830" E
	23° 13' 31.707" N	87° 3' 26.068" E
	23° 13' 31.909" N	87° 3' 26.964" E
	23° 13' 32.177" N	87° 3' 30.879" E
	23° 13' 32.278" N	87° 3' 37.917" E
	23° 13' 31.897" N	87° 3' 42.982" E

CODE	LATITUDE	LONGITUDE
	23° 13' 31.415" N	87° 3' 44.471" E
	23° 13' 30.588" N	87° 3' 46.146" E
BNK_DW_B1_08A	23° 12' 22.957" N	87° 5' 4.456" E
	23° 12' 22.920" N	87° 5' 8.924" E
	23° 12' 23.643" N	87° 5' 14.369" E
	23° 12' 18.244" N	87° 5' 17.998" E
	23° 12' 15.623" N	87° 5' 20.310" E
	23° 12' 14.962" N	87° 5' 15.281" E
	23° 12' 14.724" N	87° 5' 9.919" E
	23° 12' 15.004" N	87° 5' 1.728" E
	23° 12' 17.279" N	87° 4' 55.102" E
	23° 12' 18.723" N	87° 4' 51.562" E
	23° 12' 23.735" N	87° 5' 0.827" E
BNK_DW_ON_09	23° 13' 40.384" N	87° 7' 33.539" E
	23° 13' 41.352" N	87° 7' 32.555" E
	23° 13' 43.863" N	87° 7' 34.202" E
	23° 13' 46.441" N	87° 7' 44.225" E
	23° 13' 46.843" N	87° 8' 3.725" E
	23° 13' 45.886" N	87° 8' 4.866" E
	23° 13' 43.470" N	87° 8' 12.963" E
	23° 13' 40.959" N	87° 8' 28.648" E
	23° 13' 41.818" N	87° 8' 32.327" E
	23° 13' 41.815" N	87° 8' 35.585" E
	23° 13' 40.435" N	87° 8' 39.401" E
	23° 13' 38.265" N	87° 8' 41.199" E
	23° 13' 36.902" N	87° 8' 45.169" E
	23° 13' 36.138" N	87° 8' 45.010" E
	23° 13' 36.550" N	87° 8' 40.509" E
	23° 13' 36.513" N	87° 8' 35.549" E
	23° 13' 36.932" N	87° 8' 29.650" E
	23° 13' 35.199" N	87° 8' 27.101" E
	23° 13' 30.412" N	87° 8' 23.521" E
	23° 13' 28.638" N	87° 8' 21.375" E
	23° 13' 27.773" N	87° 8' 18.469" E
	23° 13' 27.940" N	87° 8' 16.280" E
	23° 13' 30.836" N	87° 8' 10.518" E
	23° 13' 32.991" N	87° 8' 1.717" E
	23° 13' 37.169" N	87° 7' 54.168" E
	23° 13' 40.850" N	87° 7' 47.379" E

CODE	LATITUDE	LONGITUDE
	23° 13' 41.927" N	87° 7' 43.314" E
	23° 13' 41.725" N	87° 7' 37.906" E
BNK_DW_ON_09A	23° 13' 40.384" N	87° 7' 33.539" E
	23° 13' 40.078" N	87° 7' 32.542" E
	23° 13' 36.653" N	87° 7' 28.025" E
	23° 13' 30.752" N	87° 7' 22.568" E
	23° 13' 24.147" N	87° 7' 18.093" E
	23° 13' 21.272" N	87° 7' 15.122" E
	23° 13' 19.933" N	87° 7' 11.694" E
	23° 13' 19.591" N	87° 7' 8.603" E
	23° 13' 19.456" N	87° 7' 5.512" E
	23° 13' 18.770" N	87° 7' 2.235" E
	23° 13' 17.465" N	87° 6' 57.430" E
	23° 13' 14.785" N	87° 6' 51.470" E
	23° 13' 13.205" N	87° 6' 47.968" E
	23° 13' 8.320" N	87° 6' 43.793" E
	23° 13' 2.851" N	87° 6' 40.102" E
	23° 13' 0.856" N	87° 6' 37.643" E
	23° 12' 58.623" N	87° 6' 32.502" E
	23° 12' 55.942" N	87° 6' 27.473" E
	23° 12' 52.675" N	87° 6' 23.114" E
	23° 12' 50.615" N	87° 6' 20.187" E
	23° 12' 53.172" N	87° 6' 18.022" E
	23° 12' 59.791" N	87° 6' 26.299" E
	23° 13' 4.134" N	87° 6' 31.729" E
	23° 13' 14.161" N	87° 6' 44.267" E
	23° 13' 19.758" N	87° 6' 51.266" E
	23° 13' 33.624" N	87° 7' 16.531" E
	23° 13' 34.265" N	87° 7' 17.637" E
	23° 13' 35.210" N	87° 7' 19.267" E
	23° 13' 37.830" N	87° 7' 26.128" E
	23° 13' 41.352" N	87° 7' 32.555" E
BNK_DW_B2_09B	23° 13' 33.624" N	87° 7' 16.531" E
	23° 13' 19.758" N	87° 6' 51.266" E
	23° 13' 14.161" N	87° 6' 44.267" E
	23° 13' 4.134" N	87° 6' 31.729" E
	23° 12' 59.791" N	87° 6' 26.299" E
	23° 12' 53.172" N	87° 6' 18.022" E
	23° 12' 58.739" N	87° 6' 13.046" E

CODE	LATITUDE	LONGITUDE
	23° 12' 59.564" N	87° 6' 12.276" E
	23° 13' 2.357" N	87° 6' 13.295" E
	23° 13' 5.866" N	87° 6' 16.538" E
	23° 13' 7.791" N	87° 6' 19.779" E
	23° 13' 8.649" N	87° 6' 22.498" E
	23° 13' 10.231" N	87° 6' 24.733" E
	23° 13' 20.789" N	87° 6' 35.802" E
	23° 13' 22.475" N	87° 6' 37.293" E
	23° 13' 23.677" N	87° 6' 39.826" E
	23° 13' 24.536" N	87° 6' 42.880" E
	23° 13' 25.188" N	87° 6' 45.450" E
	23° 13' 27.800" N	87° 6' 49.884" E
	23° 13' 28.108" N	87° 6' 52.751" E
	23° 13' 31.787" N	87° 6' 56.963" E
	23° 13' 32.750" N	87° 6' 58.565" E
	23° 13' 33.779" N	87° 7' 3.332" E
	23° 13' 35.464" N	87° 7' 5.382" E
	23° 13' 37.767" N	87° 7' 9.108" E
	23° 13' 38.078" N	87° 7' 9.389" E
	23° 13' 34.507" N	87° 7' 15.189" E
BNK_DW_ON_10	23° 13' 43.012" N	87° 8' 54.429" E
	23° 13' 42.488" N	87° 9' 1.876" E
	23° 13' 42.793" N	87° 9' 7.202" E
	23° 13' 42.824" N	87° 9' 11.149" E
	23° 13' 42.248" N	87° 9' 15.168" E
	23° 13' 41.552" N	87° 9' 15.836" E
	23° 13' 41.188" N	87° 9' 17.421" E
	23° 13' 38.719" N	87° 9' 20.380" E
	23° 13' 36.963" N	87° 9' 21.421" E
	23° 13' 33.313" N	87° 9' 22.720" E
	23° 13' 31.040" N	87° 9' 24.319" E
	23° 13' 28.870" N	87° 9' 26.402" E
	23° 13' 26.974" N	87° 9' 29.043" E
	23° 13' 24.013" N	87° 9' 30.976" E
	23° 13' 21.774" N	87° 9' 32.612" E
	23° 13' 20.360" N	87° 9' 34.994" E
	23° 13' 18.705" N	87° 9' 38.008" E
	23° 13' 15.432" N	87° 9' 41.579" E
	23° 13' 12.951" N	87° 9' 44.704" E

CODE	LATITUDE	LONGITUDE
	23° 13' 11.089" N	87° 9' 47.569" E
	23° 13' 9.298" N	87° 9' 49.541" E
	23° 13' 7.954" N	87° 9' 50.805" E
	23° 13' 6.336" N	87° 9' 51.101" E
	23° 13' 3.239" N	87° 9' 51.023" E
	23° 13' 0.519" N	87° 9' 51.839" E
	23° 12' 56.213" N	87° 9' 56.041" E
	23° 12' 51.961" N	87° 10' 1.088" E
	23° 12' 49.832" N	87° 10' 2.157" E
	23° 12' 45.078" N	87° 10' 6.340" E
	23° 12' 42.201" N	87° 10' 8.945" E
	23° 12' 39.057" N	87° 10' 10.914" E
	23° 12' 35.199" N	87° 10' 14.000" E
	23° 12' 32.652" N	87° 10' 14.928" E
	23° 12' 26.490" N	87° 10' 16.037" E
	23° 12' 21.120" N	87° 10' 16.514" E
	23° 12' 17.163" N	87° 10' 15.578" E
	23° 12' 14.582" N	87° 10' 15.612" E
	23° 12' 8.833" N	87° 10' 16.647" E
	23° 12' 6.526" N	87° 10' 18.245" E
	23° 12' 2.254" N	87° 10' 21.851" E
	23° 11' 59.463" N	87° 10' 24.901" E
	23° 11' 57.430" N	87° 10' 27.616" E
	23° 11' 55.499" N	87° 10' 30.853" E
	23° 11' 53.152" N	87° 10' 36.621" E
	23° 11' 52.356" N	87° 10' 40.417" E
	23° 11' 51.356" N	87° 10' 42.464" E
	23° 11' 47.940" N	87° 10' 49.719" E
	23° 11' 47.900" N	87° 10' 55.043" E
	23° 11' 48.101" N	87° 10' 59.809" E
	23° 11' 48.132" N	87° 11' 2.192" E
	23° 11' 47.682" N	87° 11' 4.351" E
	23° 11' 45.992" N	87° 11' 7.737" E
	23° 11' 44.852" N	87° 11' 10.825" E
	23° 11' 44.545" N	87° 11' 11.993" E
	23° 11' 42.681" N	87° 11' 10.966" E
	23° 11' 42.189" N	87° 11' 7.749" E
	23° 11' 44.013" N	87° 11' 1.854" E
	23° 11' 43.183" N	87° 10' 55.801" E

CODE	LATITUDE	LONGITUDE
	23° 11' 41.583" N	87° 10' 54.121" E
	23° 11' 42.182" N	87° 10' 49.102" E
	23° 11' 41.650" N	87° 10' 44.633" E
	23° 11' 41.283" N	87° 10' 40.835" E
	23° 11' 41.328" N	87° 10' 37.306" E
	23° 11' 42.158" N	87° 10' 33.688" E
	23° 11' 44.147" N	87° 10' 28.061" E
	23° 11' 46.257" N	87° 10' 24.713" E
	23° 11' 48.449" N	87° 10' 21.946" E
	23° 11' 51.881" N	87° 10' 18.331" E
	23° 11' 57.420" N	87° 10' 13.736" E
	23° 12' 0.230" N	87° 10' 11.685" E
	23° 12' 6.181" N	87° 10' 7.984" E
	23° 12' 9.985" N	87° 10' 4.459" E
	23° 12' 11.638" N	87° 10' 3.121" E
	23° 12' 13.085" N	87° 10' 1.961" E
	23° 12' 13.992" N	87° 10' 3.347" E
	23° 12' 15.644" N	87° 10' 3.751" E
	23° 12' 17.089" N	87° 10' 3.574" E
	23° 12' 20.354" N	87° 10' 1.791" E
	23° 12' 21.677" N	87° 10' 0.229" E
	23° 12' 23.206" N	87° 9' 59.561" E
	23° 12' 25.725" N	87° 9' 59.921" E
	23° 12' 27.706" N	87° 10' 1.487" E
	23° 12' 29.852" N	87° 10' 2.607" E
	23° 12' 34.726" N	87° 10' 2.435" E
	23° 12' 37.617" N	87° 10' 1.723" E
	23° 12' 40.510" N	87° 9' 59.850" E
	23° 12' 43.115" N	87° 9' 57.530" E
	23° 12' 51.756" N	87° 9' 48.291" E
	23° 12' 57.586" N	87° 9' 42.087" E
	23° 13' 1.473" N	87° 9' 36.953" E
	23° 13' 4.118" N	87° 9' 35.035" E
	23° 13' 5.195" N	87° 9' 32.489" E
	23° 13' 7.470" N	87° 9' 28.961" E
	23° 13' 9.991" N	87° 9' 27.043" E
	23° 13' 20.735" N	87° 9' 20.308" E
	23° 13' 25.695" N	87° 9' 16.694" E
	23° 13' 28.837" N	87° 9' 13.435" E

CODE	LATITUDE	LONGITUDE
	23° 13' 31.360" N	87° 9' 9.104" E
	23° 13' 33.347" N	87° 9' 5.084" E
	23° 13' 34.797" N	87° 9' 0.572" E
	23° 13' 35.710" N	87° 8' 55.792" E
	23° 13' 36.239" N	87° 8' 51.967" E
	23° 13' 38.679" N	87° 8' 42.244" E
	23° 13' 42.882" N	87° 8' 41.044" E
	23° 13' 42.988" N	87° 8' 42.772" E
	23° 13' 42.913" N	87° 8' 49.736" E
BNK_DW_ON_11	23° 11' 41.959" N	87° 11' 21.263" E
	23° 11' 40.650" N	87° 11' 25.101" E
	23° 11' 39.157" N	87° 11' 30.505" E
	23° 11' 37.542" N	87° 11' 33.854" E
	23° 11' 35.599" N	87° 11' 35.683" E
	23° 11' 32.871" N	87° 11' 37.734" E
	23° 11' 29.027" N	87° 11' 40.007" E
	23° 11' 26.465" N	87° 11' 40.763" E
	23° 11' 23.738" N	87° 11' 42.322" E
	23° 11' 21.008" N	87° 11' 45.177" E
	23° 11' 16.252" N	87° 11' 50.353" E
	23° 11' 11.620" N	87° 11' 55.618" E
	23° 11' 8.643" N	87° 11' 58.115" E
	23° 11' 6.119" N	87° 12' 1.864" E
	23° 11' 3.883" N	87° 12' 6.730" E
	23° 11' 2.348" N	87° 12' 11.999" E
	23° 11' 1.394" N	87° 12' 15.036" E
	23° 10' 59.572" N	87° 12' 18.651" E
	23° 10' 56.347" N	87° 12' 21.639" E
	23° 10' 55.034" N	87° 12' 24.851" E
	23° 10' 48.799" N	87° 12' 24.779" E
	23° 10' 47.975" N	87° 12' 14.666" E
	23° 10' 48.397" N	87° 12' 7.295" E
	23° 10' 50.552" N	87° 12' 1.268" E
	23° 10' 57.008" N	87° 11' 51.226" E
	23° 11' 2.175" N	87° 11' 47.392" E
	23° 11' 3.748" N	87° 11' 44.490" E
	23° 11' 5.444" N	87° 11' 42.125" E
	23° 11' 12.350" N	87° 11' 35.344" E
	23° 11' 18.221" N	87° 11' 30.349" E

CODE	LATITUDE	LONGITUDE
	23° 11' 22.190" N	87° 11' 26.736" E
	23° 11' 24.424" N	87° 11' 23.031" E
	23° 11' 24.717" N	87° 11' 19.770" E
	23° 11' 27.326" N	87° 11' 14.368" E
	23° 11' 29.850" N	87° 11' 9.859" E
	23° 11' 31.546" N	87° 11' 8.119" E
	23° 11' 35.556" N	87° 11' 4.819" E
	23° 11' 38.285" N	87° 11' 1.517" E
	23° 11' 40.108" N	87° 10' 56.962" E
	23° 11' 41.398" N	87° 10' 54.477" E
	23° 11' 40.708" N	87° 11' 3.458" E
	23° 11' 40.906" N	87° 11' 8.900" E
	23° 11' 42.188" N	87° 11' 18.827" E
BNK_DW_ON_12	23° 10' 35.093" N	87° 13' 52.198" E
	23° 10' 32.300" N	87° 13' 51.096" E
	23° 10' 33.028" N	87° 13' 47.635" E
	23° 10' 32.520" N	87° 13' 42.274" E
	23° 10' 30.868" N	87° 13' 41.713" E
	23° 10' 28.173" N	87° 13' 49.526" E
	23° 10' 26.114" N	87° 13' 48.768" E
	23° 10' 25.918" N	87° 13' 46.340" E
	23° 10' 26.378" N	87° 13' 42.410" E
	23° 10' 27.128" N	87° 13' 38.257" E
	23° 10' 28.163" N	87° 13' 36.025" E
	23° 10' 29.780" N	87° 13' 31.963" E
	23° 10' 30.983" N	87° 13' 28.079" E
	23° 10' 33.224" N	87° 13' 20.622" E
	23° 10' 34.674" N	87° 13' 17.006" E
	23° 10' 37.490" N	87° 13' 12.231" E
	23° 10' 42.415" N	87° 13' 4.243" E
	23° 10' 46.349" N	87° 12' 56.655" E
	23° 10' 48.131" N	87° 12' 52.369" E
	23° 10' 48.529" N	87° 12' 49.954" E
	23° 10' 51.390" N	87° 12' 50.714" E
	23° 10' 53.302" N	87° 12' 49.938" E
	23° 10' 55.111" N	87° 12' 42.674" E
	23° 10' 55.778" N	87° 12' 41.358" E
	23° 10' 56.604" N	87° 12' 45.942" E
	23° 10' 58.869" N	87° 12' 50.681" E

CODE	LATITUDE	LONGITUDE
	23° 11' 0.969" N	87° 12' 54.839" E
	23° 11' 1.088" N	87° 12' 58.458" E
	23° 11' 0.671" N	87° 13' 1.539" E
	23° 10' 59.138" N	87° 13' 5.513" E
	23° 10' 57.482" N	87° 13' 7.967" E
	23° 10' 54.836" N	87° 13' 9.750" E
	23° 10' 52.520" N	87° 13' 12.248" E
	23° 10' 50.035" N	87° 13' 17.158" E
	23° 10' 45.440" N	87° 13' 24.968" E
	23° 10' 41.383" N	87° 13' 31.528" E
	23° 10' 38.773" N	87° 13' 37.420" E
	23° 10' 36.741" N	87° 13' 42.866" E
	23° 10' 35.202" N	87° 13' 50.771" E
BNK_DW_ON_13	23° 8' 53.862" N	87° 16' 14.746" E
	23° 8' 51.611" N	87° 16' 14.175" E
	23° 8' 51.099" N	87° 16' 11.606" E
	23° 8' 57.737" N	87° 15' 53.866" E
	23° 9' 0.270" N	87° 15' 46.029" E
	23° 9' 4.759" N	87° 15' 40.203" E
	23° 9' 8.863" N	87° 15' 30.877" E
	23° 9' 14.033" N	87° 15' 26.197" E
	23° 9' 16.927" N	87° 15' 24.550" E
	23° 9' 22.383" N	87° 15' 21.434" E
	23° 9' 27.966" N	87° 15' 16.665" E
	23° 9' 33.173" N	87° 15' 15.201" E
	23° 9' 40.902" N	87° 15' 11.017" E
	23° 9' 46.856" N	87° 15' 6.830" E
	23° 9' 55.992" N	87° 15' 1.219" E
	23° 9' 58.970" N	87° 14' 58.500" E
	23° 10' 5.258" N	87° 14' 51.945" E
	23° 10' 7.703" N	87° 14' 46.634" E
	23° 10' 9.899" N	87° 14' 42.394" E
	23° 10' 15.407" N	87° 14' 32.711" E
	23° 10' 20.078" N	87° 14' 25.416" E
	23° 10' 20.870" N	87° 14' 20.772" E
	23° 10' 22.860" N	87° 14' 15.817" E
	23° 10' 24.271" N	87° 14' 11.308" E
	23° 10' 24.943" N	87° 14' 3.447" E
	23° 10' 25.657" N	87° 13' 55.452" E

CODE	LATITUDE	LONGITUDE
	23° 10' 26.243" N	87° 13' 50.361" E
	23° 10' 26.114" N	87° 13' 48.768" E
	23° 10' 28.173" N	87° 13' 49.526" E
	23° 10' 32.300" N	87° 13' 51.096" E
	23° 10' 35.093" N	87° 13' 52.198" E
	23° 10' 34.696" N	87° 13' 57.381" E
	23° 10' 34.522" N	87° 14' 3.456" E
	23° 10' 34.637" N	87° 14' 9.844" E
	23° 10' 33.803" N	87° 14' 14.801" E
	23° 10' 32.261" N	87° 14' 24.135" E
	23° 10' 31.174" N	87° 14' 32.397" E
	23° 10' 29.971" N	87° 14' 35.923" E
	23° 10' 25.664" N	87° 14' 44.001" E
	23° 10' 21.398" N	87° 14' 51.230" E
	23° 10' 18.912" N	87° 14' 56.273" E
	23° 10' 14.194" N	87° 15' 2.428" E
	23° 10' 8.155" N	87° 15' 8.269" E
	23° 10' 0.630" N	87° 15' 13.749" E
	23° 9' 54.139" N	87° 15' 17.801" E
	23° 9' 46.491" N	87° 15' 22.745" E
	23° 9' 40.081" N	87° 15' 28.092" E
	23° 9' 34.458" N	87° 15' 31.432" E
	23° 9' 30.201" N	87° 15' 33.567" E
	23° 9' 25.322" N	87° 15' 36.684" E
	23° 9' 22.800" N	87° 15' 38.689" E
	23° 9' 17.760" N	87° 15' 39.350" E
	23° 9' 14.206" N	87° 15' 40.549" E
	23° 9' 10.852" N	87° 15' 45.991" E
	23° 9' 6.917" N	87° 15' 52.683" E
	23° 9' 3.439" N	87° 15' 58.437" E
	23° 8' 57.558" N	87° 16' 7.760" E
BNK_DW_ON_14	23° 8' 25.854" N	87° 17' 4.957" E
	23° 8' 16.356" N	87° 17' 0.064" E
	23° 8' 12.906" N	87° 16' 57.543" E
	23° 8' 11.233" N	87° 16' 54.658" E
	23° 8' 14.166" N	87° 16' 52.183" E
	23° 8' 17.147" N	87° 16' 47.947" E
	23° 8' 25.223" N	87° 16' 35.325" E
	23° 8' 28.121" N	87° 16' 31.535" E

CODE	LATITUDE	LONGITUDE
	23° 8' 37.221" N	87° 16' 23.560" E
	23° 8' 43.137" N	87° 16' 17.676" E
	23° 8' 46.861" N	87° 16' 13.486" E
	23° 8' 47.514" N	87° 16' 11.965" E
	23° 8' 48.377" N	87° 16' 12.312" E
	23° 8' 51.099" N	87° 16' 11.606" E
	23° 8' 51.611" N	87° 16' 14.175" E
	23° 8' 53.862" N	87° 16' 14.746" E
	23° 8' 51.832" N	87° 16' 23.291" E
	23° 8' 50.628" N	87° 16' 27.040" E
	23° 8' 48.099" N	87° 16' 32.394" E
	23° 8' 46.358" N	87° 16' 36.276" E
	23° 8' 42.633" N	87° 16' 40.511" E
	23° 8' 38.991" N	87° 16' 44.880" E
	23° 8' 29.769" N	87° 16' 59.376" E
BNK_DW_BSP_14A	23° 8' 11.233" N	87° 16' 54.658" E
	23° 8' 12.906" N	87° 16' 57.543" E
	23° 8' 16.356" N	87° 17' 0.064" E
	23° 8' 25.854" N	87° 17' 4.957" E
	23° 8' 25.077" N	87° 17' 6.065" E
	23° 8' 20.939" N	87° 17' 10.298" E
	23° 8' 9.080" N	87° 17' 20.917" E
	23° 7' 53.035" N	87° 17' 24.827" E
	23° 7' 49.729" N	87° 17' 25.862" E
	23° 7' 48.694" N	87° 17' 27.140" E
	23° 7' 44.599" N	87° 17' 30.659" E
	23° 7' 41.740" N	87° 17' 35.386" E
	23° 7' 37.390" N	87° 17' 42.878" E
	23° 7' 31.589" N	87° 17' 53.091" E
	23° 7' 25.953" N	87° 18' 3.171" E
	23° 7' 21.393" N	87° 18' 11.734" E
	23° 7' 16.712" N	87° 18' 20.653" E
	23° 7' 10.737" N	87° 18' 13.538" E
	23° 7' 16.210" N	87° 18' 6.057" E
	23° 7' 18.436" N	87° 18' 2.819" E
	23° 7' 20.724" N	87° 18' 2.764" E
	23° 7' 26.005" N	87° 17' 54.738" E
	23° 7' 31.809" N	87° 17' 43.141" E
	23° 7' 35.849" N	87° 17' 36.228" E

CODE	LATITUDE	LONGITUDE
	23° 7' 37.504" N	87° 17' 34.446" E
	23° 7' 37.772" N	87° 17' 29.952" E
	23° 7' 38.925" N	87° 17' 29.305" E
	23° 7' 40.787" N	87° 17' 27.300" E
	23° 7' 47.063" N	87° 17' 20.736" E
	23° 7' 52.853" N	87° 17' 16.283" E
	23° 7' 57.484" N	87° 17' 5.798" E
	23° 8' 4.818" N	87° 17' 0.068" E
BNK_DW_BSP_15	23° 6' 50.431" N	87° 20' 20.989" E
	23° 6' 43.114" N	87° 20' 16.835" E
	23° 6' 44.150" N	87° 20' 13.981" E
	23° 6' 44.400" N	87° 20' 9.479" E
	23° 6' 44.067" N	87° 20' 4.232" E
	23° 6' 42.526" N	87° 20' 0.657" E
	23° 6' 40.815" N	87° 19' 56.187" E
	23° 6' 38.757" N	87° 19' 52.871" E
	23° 6' 37.905" N	87° 19' 48.590" E
	23° 6' 35.608" N	87° 19' 44.343" E
	23° 6' 35.830" N	87° 19' 36.865" E
	23° 6' 33.781" N	87° 19' 29.493" E
	23° 6' 33.001" N	87° 19' 23.649" E
	23° 6' 33.841" N	87° 19' 16.768" E
	23° 6' 33.928" N	87° 19' 15.084" E
	23° 6' 36.533" N	87° 19' 18.258" E
	23° 6' 39.725" N	87° 19' 21.297" E
	23° 6' 43.256" N	87° 19' 23.861" E
	23° 6' 43.355" N	87° 19' 23.918" E
	23° 6' 43.289" N	87° 19' 27.195" E
	23° 6' 43.857" N	87° 19' 32.019" E
	23° 6' 46.069" N	87° 19' 40.641" E
	23° 6' 46.769" N	87° 19' 43.001" E
	23° 6' 46.036" N	87° 19' 44.399" E
	23° 6' 48.340" N	87° 19' 53.613" E
	23° 6' 50.639" N	87° 20' 5.061" E
	23° 6' 51.137" N	87° 20' 13.527" E
BNK_DW_BSP_15A	23° 6' 12.750" N	87° 20' 37.471" E
	23° 6' 11.763" N	87° 20' 38.356" E
	23° 6' 14.853" N	87° 20' 41.434" E
	23° 6' 17.921" N	87° 20' 42.552" E

CODE	LATITUDE	LONGITUDE
	23° 6' 15.623" N	87° 20' 42.627" E
	23° 6' 9.678" N	87° 20' 41.584" E
	23° 6' 2.167" N	87° 20' 39.110" E
	23° 5' 54.121" N	87° 20' 35.696" E
	23° 5' 48.012" N	87° 20' 34.163" E
	23° 5' 43.439" N	87° 20' 33.956" E
	23° 5' 42.600" N	87° 20' 33.310" E
	23° 5' 34.426" N	87° 20' 33.192" E
	23° 5' 30.903" N	87° 20' 33.695" E
	23° 5' 29.253" N	87° 20' 30.226" E
	23° 5' 31.989" N	87° 20' 27.193" E
	23° 5' 32.553" N	87° 20' 26.817" E
	23° 5' 34.110" N	87° 20' 22.728" E
	23° 5' 37.730" N	87° 20' 20.040" E
	23° 5' 46.681" N	87° 20' 18.668" E
	23° 5' 53.561" N	87° 20' 20.080" E
	23° 5' 58.894" N	87° 20' 20.837" E
	23° 6' 9.039" N	87° 20' 24.490" E
	23° 6' 19.641" N	87° 20' 29.434" E
	23° 6' 22.013" N	87° 20' 29.246" E
	23° 6' 26.493" N	87° 20' 30.206" E
	23° 6' 25.604" N	87° 20' 40.344" E
	23° 6' 20.794" N	87° 20' 39.588" E
BNK_DW_BSP_16	23° 6' 38.072" N	87° 23' 40.158" E
	23° 6' 37.343" N	87° 23' 39.657" E
	23° 6' 30.564" N	87° 23' 35.400" E
	23° 6' 13.498" N	87° 23' 26.781" E
	23° 6' 3.551" N	87° 23' 21.708" E
	23° 5' 58.143" N	87° 23' 18.951" E
	23° 5' 39.465" N	87° 23' 13.358" E
	23° 5' 38.651" N	87° 23' 12.403" E
	23° 5' 35.636" N	87° 23' 6.926" E
	23° 5' 32.214" N	87° 22' 58.992" E
	23° 5' 29.205" N	87° 22' 50.874" E
	23° 5' 25.477" N	87° 22' 40.819" E
	23° 5' 22.922" N	87° 22' 30.172" E
	23° 5' 22.119" N	87° 22' 20.162" E
	23° 5' 21.995" N	87° 22' 13.026" E
	23° 5' 20.424" N	87° 22' 7.739" E

CODE	LATITUDE	LONGITUDE
	23° 5' 20.732" N	87° 21' 53.417" E
	23° 5' 20.265" N	87° 21' 47.091" E
	23° 5' 19.705" N	87° 21' 36.041" E
	23° 5' 19.055" N	87° 21' 26.733" E
	23° 5' 20.326" N	87° 21' 25.081" E
	23° 5' 21.450" N	87° 21' 22.851" E
	23° 5' 20.351" N	87° 21' 14.013" E
	23° 5' 20.884" N	87° 21' 6.481" E
	23° 5' 21.179" N	87° 20' 50.113" E
	23° 5' 22.686" N	87° 20' 42.910" E
	23° 5' 30.420" N	87° 20' 35.859" E
	23° 5' 35.831" N	87° 20' 35.133" E
	23° 5' 33.096" N	87° 20' 37.161" E
	23° 5' 29.035" N	87° 20' 43.177" E
	23° 5' 28.410" N	87° 20' 45.735" E
	23° 5' 27.365" N	87° 20' 47.459" E
	23° 5' 27.238" N	87° 20' 50.535" E
	23° 5' 26.910" N	87° 20' 51.877" E
	23° 5' 25.899" N	87° 21' 1.026" E
	23° 5' 25.877" N	87° 21' 10.535" E
	23° 5' 26.360" N	87° 21' 16.250" E
	23° 5' 28.476" N	87° 21' 30.318" E
	23° 5' 29.451" N	87° 21' 37.330" E
	23° 5' 29.258" N	87° 21' 49.427" E
	23° 5' 30.186" N	87° 21' 59.073" E
	23° 5' 31.031" N	87° 22' 8.673" E
	23° 5' 31.682" N	87° 22' 13.005" E
	23° 5' 30.503" N	87° 22' 22.421" E
	23° 5' 31.512" N	87° 22' 32.201" E
	23° 5' 32.941" N	87° 22' 39.303" E
	23° 5' 37.011" N	87° 22' 46.949" E
	23° 5' 40.668" N	87° 22' 54.816" E
	23° 5' 45.721" N	87° 23' 5.902" E
	23° 5' 50.907" N	87° 23' 13.328" E
	23° 5' 54.121" N	87° 23' 16.150" E
	23° 5' 58.080" N	87° 23' 18.527" E
	23° 6' 7.775" N	87° 23' 22.886" E
	23° 6' 19.862" N	87° 23' 28.501" E
	23° 6' 30.546" N	87° 23' 33.399" E

CODE	LATITUDE	LONGITUDE
	23° 6' 42.189" N	87° 23' 36.236" E
BNK_DW_BSP_16A	23° 6' 36.300" N	87° 23' 41.192" E
	23° 6' 33.564" N	87° 23' 42.661" E
	23° 6' 28.742" N	87° 23' 44.042" E
	23° 6' 25.046" N	87° 23' 42.543" E
	23° 6' 19.721" N	87° 23' 38.993" E
	23° 6' 13.617" N	87° 23' 36.650" E
	23° 6' 11.397" N	87° 23' 36.398" E
	23° 6' 2.764" N	87° 23' 31.968" E
	23° 5' 52.384" N	87° 23' 26.357" E
	23° 5' 45.549" N	87° 23' 20.496" E
	23° 5' 39.465" N	87° 23' 13.358" E
	23° 5' 58.143" N	87° 23' 18.951" E
	23° 6' 3.551" N	87° 23' 21.708" E
	23° 6' 13.498" N	87° 23' 26.781" E
	23° 6' 30.564" N	87° 23' 35.400" E
	23° 6' 37.343" N	87° 23' 39.657" E
	23° 6' 38.072" N	87° 23' 40.158" E
BNK_DW_JY_17_19	23° 6' 36.300" N	87° 23' 41.192" E
	23° 6' 38.072" N	87° 23' 40.158" E
	23° 6' 49.613" N	87° 23' 48.090" E
	23° 7' 2.446" N	87° 24' 3.429" E
	23° 7' 2.269" N	87° 24' 4.345" E
	23° 7' 2.302" N	87° 24' 7.694" E
	23° 7' 1.922" N	87° 24' 10.685" E
	23° 7' 0.299" N	87° 24' 15.681" E
	23° 7' 0.016" N	87° 24' 19.708" E
	23° 6' 55.213" N	87° 24' 21.657" E
	23° 6' 53.396" N	87° 24' 25.558" E
	23° 6' 55.102" N	87° 24' 31.238" E
	23° 6' 59.991" N	87° 24' 37.206" E
	23° 6' 59.292" N	87° 24' 41.297" E
	23° 6' 56.867" N	87° 24' 47.057" E
	23° 6' 53.242" N	87° 24' 51.511" E
	23° 6' 52.947" N	87° 24' 57.226" E
	23° 6' 52.784" N	87° 25' 2.207" E
	23° 6' 51.918" N	87° 25' 4.250" E
	23° 6' 49.071" N	87° 25' 7.032" E
	23° 6' 46.732" N	87° 25' 13.164" E

CODE	LATITUDE	LONGITUDE
	23° 6' 42.479" N	87° 25' 33.368" E
	23° 6' 34.591" N	87° 25' 31.930" E
	23° 6' 36.598" N	87° 25' 19.322" E
	23° 6' 38.301" N	87° 25' 12.721" E
	23° 6' 39.943" N	87° 25' 6.118" E
	23° 6' 41.020" N	87° 25' 5.050" E
	23° 6' 42.899" N	87° 25' 2.525" E
	23° 6' 44.837" N	87° 24' 58.364" E
	23° 6' 46.115" N	87° 24' 53.903" E
	23° 6' 47.314" N	87° 24' 48.281" E
	23° 6' 48.403" N	87° 24' 42.301" E
	23° 6' 48.982" N	87° 24' 38.662" E
	23° 6' 50.202" N	87° 24' 35.331" E
	23° 6' 50.910" N	87° 24' 29.907" E
	23° 6' 50.500" N	87° 24' 22.185" E
	23° 6' 48.552" N	87° 24' 9.900" E
	23° 6' 45.474" N	87° 24' 2.356" E
	23° 6' 41.108" N	87° 23' 57.566" E
	23° 6' 34.720" N	87° 23' 52.115" E
	23° 6' 31.216" N	87° 23' 49.649" E
	23° 6' 26.925" N	87° 23' 45.395" E
	23° 6' 23.488" N	87° 23' 43.376" E
	23° 6' 22.812" N	87° 23' 42.979" E
	23° 6' 29.510" N	87° 23' 46.074" E
	23° 6' 33.880" N	87° 23' 46.848" E
	23° 6' 36.637" N	87° 23' 45.367" E
BNK_DW_JY_18	23° 7' 2.446" N	87° 24' 3.429" E
	23° 6' 49.613" N	87° 23' 48.090" E
	23° 6' 38.072" N	87° 23' 40.158" E
	23° 6' 42.189" N	87° 23' 36.236" E
	23° 6' 48.458" N	87° 23' 38.273" E
	23° 6' 53.655" N	87° 23' 41.057" E
	23° 6' 57.403" N	87° 23' 45.220" E
	23° 6' 59.662" N	87° 23' 49.871" E
	23° 7' 1.797" N	87° 23' 54.878" E
	23° 7' 2.903" N	87° 23' 58.632" E
	23° 7' 2.813" N	87° 24' 1.534" E
BNK_DW_PS_20	23° 7' 14.180" N	87° 27' 37.563" E
	23° 7' 6.531" N	87° 27' 34.924" E

CODE	LATITUDE	LONGITUDE
	23° 7' 6.610" N	87° 27' 34.204" E
	23° 7' 6.209" N	87° 27' 30.110" E
	23° 7' 4.860" N	87° 27' 20.431" E
	23° 7' 3.985" N	87° 27' 13.507" E
	23° 7' 2.755" N	87° 27' 10.377" E
	23° 7' 0.424" N	87° 27' 7.393" E
	23° 6' 58.088" N	87° 27' 5.673" E
	23° 6' 55.548" N	87° 27' 3.581" E
	23° 6' 53.698" N	87° 27' 0.375" E
	23° 6' 52.677" N	87° 26' 56.577" E
	23° 6' 49.456" N	87° 26' 51.357" E
	23° 6' 44.530" N	87° 26' 40.773" E
	23° 6' 43.308" N	87° 26' 34.667" E
	23° 6' 42.646" N	87° 26' 31.765" E
	23° 6' 46.747" N	87° 26' 32.064" E
	23° 6' 50.992" N	87° 26' 31.777" E
	23° 6' 52.774" N	87° 26' 31.465" E
	23° 6' 53.488" N	87° 26' 33.004" E
	23° 6' 59.334" N	87° 26' 39.586" E
	23° 7' 3.162" N	87° 26' 44.243" E
	23° 7' 7.110" N	87° 26' 49.882" E
	23° 7' 12.622" N	87° 26' 57.759" E
	23° 7' 15.415" N	87° 27' 3.082" E
	23° 7' 18.155" N	87° 27' 12.602" E
	23° 7' 18.964" N	87° 27' 18.543" E
	23° 7' 19.200" N	87° 27' 22.429" E
	23° 7' 19.183" N	87° 27' 28.591" E
	23° 7' 19.242" N	87° 27' 36.673" E
	23° 7' 18.497" N	87° 27' 39.579" E
BNK_DW_JY_21	23° 7' 6.531" N	87° 27' 34.924" E
	23° 7' 14.180" N	87° 27' 37.563" E
	23° 7' 14.907" N	87° 27' 43.735" E
	23° 7' 13.864" N	87° 27' 47.527" E
	23° 7' 10.684" N	87° 27' 52.263" E
	23° 7' 7.739" N	87° 27' 58.892" E
	23° 7' 0.258" N	87° 28' 7.892" E
	23° 6' 57.865" N	87° 28' 11.486" E
	23° 7' 0.821" N	87° 28' 0.007" E
	23° 7' 4.435" N	87° 27' 48.336" E

CODE	LATITUDE	LONGITUDE
	23° 7' 5.903" N	87° 27' 40.602" E
BNK_DW_PS_22	23° 7' 3.481" N	87° 28' 41.003" E
	23° 7' 3.201" N	87° 28' 40.467" E
	23° 7' 0.711" N	87° 28' 35.704" E
	23° 6' 58.777" N	87° 28' 29.920" E
	23° 6' 58.709" N	87° 28' 27.791" E
	23° 7' 0.405" N	87° 28' 23.578" E
	23° 7' 1.058" N	87° 28' 20.489" E
	23° 7' 3.056" N	87° 28' 11.043" E
	23° 7' 4.404" N	87° 28' 9.150" E
	23° 7' 7.196" N	87° 28' 7.820" E
	23° 7' 10.507" N	87° 28' 5.488" E
	23° 7' 11.135" N	87° 28' 2.364" E
	23° 7' 12.081" N	87° 27' 57.009" E
	23° 7' 12.925" N	87° 27' 56.978" E
	23° 7' 10.982" N	87° 28' 4.775" E
	23° 7' 9.763" N	87° 28' 11.692" E
	23° 7' 9.005" N	87° 28' 16.735" E
	23° 7' 7.505" N	87° 28' 21.195" E
	23° 7' 5.965" N	87° 28' 25.297" E
	23° 7' 4.626" N	87° 28' 30.919" E
	23° 7' 3.488" N	87° 28' 38.550" E
BNK_DW_JY_22A	23° 6' 57.536" N	87° 29' 2.411" E
	23° 6' 56.783" N	87° 29' 1.015" E
	23° 6' 53.987" N	87° 28' 52.447" E
	23° 6' 51.945" N	87° 28' 44.775" E
	23° 6' 50.371" N	87° 28' 42.016" E
	23° 6' 49.280" N	87° 28' 38.515" E
	23° 6' 49.499" N	87° 28' 34.200" E
	23° 6' 50.273" N	87° 28' 28.844" E
	23° 6' 51.589" N	87° 28' 26.096" E
	23° 6' 54.285" N	87° 28' 22.087" E
	23° 6' 55.466" N	87° 28' 18.593" E
	23° 6' 57.158" N	87° 28' 13.654" E
	23° 6' 57.679" N	87° 28' 13.815" E
	23° 6' 57.674" N	87° 28' 15.601" E
	23° 6' 56.324" N	87° 28' 18.164" E
	23° 6' 54.454" N	87° 28' 24.235" E
	23° 6' 55.030" N	87° 28' 27.748" E

CODE	LATITUDE	LONGITUDE
	23° 6' 56.064" N	87° 28' 35.911" E
	23° 6' 57.394" N	87° 28' 39.934" E
	23° 6' 58.825" N	87° 28' 44.628" E
	23° 7' 0.148" N	87° 28' 50.995" E
	23° 6' 59.878" N	87° 28' 52.176" E
BNK_DW_PS_23	23° 6' 57.536" N	87° 29' 2.411" E
	23° 6' 59.878" N	87° 28' 52.176" E
	23° 7' 0.148" N	87° 28' 50.995" E
	23° 7' 1.815" N	87° 28' 45.978" E
	23° 7' 3.201" N	87° 28' 40.467" E
	23° 7' 3.481" N	87° 28' 41.003" E
	23° 7' 3.466" N	87° 28' 45.649" E
	23° 7' 4.817" N	87° 28' 49.628" E
	23° 7' 7.038" N	87° 28' 52.538" E
	23° 7' 10.234" N	87° 29' 1.078" E
	23° 7' 13.312" N	87° 29' 7.206" E
	23° 7' 19.964" N	87° 29' 19.911" E
	23° 7' 22.801" N	87° 29' 23.985" E
	23° 7' 25.955" N	87° 29' 31.490" E
	23° 7' 24.498" N	87° 29' 29.818" E
	23° 7' 20.821" N	87° 29' 25.378" E
	23° 7' 15.546" N	87° 29' 20.199" E
	23° 7' 14.769" N	87° 29' 19.111" E
	23° 7' 11.327" N	87° 29' 15.593" E
	23° 7' 9.892" N	87° 29' 12.239" E
	23° 7' 8.661" N	87° 29' 9.556" E
	23° 7' 7.113" N	87° 29' 9.327" E
	23° 7' 5.665" N	87° 29' 10.215" E
	23° 7' 4.128" N	87° 29' 11.279" E
	23° 7' 0.000" N	87° 29' 6.980" E
BNK_DW_PS_23A	23° 7' 26.261" N	87° 30' 42.785" E
	23° 7' 25.924" N	87° 30' 41.044" E
	23° 7' 25.457" N	87° 30' 34.783" E
	23° 7' 24.365" N	87° 30' 33.109" E
	23° 7' 22.946" N	87° 30' 25.824" E
	23° 7' 25.317" N	87° 30' 17.027" E
	23° 7' 25.889" N	87° 30' 10.108" E
	23° 7' 25.913" N	87° 30' 2.815" E
	23° 7' 25.032" N	87° 29' 58.197" E

CODE	LATITUDE	LONGITUDE
	23° 7' 22.991" N	87° 29' 50.673" E
	23° 7' 18.898" N	87° 29' 39.049" E
	23° 7' 14.726" N	87° 29' 30.475" E
	23° 7' 11.933" N	87° 29' 24.045" E
	23° 7' 14.703" N	87° 29' 25.540" E
	23° 7' 20.063" N	87° 29' 28.574" E
	23° 7' 22.838" N	87° 29' 32.379" E
	23° 7' 25.411" N	87° 29' 35.180" E
	23° 7' 26.746" N	87° 29' 37.417" E
	23° 7' 26.224" N	87° 29' 39.425" E
	23° 7' 27.971" N	87° 29' 41.887" E
	23° 7' 29.776" N	87° 29' 39.717" E
	23° 7' 35.734" N	87° 29' 48.234" E
	23° 7' 39.064" N	87° 29' 53.069" E
	23° 7' 41.439" N	87° 29' 59.508" E
	23° 7' 43.982" N	87° 30' 4.965" E
	23° 7' 44.586" N	87° 30' 10.058" E
	23° 7' 44.325" N	87° 30' 14.031" E
	23° 7' 42.861" N	87° 30' 19.742" E
	23° 7' 40.990" N	87° 30' 23.888" E
	23° 7' 38.335" N	87° 30' 27.405" E
	23° 7' 34.815" N	87° 30' 30.518" E
	23° 7' 30.746" N	87° 30' 36.977" E
BNK_DW_JY_24	23° 6' 22.110" N	87° 31' 58.911" E
	23° 6' 16.574" N	87° 31' 58.153" E
	23° 6' 12.518" N	87° 31' 57.974" E
	23° 6' 13.010" N	87° 31' 50.960" E
	23° 6' 12.620" N	87° 31' 44.038" E
	23° 6' 12.086" N	87° 31' 39.199" E
	23° 6' 13.478" N	87° 31' 34.442" E
	23° 6' 14.727" N	87° 31' 31.620" E
	23° 6' 18.464" N	87° 31' 25.533" E
	23° 6' 22.685" N	87° 31' 18.703" E
	23° 6' 24.754" N	87° 31' 17.521" E
	23° 6' 28.211" N	87° 31' 12.920" E
	23° 6' 38.497" N	87° 31' 3.881" E
	23° 6' 47.878" N	87° 30' 57.741" E
	23° 6' 55.468" N	87° 30' 52.189" E
	23° 7' 0.776" N	87° 30' 49.753" E

CODE	LATITUDE	LONGITUDE
	23° 7' 3.523" N	87° 30' 47.445" E
	23° 7' 8.397" N	87° 30' 45.183" E
	23° 7' 10.843" N	87° 30' 44.136" E
	23° 7' 13.812" N	87° 30' 41.394" E
	23° 7' 18.373" N	87° 30' 35.680" E
	23° 7' 21.905" N	87° 30' 28.849" E
	23° 7' 21.826" N	87° 30' 31.205" E
	23° 7' 23.660" N	87° 30' 38.803" E
	23° 7' 23.546" N	87° 30' 42.040" E
	23° 7' 21.472" N	87° 30' 44.711" E
	23° 7' 17.535" N	87° 30' 49.050" E
	23° 7' 9.938" N	87° 30' 56.433" E
	23° 7' 9.996" N	87° 30' 56.508" E
	23° 7' 7.898" N	87° 30' 58.559" E
	23° 7' 5.320" N	87° 31' 1.079" E
	23° 7' 5.313" N	87° 31' 1.106" E
	23° 7' 5.227" N	87° 31' 1.171" E
	23° 7' 1.001" N	87° 31' 5.396" E
	23° 6' 51.809" N	87° 31' 12.639" E
	23° 6' 47.381" N	87° 31' 15.301" E
	23° 6' 44.229" N	87° 31' 19.262" E
	23° 6' 39.415" N	87° 31' 26.343" E
	23° 6' 34.969" N	87° 31' 34.407" E
	23° 6' 32.525" N	87° 31' 36.719" E
	23° 6' 30.610" N	87° 31' 41.131" E
	23° 6' 27.661" N	87° 31' 46.254" E
	23° 6' 24.504" N	87° 31' 51.734" E
	23° 6' 22.463" N	87° 31' 56.815" E
BNK_DW_IN_25	23° 6' 6.081" N	87° 32' 35.634" E
	23° 6' 3.952" N	87° 32' 35.244" E
	23° 5' 57.772" N	87° 32' 34.111" E
	23° 5' 48.978" N	87° 32' 29.394" E
	23° 5' 52.696" N	87° 32' 29.303" E
	23° 5' 58.359" N	87° 32' 28.478" E
	23° 6' 0.568" N	87° 32' 26.701" E
	23° 6' 3.888" N	87° 32' 21.952" E
	23° 6' 6.659" N	87° 32' 16.829" E
	23° 6' 8.671" N	87° 32' 12.149" E
	23° 6' 9.649" N	87° 32' 7.986" E

CODE	LATITUDE	LONGITUDE
	23° 6' 11.530" N	87° 32' 1.148" E
	23° 6' 12.518" N	87° 31' 57.974" E
	23° 6' 16.574" N	87° 31' 58.153" E
	23° 6' 22.110" N	87° 31' 58.911" E
	23° 6' 20.808" N	87° 32' 6.652" E
	23° 6' 18.796" N	87° 32' 15.276" E
	23° 6' 17.181" N	87° 32' 20.508" E
	23° 6' 14.964" N	87° 32' 24.845" E
	23° 6' 12.859" N	87° 32' 28.348" E
	23° 6' 7.554" N	87° 32' 33.923" E
	23° 6' 6.081" N	87° 32' 35.634" E
BNK_DW_IN_26	23° 4' 49.222" N	87° 35' 3.459" E
	23° 4' 49.225" N	87° 35' 3.441" E
	23° 4' 49.694" N	87° 35' 0.800" E
	23° 4' 51.588" N	87° 34' 50.114" E
	23° 4' 52.913" N	87° 34' 39.225" E
	23° 4' 54.503" N	87° 34' 25.922" E
	23° 4' 54.499" N	87° 34' 25.922" E
	23° 4' 54.689" N	87° 34' 22.551" E
	23° 4' 55.017" N	87° 34' 16.751" E
	23° 4' 55.850" N	87° 34' 2.007" E
	23° 4' 53.992" N	87° 33' 51.182" E
	23° 4' 52.676" N	87° 33' 43.512" E
	23° 4' 52.057" N	87° 33' 39.904" E
	23° 4' 51.178" N	87° 33' 26.551" E
	23° 4' 51.178" N	87° 33' 26.551" E
	23° 4' 50.733" N	87° 33' 19.797" E
	23° 4' 49.611" N	87° 33' 2.679" E
	23° 4' 49.671" N	87° 32' 55.483" E
	23° 4' 53.848" N	87° 32' 41.997" E
	23° 4' 58.242" N	87° 32' 32.309" E
	23° 4' 59.909" N	87° 32' 26.698" E
	23° 5' 0.088" N	87° 32' 26.477" E
	23° 5' 3.571" N	87° 32' 22.428" E
	23° 5' 5.930" N	87° 32' 21.009" E
	23° 5' 9.533" N	87° 32' 18.863" E
	23° 5' 12.097" N	87° 32' 17.742" E
	23° 5' 15.294" N	87° 32' 16.922" E
	23° 5' 19.865" N	87° 32' 16.762" E

CODE	LATITUDE	LONGITUDE
	23° 5' 26.246" N	87° 32' 18.721" E
	23° 5' 31.302" N	87° 32' 21.450" E
	23° 5' 39.381" N	87° 32' 26.155" E
	23° 5' 43.861" N	87° 32' 28.345" E
	23° 5' 48.511" N	87° 32' 29.406" E
	23° 5' 48.978" N	87° 32' 29.394" E
	23° 5' 57.772" N	87° 32' 34.111" E
	23° 6' 3.952" N	87° 32' 35.244" E
	23° 6' 6.081" N	87° 32' 35.634" E
	23° 6' 5.564" N	87° 32' 36.236" E
	23° 5' 59.386" N	87° 32' 39.247" E
	23° 5' 56.849" N	87° 32' 40.308" E
	23° 5' 54.923" N	87° 32' 40.003" E
	23° 5' 53.660" N	87° 32' 39.663" E
	23° 5' 53.661" N	87° 32' 39.657" E
	23° 5' 53.584" N	87° 32' 39.642" E
	23° 5' 52.007" N	87° 32' 39.217" E
	23° 5' 49.858" N	87° 32' 38.915" E
	23° 5' 45.036" N	87° 32' 37.974" E
	23° 5' 40.668" N	87° 32' 36.754" E
	23° 5' 30.667" N	87° 32' 30.179" E
	23° 5' 29.995" N	87° 32' 29.738" E
	23° 5' 28.553" N	87° 32' 28.789" E
	23° 5' 26.370" N	87° 32' 28.415" E
	23° 5' 24.844" N	87° 32' 27.858" E
	23° 5' 20.385" N	87° 32' 27.424" E
	23° 5' 15.869" N	87° 32' 27.584" E
	23° 5' 13.566" N	87° 32' 28.161" E
	23° 5' 12.795" N	87° 32' 28.143" E
	23° 5' 11.193" N	87° 32' 28.935" E
	23° 5' 5.516" N	87° 32' 31.739" E
	23° 5' 4.728" N	87° 32' 32.129" E
	23° 5' 3.239" N	87° 32' 33.367" E
	23° 5' 0.698" N	87° 32' 35.678" E
	23° 4' 58.541" N	87° 32' 38.407" E
	23° 4' 55.487" N	87° 32' 45.894" E
	23° 4' 53.036" N	87° 32' 53.979" E
	23° 4' 51.804" N	87° 32' 59.747" E
	23° 4' 51.439" N	87° 33' 9.863" E

CODE	LATITUDE	LONGITUDE
	23° 4' 51.684" N	87° 33' 18.554" E
	23° 4' 52.460" N	87° 33' 24.814" E
	23° 4' 54.364" N	87° 33' 31.399" E
	23° 4' 56.486" N	87° 33' 38.490" E
	23° 4' 56.644" N	87° 33' 40.723" E
	23° 4' 56.684" N	87° 33' 48.012" E
	23° 4' 57.054" N	87° 33' 52.418" E
	23° 4' 58.397" N	87° 34' 1.589" E
	23° 5' 0.291" N	87° 34' 10.942" E
	23° 5' 0.769" N	87° 34' 15.943" E
	23° 5' 0.750" N	87° 34' 21.062" E
	23° 5' 0.401" N	87° 34' 26.120" E
	23° 4' 59.670" N	87° 34' 30.402" E
	23° 4' 58.668" N	87° 34' 33.433" E
	23° 4' 57.444" N	87° 34' 36.642" E
	23° 4' 57.161" N	87° 34' 38.783" E
	23° 4' 56.425" N	87° 34' 44.256" E
	23° 4' 55.294" N	87° 34' 52.345" E
	23° 4' 54.500" N	87° 34' 58.829" E
	23° 4' 54.436" N	87° 35' 1.173" E
BNK_DW_KP_26A	23° 4' 55.017" N	87° 34' 16.751" E
	23° 4' 51.648" N	87° 34' 15.343" E
	23° 4' 51.460" N	87° 34' 11.119" E
	23° 4' 50.744" N	87° 34' 3.617" E
	23° 4' 49.827" N	87° 33' 54.373" E
	23° 4' 49.646" N	87° 33' 47.141" E
	23° 4' 49.131" N	87° 33' 40.978" E
	23° 4' 47.914" N	87° 33' 34.724" E
	23° 4' 45.795" N	87° 33' 26.814" E
	23° 4' 44.753" N	87° 33' 17.749" E
	23° 4' 43.382" N	87° 33' 8.369" E
	23° 4' 44.102" N	87° 33' 3.194" E
	23° 4' 45.577" N	87° 32' 58.957" E
	23° 4' 50.733" N	87° 33' 19.797" E
	23° 4' 51.178" N	87° 33' 26.551" E
	23° 4' 51.178" N	87° 33' 26.551" E
	23° 4' 52.057" N	87° 33' 39.904" E
	23° 4' 52.676" N	87° 33' 43.512" E
	23° 4' 53.992" N	87° 33' 51.182" E

CODE	LATITUDE	LONGITUDE
	23° 4' 55.850" N	87° 34' 2.007" E
	23° 4' 55.017" N	87° 34' 16.751" E
BNK_DW_KP_27	23° 4' 54.499" N	87° 34' 25.922" E
	23° 4' 52.913" N	87° 34' 39.225" E
	23° 4' 51.588" N	87° 34' 50.114" E
	23° 4' 49.694" N	87° 35' 0.800" E
	23° 4' 49.225" N	87° 35' 3.441" E
	23° 4' 49.222" N	87° 35' 3.459" E
	23° 4' 43.130" N	87° 35' 6.528" E
	23° 4' 43.507" N	87° 35' 2.686" E
	23° 4' 44.311" N	87° 34' 57.601" E
	23° 4' 45.439" N	87° 34' 54.079" E
	23° 4' 46.622" N	87° 34' 46.764" E
	23° 4' 47.962" N	87° 34' 41.815" E
	23° 4' 49.843" N	87° 34' 35.618" E
	23° 4' 51.333" N	87° 34' 23.528" E
	23° 4' 51.434" N	87° 34' 22.236" E
	23° 4' 54.689" N	87° 34' 22.551" E
BNK_DW_KP_28	23° 4' 57.830" N	87° 36' 36.070" E
	23° 4' 52.992" N	87° 36' 34.885" E
	23° 4' 50.931" N	87° 36' 33.747" E
	23° 4' 48.894" N	87° 36' 32.621" E
	23° 4' 48.687" N	87° 36' 32.375" E
	23° 4' 52.885" N	87° 36' 29.414" E
	23° 4' 56.246" N	87° 36' 25.411" E
	23° 4' 57.779" N	87° 36' 24.079" E
	23° 5' 0.653" N	87° 36' 17.664" E
	23° 5' 0.664" N	87° 36' 14.914" E
	23° 5' 1.157" N	87° 36' 14.755" E
	23° 5' 3.151" N	87° 36' 13.954" E
	23° 5' 4.565" N	87° 36' 13.285" E
	23° 5' 7.156" N	87° 36' 11.981" E
	23° 5' 5.002" N	87° 36' 16.190" E
	23° 5' 4.183" N	87° 36' 18.404" E
	23° 5' 4.159" N	87° 36' 20.538" E
	23° 5' 5.500" N	87° 36' 20.879" E
	23° 5' 6.502" N	87° 36' 20.139" E
	23° 5' 8.091" N	87° 36' 18.436" E
	23° 5' 10.881" N	87° 36' 12.273" E

CODE	LATITUDE	LONGITUDE
	23° 5' 10.181" N	87° 36' 15.201" E
	23° 5' 7.794" N	87° 36' 20.309" E
	23° 5' 6.295" N	87° 36' 23.635" E
	23° 5' 6.177" N	87° 36' 25.480" E
	23° 5' 4.296" N	87° 36' 27.793" E
	23° 5' 1.422" N	87° 36' 30.637" E
BNK_DW_IN_28B	23° 4' 50.931" N	87° 36' 33.747" E
	23° 4' 52.992" N	87° 36' 34.885" E
	23° 4' 57.830" N	87° 36' 36.070" E
	23° 4' 50.545" N	87° 36' 41.832" E
	23° 4' 44.262" N	87° 36' 42.315" E
	23° 4' 33.774" N	87° 36' 40.444" E
	23° 4' 30.041" N	87° 36' 37.508" E
	23° 4' 26.267" N	87° 36' 34.422" E
	23° 4' 24.047" N	87° 36' 30.545" E
	23° 4' 20.565" N	87° 36' 26.704" E
	23° 4' 15.330" N	87° 36' 18.869" E
	23° 4' 13.289" N	87° 36' 12.611" E
	23° 4' 10.003" N	87° 36' 7.798" E
	23° 4' 6.094" N	87° 36' 4.099" E
	23° 4' 1.881" N	87° 35' 58.835" E
	23° 4' 0.243" N	87° 35' 55.034" E
	23° 3' 59.923" N	87° 35' 52.745" E
	23° 4' 3.373" N	87° 35' 55.761" E
	23° 4' 6.786" N	87° 35' 59.659" E
	23° 4' 10.358" N	87° 36' 4.986" E
	23° 4' 13.884" N	87° 36' 11.742" E
	23° 4' 17.664" N	87° 36' 16.981" E
	23° 4' 24.772" N	87° 36' 26.565" E
	23° 4' 30.126" N	87° 36' 30.427" E
	23° 4' 37.755" N	87° 36' 33.408" E
	23° 4' 42.010" N	87° 36' 34.002" E
	23° 4' 44.656" N	87° 36' 34.636" E
	23° 4' 48.894" N	87° 36' 32.621" E
BNK_DW_IN_28A	23° 3' 47.480" N	87° 36' 50.269" E
	23° 3' 43.280" N	87° 36' 50.230" E
	23° 3' 43.939" N	87° 36' 55.445" E
	23° 3' 43.930" N	87° 36' 55.448" E
	23° 3' 38.593" N	87° 36' 57.288" E

CODE	LATITUDE	LONGITUDE
	23° 3' 37.713" N	87° 36' 57.289" E
	23° 3' 37.798" N	87° 36' 52.374" E
	23° 3' 37.669" N	87° 36' 42.911" E
	23° 3' 37.003" N	87° 36' 33.491" E
	23° 3' 36.032" N	87° 36' 26.716" E
	23° 3' 36.652" N	87° 36' 26.451" E
	23° 3' 37.862" N	87° 36' 24.876" E
	23° 3' 38.302" N	87° 36' 22.460" E
	23° 3' 37.001" N	87° 36' 16.573" E
	23° 3' 37.379" N	87° 36' 14.338" E
	23° 3' 37.096" N	87° 36' 5.807" E
	23° 3' 40.579" N	87° 35' 54.897" E
	23° 3' 47.693" N	87° 35' 50.744" E
	23° 3' 53.498" N	87° 35' 51.467" E
	23° 3' 55.712" N	87° 35' 52.367" E
	23° 3' 55.198" N	87° 35' 56.782" E
	23° 3' 53.161" N	87° 35' 56.528" E
	23° 3' 49.469" N	87° 35' 57.226" E
	23° 3' 44.675" N	87° 35' 58.216" E
	23° 3' 42.302" N	87° 35' 59.455" E
	23° 3' 39.814" N	87° 36' 2.122" E
	23° 3' 38.417" N	87° 36' 7.412" E
	23° 3' 38.720" N	87° 36' 14.793" E
	23° 3' 40.678" N	87° 36' 21.109" E
	23° 3' 42.793" N	87° 36' 29.569" E
	23° 3' 45.280" N	87° 36' 41.482" E
BNK_DW_IN_29	23° 3' 39.427" N	87° 37' 54.028" E
	23° 3' 39.518" N	87° 37' 52.719" E
	23° 3' 35.141" N	87° 37' 52.821" E
	23° 3' 35.210" N	87° 37' 51.542" E
	23° 3' 35.524" N	87° 37' 45.296" E
	23° 3' 35.883" N	87° 37' 38.112" E
	23° 3' 37.557" N	87° 37' 22.275" E
	23° 3' 38.038" N	87° 37' 15.404" E
	23° 3' 38.399" N	87° 37' 7.596" E
	23° 3' 37.691" N	87° 36' 58.577" E
	23° 3' 37.713" N	87° 36' 57.289" E
	23° 3' 38.593" N	87° 36' 57.288" E
	23° 3' 43.930" N	87° 36' 55.448" E

CODE	LATITUDE	LONGITUDE
	23° 3' 43.939" N	87° 36' 55.445" E
	23° 3' 43.280" N	87° 36' 50.230" E
	23° 3' 47.480" N	87° 36' 50.269" E
	23° 3' 48.750" N	87° 36' 55.304" E
	23° 3' 51.309" N	87° 37' 2.873" E
	23° 3' 52.474" N	87° 37' 14.780" E
	23° 3' 52.726" N	87° 37' 20.614" E
	23° 3' 51.656" N	87° 37' 26.619" E
	23° 3' 50.426" N	87° 37' 31.374" E
	23° 3' 48.532" N	87° 37' 36.721" E
	23° 3' 46.310" N	87° 37' 41.650" E
	23° 3' 44.910" N	87° 37' 47.714" E
	23° 3' 43.503" N	87° 37' 53.928" E
BNK_DW_KP_29A	23° 3' 29.024" N	87° 39' 43.785" E
	23° 3' 23.888" N	87° 39' 36.445" E
	23° 3' 24.708" N	87° 39' 35.659" E
	23° 3' 27.696" N	87° 39' 32.371" E
	23° 3' 30.895" N	87° 39' 27.701" E
	23° 3' 33.724" N	87° 39' 22.671" E
	23° 3' 36.142" N	87° 39' 17.193" E
	23° 3' 37.291" N	87° 39' 9.165" E
	23° 3' 37.184" N	87° 39' 4.880" E
	23° 3' 37.129" N	87° 38' 58.230" E
	23° 3' 36.498" N	87° 38' 51.131" E
	23° 3' 35.662" N	87° 38' 43.361" E
	23° 3' 34.873" N	87° 38' 34.253" E
	23° 3' 34.573" N	87° 38' 26.798" E
	23° 3' 34.533" N	87° 38' 16.220" E
	23° 3' 34.613" N	87° 38' 6.670" E
	23° 3' 34.898" N	87° 37' 57.298" E
	23° 3' 35.141" N	87° 37' 52.821" E
	23° 3' 39.518" N	87° 37' 52.719" E
	23° 3' 39.427" N	87° 37' 54.028" E
	23° 3' 43.501" N	87° 37' 53.937" E
	23° 3' 42.555" N	87° 37' 58.117" E
	23° 3' 42.135" N	87° 38' 6.684" E
	23° 3' 42.332" N	87° 38' 12.695" E
	23° 3' 42.143" N	87° 38' 18.586" E
	23° 3' 42.112" N	87° 38' 26.024" E

CODE	LATITUDE	LONGITUDE
	23° 3' 42.477" N	87° 38' 31.203" E
	23° 3' 43.009" N	87° 38' 35.669" E
	23° 3' 44.365" N	87° 38' 40.912" E
	23° 3' 44.839" N	87° 38' 46.092" E
	23° 3' 45.699" N	87° 38' 51.154" E
	23° 3' 46.728" N	87° 38' 55.503" E
	23° 3' 47.540" N	87° 38' 58.899" E
	23° 3' 47.854" N	87° 39' 2.769" E
	23° 3' 48.890" N	87° 39' 5.392" E
	23° 3' 49.869" N	87° 39' 8.313" E
	23° 3' 50.353" N	87° 39' 11.171" E
	23° 3' 50.113" N	87° 39' 15.931" E
	23° 3' 48.882" N	87° 39' 20.626" E
	23° 3' 47.547" N	87° 39' 23.893" E
	23° 3' 45.663" N	87° 39' 26.621" E
	23° 3' 42.624" N	87° 39' 29.165" E
	23° 3' 41.676" N	87° 39' 32.017" E
	23° 3' 39.133" N	87° 39' 34.504" E
	23° 3' 34.102" N	87° 39' 39.121" E
	23° 3' 29.847" N	87° 39' 42.790" E
BNK_DW_KP_30	23° 2' 14.482" N	87° 40' 55.757" E
	23° 2' 5.581" N	87° 40' 45.974" E
	23° 2' 5.656" N	87° 40' 45.599" E
	23° 2' 7.055" N	87° 40' 37.039" E
	23° 2' 7.835" N	87° 40' 28.520" E
	23° 2' 7.414" N	87° 40' 20.709" E
	23° 2' 6.687" N	87° 40' 16.734" E
	23° 2' 6.823" N	87° 40' 13.878" E
	23° 2' 8.165" N	87° 40' 9.021" E
	23° 2' 9.918" N	87° 40' 4.791" E
	23° 2' 12.710" N	87° 39' 58.870" E
	23° 2' 18.244" N	87° 39' 49.124" E
	23° 2' 20.813" N	87° 39' 46.995" E
	23° 2' 24.409" N	87° 39' 46.254" E
	23° 2' 29.408" N	87° 39' 45.877" E
	23° 2' 35.516" N	87° 39' 46.933" E
	23° 2' 43.153" N	87° 39' 47.640" E
	23° 2' 48.564" N	87° 39' 47.488" E
	23° 2' 52.489" N	87° 39' 47.016" E

CODE	LATITUDE	LONGITUDE
	23° 2' 59.474" N	87° 39' 45.622" E
	23° 3' 7.698" N	87° 39' 44.324" E
	23° 3' 15.843" N	87° 39' 42.132" E
	23° 3' 21.184" N	87° 39' 39.034" E
	23° 3' 23.888" N	87° 39' 36.445" E
	23° 3' 29.024" N	87° 39' 43.785" E
	23° 3' 26.858" N	87° 39' 46.405" E
	23° 3' 22.825" N	87° 39' 49.717" E
	23° 3' 19.127" N	87° 39' 51.723" E
	23° 3' 15.761" N	87° 39' 53.372" E
	23° 3' 13.061" N	87° 39' 53.894" E
	23° 3' 8.711" N	87° 39' 53.873" E
	23° 3' 6.232" N	87° 39' 54.158" E
	23° 3' 3.640" N	87° 39' 54.979" E
	23° 3' 1.106" N	87° 39' 55.204" E
	23° 2' 57.420" N	87° 39' 54.472" E
	23° 2' 55.491" N	87° 39' 54.820" E
	23° 2' 51.853" N	87° 39' 55.694" E
	23° 2' 46.450" N	87° 39' 57.334" E
	23° 2' 40.225" N	87° 39' 57.958" E
	23° 2' 36.199" N	87° 39' 59.485" E
	23° 2' 29.638" N	87° 40' 1.416" E
	23° 2' 23.847" N	87° 40' 3.411" E
	23° 2' 19.484" N	87° 40' 6.543" E
	23° 2' 15.608" N	87° 40' 11.521" E
	23° 2' 13.548" N	87° 40' 16.925" E
	23° 2' 12.693" N	87° 40' 23.704" E
	23° 2' 13.213" N	87° 40' 30.965" E
	23° 2' 14.174" N	87° 40' 37.931" E
	23° 2' 14.577" N	87° 40' 46.739" E
	23° 2' 14.553" N	87° 40' 52.331" E
	23° 2' 14.595" N	87° 40' 55.366" E
BNK_DW_KP_31_32	23° 1' 56.505" N	87° 41' 52.390" E
	23° 1' 52.563" N	87° 41' 59.747" E
	23° 1' 49.407" N	87° 42' 3.658" E
	23° 1' 43.931" N	87° 42' 9.162" E
	23° 1' 37.516" N	87° 42' 15.554" E
	23° 1' 36.688" N	87° 42' 16.839" E
	23° 1' 26.150" N	87° 42' 14.138" E

CODE	LATITUDE	LONGITUDE
	23° 1' 26.685" N	87° 42' 13.379" E
	23° 1' 30.969" N	87° 42' 12.236" E
	23° 1' 32.107" N	87° 42' 12.131" E
	23° 1' 34.951" N	87° 42' 11.623" E
	23° 1' 37.390" N	87° 42' 10.009" E
	23° 1' 38.447" N	87° 42' 8.640" E
	23° 1' 39.001" N	87° 42' 7.183" E
	23° 1' 39.278" N	87° 42' 5.918" E
	23° 1' 39.166" N	87° 42' 2.547" E
	23° 1' 38.614" N	87° 41' 59.983" E
	23° 1' 38.096" N	87° 41' 58.815" E
	23° 1' 42.191" N	87° 41' 53.616" E
	23° 1' 45.973" N	87° 41' 48.148" E
	23° 1' 49.928" N	87° 41' 40.984" E
	23° 1' 52.386" N	87° 41' 36.177" E
	23° 1' 52.685" N	87° 41' 33.859" E
	23° 1' 52.375" N	87° 41' 29.083" E
	23° 1' 53.014" N	87° 41' 24.802" E
	23° 1' 53.897" N	87° 41' 21.103" E
	23° 1' 55.485" N	87° 41' 16.783" E
	23° 1' 56.950" N	87° 41' 12.284" E
	23° 1' 57.960" N	87° 41' 8.005" E
	23° 1' 59.168" N	87° 41' 5.512" E
	23° 2' 1.713" N	87° 40' 59.724" E
	23° 2' 4.009" N	87° 40' 53.891" E
	23° 2' 5.581" N	87° 40' 45.974" E
	23° 2' 14.482" N	87° 40' 55.757" E
	23° 2' 13.030" N	87° 41' 0.772" E
	23° 2' 11.028" N	87° 41' 5.403" E
	23° 2' 9.133" N	87° 41' 10.689" E
	23° 2' 7.003" N	87° 41' 19.245" E
	23° 2' 5.333" N	87° 41' 23.342" E
	23° 2' 4.432" N	87° 41' 27.978" E
	23° 2' 2.985" N	87° 41' 31.540" E
	23° 2' 1.593" N	87° 41' 35.044" E
	23° 2' 0.587" N	87° 41' 38.311" E
	23° 1' 59.690" N	87° 41' 42.054" E
	23° 1' 58.793" N	87° 41' 45.679" E
	23° 1' 58.009" N	87° 41' 48.471" E

CODE	LATITUDE	LONGITUDE
BNK_DW_IN_33	23° 1' 26.150" N	87° 42' 14.138" E
	23° 1' 36.688" N	87° 42' 16.839" E
	23° 1' 32.248" N	87° 42' 23.737" E
	23° 1' 28.314" N	87° 42' 29.249" E
	23° 1' 23.551" N	87° 42' 35.292" E
	23° 1' 18.912" N	87° 42' 38.242" E
	23° 1' 13.112" N	87° 42' 42.257" E
	23° 1' 10.615" N	87° 42' 46.587" E
	23° 1' 7.684" N	87° 42' 49.427" E
	23° 1' 2.604" N	87° 42' 52.494" E
	23° 0' 56.095" N	87° 42' 55.077" E
	23° 0' 52.273" N	87° 42' 56.617" E
	23° 0' 50.896" N	87° 42' 55.688" E
	23° 0' 49.661" N	87° 42' 54.581" E
	23° 0' 47.972" N	87° 42' 53.333" E
	23° 0' 46.526" N	87° 42' 52.349" E
	23° 0' 44.544" N	87° 42' 50.662" E
	23° 0' 44.527" N	87° 42' 50.644" E
	23° 0' 43.135" N	87° 42' 49.156" E
	23° 0' 42.093" N	87° 42' 48.042" E
	23° 0' 41.799" N	87° 42' 47.728" E
	23° 0' 40.863" N	87° 42' 46.684" E
	23° 0' 40.223" N	87° 42' 45.971" E
	23° 0' 38.822" N	87° 42' 44.276" E
	23° 0' 44.993" N	87° 42' 39.766" E
	23° 0' 54.175" N	87° 42' 36.646" E
	23° 1' 1.208" N	87° 42' 34.095" E
	23° 1' 7.126" N	87° 42' 31.271" E
	23° 1' 11.686" N	87° 42' 27.413" E
	23° 1' 18.609" N	87° 42' 21.649" E
	23° 1' 23.416" N	87° 42' 18.015" E

POTENTIAL ZONE OF KANSABATI RIVER

CODE	POINT NO	LATITUDE	LONGITUDE
BNK_KN_RB_01	1	22° 54' 55.453" N	86° 51' 40.907" E
	2	22° 54' 54.558" N	86° 51' 42.044" E
	3	22° 54' 54.849" N	86° 51' 43.604" E
	4	22° 54' 54.313" N	86° 51' 45.566" E
	5	22° 54' 52.253" N	86° 51' 51.364" E
	6	22° 54' 45.815" N	86° 51' 57.345" E
	7	22° 54' 40.821" N	86° 52' 0.694" E
	8	22° 54' 36.609" N	86° 52' 1.946" E
	9	22° 54' 32.894" N	86° 52' 4.179" E
	10	22° 54' 27.891" N	86° 52' 9.588" E
	11	22° 54' 27.568" N	86° 52' 6.007" E
	12	22° 54' 28.424" N	86° 52' 0.805" E
	13	22° 54' 28.014" N	86° 51' 59.547" E
	14	22° 54' 29.892" N	86° 51' 55.275" E
	15	22° 54' 33.520" N	86° 51' 47.841" E
	16	22° 54' 35.611" N	86° 51' 45.966" E
	17	22° 54' 40.868" N	86° 51' 43.464" E
	18	22° 54' 43.009" N	86° 51' 42.777" E
	19	22° 54' 42.436" N	86° 51' 44.815" E
	20	22° 54' 39.857" N	86° 51' 47.047" E
	21	22° 54' 38.051" N	86° 51' 48.999" E
	22	22° 54' 37.967" N	86° 51' 50.671" E
	23	22° 54' 39.945" N	86° 51' 49.369" E
	24	22° 54' 42.353" N	86° 51' 47.788" E
	25	22° 54' 45.190" N	86° 51' 45.370" E
	26	22° 54' 47.856" N	86° 51' 43.417" E
	27	22° 54' 49.490" N	86° 51' 42.486" E
	28	22° 54' 51.727" N	86° 51' 42.391" E
	29	22° 54' 53.447" N	86° 51' 41.553" E
BNK_KN_RB_01A	1	22° 55' 20.016" N	86° 51' 20.997" E
	2	22° 55' 18.808" N	86° 51' 16.819" E
	3	22° 55' 18.633" N	86° 51' 13.661" E
	4	22° 55' 17.942" N	86° 51' 10.596" E
	5	22° 55' 15.014" N	86° 51' 8.370" E
	6	22° 55' 13.548" N	86° 51' 4.656" E
	7	22° 55' 12.253" N	86° 51' 0.384" E
	8	22° 55' 11.600" N	86° 50' 59.604" E

CODE	POINT NO	LATITUDE	LONGITUDE
	9	22° 55' 11.452" N	86° 50' 58.319" E
	10	22° 55' 11.450" N	86° 50' 56.275" E
	11	22° 55' 11.929" N	86° 50' 53.525" E
	12	22° 55' 12.819" N	86° 50' 48.434" E
	13	22° 55' 12.796" N	86° 50' 45.766" E
	14	22° 55' 12.794" N	86° 50' 43.827" E
	15	22° 55' 13.494" N	86° 50' 41.151" E
	16	22° 55' 13.904" N	86° 50' 38.743" E
	17	22° 55' 13.782" N	86° 50' 34.184" E
	18	22° 55' 15.326" N	86° 50' 34.929" E
	19	22° 55' 16.361" N	86° 50' 37.250" E
	20	22° 55' 16.707" N	86° 50' 39.293" E
	21	22° 55' 17.827" N	86° 50' 40.871" E
	22	22° 55' 18.915" N	86° 50' 41.675" E
	23	22° 55' 19.326" N	86° 50' 43.342" E
	24	22° 55' 20.035" N	86° 50' 50.252" E
	25	22° 55' 20.205" N	86° 50' 55.914" E
	26	22° 55' 19.758" N	86° 51' 3.183" E
	27	22° 55' 19.844" N	86° 51' 6.571" E
	28	22° 55' 20.346" N	86° 51' 13.170" E
	29	22° 55' 19.978" N	86° 51' 17.852" E
	30	22° 55' 21.964" N	86° 51' 21.996" E
	31	22° 55' 22.179" N	86° 51' 23.376" E
	32	22° 55' 21.654" N	86° 51' 23.597" E
BNK_KN_RB_01B	1	22° 54' 36.324" N	86° 54' 13.077" E
	2	22° 54' 30.134" N	86° 54' 10.423" E
	3	22° 54' 30.128" N	86° 54' 10.390" E
	4	22° 54' 29.714" N	86° 54' 8.162" E
	5	22° 54' 29.685" N	86° 54' 6.943" E
	6	22° 54' 30.316" N	86° 54' 3.198" E
	7	22° 54' 30.948" N	86° 54' 1.087" E
	8	22° 54' 31.663" N	86° 53' 59.392" E
	9	22° 54' 32.653" N	86° 53' 57.668" E
	10	22° 54' 34.689" N	86° 53' 54.456" E
	11	22° 54' 36.807" N	86° 53' 51.512" E
	12	22° 54' 37.494" N	86° 53' 49.223" E
	13	22° 54' 39.034" N	86° 53' 45.685" E
	14	22° 54' 39.775" N	86° 53' 42.771" E
	15	22° 54' 40.573" N	86° 53' 41.552" E

CODE	POINT NO	LATITUDE	LONGITUDE
	16	22° 54' 41.728" N	86° 53' 40.481" E
	17	22° 54' 43.598" N	86° 53' 35.605" E
	18	22° 54' 44.476" N	86° 53' 31.532" E
	19	22° 54' 44.557" N	86° 53' 29.065" E
	20	22° 54' 41.744" N	86° 53' 23.450" E
	21	22° 54' 38.793" N	86° 53' 16.170" E
	22	22° 54' 36.285" N	86° 53' 12.992" E
	23	22° 54' 32.015" N	86° 53' 8.954" E
	24	22° 54' 26.423" N	86° 53' 5.392" E
	25	22° 54' 24.301" N	86° 53' 2.897" E
	26	22° 54' 22.536" N	86° 52' 59.807" E
	27	22° 54' 21.074" N	86° 52' 55.499" E
	28	22° 54' 20.824" N	86° 52' 53.270" E
	29	22° 54' 21.401" N	86° 52' 50.832" E
	30	22° 54' 21.399" N	86° 52' 48.901" E
	31	22° 54' 21.011" N	86° 52' 45.037" E
	32	22° 54' 21.504" N	86° 52' 42.035" E
	33	22° 54' 21.309" N	86° 52' 39.122" E
	34	22° 54' 18.469" N	86° 52' 33.418" E
	35	22° 54' 17.227" N	86° 52' 29.734" E
	36	22° 54' 16.646" N	86° 52' 26.644" E
	37	22° 54' 17.384" N	86° 52' 20.075" E
	38	22° 54' 18.509" N	86° 52' 15.586" E
	39	22° 54' 19.774" N	86° 52' 12.612" E
	40	22° 54' 20.838" N	86° 52' 10.835" E
	41	22° 54' 21.824" N	86° 52' 14.669" E
	42	22° 54' 21.828" N	86° 52' 18.849" E
	43	22° 54' 21.401" N	86° 52' 23.864" E
	44	22° 54' 21.320" N	86° 52' 29.809" E
	45	22° 54' 23.132" N	86° 52' 36.216" E
	46	22° 54' 24.252" N	86° 52' 38.444" E
	47	22° 54' 25.375" N	86° 52' 43.458" E
	48	22° 54' 27.099" N	86° 52' 47.358" E
	49	22° 54' 26.667" N	86° 52' 51.462" E
	50	22° 54' 26.891" N	86° 52' 51.961" E
	51	22° 54' 26.737" N	86° 52' 52.914" E
	52	22° 54' 29.425" N	86° 52' 58.217" E
	53	22° 54' 33.516" N	86° 53' 1.200" E
	54	22° 54' 38.930" N	86° 53' 5.297" E

CODE	POINT NO	LATITUDE	LONGITUDE
	55	22° 54' 43.186" N	86° 53' 8.727" E
	56	22° 54' 44.634" N	86° 53' 10.955" E
	57	22° 54' 45.710" N	86° 53' 14.788" E
	58	22° 54' 47.530" N	86° 53' 18.309" E
	59	22° 54' 49.639" N	86° 53' 22.676" E
	60	22° 54' 51.295" N	86° 53' 27.356" E
	61	22° 54' 52.083" N	86° 53' 31.993" E
	62	22° 54' 51.754" N	86° 53' 34.445" E
	63	22° 54' 50.477" N	86° 53' 39.573" E
	64	22° 54' 49.529" N	86° 53' 42.160" E
	65	22° 54' 49.572" N	86° 53' 44.790" E
	66	22° 54' 51.433" N	86° 53' 49.114" E
	67	22° 54' 51.393" N	86° 53' 50.897" E
	68	22° 54' 50.238" N	86° 53' 52.726" E
	69	22° 54' 46.564" N	86° 53' 55.983" E
	70	22° 54' 43.840" N	86° 53' 59.508" E
	71	22° 54' 40.004" N	86° 54' 7.134" E
	72	22° 54' 37.074" N	86° 54' 11.506" E
BNK_KN_RA_02_03	1	22° 54' 30.134" N	86° 54' 10.423" E
	2	22° 54' 36.324" N	86° 54' 13.077" E
	3	22° 54' 34.476" N	86° 54' 16.947" E
	4	22° 54' 33.631" N	86° 54' 19.845" E
	5	22° 54' 33.941" N	86° 54' 21.695" E
	6	22° 54' 32.505" N	86° 54' 25.879" E
	7	22° 54' 32.541" N	86° 54' 27.273" E
	8	22° 54' 32.301" N	86° 54' 30.468" E
	9	22° 54' 31.838" N	86° 54' 31.973" E
	10	22° 54' 28.915" N	86° 54' 36.154" E
	11	22° 54' 26.198" N	86° 54' 41.265" E
	12	22° 54' 24.290" N	86° 54' 45.093" E
	13	22° 54' 22.812" N	86° 54' 48.697" E
	14	22° 54' 21.541" N	86° 54' 52.339" E
	15	22° 54' 20.286" N	86° 54' 54.402" E
	16	22° 54' 17.569" N	86° 54' 58.081" E
	17	22° 54' 15.367" N	86° 55' 0.702" E
	18	22° 54' 13.235" N	86° 55' 3.081" E
	19	22° 54' 10.930" N	86° 55' 5.992" E
	20	22° 54' 11.060" N	86° 55' 3.233" E
	21	22° 54' 12.866" N	86° 55' 0.260" E

CODE	POINT NO	LATITUDE	LONGITUDE
	22	22° 54' 14.622" N	86° 54' 56.427" E
	23	22° 54' 15.036" N	86° 54' 55.549" E
	24	22° 54' 18.768" N	86° 54' 47.627" E
	25	22° 54' 22.550" N	86° 54' 40.491" E
	26	22° 54' 23.594" N	86° 54' 39.051" E
	27	22° 54' 26.481" N	86° 54' 32.804" E
	28	22° 54' 27.488" N	86° 54' 27.312" E
	29	22° 54' 27.577" N	86° 54' 27.126" E
	30	22° 54' 28.402" N	86° 54' 24.539" E
	31	22° 54' 29.392" N	86° 54' 22.458" E
	32	22° 54' 30.216" N	86° 54' 19.991" E
	33	22° 54' 30.271" N	86° 54' 18.564" E
	34	22° 54' 29.994" N	86° 54' 17.137" E
	35	22° 54' 30.434" N	86° 54' 16.127" E
	36	22° 54' 30.681" N	86° 54' 14.313" E
	37	22° 54' 30.515" N	86° 54' 12.382" E
BNK_KN_RA_03A	1	22° 54' 6.005" N	86° 55' 11.911" E
	2	22° 54' 5.896" N	86° 55' 13.813" E
	3	22° 54' 6.282" N	86° 55' 15.239" E
	4	22° 54' 6.394" N	86° 55' 17.201" E
	5	22° 54' 5.183" N	86° 55' 18.807" E
	6	22° 54' 3.806" N	86° 55' 19.580" E
	7	22° 54' 2.761" N	86° 55' 21.483" E
	8	22° 54' 2.322" N	86° 55' 24.931" E
	9	22° 54' 1.717" N	86° 55' 26.714" E
	10	22° 54' 0.286" N	86° 55' 27.250" E
	11	22° 53' 58.304" N	86° 55' 27.964" E
	12	22° 53' 58.751" N	86° 55' 25.642" E
	13	22° 54' 0.954" N	86° 55' 23.166" E
	14	22° 54' 2.605" N	86° 55' 20.788" E
	15	22° 54' 3.980" N	86° 55' 17.042" E
	16	22° 54' 4.612" N	86° 55' 14.694" E
	17	22° 54' 6.124" N	86° 55' 9.343" E
	18	22° 54' 7.691" N	86° 55' 4.825" E
	19	22° 54' 8.791" N	86° 55' 2.179" E
	20	22° 54' 9.031" N	86° 55' 1.871" E
	21	22° 54' 8.739" N	86° 55' 6.021" E
	22	22° 54' 7.821" N	86° 55' 8.462" E
	23	22° 54' 6.555" N	86° 55' 10.187" E

CODE	POINT NO	LATITUDE	LONGITUDE
BNK_KN_RA_03B	1	22° 53' 22.251" N	86° 55' 49.507" E
	2	22° 53' 21.527" N	86° 55' 49.025" E
	3	22° 53' 22.683" N	86° 55' 46.706" E
	4	22° 53' 25.544" N	86° 55' 42.485" E
	5	22° 53' 26.810" N	86° 55' 39.691" E
	6	22° 53' 27.965" N	86° 55' 37.788" E
	7	22° 53' 30.883" N	86° 55' 36.657" E
	8	22° 53' 32.976" N	86° 55' 36.299" E
	9	22° 53' 34.408" N	86° 55' 36.299" E
	10	22° 53' 36.886" N	86° 55' 35.762" E
	11	22° 53' 38.592" N	86° 55' 35.286" E
	12	22° 53' 39.408" N	86° 55' 34.084" E
	13	22° 53' 42.070" N	86° 55' 33.430" E
	14	22° 53' 44.521" N	86° 55' 34.023" E
	15	22° 53' 45.815" N	86° 55' 33.933" E
	16	22° 53' 47.962" N	86° 55' 32.981" E
	17	22° 53' 49.008" N	86° 55' 31.792" E
	18	22° 53' 50.825" N	86° 55' 31.345" E
	19	22° 53' 53.192" N	86° 55' 28.966" E
	20	22° 53' 54.084" N	86° 55' 28.679" E
	21	22° 53' 54.780" N	86° 55' 29.868" E
	22	22° 53' 52.413" N	86° 55' 31.356" E
	23	22° 53' 51.368" N	86° 55' 33.377" E
	24	22° 53' 48.836" N	86° 55' 35.994" E
	25	22° 53' 47.294" N	86° 55' 37.778" E
	26	22° 53' 46.083" N	86° 55' 37.957" E
	27	22° 53' 42.669" N	86° 55' 38.077" E
	28	22° 53' 39.089" N	86° 55' 38.198" E
	29	22° 53' 35.785" N	86° 55' 38.141" E
	30	22° 53' 34.714" N	86° 55' 37.943" E
	31	22° 53' 33.606" N	86° 55' 38.325" E
	32	22° 53' 33.253" N	86° 55' 39.083" E
	33	22° 53' 32.278" N	86° 55' 39.566" E
	34	22° 53' 30.178" N	86° 55' 39.289" E
	35	22° 53' 29.249" N	86° 55' 39.642" E
	36	22° 53' 27.547" N	86° 55' 42.411" E
	37	22° 53' 25.638" N	86° 55' 45.049" E
	38	22° 53' 23.384" N	86° 55' 47.818" E
BNK_KN_RA_04	1	22° 53' 21.751" N	86° 55' 50.252" E

CODE	POINT NO	LATITUDE	LONGITUDE
	2	22° 53' 19.205" N	86° 55' 52.482" E
	3	22° 53' 17.907" N	86° 55' 53.703" E
	4	22° 53' 15.162" N	86° 55' 55.136" E
	5	22° 53' 8.122" N	86° 55' 55.065" E
	6	22° 53' 6.331" N	86° 55' 54.263" E
	7	22° 53' 4.727" N	86° 55' 53.584" E
	8	22° 53' 3.558" N	86° 55' 53.089" E
	9	22° 53' 3.560" N	86° 55' 52.670" E
	10	22° 53' 4.158" N	86° 55' 52.125" E
	11	22° 53' 5.706" N	86° 55' 52.379" E
	12	22° 53' 9.974" N	86° 55' 52.972" E
	13	22° 53' 12.314" N	86° 55' 52.643" E
	14	22° 53' 14.131" N	86° 55' 52.048" E
	15	22° 53' 15.728" N	86° 55' 51.007" E
	16	22° 53' 18.783" N	86° 55' 48.658" E
	17	22° 53' 20.051" N	86° 55' 47.221" E
	18	22° 53' 20.811" N	86° 55' 47.420" E
	19	22° 53' 21.142" N	86° 55' 48.252" E
	20	22° 53' 21.032" N	86° 55' 49.560" E
	21	22° 53' 21.896" N	86° 55' 50.036" E
BNK_KN_RA_4A	1	22° 52' 37.729" N	86° 55' 54.292" E
	2	22° 52' 35.919" N	86° 55' 52.879" E
	3	22° 52' 43.934" N	86° 55' 51.239" E
	4	22° 52' 52.804" N	86° 55' 52.000" E
	5	22° 52' 52.435" N	86° 55' 53.480" E
	6	22° 52' 50.311" N	86° 55' 53.778" E
	7	22° 52' 46.457" N	86° 55' 53.891" E
	8	22° 52' 43.187" N	86° 55' 54.487" E
	9	22° 52' 39.367" N	86° 55' 54.526" E
BNK_KN_RA_4B	1	22° 51' 57.410" N	86° 55' 51.056" E
	2	22° 51' 57.336" N	86° 55' 50.964" E
	3	22° 51' 58.745" N	86° 55' 50.340" E
	4	22° 52' 2.118" N	86° 55' 50.339" E
	5	22° 52' 5.776" N	86° 55' 51.237" E
	6	22° 52' 6.860" N	86° 55' 49.841" E
	7	22° 52' 8.488" N	86° 55' 49.942" E
	8	22° 52' 11.710" N	86° 55' 49.911" E
	9	22° 52' 13.802" N	86° 55' 49.880" E
	10	22° 52' 14.877" N	86° 55' 50.503" E

CODE	POINT NO	LATITUDE	LONGITUDE
	11	22° 52' 15.510" N	86° 55' 51.662" E
	12	22° 52' 16.117" N	86° 55' 52.969" E
	13	22° 52' 18.623" N	86° 55' 54.513" E
	14	22° 52' 20.138" N	86° 55' 55.463" E
	15	22° 52' 21.212" N	86° 55' 55.938" E
	16	22° 52' 23.731" N	86° 55' 55.439" E
	17	22° 52' 23.749" N	86° 55' 56.003" E
	18	22° 52' 23.283" N	86° 55' 56.615" E
	19	22° 52' 22.925" N	86° 55' 57.086" E
	20	22° 52' 21.875" N	86° 55' 57.063" E
	21	22° 52' 19.193" N	86° 55' 57.907" E
	22	22° 52' 17.220" N	86° 55' 56.963" E
	23	22° 52' 16.971" N	86° 55' 59.389" E
	24	22° 52' 14.725" N	86° 55' 58.439" E
	25	22° 52' 9.424" N	86° 55' 55.693" E
	26	22° 52' 4.673" N	86° 55' 54.432" E
	27	22° 52' 1.816" N	86° 55' 52.911" E
BNK_KN_RA_4C	1	22° 52' 26.358" N	86° 55' 56.687" E
	2	22° 52' 26.291" N	86° 55' 56.744" E
	3	22° 52' 26.461" N	86° 55' 56.098" E
	4	22° 52' 27.617" N	86° 55' 54.003" E
	5	22° 52' 28.484" N	86° 55' 53.066" E
	6	22° 52' 30.259" N	86° 55' 53.021" E
	7	22° 52' 31.499" N	86° 55' 53.199" E
	8	22° 52' 32.316" N	86° 55' 53.619" E
	9	22° 52' 30.177" N	86° 55' 54.940" E
BNK_KN_RA_4D	1	22° 51' 54.213" N	86° 55' 43.501" E
	2	22° 51' 53.799" N	86° 55' 42.350" E
	3	22° 51' 54.074" N	86° 55' 41.979" E
	4	22° 51' 54.694" N	86° 55' 42.164" E
	5	22° 51' 55.933" N	86° 55' 43.129" E
	6	22° 51' 56.385" N	86° 55' 43.172" E
	7	22° 51' 57.307" N	86° 55' 43.857" E
	8	22° 51' 59.869" N	86° 55' 47.094" E
	9	22° 52' 1.286" N	86° 55' 48.348" E
	10	22° 52' 0.376" N	86° 55' 48.067" E
	11	22° 51' 59.136" N	86° 55' 47.696" E
	12	22° 51' 58.104" N	86° 55' 47.251" E
	13	22° 51' 56.830" N	86° 55' 46.026" E

CODE	POINT NO	LATITUDE	LONGITUDE
	14	22° 51' 55.211" N	86° 55' 44.875" E
BNK_KN_RA_4E	1	22° 51' 41.506" N	86° 55' 45.567" E
	2	22° 51' 38.375" N	86° 55' 45.787" E
	3	22° 51' 39.014" N	86° 55' 45.062" E
	4	22° 51' 41.286" N	86° 55' 44.169" E
	5	22° 51' 47.274" N	86° 55' 42.755" E
	6	22° 51' 49.339" N	86° 55' 43.051" E
	7	22° 51' 50.130" N	86° 55' 43.619" E
	8	22° 51' 47.598" N	86° 55' 44.896" E
	9	22° 51' 43.847" N	86° 55' 46.049" E
BNK_KN_RA_05	1	22° 50' 36.633" N	86° 55' 56.092" E
	2	22° 50' 36.017" N	86° 55' 57.898" E
	3	22° 50' 36.266" N	86° 55' 58.231" E
	4	22° 50' 41.177" N	86° 55' 58.541" E
	5	22° 50' 43.741" N	86° 55' 59.981" E
	6	22° 50' 44.242" N	86° 56' 0.262" E
	7	22° 50' 41.939" N	86° 56' 1.091" E
	8	22° 50' 34.023" N	86° 56' 1.559" E
	9	22° 50' 30.839" N	86° 56' 1.097" E
	10	22° 50' 27.226" N	86° 56' 2.305" E
	11	22° 50' 19.224" N	86° 56' 2.031" E
	12	22° 50' 14.577" N	86° 56' 2.311" E
	13	22° 50' 11.308" N	86° 56' 3.427" E
	14	22° 50' 0.984" N	86° 56' 6.124" E
	15	22° 49' 53.412" N	86° 56' 7.706" E
	16	22° 49' 48.509" N	86° 56' 9.657" E
	17	22° 49' 41.110" N	86° 56' 12.817" E
	18	22° 49' 33.883" N	86° 56' 14.770" E
	19	22° 49' 24.333" N	86° 56' 16.816" E
	20	22° 49' 21.752" N	86° 56' 18.767" E
	21	22° 49' 19.429" N	86° 56' 19.417" E
	22	22° 49' 15.901" N	86° 56' 18.862" E
	23	22° 49' 9.018" N	86° 56' 21.186" E
	24	22° 49' 2.480" N	86° 56' 23.787" E
	25	22° 48' 57.318" N	86° 56' 26.853" E
	26	22° 48' 54.651" N	86° 56' 27.968" E
	27	22° 48' 51.382" N	86° 56' 30.846" E
	28	22° 48' 48.630" N	86° 56' 32.704" E
	29	22° 48' 45.619" N	86° 56' 34.469" E

CODE	POINT NO	LATITUDE	LONGITUDE
	30	22° 48' 42.608" N	86° 56' 37.254" E
	31	22° 48' 37.275" N	86° 56' 42.269" E
	32	22° 48' 35.927" N	86° 56' 43.146" E
	33	22° 48' 35.082" N	86° 56' 42.579" E
	34	22° 48' 34.617" N	86° 56' 42.300" E
	35	22° 48' 26.486" N	86° 56' 37.617" E
	36	22° 48' 26.496" N	86° 56' 37.604" E
	37	22° 48' 31.120" N	86° 56' 32.286" E
	38	22° 48' 32.414" N	86° 56' 30.622" E
	39	22° 48' 33.156" N	86° 56' 28.276" E
	40	22° 48' 34.642" N	86° 56' 26.463" E
	41	22° 48' 38.854" N	86° 56' 23.313" E
	42	22° 48' 42.625" N	86° 56' 20.223" E
	43	22° 48' 49.590" N	86° 56' 17.754" E
	44	22° 48' 54.023" N	86° 56' 16.059" E
	45	22° 48' 59.722" N	86° 56' 14.126" E
	46	22° 49' 4.539" N	86° 56' 11.956" E
	47	22° 49' 13.928" N	86° 56' 9.248" E
	48	22° 49' 20.866" N	86° 56' 7.879" E
	49	22° 49' 25.739" N	86° 56' 6.807" E
	50	22° 49' 32.154" N	86° 56' 5.081" E
	51	22° 49' 36.807" N	86° 56' 4.485" E
	52	22° 49' 42.588" N	86° 56' 2.284" E
	53	22° 49' 49.031" N	86° 56' 0.409" E
	54	22° 49' 53.242" N	86° 55' 58.447" E
	55	22° 49' 57.702" N	86° 55' 56.662" E
	56	22° 50' 3.126" N	86° 55' 54.788" E
	57	22° 50' 7.421" N	86° 55' 54.133" E
	58	22° 50' 13.065" N	86° 55' 53.090" E
	59	22° 50' 20.940" N	86° 55' 52.135" E
	60	22° 50' 24.711" N	86° 55' 50.708" E
	61	22° 50' 29.144" N	86° 55' 49.339" E
	62	22° 50' 35.807" N	86° 55' 48.741" E
	63	22° 50' 40.680" N	86° 55' 48.293" E
	64	22° 50' 44.782" N	86° 55' 47.103" E
	65	22° 50' 47.315" N	86° 55' 45.141" E
	66	22° 50' 50.122" N	86° 55' 43.654" E
	67	22° 50' 53.509" N	86° 55' 43.147" E
	68	22° 50' 56.263" N	86° 55' 43.621" E



CODE	POINT NO	LATITUDE	LONGITUDE
	69	22° 51' 1.412" N	86° 55' 44.272" E
	70	22° 51' 8.240" N	86° 55' 44.268" E
	71	22° 51' 13.527" N	86° 55' 44.058" E
	72	22° 51' 17.382" N	86° 55' 43.937" E
	73	22° 51' 19.825" N	86° 55' 43.542" E
	74	22° 51' 24.345" N	86° 55' 43.914" E
	75	22° 51' 23.705" N	86° 55' 46.578" E
	76	22° 51' 19.390" N	86° 55' 47.530" E
	77	22° 51' 9.982" N	86° 55' 52.176" E
	78	22° 51' 0.691" N	86° 55' 55.523" E
	79	22° 50' 54.703" N	86° 55' 56.974" E
	80	22° 50' 47.579" N	86° 55' 57.646" E
BNK_KN_RA_06	1	22° 46' 46.624" N	86° 58' 44.542" E
	2	22° 46' 49.434" N	86° 58' 31.248" E
	3	22° 46' 51.351" N	86° 58' 32.176" E
	4	22° 46' 55.911" N	86° 58' 32.268" E
	5	22° 47' 1.762" N	86° 58' 33.380" E
	6	22° 47' 4.688" N	86° 58' 34.586" E
	7	22° 47' 9.163" N	86° 58' 35.235" E
	8	22° 47' 20.004" N	86° 58' 34.769" E
	9	22° 47' 24.306" N	86° 58' 33.376" E
	10	22° 47' 28.522" N	86° 58' 31.798" E
	11	22° 47' 31.619" N	86° 58' 27.528" E
	12	22° 47' 36.522" N	86° 58' 17.134" E
	13	22° 47' 38.587" N	86° 58' 14.627" E
	14	22° 47' 41.597" N	86° 58' 8.131" E
	15	22° 47' 42.199" N	86° 58' 3.954" E
	16	22° 47' 44.865" N	86° 57' 59.313" E
	17	22° 47' 46.929" N	86° 57' 52.352" E
	18	22° 47' 47.186" N	86° 57' 47.155" E
	19	22° 47' 46.668" N	86° 57' 42.422" E
	20	22° 47' 53.205" N	86° 57' 29.428" E
	21	22° 47' 53.882" N	86° 57' 28.531" E
	22	22° 47' 55.917" N	86° 57' 27.471" E
	23	22° 47' 59.386" N	86° 57' 23.193" E
	24	22° 48' 4.010" N	86° 57' 16.421" E
	25	22° 48' 8.304" N	86° 57' 11.430" E
	26	22° 48' 9.330" N	86° 57' 7.501" E
	27	22° 48' 19.012" N	86° 57' 13.079" E

CODE	POINT NO	LATITUDE	LONGITUDE
	28	22° 48' 18.785" N	86° 57' 13.739" E
	29	22° 48' 13.626" N	86° 57' 28.498" E
	30	22° 48' 11.221" N	86° 57' 42.234" E
	31	22° 48' 8.812" N	86° 57' 46.133" E
	32	22° 48' 5.544" N	86° 57' 54.486" E
	33	22° 48' 1.417" N	86° 58' 5.903" E
	34	22° 47' 59.266" N	86° 58' 11.008" E
	35	22° 47' 55.137" N	86° 58' 18.155" E
	36	22° 47' 51.525" N	86° 58' 27.343" E
	37	22° 47' 46.449" N	86° 58' 34.119" E
	38	22° 47' 43.610" N	86° 58' 35.140" E
	39	22° 47' 38.534" N	86° 58' 42.380" E
	40	22° 47' 32.856" N	86° 58' 48.970" E
	41	22° 47' 17.110" N	86° 58' 50.828" E
	42	22° 47' 10.226" N	86° 58' 50.922" E
	43	22° 46' 55.254" N	86° 58' 46.655" E
BNK_KN_RA_07	1	22° 46' 46.624" N	86° 58' 44.542" E
	2	22° 46' 45.788" N	86° 58' 44.337" E
	3	22° 46' 34.000" N	86° 58' 40.813" E
	4	22° 46' 25.825" N	86° 58' 39.886" E
	5	22° 46' 11.455" N	86° 58' 36.270" E
	6	22° 46' 4.657" N	86° 58' 32.188" E
	7	22° 45' 56.073" N	86° 58' 27.519" E
	8	22° 45' 59.384" N	86° 58' 19.235" E
	9	22° 45' 55.334" N	86° 58' 16.884" E
	10	22° 45' 51.338" N	86° 58' 14.565" E
	11	22° 45' 36.193" N	86° 58' 9.373" E
	12	22° 45' 20.361" N	86° 58' 10.861" E
	13	22° 45' 8.315" N	86° 58' 15.317" E
	14	22° 45' 7.167" N	86° 58' 16.893" E
	15	22° 45' 2.735" N	86° 58' 22.977" E
	16	22° 45' 0.745" N	86° 58' 25.709" E
	17	22° 44' 53.864" N	86° 58' 49.089" E
	18	22° 44' 49.048" N	86° 59' 13.581" E
	19	22° 44' 45.621" N	86° 59' 22.484" E
	20	22° 44' 43.766" N	86° 59' 27.304" E
	21	22° 44' 32.414" N	86° 59' 41.811" E
	22	22° 44' 21.967" N	86° 59' 46.638" E
	23	22° 44' 20.368" N	86° 59' 47.377" E



CODE	POINT NO	LATITUDE	LONGITUDE
	24	22° 44' 18.614" N	86° 59' 44.573" E
	25	22° 44' 17.359" N	86° 59' 42.566" E
	26	22° 44' 16.944" N	86° 59' 40.591" E
	27	22° 44' 16.990" N	86° 59' 40.571" E
	28	22° 44' 21.980" N	86° 59' 36.582" E
	29	22° 44' 25.336" N	86° 59' 33.799" E
	30	22° 44' 30.068" N	86° 59' 28.975" E
	31	22° 44' 32.908" N	86° 59' 24.522" E
	32	22° 44' 34.628" N	86° 59' 19.605" E
	33	22° 44' 36.349" N	86° 59' 16.543" E
	34	22° 44' 39.704" N	86° 59' 8.287" E
	35	22° 44' 42.027" N	86° 59' 0.215" E
	36	22° 44' 43.919" N	86° 58' 50.660" E
	37	22° 44' 47.617" N	86° 58' 41.104" E
	38	22° 44' 48.304" N	86° 58' 31.548" E
	39	22° 44' 48.303" N	86° 58' 23.941" E
	40	22° 44' 50.195" N	86° 58' 20.044" E
	41	22° 44' 53.035" N	86° 58' 19.023" E
	42	22° 44' 56.046" N	86° 58' 16.703" E
	43	22° 45' 2.498" N	86° 58' 9.465" E
	44	22° 45' 10.241" N	86° 58' 4.268" E
	45	22° 45' 15.833" N	86° 57' 59.350" E
	46	22° 45' 19.533" N	86° 57' 57.864" E
	47	22° 45' 23.835" N	86° 57' 57.585" E
	48	22° 45' 29.343" N	86° 57' 59.068" E
	49	22° 45' 37.861" N	86° 58' 0.736" E
	50	22° 45' 45.004" N	86° 58' 2.683" E
	51	22° 45' 51.716" N	86° 58' 5.557" E
	52	22° 45' 54.384" N	86° 58' 8.433" E
	53	22° 46' 2.042" N	86° 58' 10.194" E
	54	22° 46' 6.173" N	86° 58' 12.513" E
	55	22° 46' 13.229" N	86° 58' 14.367" E
	56	22° 46' 19.683" N	86° 58' 15.572" E
	57	22° 46' 27.772" N	86° 58' 19.004" E
	58	22° 46' 38.701" N	86° 58' 26.054" E
	59	22° 46' 49.434" N	86° 58' 31.248" E
BNK_KN_RA_07A	1	22° 45' 56.073" N	86° 58' 27.519" E
	2	22° 45' 55.449" N	86° 58' 27.180" E
	3	22° 45' 44.090" N	86° 58' 24.584" E

CODE	POINT NO	LATITUDE	LONGITUDE
	4	22° 45' 33.506" N	86° 58' 22.452" E
	5	22° 45' 24.127" N	86° 58' 22.361" E
	6	22° 45' 17.502" N	86° 58' 22.919" E
	7	22° 45' 13.544" N	86° 58' 25.054" E
	8	22° 45' 8.124" N	86° 58' 32.291" E
	9	22° 45' 1.930" N	86° 58' 43.703" E
	10	22° 44' 58.748" N	86° 58' 52.888" E
	11	22° 44' 55.135" N	86° 59' 6.712" E
	12	22° 44' 53.673" N	86° 59' 14.876" E
	13	22° 44' 50.232" N	86° 59' 28.792" E
	14	22° 44' 48.426" N	86° 59' 37.513" E
	15	22° 44' 44.640" N	86° 59' 42.616" E
	16	22° 44' 39.477" N	86° 59' 46.976" E
	17	22° 44' 33.368" N	86° 59' 47.997" E
	18	22° 44' 23.109" N	86° 59' 55.616" E
	19	22° 44' 23.094" N	86° 59' 55.571" E
	20	22° 44' 22.859" N	86° 59' 54.866" E
	21	22° 44' 21.509" N	86° 59' 50.808" E
	22	22° 44' 20.368" N	86° 59' 47.377" E
	23	22° 44' 21.967" N	86° 59' 46.638" E
	24	22° 44' 32.414" N	86° 59' 41.811" E
	25	22° 44' 43.766" N	86° 59' 27.304" E
	26	22° 44' 45.621" N	86° 59' 22.484" E
	27	22° 44' 49.048" N	86° 59' 13.581" E
	28	22° 44' 53.864" N	86° 58' 49.089" E
	29	22° 45' 0.745" N	86° 58' 25.709" E
	30	22° 45' 2.735" N	86° 58' 22.977" E
	31	22° 45' 7.167" N	86° 58' 16.893" E
	32	22° 45' 8.315" N	86° 58' 15.317" E
	33	22° 45' 20.361" N	86° 58' 10.861" E
	34	22° 45' 36.193" N	86° 58' 9.373" E
	35	22° 45' 51.338" N	86° 58' 14.565" E
	36	22° 45' 55.334" N	86° 58' 16.884" E
	37	22° 45' 59.384" N	86° 58' 19.235" E
BNK_KN_RA_08	1	22° 44' 16.944" N	86° 59' 40.591" E
	2	22° 44' 17.359" N	86° 59' 42.566" E
	3	22° 44' 18.614" N	86° 59' 44.573" E
	4	22° 44' 20.368" N	86° 59' 47.377" E
	5	22° 44' 21.509" N	86° 59' 50.808" E

CODE	POINT NO	LATITUDE	LONGITUDE
	6	22° 44' 15.377" N	86° 59' 52.387" E
	7	22° 44' 4.191" N	86° 59' 56.468" E
	8	22° 43' 54.898" N	86° 59' 58.509" E
	9	22° 43' 49.735" N	86° 59' 59.251" E
	10	22° 43' 42.335" N	87° 0' 1.478" E
	11	22° 43' 39.065" N	87° 0' 3.704" E
	12	22° 43' 36.312" N	87° 0' 7.043" E
	13	22° 43' 35.276" N	87° 0' 8.004" E
	14	22° 43' 27.628" N	87° 0' 9.518" E
	15	22° 43' 23.842" N	87° 0' 7.384" E
	16	22° 43' 20.487" N	87° 0' 6.271" E
	17	22° 43' 12.484" N	87° 0' 8.219" E
	18	22° 43' 6.289" N	87° 0' 10.259" E
	19	22° 42' 54.845" N	87° 0' 9.239" E
	20	22° 42' 38.065" N	87° 0' 9.795" E
	21	22° 42' 32.903" N	87° 0' 9.146" E
	22	22° 42' 27.051" N	87° 0' 4.508" E
	23	22° 42' 24.470" N	86° 59' 59.778" E
	24	22° 42' 23.610" N	86° 59' 55.234" E
	25	22° 42' 21.286" N	86° 59' 51.246" E
	26	22° 42' 5.712" N	86° 59' 43.363" E
	27	22° 41' 55.816" N	86° 59' 38.448" E
	28	22° 41' 51.083" N	86° 59' 34.646" E
	29	22° 41' 47.383" N	86° 59' 31.493" E
	30	22° 41' 46.103" N	86° 59' 31.481" E
	31	22° 41' 44.311" N	86° 59' 28.920" E
	32	22° 41' 38.255" N	86° 59' 26.979" E
	33	22° 41' 26.380" N	86° 59' 26.609" E
	34	22° 41' 20.201" N	86° 59' 26.687" E
	35	22° 41' 21.970" N	86° 59' 25.463" E
	36	22° 41' 26.702" N	86° 59' 21.289" E
	37	22° 41' 37.544" N	86° 59' 15.725" E
	38	22° 41' 41.072" N	86° 59' 14.704" E
	39	22° 41' 47.869" N	86° 59' 14.703" E
	40	22° 41' 53.548" N	86° 59' 15.538" E
	41	22° 41' 58.281" N	86° 59' 18.412" E
	42	22° 42' 4.821" N	86° 59' 21.936" E
	43	22° 42' 11.533" N	86° 59' 25.552" E
	44	22° 42' 16.954" N	86° 59' 30.282" E

CODE	POINT NO	LATITUDE	LONGITUDE
	45	22° 42' 20.826" N	86° 59' 33.806" E
	46	22° 42' 29.173" N	86° 59' 38.721" E
	47	22° 42' 41.048" N	86° 59' 44.471" E
	48	22° 42' 46.555" N	86° 59' 45.305" E
	49	22° 42' 51.201" N	86° 59' 42.708" E
	50	22° 42' 54.643" N	86° 59' 42.708" E
	51	22° 43' 2.301" N	86° 59' 44.099" E
	52	22° 43' 17.962" N	86° 59' 46.232" E
	53	22° 43' 23.727" N	86° 59' 46.695" E
	54	22° 43' 29.062" N	86° 59' 48.458" E
	55	22° 43' 34.311" N	86° 59' 52.353" E
	56	22° 43' 38.613" N	86° 59' 54.208" E
	57	22° 43' 45.669" N	86° 59' 52.168" E
	58	22° 43' 51.262" N	86° 59' 51.889" E
	59	22° 43' 57.285" N	86° 59' 48.735" E
	60	22° 44' 8.471" N	86° 59' 44.190" E
BNK_KN_RA_09_10	1	22° 39' 48.022" N	86° 59' 43.687" E
	2	22° 39' 37.894" N	86° 59' 41.364" E
	3	22° 39' 38.627" N	86° 59' 39.543" E
	4	22° 39' 40.860" N	86° 59' 36.826" E
	5	22° 39' 41.829" N	86° 59' 35.648" E
	6	22° 39' 44.335" N	86° 59' 32.599" E
	7	22° 39' 45.964" N	86° 59' 30.617" E
	8	22° 39' 47.445" N	86° 59' 29.160" E
	9	22° 39' 47.671" N	86° 59' 28.937" E
	10	22° 39' 48.738" N	86° 59' 27.888" E
	11	22° 39' 50.846" N	86° 59' 29.085" E
	12	22° 40' 1.860" N	86° 59' 37.614" E
	13	22° 40' 6.335" N	86° 59' 39.932" E
	14	22° 40' 19.328" N	86° 59' 39.932" E
	15	22° 40' 27.933" N	86° 59' 42.806" E
	16	22° 40' 37.570" N	86° 59' 43.455" E
	17	22° 40' 48.928" N	86° 59' 42.249" E
	18	22° 40' 58.394" N	86° 59' 38.632" E
	19	22° 41' 10.104" N	86° 59' 33.583" E
	20	22° 41' 10.892" N	86° 59' 33.366" E
	21	22° 41' 21.527" N	86° 59' 29.693" E
	22	22° 41' 29.994" N	86° 59' 28.691" E
	23	22° 41' 35.673" N	86° 59' 28.914" E

CODE	POINT NO	LATITUDE	LONGITUDE
	24	22° 41' 39.533" N	86° 59' 31.420" E
	25	22° 41' 37.488" N	86° 59' 31.401" E
	26	22° 41' 22.344" N	86° 59' 42.530" E
	27	22° 41' 14.858" N	86° 59' 46.796" E
	28	22° 40' 57.132" N	86° 59' 55.513" E
	29	22° 40' 52.228" N	86° 59' 58.758" E
	30	22° 40' 48.700" N	87° 0' 3.209" E
	31	22° 40' 41.730" N	87° 0' 7.475" E
	32	22° 40' 35.276" N	87° 0' 9.607" E
	33	22° 40' 25.295" N	87° 0' 8.309" E
	34	22° 40' 20.390" N	87° 0' 4.322" E
	35	22° 40' 18.067" N	86° 59' 58.944" E
	36	22° 40' 11.269" N	86° 59' 54.679" E
	37	22° 39' 58.389" N	86° 59' 48.582" E

POTENTIAL ZONE OF SILABATI RIVER

CODE	POINT NO	LATITUDE	LONGITUDE
BNK_SL_KT_01	1	22° 58' 32.371" N	86° 59' 12.227" E
	2	22° 58' 32.642" N	86° 59' 11.827" E
	3	22° 58' 32.481" N	86° 59' 8.565" E
	4	22° 58' 26.640" N	86° 59' 0.118" E
	5	22° 58' 27.782" N	86° 59' 0.037" E
	6	22° 58' 29.757" N	86° 59' 0.449" E
	7	22° 58' 31.478" N	86° 59' 1.396" E
	8	22° 58' 34.145" N	86° 59' 3.589" E
	9	22° 58' 35.470" N	86° 59' 5.745" E
	10	22° 58' 36.891" N	86° 59' 10.737" E
	11	22° 58' 36.080" N	86° 59' 12.201" E
	12	22° 58' 36.619" N	86° 59' 13.464" E
	13	22° 58' 36.509" N	86° 59' 14.891" E
	14	22° 58' 35.720" N	86° 59' 16.527" E
	15	22° 58' 33.416" N	86° 59' 12.869" E
BNK_SL_SM_1A	1	22° 58' 32.371" N	86° 59' 12.227" E
	2	22° 58' 27.922" N	86° 59' 9.078" E
	3	22° 58' 25.423" N	86° 59' 6.135" E
	4	22° 58' 22.676" N	86° 59' 4.083" E
	5	22° 58' 20.322" N	86° 59' 2.968" E

CODE	POINT NO	LATITUDE	LONGITUDE
	6	22° 58' 17.823" N	86° 59' 2.701" E
	7	22° 58' 17.059" N	86° 59' 3.105" E
	8	22° 58' 18.060" N	86° 59' 1.750" E
	9	22° 58' 20.263" N	86° 59' 0.560" E
	10	22° 58' 23.347" N	86° 58' 59.608" E
	11	22° 58' 26.060" N	86° 59' 0.159" E
	12	22° 58' 26.640" N	86° 59' 0.118" E
	13	22° 58' 32.481" N	86° 59' 8.565" E
	14	22° 58' 32.642" N	86° 59' 11.827" E
BNK_SL_SM_1B	1	22° 57' 15.394" N	87° 0' 34.402" E
	2	22° 57' 12.423" N	87° 0' 36.863" E
	3	22° 57' 11.484" N	87° 0' 36.321" E
	4	22° 57' 10.353" N	87° 0' 35.729" E
	5	22° 57' 11.272" N	87° 0' 33.822" E
	6	22° 57' 12.649" N	87° 0' 28.946" E
	7	22° 57' 13.668" N	87° 0' 20.027" E
	8	22° 57' 13.524" N	87° 0' 16.423" E
	9	22° 57' 13.249" N	87° 0' 13.431" E
	10	22° 57' 11.546" N	87° 0' 6.757" E
	11	22° 57' 11.032" N	87° 0' 4.036" E
	12	22° 57' 10.998" N	86° 59' 56.116" E
	13	22° 57' 11.340" N	86° 59' 52.569" E
	14	22° 57' 13.678" N	86° 59' 53.088" E
	15	22° 57' 13.830" N	86° 59' 56.070" E
	16	22° 57' 15.172" N	87° 0' 0.708" E
	17	22° 57' 17.113" N	87° 0' 6.907" E
	18	22° 57' 18.683" N	87° 0' 11.924" E
	19	22° 57' 19.633" N	87° 0' 15.537" E
	20	22° 57' 19.798" N	87° 0' 18.079" E
	21	22° 57' 19.756" N	87° 0' 21.781" E
	22	22° 57' 19.178" N	87° 0' 26.129" E
	23	22° 57' 17.897" N	87° 0' 30.076" E
	24	22° 57' 17.036" N	87° 0' 32.411" E
BNK_SL_SM_1C	1	22° 56' 30.297" N	87° 1' 13.289" E
	2	22° 56' 29.416" N	87° 1' 13.170" E
	3	22° 56' 30.097" N	87° 1' 11.874" E
	4	22° 56' 32.362" N	87° 1' 10.030" E
	5	22° 56' 34.428" N	87° 1' 8.455" E
	6	22° 56' 36.520" N	87° 1' 5.263" E

CODE	POINT NO	LATITUDE	LONGITUDE
	7	22° 56' 37.732" N	87° 1' 1.636" E
	8	22° 56' 39.770" N	87° 0' 58.960" E
	9	22° 56' 40.325" N	87° 0' 58.580" E
	10	22° 56' 41.366" N	87° 0' 59.406" E
	11	22° 56' 42.269" N	87° 1' 0.013" E
	12	22° 56' 43.842" N	87° 1' 0.886" E
	13	22° 56' 41.075" N	87° 1' 2.071" E
	14	22° 56' 39.381" N	87° 1' 3.676" E
	15	22° 56' 37.481" N	87° 1' 6.574" E
	16	22° 56' 37.413" N	87° 1' 8.101" E
	17	22° 56' 36.410" N	87° 1' 8.771" E
	18	22° 56' 35.198" N	87° 1' 9.900" E
	19	22° 56' 33.546" N	87° 1' 11.386" E
	20	22° 56' 31.674" N	87° 1' 12.397" E
BNK_SL_SM_1D	1	22° 56' 18.480" N	87° 1' 25.925" E
	2	22° 56' 18.293" N	87° 1' 29.804" E
	3	22° 56' 18.809" N	87° 1' 31.833" E
	4	22° 56' 18.417" N	87° 1' 32.993" E
	5	22° 56' 18.127" N	87° 1' 34.776" E
	6	22° 56' 18.953" N	87° 1' 38.790" E
	7	22° 56' 19.428" N	87° 1' 41.558" E
	8	22° 56' 18.168" N	87° 1' 41.767" E
	9	22° 56' 17.067" N	87° 1' 41.618" E
	10	22° 56' 15.690" N	87° 1' 40.800" E
	11	22° 56' 14.243" N	87° 1' 40.468" E
	12	22° 56' 13.442" N	87° 1' 39.785" E
	13	22° 56' 12.644" N	87° 1' 37.466" E
	14	22° 56' 12.527" N	87° 1' 36.016" E
	15	22° 56' 13.764" N	87° 1' 31.361" E
	16	22° 56' 14.522" N	87° 1' 29.503" E
	17	22° 56' 14.613" N	87° 1' 23.016" E
	18	22° 56' 15.321" N	87° 1' 20.863" E
	19	22° 56' 16.244" N	87° 1' 19.173" E
	20	22° 56' 18.034" N	87° 1' 16.497" E
	21	22° 56' 20.788" N	87° 1' 15.011" E
	22	22° 56' 23.817" N	87° 1' 14.492" E
	23	22° 56' 26.564" N	87° 1' 14.847" E
	24	22° 56' 25.379" N	87° 1' 16.272" E
	25	22° 56' 23.664" N	87° 1' 17.475" E

CODE	POINT NO	LATITUDE	LONGITUDE
	26	22° 56' 20.587" N	87° 1' 19.437" E
	27	22° 56' 19.678" N	87° 1' 20.641" E
	28	22° 56' 19.079" N	87° 1' 22.670" E
BNK_SL_SM_1E	1	22° 56' 22.225" N	87° 2' 2.429" E
	2	22° 56' 20.986" N	87° 2' 4.881" E
	3	22° 56' 17.887" N	87° 2' 8.002" E
	4	22° 56' 16.028" N	87° 2' 11.123" E
	5	22° 56' 15.770" N	87° 2' 12.351" E
	6	22° 56' 15.456" N	87° 2' 12.724" E
	7	22° 56' 13.452" N	87° 2' 14.440" E
	8	22° 56' 11.759" N	87° 2' 16.313" E
	9	22° 56' 11.159" N	87° 2' 17.450" E
	10	22° 56' 10.395" N	87° 2' 18.854" E
	11	22° 56' 9.775" N	87° 2' 21.619" E
	12	22° 56' 8.081" N	87° 2' 25.654" E
	13	22° 56' 7.089" N	87° 2' 27.682" E
	14	22° 56' 6.613" N	87° 2' 29.734" E
	15	22° 56' 3.514" N	87° 2' 35.931" E
	16	22° 56' 1.799" N	87° 2' 38.784" E
	17	22° 56' 0.980" N	87° 2' 40.134" E
	18	22° 56' 0.189" N	87° 2' 39.211" E
	19	22° 56' 1.773" N	87° 2' 35.644" E
	20	22° 56' 1.636" N	87° 2' 32.820" E
	21	22° 56' 2.050" N	87° 2' 30.442" E
	22	22° 56' 3.909" N	87° 2' 26.801" E
	23	22° 56' 6.044" N	87° 2' 22.789" E
	24	22° 56' 7.422" N	87° 2' 19.296" E
	25	22° 56' 9.212" N	87° 2' 15.952" E
	26	22° 56' 10.452" N	87° 2' 13.723" E
	27	22° 56' 10.930" N	87° 2' 11.505" E
	28	22° 56' 11.756" N	87° 2' 10.405" E
	29	22° 56' 14.152" N	87° 2' 7.641" E
	30	22° 56' 15.502" N	87° 2' 6.898" E
	31	22° 56' 16.769" N	87° 2' 5.055" E
	32	22° 56' 18.752" N	87° 2' 3.212" E
	33	22° 56' 20.514" N	87° 1' 59.853" E
	34	22° 56' 21.093" N	87° 1' 57.089" E
	35	22° 56' 21.066" N	87° 1' 53.819" E
	36	22° 56' 20.819" N	87° 1' 51.084" E

CODE	POINT NO	LATITUDE	LONGITUDE
	37	22° 56' 20.484" N	87° 1' 49.977" E
	38	22° 56' 21.677" N	87° 1' 50.760" E
	39	22° 56' 23.054" N	87° 1' 52.024" E
	40	22° 56' 24.017" N	87° 1' 54.403" E
	41	22° 56' 22.501" N	87° 2' 0.794" E
BNK_SL_SM_02	1	22° 55' 5.237" N	87° 3' 4.816" E
	2	22° 55' 5.020" N	87° 3' 2.348" E
	3	22° 55' 6.927" N	87° 3' 0.235" E
	4	22° 55' 7.507" N	87° 2' 56.371" E
	5	22° 55' 7.948" N	87° 2' 54.677" E
	6	22° 55' 8.967" N	87° 2' 54.053" E
	7	22° 55' 11.004" N	87° 2' 53.400" E
	8	22° 55' 12.959" N	87° 2' 52.598" E
	9	22° 55' 14.859" N	87° 2' 52.480" E
	10	22° 55' 16.869" N	87° 2' 52.897" E
	11	22° 55' 22.624" N	87° 2' 53.196" E
	12	22° 55' 24.304" N	87° 2' 52.929" E
	13	22° 55' 25.956" N	87° 2' 52.187" E
	14	22° 55' 28.351" N	87° 2' 51.801" E
	15	22° 55' 31.931" N	87° 2' 51.743" E
	16	22° 55' 35.593" N	87° 2' 51.982" E
	17	22° 55' 38.594" N	87° 2' 51.656" E
	18	22° 55' 43.055" N	87° 2' 49.606" E
	19	22° 55' 46.525" N	87° 2' 48.359" E
	20	22° 55' 49.913" N	87° 2' 45.596" E
	21	22° 55' 52.033" N	87° 2' 43.961" E
	22	22° 55' 56.192" N	87° 2' 40.931" E
	23	22° 55' 58.753" N	87° 2' 38.078" E
	24	22° 56' 0.114" N	87° 2' 35.785" E
	25	22° 56' 0.203" N	87° 2' 36.357" E
	26	22° 55' 59.817" N	87° 2' 38.141" E
	27	22° 55' 59.752" N	87° 2' 40.558" E
	28	22° 55' 59.022" N	87° 2' 41.289" E
	29	22° 55' 57.008" N	87° 2' 44.075" E
	30	22° 55' 56.713" N	87° 2' 44.861" E
	31	22° 55' 55.956" N	87° 2' 45.696" E
	32	22° 55' 53.846" N	87° 2' 48.024" E
	33	22° 55' 43.081" N	87° 2' 55.188" E
	34	22° 55' 41.254" N	87° 2' 56.506" E

CODE	POINT NO	LATITUDE	LONGITUDE
	35	22° 55' 38.721" N	87° 2' 57.753" E
	36	22° 55' 36.077" N	87° 2' 58.050" E
	37	22° 55' 30.901" N	87° 2' 57.572" E
	38	22° 55' 27.101" N	87° 2' 58.046" E
	39	22° 55' 21.759" N	87° 2' 59.412" E
	40	22° 55' 17.739" N	87° 3' 0.480" E
	41	22° 55' 13.553" N	87° 3' 2.619" E
	42	22° 55' 13.229" N	87° 3' 3.559" E
	43	22° 55' 10.878" N	87° 3' 5.624" E
	44	22° 55' 9.225" N	87° 3' 8.945" E
	45	22° 55' 8.460" N	87° 3' 11.419" E
	46	22° 55' 8.019" N	87° 3' 15.155" E
	47	22° 55' 6.776" N	87° 3' 12.663" E
	48	22° 55' 6.391" N	87° 3' 9.869" E
BNK_SL_SM_03	1	22° 54' 7.409" N	87° 6' 17.691" E
	2	22° 54' 5.966" N	87° 6' 18.129" E
	3	22° 54' 4.754" N	87° 6' 18.509" E
	4	22° 54' 4.250" N	87° 6' 18.667" E
	5	22° 54' 4.137" N	87° 6' 15.653" E
	6	22° 54' 4.359" N	87° 6' 12.681" E
	7	22° 54' 4.938" N	87° 6' 11.047" E
	8	22° 54' 6.482" N	87° 6' 7.809" E
	9	22° 54' 8.081" N	87° 6' 5.551" E
	10	22° 54' 9.542" N	87° 6' 2.164" E
	11	22° 54' 11.114" N	87° 5' 58.896" E
	12	22° 54' 12.381" N	87° 5' 57.322" E
	13	22° 54' 12.740" N	87° 5' 56.282" E
	14	22° 54' 13.842" N	87° 5' 54.945" E
	15	22° 54' 15.357" N	87° 5' 53.222" E
	16	22° 54' 16.295" N	87° 5' 51.410" E
	17	22° 54' 17.121" N	87° 5' 50.519" E
	18	22° 54' 18.141" N	87° 5' 49.509" E
	19	22° 54' 19.655" N	87° 5' 48.857" E
	20	22° 54' 20.812" N	87° 5' 48.055" E
	21	22° 54' 22.107" N	87° 5' 47.224" E
	22	22° 54' 23.704" N	87° 5' 46.541" E
	23	22° 54' 24.724" N	87° 5' 45.412" E
	24	22° 54' 25.000" N	87° 5' 44.254" E
	25	22° 54' 25.359" N	87° 5' 42.530" E

CODE	POINT NO	LATITUDE	LONGITUDE
	26	22° 54' 25.718" N	87° 5' 41.133" E
	27	22° 54' 26.407" N	87° 5' 39.618" E
	28	22° 54' 28.060" N	87° 5' 37.717" E
	29	22° 54' 29.906" N	87° 5' 35.667" E
	30	22° 54' 31.064" N	87° 5' 32.785" E
	31	22° 54' 32.085" N	87° 5' 29.249" E
	32	22° 54' 32.302" N	87° 5' 19.698" E
	33	22° 54' 33.605" N	87° 5' 19.299" E
	34	22° 54' 33.792" N	87° 5' 20.006" E
	35	22° 54' 35.772" N	87° 5' 23.998" E
	36	22° 54' 36.329" N	87° 5' 25.492" E
	37	22° 54' 36.266" N	87° 5' 26.696" E
	38	22° 54' 35.542" N	87° 5' 29.348" E
	39	22° 54' 34.507" N	87° 5' 32.981" E
	40	22° 54' 32.563" N	87° 5' 37.415" E
	41	22° 54' 31.034" N	87° 5' 40.223" E
	42	22° 54' 29.360" N	87° 5' 42.451" E
	43	22° 54' 26.591" N	87° 5' 44.946" E
	44	22° 54' 24.710" N	87° 5' 47.575" E
	45	22° 54' 23.222" N	87° 5' 49.669" E
	46	22° 54' 22.188" N	87° 5' 51.429" E
	47	22° 54' 19.130" N	87° 5' 54.347" E
	48	22° 54' 17.478" N	87° 5' 55.149" E
	49	22° 54' 15.866" N	87° 5' 57.265" E
	50	22° 54' 14.501" N	87° 6' 0.184" E
	51	22° 54' 13.302" N	87° 6' 2.345" E
	52	22° 54' 11.813" N	87° 6' 5.576" E
	53	22° 54' 10.489" N	87° 6' 8.317" E
	54	22° 54' 8.751" N	87° 6' 13.844" E
	55	22° 54' 7.738" N	87° 6' 16.295" E
BNK_SL_SM_04	1	22° 54' 4.754" N	87° 6' 18.509" E
	2	22° 54' 5.966" N	87° 6' 18.129" E
	3	22° 54' 7.409" N	87° 6' 17.691" E
	4	22° 54' 7.363" N	87° 6' 20.664" E
	5	22° 54' 9.384" N	87° 6' 24.878" E
	6	22° 54' 12.519" N	87° 6' 30.052" E
	7	22° 54' 15.449" N	87° 6' 33.688" E
	8	22° 54' 18.497" N	87° 6' 37.682" E
	9	22° 54' 14.236" N	87° 6' 35.775" E



CODE	POINT NO	LATITUDE	LONGITUDE
	10	22° 54' 12.516" N	87° 6' 34.807" E
	11	22° 54' 10.589" N	87° 6' 33.394" E
	12	22° 54' 9.627" N	87° 6' 31.313" E
	13	22° 54' 7.288" N	87° 6' 29.082" E
	14	22° 54' 5.638" N	87° 6' 26.703" E
	15	22° 54' 5.295" N	87° 6' 24.697" E
	16	22° 54' 5.688" N	87° 6' 22.908" E
	17	22° 54' 4.678" N	87° 6' 20.089" E
BNK_SL_SM_04A	1	22° 54' 2.491" N	87° 7' 42.688" E
	2	22° 54' 1.932" N	87° 7' 44.315" E
	3	22° 54' 1.929" N	87° 7' 47.435" E
	4	22° 53' 57.858" N	87° 7' 51.644" E
	5	22° 53' 56.365" N	87° 7' 53.054" E
	6	22° 53' 55.041" N	87° 7' 53.031" E
	7	22° 53' 53.318" N	87° 7' 55.332" E
	8	22° 53' 51.590" N	87° 7' 56.382" E
	9	22° 53' 52.857" N	87° 7' 54.641" E
	10	22° 53' 53.407" N	87° 7' 54.374" E
	11	22° 53' 54.262" N	87° 7' 53.483" E
	12	22° 53' 54.263" N	87° 7' 51.878" E
	13	22° 53' 53.878" N	87° 7' 51.076" E
	14	22° 53' 54.292" N	87° 7' 49.768" E
	15	22° 53' 54.238" N	87° 7' 48.906" E
	16	22° 53' 53.771" N	87° 7' 47.539" E
	17	22° 53' 54.736" N	87° 7' 46.559" E
	18	22° 53' 55.921" N	87° 7' 44.985" E
	19	22° 53' 57.575" N	87° 7' 42.609" E
	20	22° 53' 58.899" N	87° 7' 39.787" E
	21	22° 53' 59.258" N	87° 7' 37.885" E
	22	22° 53' 59.698" N	87° 7' 36.569" E
	23	22° 54' 1.663" N	87° 7' 35.874" E
	24	22° 54' 1.607" N	87° 7' 25.888" E
	25	22° 54' 1.719" N	87° 7' 25.048" E
	26	22° 54' 3.403" N	87° 7' 19.522" E
	27	22° 54' 4.369" N	87° 7' 16.194" E
	28	22° 54' 4.398" N	87° 7' 14.805" E
	29	22° 54' 5.606" N	87° 7' 11.061" E
	30	22° 54' 6.983" N	87° 7' 9.873" E
	31	22° 54' 10.426" N	87° 7' 9.133" E

CODE	POINT NO	LATITUDE	LONGITUDE
	32	22° 54' 12.567" N	87° 7' 9.028" E
	33	22° 54' 11.355" N	87° 7' 10.018" E
	34	22° 54' 10.549" N	87° 7' 11.333" E
	35	22° 54' 10.279" N	87° 7' 12.558" E
	36	22° 54' 9.306" N	87° 7' 15.678" E
	37	22° 54' 7.052" N	87° 7' 20.313" E
	38	22° 54' 5.830" N	87° 7' 24.235" E
	39	22° 54' 5.622" N	87° 7' 26.062" E
	40	22° 54' 3.467" N	87° 7' 36.247" E
	41	22° 54' 3.403" N	87° 7' 38.677" E
	42	22° 54' 3.091" N	87° 7' 40.571" E
BNK_SL_SM_05	1	22° 53' 50.264" N	87° 8' 11.453" E
	2	22° 53' 49.347" N	87° 8' 9.200" E
	3	22° 53' 48.673" N	87° 8' 6.610" E
	4	22° 53' 48.494" N	87° 8' 2.678" E
	5	22° 53' 48.693" N	87° 8' 0.612" E
	6	22° 53' 49.576" N	87° 7' 59.660" E
	7	22° 53' 49.984" N	87° 7' 58.949" E
	8	22° 53' 51.842" N	87° 7' 58.927" E
	9	22° 53' 51.551" N	87° 8' 1.267" E
	10	22° 53' 51.591" N	87° 8' 3.050" E
	11	22° 53' 51.982" N	87° 8' 4.789" E
	12	22° 53' 52.311" N	87° 8' 6.996" E
	13	22° 53' 53.114" N	87° 8' 9.672" E
	14	22° 53' 54.412" N	87° 8' 12.259" E
	15	22° 53' 54.639" N	87° 8' 12.923" E
BNK_SL_SM_5A	1	22° 53' 50.264" N	87° 8' 11.453" E
	2	22° 53' 54.639" N	87° 8' 12.923" E
	3	22° 53' 55.484" N	87° 8' 15.403" E
	4	22° 53' 57.628" N	87° 8' 19.306" E
	5	22° 54' 0.638" N	87° 8' 24.369" E
	6	22° 54' 3.051" N	87° 8' 28.250" E
	7	22° 54' 4.328" N	87° 8' 32.508" E
	8	22° 54' 4.574" N	87° 8' 34.359" E
	9	22° 54' 4.407" N	87° 8' 36.008" E
	10	22° 54' 3.745" N	87° 8' 37.300" E
	11	22° 54' 3.085" N	87° 8' 38.381" E
	12	22° 54' 2.348" N	87° 8' 38.440" E
	13	22° 54' 0.686" N	87° 8' 39.849" E

CODE	POINT NO	LATITUDE	LONGITUDE
	14	22° 53' 59.198" N	87° 8' 41.452" E
	15	22° 53' 58.921" N	87° 8' 42.522" E
	16	22° 53' 59.251" N	87° 8' 43.117" E
	17	22° 54' 0.573" N	87° 8' 43.415" E
	18	22° 54' 1.169" N	87° 8' 43.750" E
	19	22° 54' 1.013" N	87° 8' 44.230" E
	20	22° 54' 0.102" N	87° 8' 46.502" E
	21	22° 53' 58.510" N	87° 8' 48.729" E
	22	22° 53' 56.650" N	87° 8' 50.176" E
	23	22° 53' 53.799" N	87° 8' 52.157" E
	24	22° 53' 52.620" N	87° 8' 53.293" E
	25	22° 53' 51.856" N	87° 8' 53.581" E
	26	22° 53' 50.100" N	87° 8' 54.850" E
	27	22° 53' 45.430" N	87° 8' 57.497" E
	28	22° 53' 43.059" N	87° 8' 59.085" E
	29	22° 53' 43.874" N	87° 8' 57.247" E
	30	22° 53' 46.025" N	87° 8' 53.683" E
	31	22° 53' 47.072" N	87° 8' 52.614" E
	32	22° 53' 48.505" N	87° 8' 52.140" E
	33	22° 53' 49.608" N	87° 8' 50.299" E
	34	22° 53' 50.650" N	87° 8' 48.615" E
	35	22° 53' 52.088" N	87° 8' 47.482" E
	36	22° 53' 54.533" N	87° 8' 45.738" E
	37	22° 53' 55.291" N	87° 8' 44.365" E
	38	22° 53' 55.878" N	87° 8' 42.173" E
	39	22° 53' 56.396" N	87° 8' 40.242" E
	40	22° 53' 57.431" N	87° 8' 37.828" E
	41	22° 53' 57.812" N	87° 8' 34.931" E
	42	22° 53' 57.436" N	87° 8' 31.922" E
	43	22° 53' 56.855" N	87° 8' 28.095" E
	44	22° 53' 56.162" N	87° 8' 25.523" E
	45	22° 53' 54.980" N	87° 8' 23.144" E
	46	22° 53' 53.057" N	87° 8' 17.525" E
	47	22° 53' 52.288" N	87° 8' 15.147" E
	48	22° 53' 50.969" N	87° 8' 13.184" E
BNK_SL_SM_06	1	22° 53' 23.484" N	87° 9' 5.486" E
	2	22° 53' 22.943" N	87° 9' 4.291" E
	3	22° 53' 25.640" N	87° 9' 2.981" E
	4	22° 53' 29.255" N	87° 9' 1.536" E

CODE	POINT NO	LATITUDE	LONGITUDE
	5	22° 53' 36.727" N	87° 8' 58.201" E
	6	22° 53' 38.243" N	87° 8' 57.125" E
	7	22° 53' 39.655" N	87° 8' 56.161" E
	8	22° 53' 41.169" N	87° 8' 55.643" E
	9	22° 53' 44.476" N	87° 8' 53.492" E
	10	22° 53' 48.625" N	87° 8' 50.210" E
	11	22° 53' 48.760" N	87° 8' 51.100" E
	12	22° 53' 48.243" N	87° 8' 51.731" E
	13	22° 53' 47.280" N	87° 8' 51.804" E
	14	22° 53' 46.143" N	87° 8' 52.435" E
	15	22° 53' 45.317" N	87° 8' 53.140" E
	16	22° 53' 43.455" N	87° 8' 55.924" E
	17	22° 53' 41.939" N	87° 8' 58.485" E
	18	22° 53' 41.766" N	87° 8' 59.488" E
	19	22° 53' 41.077" N	87° 9' 0.082" E
	20	22° 53' 39.493" N	87° 9' 0.749" E
	21	22° 53' 37.806" N	87° 9' 1.601" E
	22	22° 53' 37.014" N	87° 9' 1.823" E
	23	22° 53' 36.054" N	87° 9' 1.790" E
	24	22° 53' 28.057" N	87° 9' 3.970" E
BNK_SL_SM_07	1	22° 53' 20.011" N	87° 9' 16.794" E
	2	22° 53' 18.996" N	87° 9' 20.069" E
	3	22° 53' 19.119" N	87° 9' 21.317" E
	4	22° 53' 19.674" N	87° 9' 23.702" E
	5	22° 53' 19.631" N	87° 9' 25.419" E
	6	22° 53' 19.278" N	87° 9' 27.380" E
	7	22° 53' 18.241" N	87° 9' 31.368" E
	8	22° 53' 17.970" N	87° 9' 34.176" E
	9	22° 53' 17.307" N	87° 9' 36.627" E
	10	22° 53' 16.621" N	87° 9' 40.905" E
	11	22° 53' 16.432" N	87° 9' 44.003" E
	12	22° 53' 16.780" N	87° 9' 47.124" E
	13	22° 53' 17.439" N	87° 9' 49.331" E
	14	22° 53' 19.273" N	87° 9' 52.855" E
	15	22° 53' 20.984" N	87° 9' 55.398" E
	16	22° 53' 22.611" N	87° 9' 59.679" E
	17	22° 53' 24.485" N	87° 10' 4.942" E
	18	22° 53' 25.244" N	87° 10' 9.333" E
	19	22° 53' 26.480" N	87° 10' 13.800" E

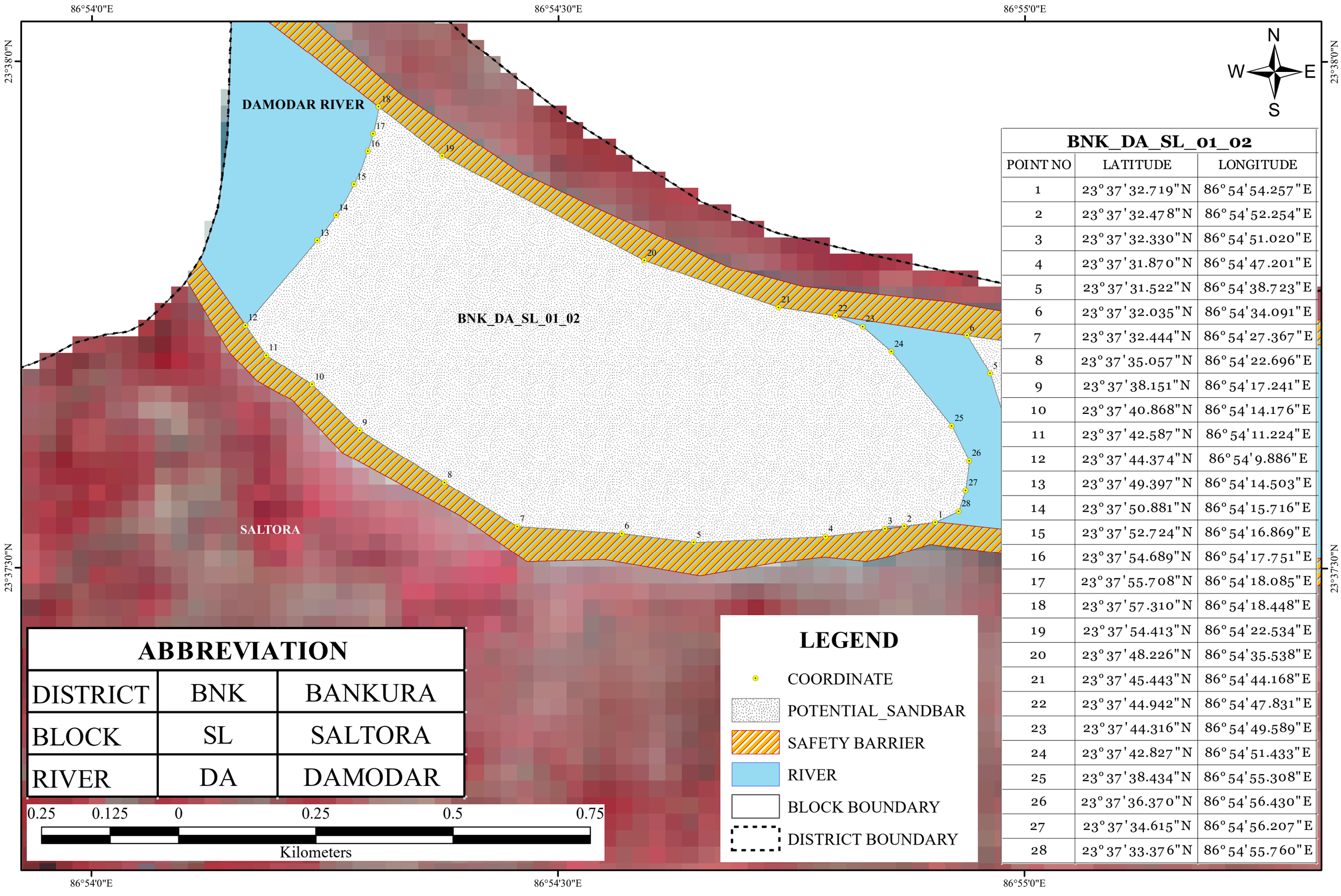
CODE	POINT NO	LATITUDE	LONGITUDE
	20	22° 53' 24.142" N	87° 10' 9.321" E
	21	22° 53' 22.837" N	87° 10' 7.016" E
	22	22° 53' 22.495" N	87° 10' 4.712" E
	23	22° 53' 22.497" N	87° 10' 2.632" E
	24	22° 53' 21.949" N	87° 10' 0.403" E
	25	22° 53' 21.332" N	87° 9' 58.396" E
	26	22° 53' 19.682" N	87° 9' 55.645" E
	27	22° 53' 16.659" N	87° 9' 50.738" E
	28	22° 53' 14.802" N	87° 9' 48.581" E
	29	22° 53' 13.291" N	87° 9' 46.150" E
	30	22° 53' 12.948" N	87° 9' 44.664" E
	31	22° 53' 12.812" N	87° 9' 42.806" E
	32	22° 53' 13.722" N	87° 9' 41.975" E
	33	22° 53' 13.437" N	87° 9' 37.049" E
	34	22° 53' 13.546" N	87° 9' 32.109" E
	35	22° 53' 14.134" N	87° 9' 29.249" E
	36	22° 53' 14.931" N	87° 9' 23.753" E
	37	22° 53' 16.690" N	87° 9' 19.260" E
	38	22° 53' 16.968" N	87° 9' 17.031" E
	39	22° 53' 17.902" N	87° 9' 12.389" E
	40	22° 53' 19.420" N	87° 9' 8.305" E
	41	22° 53' 21.624" N	87° 9' 7.155" E
	42	22° 53' 23.115" N	87° 9' 6.852" E
	43	22° 53' 23.931" N	87° 9' 6.266" E
	44	22° 53' 26.065" N	87° 9' 5.674" E
	45	22° 53' 27.477" N	87° 9' 5.453" E
	46	22° 53' 28.785" N	87° 9' 4.637" E
	47	22° 53' 30.576" N	87° 9' 3.971" E
	48	22° 53' 32.365" N	87° 9' 3.787" E
	49	22° 53' 33.120" N	87° 9' 3.868" E
	50	22° 53' 31.525" N	87° 9' 4.726" E
	51	22° 53' 29.810" N	87° 9' 5.638" E
	52	22° 53' 26.319" N	87° 9' 6.637" E
	53	22° 53' 23.736" N	87° 9' 9.019" E
	54	22° 53' 22.184" N	87° 9' 11.714" E
	55	22° 53' 20.798" N	87° 9' 14.120" E
BNK_SL_SM_07A	1	22° 53' 15.712" N	87° 9' 53.230" E
	2	22° 53' 14.807" N	87° 9' 50.246" E
	3	22° 53' 16.520" N	87° 9' 52.149" E

CODE	POINT NO	LATITUDE	LONGITUDE
	4	22° 53' 19.063" N	87° 9' 55.496" E
	5	22° 53' 21.055" N	87° 9' 59.510" E
	6	22° 53' 21.737" N	87° 10' 5.454" E
	7	22° 53' 22.492" N	87° 10' 8.204" E
	8	22° 53' 23.659" N	87° 10' 10.955" E
	9	22° 53' 24.966" N	87° 10' 11.922" E
	10	22° 53' 25.995" N	87° 10' 14.895" E
	11	22° 53' 25.623" N	87° 10' 15.519" E
	12	22° 53' 24.823" N	87° 10' 14.654" E
	13	22° 53' 23.185" N	87° 10' 14.029" E
	14	22° 53' 23.091" N	87° 10' 13.224" E
	15	22° 53' 22.510" N	87° 10' 9.137" E
	16	22° 53' 20.726" N	87° 10' 4.194" E
	17	22° 53' 19.524" N	87° 10' 1.666" E
	18	22° 53' 17.565" N	87° 9' 58.915" E
	19	22° 53' 16.501" N	87° 9' 56.388" E
BNK_SL_SM_09	1	22° 53' 32.913" N	87° 11' 9.434" E
	2	22° 53' 29.247" N	87° 11' 13.025" E
	3	22° 53' 24.888" N	87° 11' 19.854" E
	4	22° 53' 18.476" N	87° 11' 29.487" E
	5	22° 53' 18.536" N	87° 11' 28.467" E
	6	22° 53' 18.760" N	87° 11' 24.706" E
	7	22° 53' 18.812" N	87° 11' 23.831" E
	8	22° 53' 18.872" N	87° 11' 22.820" E
	9	22° 53' 18.875" N	87° 11' 22.775" E
	10	22° 53' 18.876" N	87° 11' 22.760" E
	11	22° 53' 18.834" N	87° 11' 21.180" E
	12	22° 53' 18.760" N	87° 11' 18.402" E
	13	22° 53' 18.708" N	87° 11' 16.444" E
	14	22° 53' 20.141" N	87° 11' 15.407" E
	15	22° 53' 22.519" N	87° 11' 12.624" E
	16	22° 53' 24.829" N	87° 11' 8.616" E
	17	22° 53' 26.554" N	87° 11' 5.386" E
	18	22° 53' 27.867" N	87° 11' 0.856" E
	19	22° 53' 28.092" N	87° 10' 58.303" E
	20	22° 53' 28.768" N	87° 10' 57.134" E
	21	22° 53' 29.142" N	87° 10' 56.207" E
	22	22° 53' 29.483" N	87° 10' 55.362" E
	23	22° 53' 29.663" N	87° 10' 54.363" E

CODE	POINT NO	LATITUDE	LONGITUDE
	24	22° 53' 29.677" N	87° 10' 53.274" E
	25	22° 53' 29.679" N	87° 10' 53.156" E
	26	22° 53' 29.679" N	87° 10' 53.117" E
	27	22° 53' 29.582" N	87° 10' 51.608" E
	28	22° 53' 29.557" N	87° 10' 51.447" E
	29	22° 53' 29.455" N	87° 10' 50.810" E
	30	22° 53' 29.274" N	87° 10' 49.678" E
	31	22° 53' 28.690" N	87° 10' 47.205" E
	32	22° 53' 28.656" N	87° 10' 47.011" E
	33	22° 53' 28.361" N	87° 10' 45.327" E
	34	22° 53' 29.045" N	87° 10' 44.484" E
	35	22° 53' 30.574" N	87° 10' 42.596" E
	36	22° 53' 33.192" N	87° 10' 41.039" E
	37	22° 53' 33.607" N	87° 10' 38.959" E
	38	22° 53' 33.967" N	87° 10' 40.565" E
	39	22° 53' 34.734" N	87° 10' 44.162" E
	40	22° 53' 35.461" N	87° 10' 53.155" E
	41	22° 53' 36.447" N	87° 10' 58.030" E
	42	22° 53' 35.342" N	87° 11' 1.120" E
	43	22° 53' 34.676" N	87° 11' 5.814" E

Annexure 4
Map showing of Potential Blocks of Bankura District

POTENTIAL BLOCK BNK_DA_SL_01_02 OF DAMODAR RIVER



BNK_DA_SL_01_02		
POINT NO	LATITUDE	LONGITUDE
1	23°37'32.719"N	86°54'54.257"E
2	23°37'32.478"N	86°54'52.254"E
3	23°37'32.330"N	86°54'51.020"E
4	23°37'31.870"N	86°54'47.201"E
5	23°37'31.522"N	86°54'38.723"E
6	23°37'32.035"N	86°54'34.091"E
7	23°37'32.444"N	86°54'27.367"E
8	23°37'35.057"N	86°54'22.696"E
9	23°37'38.151"N	86°54'17.241"E
10	23°37'40.868"N	86°54'14.176"E
11	23°37'42.587"N	86°54'11.224"E
12	23°37'44.374"N	86°54'9.886"E
13	23°37'49.397"N	86°54'14.503"E
14	23°37'50.881"N	86°54'15.716"E
15	23°37'52.724"N	86°54'16.869"E
16	23°37'54.689"N	86°54'17.751"E
17	23°37'55.708"N	86°54'18.085"E
18	23°37'57.310"N	86°54'18.448"E
19	23°37'54.413"N	86°54'22.534"E
20	23°37'48.226"N	86°54'35.538"E
21	23°37'45.443"N	86°54'44.168"E
22	23°37'44.942"N	86°54'47.831"E
23	23°37'44.316"N	86°54'49.589"E
24	23°37'42.827"N	86°54'51.433"E
25	23°37'38.434"N	86°54'55.308"E
26	23°37'36.370"N	86°54'56.430"E
27	23°37'34.615"N	86°54'56.207"E
28	23°37'33.376"N	86°54'55.760"E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SL	SALTORA
RIVER	DA	DAMODAR

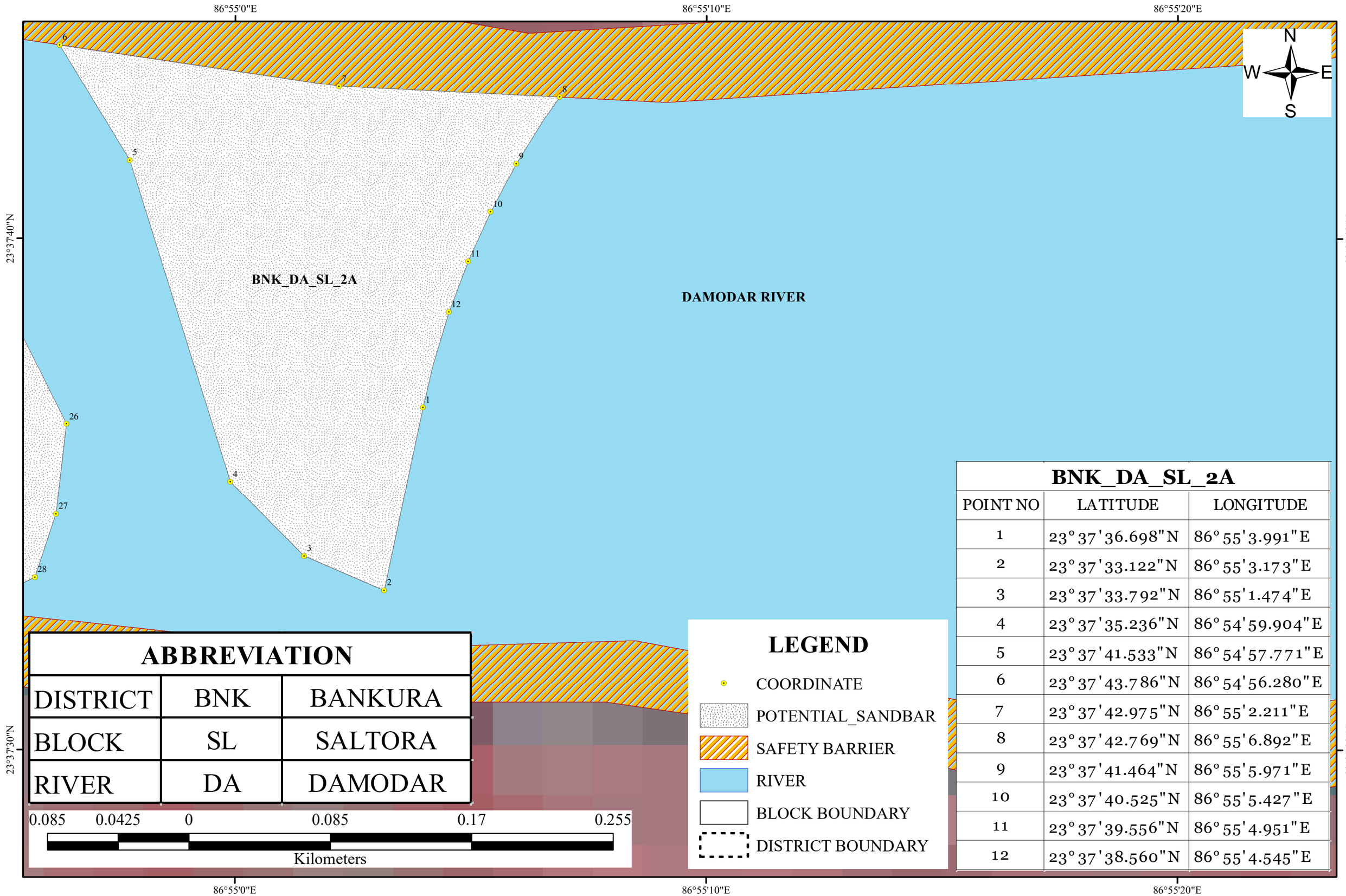
0.25 0.125 0 0.25 0.5 0.75

Kilometers

LEGEND

- COORDINATE
- POTENTIAL_SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_DA_SL_2A OF DAMODAR RIVER



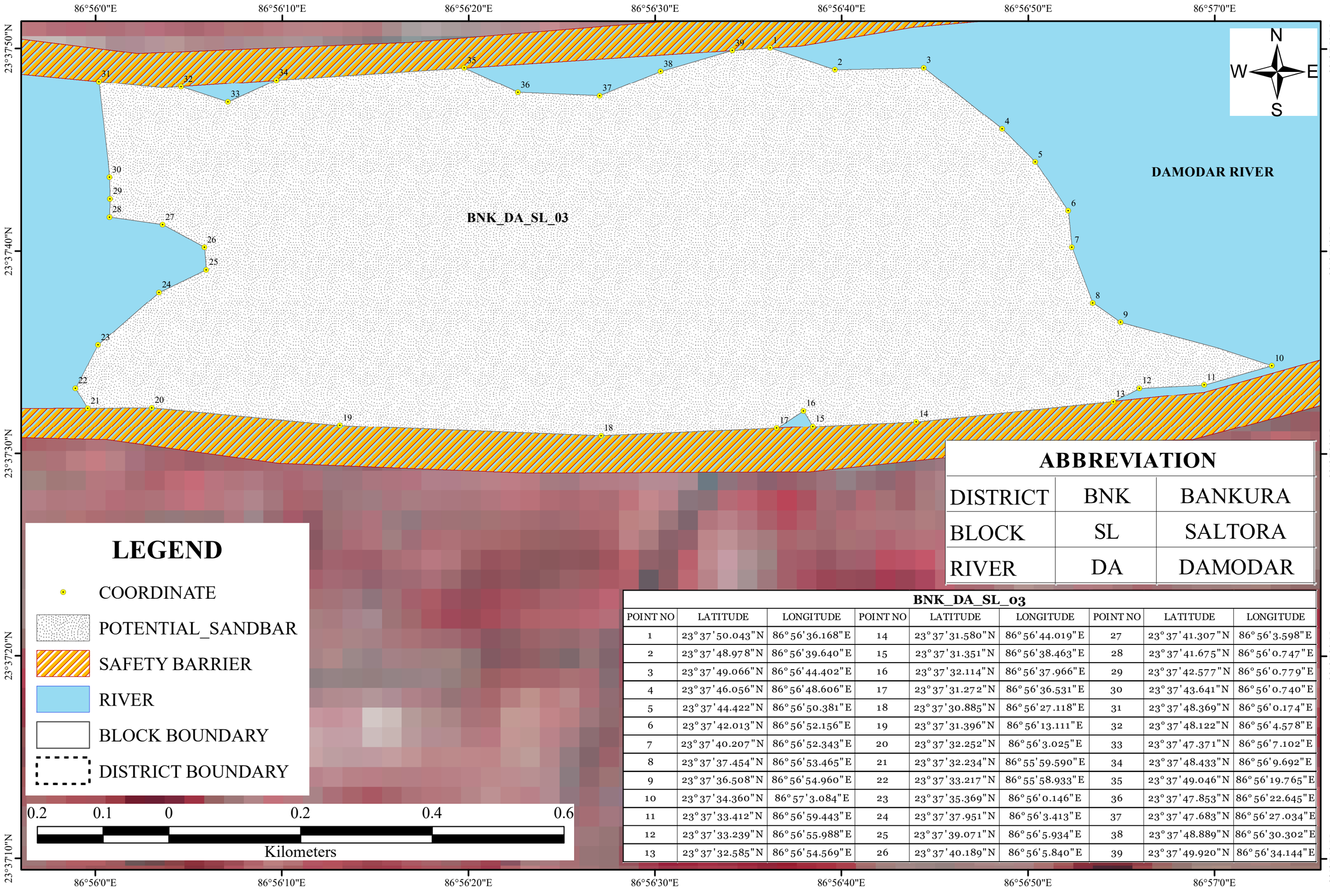
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SL	SALTORA
RIVER	DA	DAMODAR

LEGEND

- COORDINATE
- POTENTIAL_SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

BNK_DA_SL_2A		
POINT NO	LATITUDE	LONGITUDE
1	23°37'36.698"N	86°55'3.991"E
2	23°37'33.122"N	86°55'3.173"E
3	23°37'33.792"N	86°55'1.474"E
4	23°37'35.236"N	86°54'59.904"E
5	23°37'41.533"N	86°54'57.771"E
6	23°37'43.786"N	86°54'56.280"E
7	23°37'42.975"N	86°55'2.211"E
8	23°37'42.769"N	86°55'6.892"E
9	23°37'41.464"N	86°55'5.971"E
10	23°37'40.525"N	86°55'5.427"E
11	23°37'39.556"N	86°55'4.951"E
12	23°37'38.560"N	86°55'4.545"E

POTENTIAL BLOCK BNK_DA_SL_03 OF DAMODAR RIVER



LEGEND

- COORDINATE
- POTENTIAL_SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

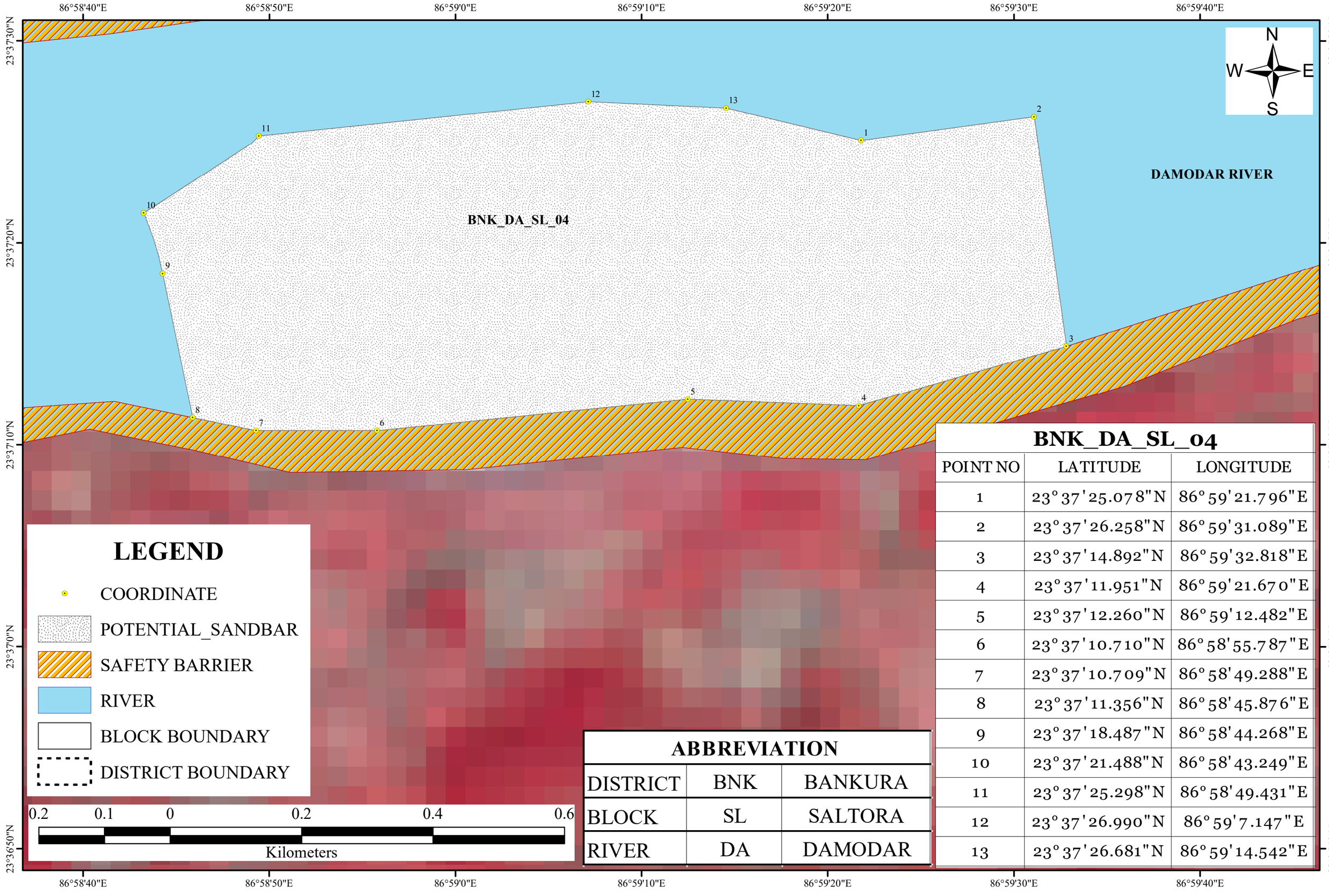
ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	SL	SALTORA
RIVER	DA	DAMODAR

BNK_DA_SL_03

POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°37'50.043"N	86°56'36.168"E	14	23°37'31.580"N	86°56'44.019"E	27	23°37'41.307"N	86°56'3.598"E
2	23°37'48.978"N	86°56'39.640"E	15	23°37'31.351"N	86°56'38.463"E	28	23°37'41.675"N	86°56'0.747"E
3	23°37'49.066"N	86°56'44.402"E	16	23°37'32.114"N	86°56'37.966"E	29	23°37'42.577"N	86°56'0.779"E
4	23°37'46.056"N	86°56'48.606"E	17	23°37'31.272"N	86°56'36.531"E	30	23°37'43.641"N	86°56'0.740"E
5	23°37'44.422"N	86°56'50.381"E	18	23°37'30.885"N	86°56'27.118"E	31	23°37'48.369"N	86°56'0.174"E
6	23°37'42.013"N	86°56'52.156"E	19	23°37'31.396"N	86°56'13.111"E	32	23°37'48.122"N	86°56'4.578"E
7	23°37'40.207"N	86°56'52.343"E	20	23°37'32.252"N	86°56'3.025"E	33	23°37'47.371"N	86°56'7.102"E
8	23°37'37.454"N	86°56'53.465"E	21	23°37'32.234"N	86°55'59.590"E	34	23°37'48.433"N	86°56'9.692"E
9	23°37'36.508"N	86°56'54.960"E	22	23°37'33.217"N	86°55'58.933"E	35	23°37'49.046"N	86°56'19.765"E
10	23°37'34.360"N	86°57'3.084"E	23	23°37'35.369"N	86°56'0.146"E	36	23°37'47.853"N	86°56'22.645"E
11	23°37'33.412"N	86°56'59.443"E	24	23°37'37.951"N	86°56'3.413"E	37	23°37'47.683"N	86°56'27.034"E
12	23°37'33.239"N	86°56'55.988"E	25	23°37'39.071"N	86°56'5.934"E	38	23°37'48.889"N	86°56'30.302"E
13	23°37'32.585"N	86°56'54.569"E	26	23°37'40.189"N	86°56'5.840"E	39	23°37'49.920"N	86°56'34.144"E

POTENTIAL BLOCK BNK_DA_SL_04 OF DAMODAR RIVER



BNK_DA_SL_04		
POINT NO	LATITUDE	LONGITUDE
1	23°37'25.078"N	86°59'21.796"E
2	23°37'26.258"N	86°59'31.089"E
3	23°37'14.892"N	86°59'32.818"E
4	23°37'11.951"N	86°59'21.670"E
5	23°37'12.260"N	86°59'12.482"E
6	23°37'10.710"N	86°58'55.787"E
7	23°37'10.709"N	86°58'49.288"E
8	23°37'11.356"N	86°58'45.876"E
9	23°37'18.487"N	86°58'44.268"E
10	23°37'21.488"N	86°58'43.249"E
11	23°37'25.298"N	86°58'49.431"E
12	23°37'26.990"N	86°59'7.147"E
13	23°37'26.681"N	86°59'14.542"E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SL	SALTORA
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_SL_4A OF DAMODAR RIVER

87°0'0"E 87°0'10"E 87°0'20"E 87°0'30"E 87°0'40"E

23°38'0"N 23°37'50"N 23°37'40"N 23°37'30"N

N W E S

DAMODAR RIVER

BNK_DA_SL_4A

BNK_DA_SL_4A					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°37'54.347"N	87°0'36.766"E	14	23°37'48.153"N	87°0'9.781"E
2	23°37'52.833"N	87°0'33.777"E	15	23°37'48.773"N	87°0'6.420"E
3	23°37'52.489"N	87°0'31.760"E	16	23°37'49.083"N	87°0'2.049"E
4	23°37'53.040"N	87°0'29.519"E	17	23°37'48.670"N	86°59'59.248"E
5	23°37'52.076"N	87°0'28.398"E	18	23°37'48.054"N	86°59'53.810"E
6	23°37'51.526"N	87°0'27.128"E	19	23°37'50.488"N	87°0'1.406"E
7	23°37'49.598"N	87°0'25.933"E	20	23°37'50.798"N	87°0'7.009"E
8	23°37'47.258"N	87°0'25.410"E	21	23°37'51.417"N	87°0'11.268"E
9	23°37'45.400"N	87°0'25.260"E	22	23°37'55.959"N	87°0'28.637"E
10	23°37'44.367"N	87°0'24.289"E	23	23°37'56.062"N	87°0'34.016"E
11	23°37'43.748"N	87°0'22.496"E	24	23°37'55.959"N	87°0'38.835"E
12	23°37'43.975"N	87°0'20.519"E	25	23°37'55.242"N	87°0'40.827"E
13	23°37'46.088"N	87°0'15.945"E	26	23°37'55.242"N	87°0'39.829"E

LEGEND

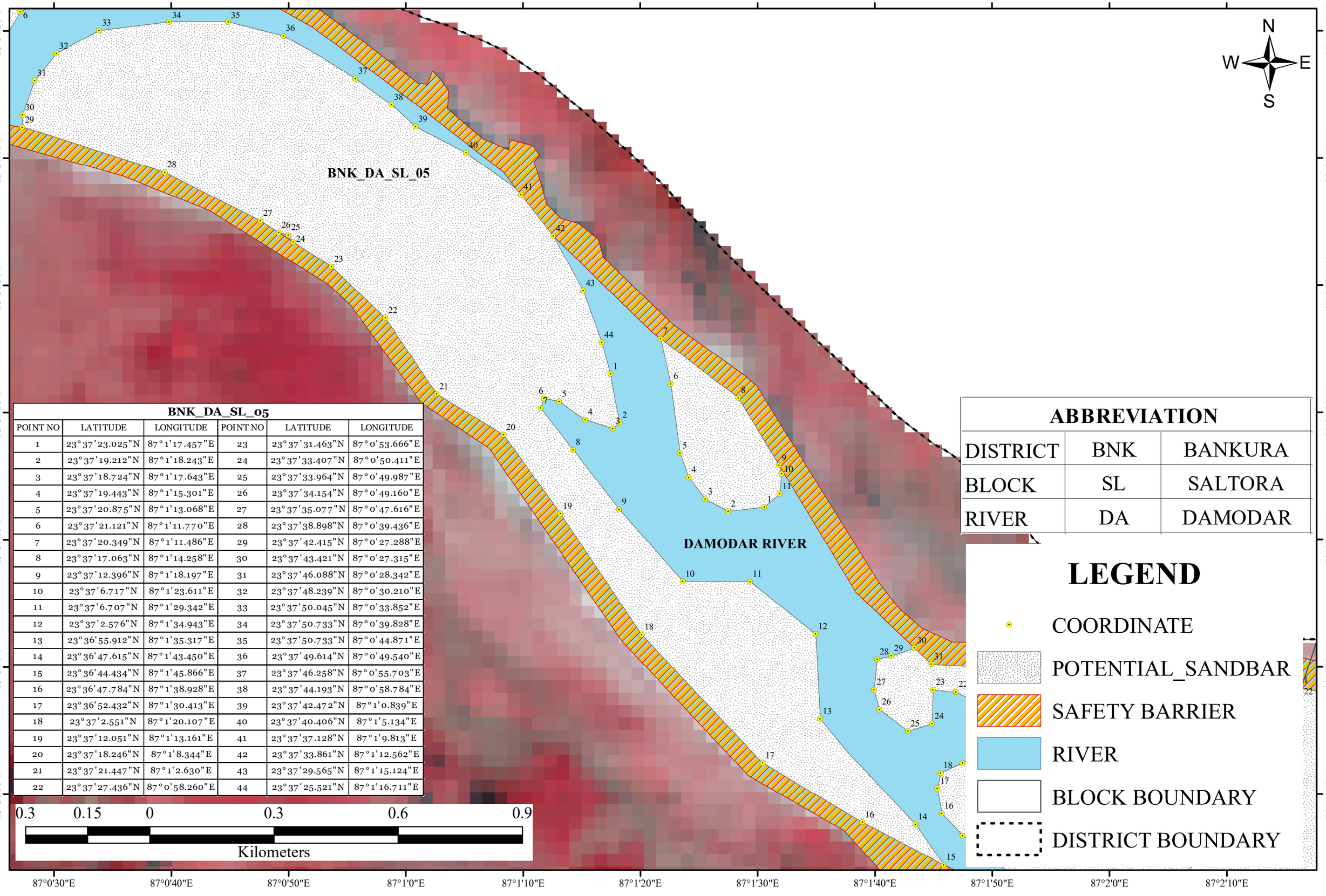
- COORDINATE
- POTENTIAL_SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SL	SALTORA
RIVER	DA	DAMODAR

0.15 0.075 0 0.15 0.3 0.45

Kilometers

POTENTIAL BLOCK BNK_DA_SL_05 OF DAMODAR RIVER



BNK_DA_SL_05

POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°37'23.025"N	87°1'17.457"E	23	23°37'31.463"N	87°0'53.666"E
2	23°37'19.212"N	87°1'18.243"E	24	23°37'33.407"N	87°0'50.411"E
3	23°37'18.724"N	87°1'17.643"E	25	23°37'33.964"N	87°0'49.987"E
4	23°37'19.443"N	87°1'15.301"E	26	23°37'34.154"N	87°0'49.160"E
5	23°37'20.875"N	87°1'13.068"E	27	23°37'35.077"N	87°0'47.616"E
6	23°37'21.121"N	87°1'11.770"E	28	23°37'38.898"N	87°0'39.436"E
7	23°37'20.349"N	87°1'11.486"E	29	23°37'42.415"N	87°0'27.288"E
8	23°37'17.063"N	87°1'14.258"E	30	23°37'43.421"N	87°0'27.315"E
9	23°37'12.396"N	87°1'18.197"E	31	23°37'46.088"N	87°0'28.342"E
10	23°37'6.717"N	87°1'23.611"E	32	23°37'48.239"N	87°0'30.210"E
11	23°37'6.707"N	87°1'29.342"E	33	23°37'50.045"N	87°0'33.852"E
12	23°37'2.576"N	87°1'34.943"E	34	23°37'50.733"N	87°0'39.828"E
13	23°36'55.912"N	87°1'35.317"E	35	23°37'50.733"N	87°0'44.871"E
14	23°36'47.615"N	87°1'43.450"E	36	23°37'49.614"N	87°0'49.540"E
15	23°36'44.434"N	87°1'45.866"E	37	23°37'46.258"N	87°0'55.703"E
16	23°36'47.784"N	87°1'38.928"E	38	23°37'44.193"N	87°0'58.784"E
17	23°36'52.432"N	87°1'30.413"E	39	23°37'42.472"N	87°1'0.839"E
18	23°37'2.551"N	87°1'20.107"E	40	23°37'40.406"N	87°1'5.134"E
19	23°37'12.051"N	87°1'13.161"E	41	23°37'37.128"N	87°1'9.813"E
20	23°37'18.246"N	87°1'8.344"E	42	23°37'33.861"N	87°1'12.562"E
21	23°37'21.447"N	87°1'2.630"E	43	23°37'29.565"N	87°1'15.124"E
22	23°37'27.436"N	87°0'58.260"E	44	23°37'25.521"N	87°1'16.711"E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SL	SALTORA
RIVER	DA	DAMODAR

LEGEND

- COORDINATE
- POTENTIAL_SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_DA_SL_5A OF DAMODAR RIVER

87°1'20"E 87°1'25"E 87°1'30"E 87°1'35"E 87°1'40"E 87°1'45"E

23°37'25"N 23°37'20"N 23°37'15"N 23°37'10"N

N W E S

BNK_DA_SL_5A

DAMODAR RIVER

1 2 3 4 5 6 7 8 9 10 11

0.085 0.0425 0 0.085 0.17 0.255

Kilometers

ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	SL	SALTORA
RIVER	DA	DAMODAR

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

BNK_DA_SL_5A

POINT NO	LATITUDE	LONGITUDE
1	23°37'12.568"N	87°1'30.569"E
2	23°37'12.225"N	87°1'27.488"E
3	23°37'13.171"N	87°1'25.527"E
4	23°37'14.892"N	87°1'24.127"E
5	23°37'16.802"N	87°1'23.367"E
6	23°37'22.250"N	87°1'22.593"E
7	23°37'25.797"N	87°1'21.718"E
8	23°37'21.160"N	87°1'28.359"E
9	23°37'15.852"N	87°1'31.822"E
10	23°37'15.194"N	87°1'32.023"E
11	23°37'13.600"N	87°1'31.877"E

POTENTIAL BLOCK BNK_DA_SL_06 OF DAMODAR RIVER

87°1'40"E 87°1'45"E 87°1'50"E 87°1'55"E 87°2'0"E 87°2'5"E 87°2'10"E 87°2'15"E 87°2'20"E 87°2'25"E 87°2'30"E

23°37'0"N 23°36'55"N 23°36'50"N 23°36'45"N 23°36'40"N 23°36'35"N 23°36'30"N

N W E S

DAMODAR RIVER

BNK_DA_SL_06

BNK_DA_SL_06		
POINT NO	LATITUDE	LONGITUDE
1	23°36'58.345"N	87°2'16.337"E
2	23°36'49.970"N	87°2'13.327"E
3	23°36'48.498"N	87°2'12.819"E
4	23°36'45.153"N	87°2'8.219"E
5	23°36'43.585"N	87°2'6.063"E
6	23°36'42.535"N	87°2'4.619"E
7	23°36'43.310"N	87°2'2.870"E
8	23°36'42.535"N	87°2'2.123"E
9	23°36'39.352"N	87°2'1.095"E
10	23°36'39.315"N	87°1'59.337"E
11	23°36'40.037"N	87°1'56.517"E
12	23°36'41.094"N	87°1'53.951"E
13	23°36'43.140"N	87°1'52.226"E
14	23°36'45.119"N	87°1'49.892"E
15	23°36'46.754"N	87°1'47.465"E
16	23°36'48.475"N	87°1'45.691"E
17	23°36'50.454"N	87°1'45.318"E
18	23°36'51.659"N	87°1'45.598"E
19	23°36'52.433"N	87°1'47.466"E
20	23°36'53.251"N	87°1'49.721"E
21	23°36'56.992"N	87°1'49.334"E
22	23°36'58.025"N	87°1'46.907"E
23	23°36'58.198"N	87°1'44.946"E
24	23°36'55.530"N	87°1'44.852"E
25	23°36'54.929"N	87°1'42.798"E
26	23°36'56.650"N	87°1'40.370"E
27	23°36'58.198"N	87°1'39.904"E
28	23°37'0.607"N	87°1'40.185"E
29	23°37'0.865"N	87°1'41.398"E
30	23°37'1.471"N	87°1'43.371"E
31	23°37'0.198"N	87°1'44.826"E
32	23°36'59.507"N	87°2'0.625"E
33	23°36'58.781"N	87°2'13.959"E

LEGEND

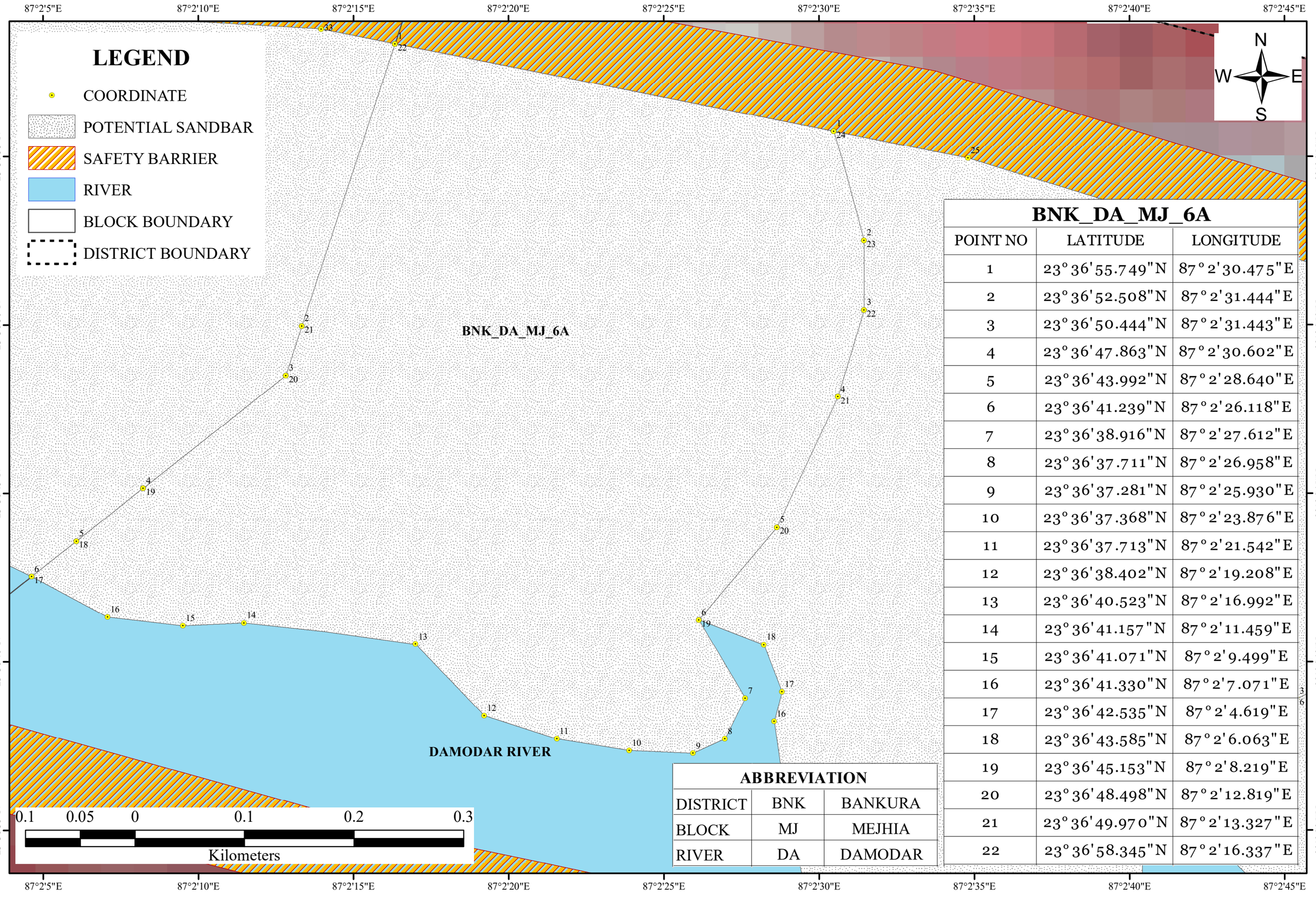
- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SL	SALTORA
RIVER	DA	DAMODAR

0.15 0.075 0 0.15 0.3 0.45

Kilometers

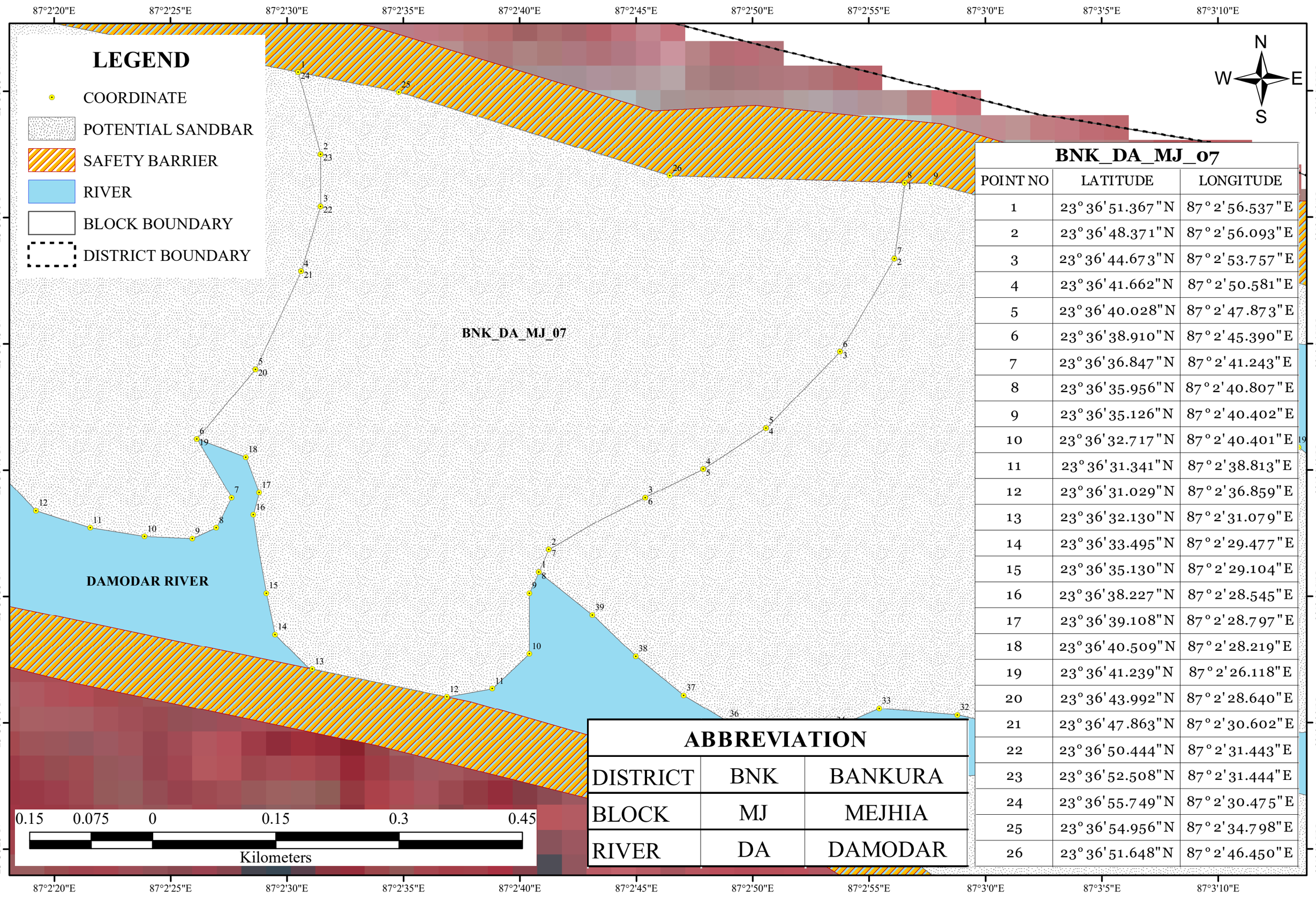
POTENTIAL BLOCK BNK_DA_MJ_6A OF DAMODAR RIVER



BNK_DA_MJ_6A		
POINT NO	LATITUDE	LONGITUDE
1	23°36'55.749"N	87°2'30.475"E
2	23°36'52.508"N	87°2'31.444"E
3	23°36'50.444"N	87°2'31.443"E
4	23°36'47.863"N	87°2'30.602"E
5	23°36'43.992"N	87°2'28.640"E
6	23°36'41.239"N	87°2'26.118"E
7	23°36'38.916"N	87°2'27.612"E
8	23°36'37.711"N	87°2'26.958"E
9	23°36'37.281"N	87°2'25.930"E
10	23°36'37.368"N	87°2'23.876"E
11	23°36'37.713"N	87°2'21.542"E
12	23°36'38.402"N	87°2'19.208"E
13	23°36'40.523"N	87°2'16.992"E
14	23°36'41.157"N	87°2'11.459"E
15	23°36'41.071"N	87°2'9.499"E
16	23°36'41.330"N	87°2'7.071"E
17	23°36'42.535"N	87°2'4.619"E
18	23°36'43.585"N	87°2'6.063"E
19	23°36'45.153"N	87°2'8.219"E
20	23°36'48.498"N	87°2'12.819"E
21	23°36'49.970"N	87°2'13.327"E
22	23°36'58.345"N	87°2'16.337"E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

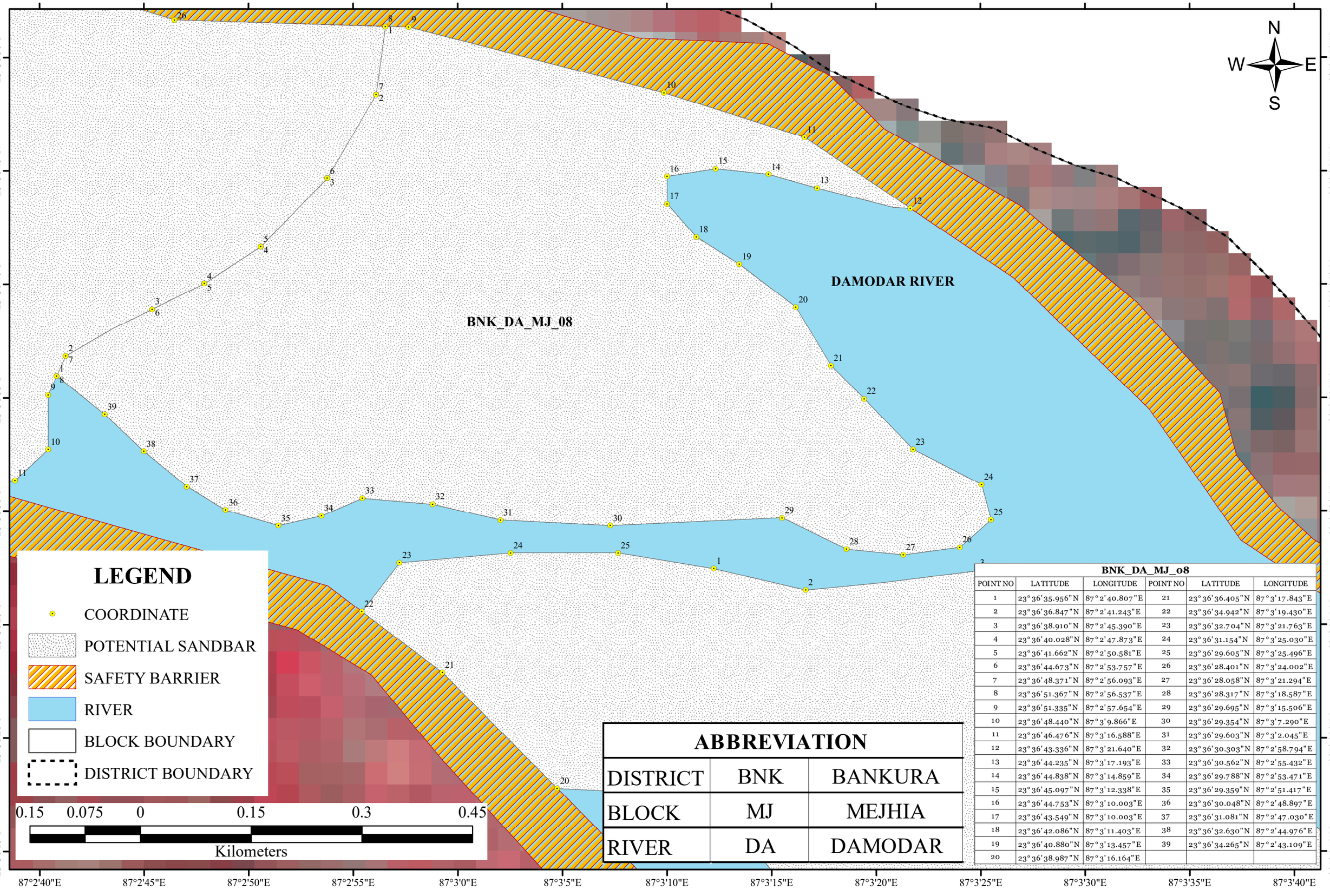
POTENTIAL BLOCK BNK_DA_MJ_07 OF DAMODAR RIVER



BNK_DA_MJ_07		
POINT NO	LATITUDE	LONGITUDE
1	23°36'51.367"N	87°2'56.537"E
2	23°36'48.371"N	87°2'56.093"E
3	23°36'44.673"N	87°2'53.757"E
4	23°36'41.662"N	87°2'50.581"E
5	23°36'40.028"N	87°2'47.873"E
6	23°36'38.910"N	87°2'45.390"E
7	23°36'36.847"N	87°2'41.243"E
8	23°36'35.956"N	87°2'40.807"E
9	23°36'35.126"N	87°2'40.402"E
10	23°36'32.717"N	87°2'40.401"E
11	23°36'31.341"N	87°2'38.813"E
12	23°36'31.029"N	87°2'36.859"E
13	23°36'32.130"N	87°2'31.079"E
14	23°36'33.495"N	87°2'29.477"E
15	23°36'35.130"N	87°2'29.104"E
16	23°36'38.227"N	87°2'28.545"E
17	23°36'39.108"N	87°2'28.797"E
18	23°36'40.509"N	87°2'28.219"E
19	23°36'41.239"N	87°2'26.118"E
20	23°36'43.992"N	87°2'28.640"E
21	23°36'47.863"N	87°2'30.602"E
22	23°36'50.444"N	87°2'31.443"E
23	23°36'52.508"N	87°2'31.444"E
24	23°36'55.749"N	87°2'30.475"E
25	23°36'54.956"N	87°2'34.798"E
26	23°36'51.648"N	87°2'46.450"E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_MJ_08 OF DAMODAR RIVER



LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

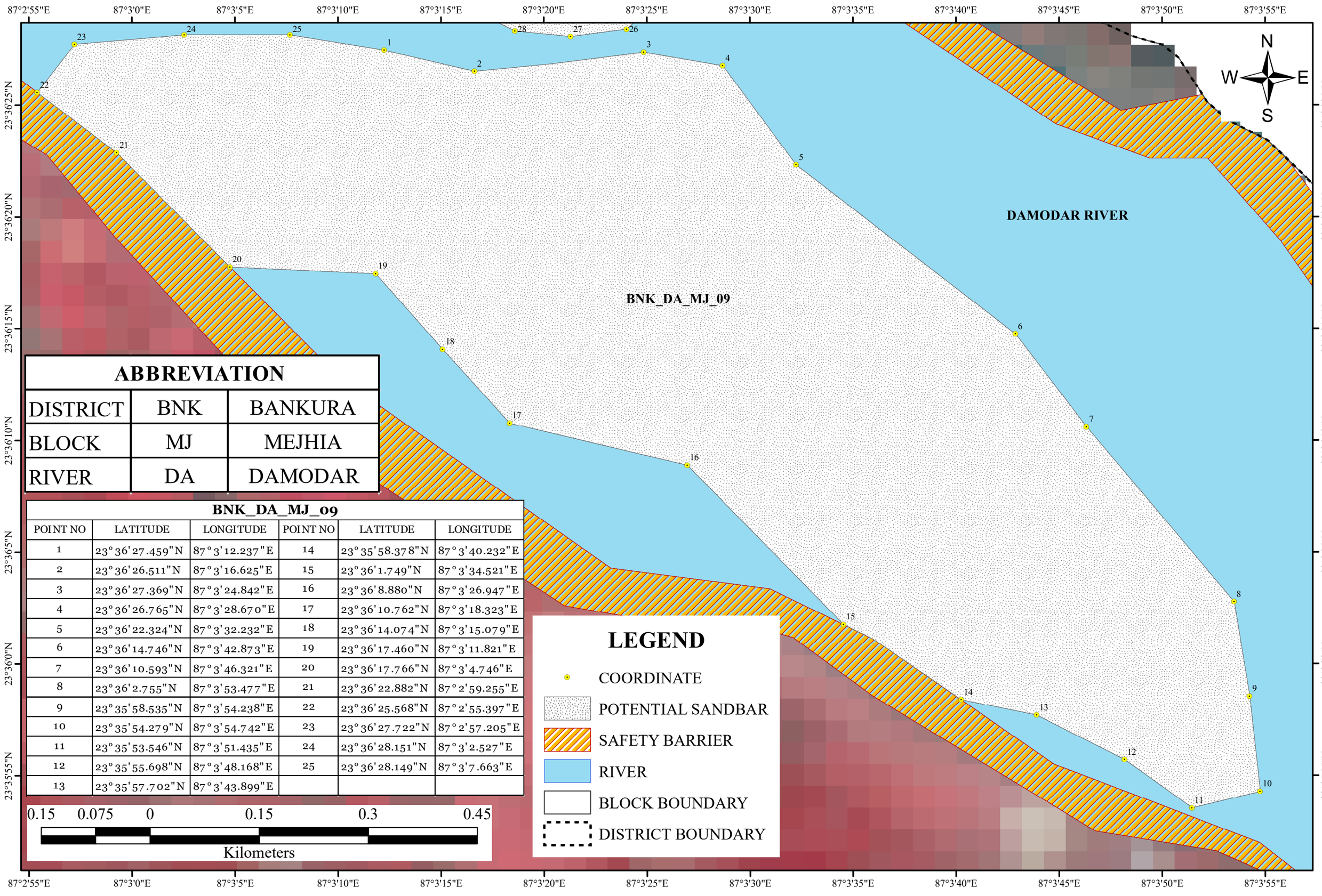
ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

BNK_DA_MJ_08

POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°36'35.956"N	87°2'40.807"E	21	23°36'36.405"N	87°3'17.843"E
2	23°36'36.847"N	87°2'41.243"E	22	23°36'34.942"N	87°3'19.430"E
3	23°36'38.910"N	87°2'45.390"E	23	23°36'32.704"N	87°3'21.763"E
4	23°36'40.028"N	87°2'47.873"E	24	23°36'31.154"N	87°3'25.030"E
5	23°36'41.662"N	87°2'50.581"E	25	23°36'29.605"N	87°3'25.496"E
6	23°36'44.673"N	87°2'53.757"E	26	23°36'28.401"N	87°3'24.002"E
7	23°36'48.371"N	87°2'56.093"E	27	23°36'28.058"N	87°3'21.294"E
8	23°36'51.367"N	87°2'56.537"E	28	23°36'28.317"N	87°3'18.587"E
9	23°36'51.335"N	87°2'57.654"E	29	23°36'29.695"N	87°3'15.506"E
10	23°36'48.440"N	87°3'9.866"E	30	23°36'29.354"N	87°3'7.290"E
11	23°36'46.476"N	87°3'16.588"E	31	23°36'29.603"N	87°3'2.045"E
12	23°36'43.336"N	87°3'21.640"E	32	23°36'30.303"N	87°2'58.794"E
13	23°36'44.235"N	87°3'17.193"E	33	23°36'30.562"N	87°2'55.432"E
14	23°36'44.838"N	87°3'14.859"E	34	23°36'29.788"N	87°2'53.471"E
15	23°36'45.097"N	87°3'12.338"E	35	23°36'29.359"N	87°2'51.417"E
16	23°36'44.753"N	87°3'10.003"E	36	23°36'30.048"N	87°2'48.897"E
17	23°36'43.549"N	87°3'10.003"E	37	23°36'31.081"N	87°2'47.030"E
18	23°36'42.086"N	87°3'11.403"E	38	23°36'32.630"N	87°2'44.976"E
19	23°36'40.880"N	87°3'13.457"E	39	23°36'34.265"N	87°2'43.109"E
20	23°36'38.987"N	87°3'16.164"E			

POTENTIAL BLOCK BNK_DA_MJ_09 OF DAMODAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

BNK_DA_MJ_09

POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°36'27.459"N	87°3'12.237"E	14	23°35'58.378"N	87°3'40.232"E
2	23°36'26.511"N	87°3'16.625"E	15	23°36'1.749"N	87°3'34.521"E
3	23°36'27.369"N	87°3'24.842"E	16	23°36'8.880"N	87°3'26.947"E
4	23°36'26.765"N	87°3'28.670"E	17	23°36'10.762"N	87°3'18.323"E
5	23°36'22.324"N	87°3'32.232"E	18	23°36'14.074"N	87°3'15.079"E
6	23°36'14.746"N	87°3'42.873"E	19	23°36'17.460"N	87°3'11.821"E
7	23°36'10.593"N	87°3'46.321"E	20	23°36'17.766"N	87°3'4.746"E
8	23°36'2.755"N	87°3'53.477"E	21	23°36'22.882"N	87°2'59.255"E
9	23°35'58.535"N	87°3'54.238"E	22	23°36'25.568"N	87°2'55.397"E
10	23°35'54.279"N	87°3'54.742"E	23	23°36'27.722"N	87°2'57.205"E
11	23°35'53.546"N	87°3'51.435"E	24	23°36'28.151"N	87°3'2.527"E
12	23°35'55.698"N	87°3'48.168"E	25	23°36'28.149"N	87°3'7.663"E
13	23°35'57.702"N	87°3'43.899"E			

0.15 0.075 0 0.15 0.3 0.45

Kilometers

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_DA_MJ_9A OF DAMODAR RIVER

87°3'55"E 87°4'0"E 87°4'5"E 87°4'10"E 87°4'15"E 87°4'20"E

23°35'55"N 23°35'50"N 23°35'45"N

N W E S

BNK_DA_MJ_9A

DAMODAR RIVER

BNK_DA_MJ_9A		
POINT NO	LATITUDE	LONGITUDE
1	23°35'54.510"N	87°4'13.500"E
2	23°35'45.476"N	87°4'13.378"E
3	23°35'45.801"N	87°4'7.777"E
4	23°35'49.242"N	87°4'8.829"E
5	23°35'49.890"N	87°4'2.994"E
6	23°35'52.473"N	87°3'58.795"E
7	23°35'57.850"N	87°3'59.498"E

0.085 0.0425 0 0.085 0.17 0.255

Kilometers

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_DA_MJ_9B OF DAMODAR RIVER

87°4'15"E 87°4'20"E 87°4'25"E 87°4'30"E 87°4'35"E 87°4'40"E 87°4'45"E 87°4'50"E 87°4'55"E 87°5'0"E 87°5'5"E 87°5'10"E

23°35'55"N 23°35'50"N 23°35'45"N 23°35'40"N 23°35'35"N 23°35'30"N

N W E S

BNK_DA_MJ_9B

DAMODAR RIVER

BNK_DA_MJ_9B					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°35'52.241"N	87°4'32.971"E	11	23°35'47.001"N	87°4'33.933"E
2	23°35'51.927"N	87°4'42.382"E	12	23°35'46.901"N	87°4'26.763"E
3	23°35'52.542"N	87°4'50.561"E	13	23°35'47.316"N	87°4'21.945"E
4	23°35'52.436"N	87°4'54.818"E	14	23°35'49.692"N	87°4'18.698"E
5	23°35'49.954"N	87°5'3.779"E	15	23°35'51.860"N	87°4'18.699"E
6	23°35'49.264"N	87°5'5.906"E	16	23°35'54.337"N	87°4'20.605"E
7	23°35'48.124"N	87°4'57.348"E	17	23°35'55.576"N	87°4'22.286"E
8	23°35'46.373"N	87°4'49.504"E	18	23°35'56.875"N	87°4'21.613"E
9	23°35'44.827"N	87°4'45.246"E	19	23°35'55.858"N	87°4'26.252"E
10	23°35'45.139"N	87°4'40.205"E	20	23°35'53.998"N	87°4'29.836"E

0.15 0.075 0 0.15 0.3 0.45

Kilometers

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_MJ_10 OF DAMODAR RIVER

DAMODAR RIVER

BNK_DA_MJ_10

BNK_DA_MJ_10		
POINT NO	LATITUDE	LONGITUDE
1	23°35'43.274"N	87°4'18.078"E
2	23°35'40.517"N	87°4'26.292"E
3	23°35'40.514"N	87°4'33.014"E
4	23°35'41.369"N	87°4'44.404"E
5	23°35'42.570"N	87°4'50.753"E
6	23°35'40.609"N	87°5'0.041"E
7	23°35'42.646"N	87°5'13.288"E
8	23°35'40.822"N	87°5'17.353"E
9	23°35'29.515"N	87°5'31.230"E
10	23°35'26.946"N	87°5'34.056"E
11	23°35'25.788"N	87°5'37.566"E
12	23°35'24.840"N	87°5'39.432"E
13	23°35'23.549"N	87°5'41.018"E
14	23°35'22.344"N	87°5'41.111"E
15	23°35'21.261"N	87°5'40.310"E
16	23°35'18.846"N	87°5'42.967"E
17	23°35'9.714"N	87°5'36.359"E
18	23°35'12.709"N	87°5'32.923"E
19	23°35'19.735"N	87°5'23.742"E
20	23°35'24.180"N	87°5'13.663"E
21	23°35'30.587"N	87°5'3.809"E
22	23°35'33.792"N	87°4'55.409"E
23	23°35'37.412"N	87°4'42.752"E
24	23°35'38.243"N	87°4'31.437"E
25	23°35'42.767"N	87°4'13.780"E

0.3 0.15 0 0.3 0.6 0.9

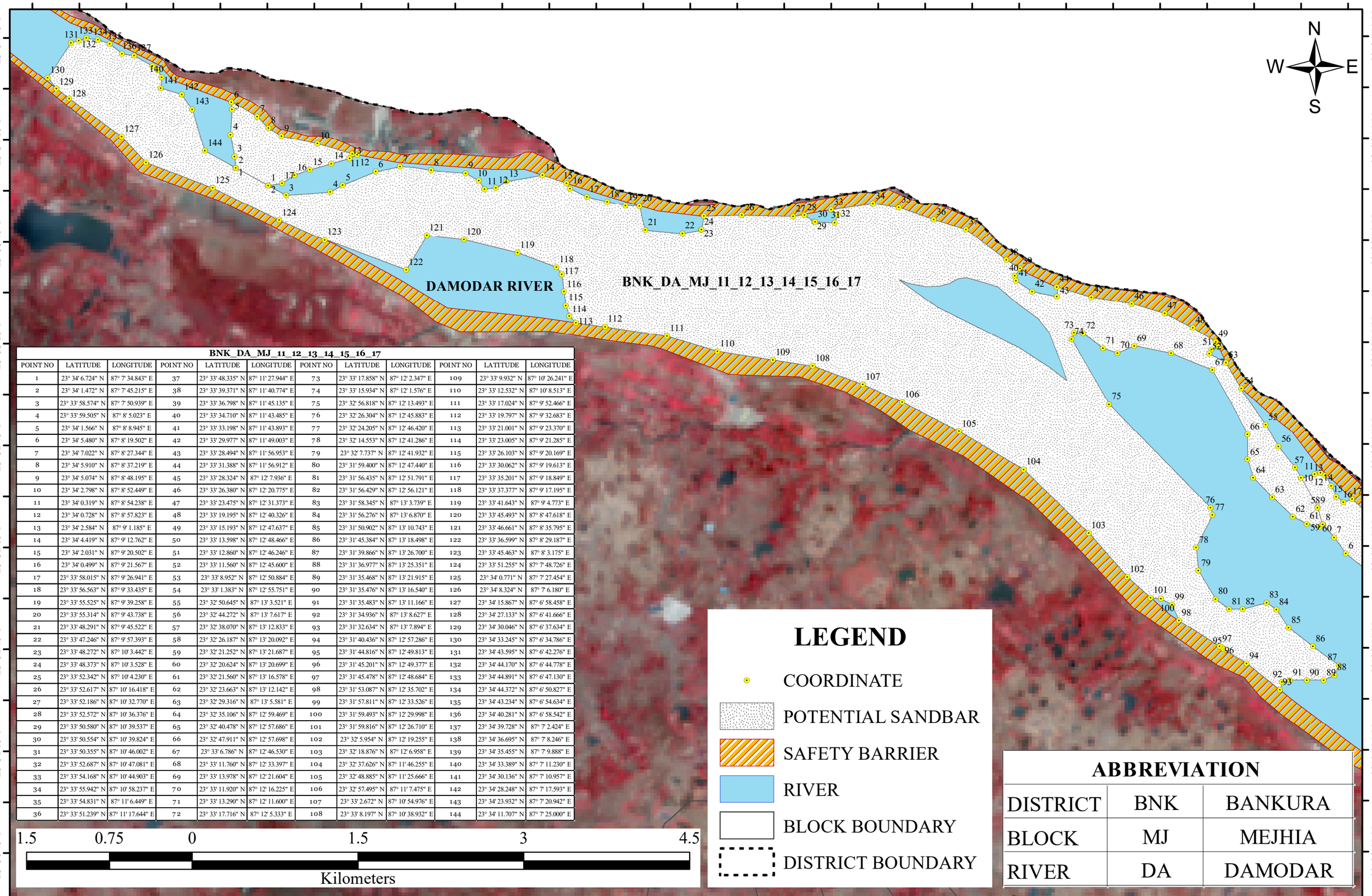
Kilometers

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_DA_MJ_11_12_13_14_15_16_17 OF DAMODAR RIVER



BNK_DA_MJ_11_12_13_14_15_16_17

POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 34' 6.724" N	87° 7' 34.843" E	37	23° 33' 48.335" N	87° 11' 27.944" E	73	23° 33' 17.858" N	87° 12' 2.347" E	109	23° 33' 9.932" N	87° 10' 26.241" E
2	23° 34' 1.472" N	87° 7' 45.215" E	38	23° 33' 39.371" N	87° 11' 40.774" E	74	23° 33' 15.934" N	87° 12' 1.576" E	110	23° 33' 12.532" N	87° 10' 8.513" E
3	23° 33' 58.574" N	87° 7' 50.939" E	39	23° 33' 36.798" N	87° 11' 45.135" E	75	23° 32' 56.818" N	87° 12' 13.493" E	111	23° 33' 17.024" N	87° 9' 52.466" E
4	23° 33' 59.505" N	87° 8' 5.023" E	40	23° 33' 34.710" N	87° 11' 43.485" E	76	23° 32' 26.304" N	87° 12' 45.883" E	112	23° 33' 19.797" N	87° 9' 32.683" E
5	23° 34' 1.566" N	87° 8' 8.945" E	41	23° 33' 33.198" N	87° 11' 43.893" E	77	23° 32' 24.205" N	87° 12' 46.420" E	113	23° 33' 21.001" N	87° 9' 23.370" E
6	23° 34' 5.480" N	87° 8' 19.502" E	42	23° 33' 29.977" N	87° 11' 49.003" E	78	23° 32' 14.553" N	87° 12' 41.286" E	114	23° 33' 23.005" N	87° 9' 21.285" E
7	23° 34' 7.022" N	87° 8' 27.344" E	43	23° 33' 28.494" N	87° 11' 56.953" E	79	23° 32' 7.737" N	87° 12' 41.932" E	115	23° 33' 26.103" N	87° 9' 20.169" E
8	23° 34' 5.910" N	87° 8' 37.219" E	44	23° 33' 31.388" N	87° 11' 56.912" E	80	23° 31' 59.400" N	87° 12' 47.440" E	116	23° 33' 30.062" N	87° 9' 19.613" E
9	23° 34' 5.074" N	87° 8' 48.195" E	45	23° 33' 28.324" N	87° 12' 7.936" E	81	23° 31' 56.435" N	87° 12' 51.791" E	117	23° 33' 35.201" N	87° 9' 18.849" E
10	23° 34' 2.798" N	87° 8' 52.449" E	46	23° 33' 26.380" N	87° 12' 20.775" E	82	23° 31' 56.429" N	87° 12' 56.121" E	118	23° 33' 37.377" N	87° 9' 17.195" E
11	23° 34' 0.319" N	87° 8' 54.238" E	47	23° 33' 23.475" N	87° 12' 31.373" E	83	23° 31' 58.345" N	87° 13' 3.739" E	119	23° 33' 41.643" N	87° 9' 4.773" E
12	23° 34' 0.728" N	87° 8' 57.823" E	48	23° 33' 19.195" N	87° 12' 40.326" E	84	23° 31' 56.276" N	87° 13' 6.870" E	120	23° 33' 45.493" N	87° 8' 47.618" E
13	23° 34' 2.584" N	87° 9' 1.185" E	49	23° 33' 15.193" N	87° 12' 47.637" E	85	23° 31' 50.902" N	87° 13' 10.743" E	121	23° 33' 46.661" N	87° 8' 35.795" E
14	23° 34' 4.419" N	87° 9' 12.762" E	50	23° 33' 13.598" N	87° 12' 48.466" E	86	23° 31' 45.384" N	87° 13' 18.498" E	122	23° 33' 36.599" N	87° 8' 29.187" E
15	23° 34' 2.031" N	87° 9' 20.502" E	51	23° 33' 12.860" N	87° 12' 46.246" E	87	23° 31' 39.866" N	87° 13' 26.700" E	123	23° 33' 45.463" N	87° 8' 3.175" E
16	23° 34' 0.499" N	87° 9' 21.567" E	52	23° 33' 11.560" N	87° 12' 45.600" E	88	23° 31' 36.977" N	87° 13' 25.351" E	124	23° 33' 51.255" N	87° 7' 48.726" E
17	23° 33' 58.015" N	87° 9' 26.941" E	53	23° 33' 8.952" N	87° 12' 50.884" E	89	23° 31' 35.468" N	87° 13' 21.915" E	125	23° 34' 0.771" N	87° 7' 27.454" E
18	23° 33' 56.563" N	87° 9' 33.435" E	54	23° 33' 1.383" N	87° 12' 55.751" E	90	23° 31' 35.476" N	87° 13' 16.540" E	126	23° 34' 8.324" N	87° 7' 6.180" E
19	23° 33' 55.525" N	87° 9' 39.258" E	55	23° 32' 50.645" N	87° 13' 3.521" E	91	23° 31' 35.483" N	87° 13' 11.166" E	127	23° 34' 15.867" N	87° 6' 58.458" E
20	23° 33' 55.314" N	87° 9' 43.738" E	56	23° 32' 44.272" N	87° 13' 7.617" E	92	23° 31' 34.936" N	87° 13' 8.627" E	128	23° 34' 27.133" N	87° 6' 41.666" E
21	23° 33' 48.291" N	87° 9' 45.522" E	57	23° 32' 38.070" N	87° 13' 12.833" E	93	23° 31' 32.634" N	87° 13' 7.894" E	129	23° 34' 30.046" N	87° 6' 37.634" E
22	23° 33' 47.246" N	87° 9' 57.393" E	58	23° 32' 26.187" N	87° 13' 20.092" E	94	23° 31' 40.436" N	87° 12' 57.286" E	130	23° 34' 33.245" N	87° 6' 34.786" E
23	23° 33' 48.272" N	87° 10' 3.442" E	59	23° 32' 21.252" N	87° 13' 21.687" E	95	23° 31' 44.816" N	87° 12' 49.813" E	131	23° 34' 43.595" N	87° 6' 42.276" E
24	23° 33' 48.373" N	87° 10' 3.528" E	60	23° 32' 20.624" N	87° 13' 20.699" E	96	23° 31' 45.201" N	87° 12' 49.377" E	132	23° 34' 44.170" N	87° 6' 44.778" E
25	23° 33' 52.342" N	87° 10' 4.230" E	61	23° 32' 21.560" N	87° 13' 16.578" E	97	23° 31' 45.478" N	87° 12' 48.684" E	133	23° 34' 44.891" N	87° 6' 47.130" E
26	23° 33' 52.617" N	87° 10' 16.418" E	62	23° 32' 23.663" N	87° 13' 12.142" E	98	23° 31' 53.087" N	87° 12' 35.702" E	134	23° 34' 44.372" N	87° 6' 50.827" E
27	23° 33' 52.186" N	87° 10' 32.770" E	63	23° 32' 29.316" N	87° 13' 5.581" E	99	23° 31' 57.811" N	87° 12' 33.526" E	135	23° 34' 43.234" N	87° 6' 54.634" E
28	23° 33' 52.572" N	87° 10' 36.376" E	64	23° 32' 35.106" N	87° 12' 59.469" E	100	23° 31' 59.493" N	87° 12' 29.998" E	136	23° 34' 40.281" N	87° 6' 58.542" E
29	23° 33' 50.580" N	87° 10' 39.537" E	65	23° 32' 40.478" N	87° 12' 57.686" E	101	23° 31' 59.816" N	87° 12' 26.710" E	137	23° 34' 39.728" N	87° 7' 2.424" E
30	23° 33' 50.554" N	87° 10' 39.824" E	66	23° 32' 47.911" N	87° 12' 57.698" E	102	23° 32' 5.954" N	87° 12' 19.255" E	138	23° 34' 36.695" N	87° 7' 8.246" E
31	23° 33' 50.355" N	87° 10' 46.002" E	67	23° 33' 6.786" N	87° 12' 46.530" E	103	23° 32' 18.876" N	87° 12' 6.958" E	139	23° 34' 35.455" N	87° 7' 9.888" E
32	23° 33' 52.687" N	87° 10' 47.081" E	68	23° 33' 11.760" N	87° 12' 33.397" E	104	23° 32' 37.626" N	87° 11' 46.255" E	140	23° 34' 33.389" N	87° 7' 11.230" E
33	23° 33' 54.168" N	87° 10' 44.903" E	69	23° 33' 13.978" N	87° 12' 21.604" E	105	23° 32' 48.885" N	87° 11' 25.666" E	141	23° 34' 30.136" N	87° 7' 10.957" E
34	23° 33' 55.942" N	87° 10' 58.237" E	70	23° 33' 11.920" N	87° 12' 16.225" E	106	23° 32' 57.495" N	87° 11' 7.475" E	142	23° 34' 28.248" N	87° 7' 17.593" E
35	23° 33' 54.831" N	87° 11' 6.449" E	71	23° 33' 13.290" N	87° 12' 11.600" E	107	23° 33' 2.672" N	87° 10' 54.976" E	143	23° 34' 23.932" N	87° 7' 20.942" E
36	23° 33' 51.239" N	87° 11' 17.644" E	72	23° 33' 17.716" N	87° 12' 5.333" E	108	23° 33' 8.197" N	87° 10' 38.932" E	144	23° 34' 11.707" N	87° 7' 25.000" E

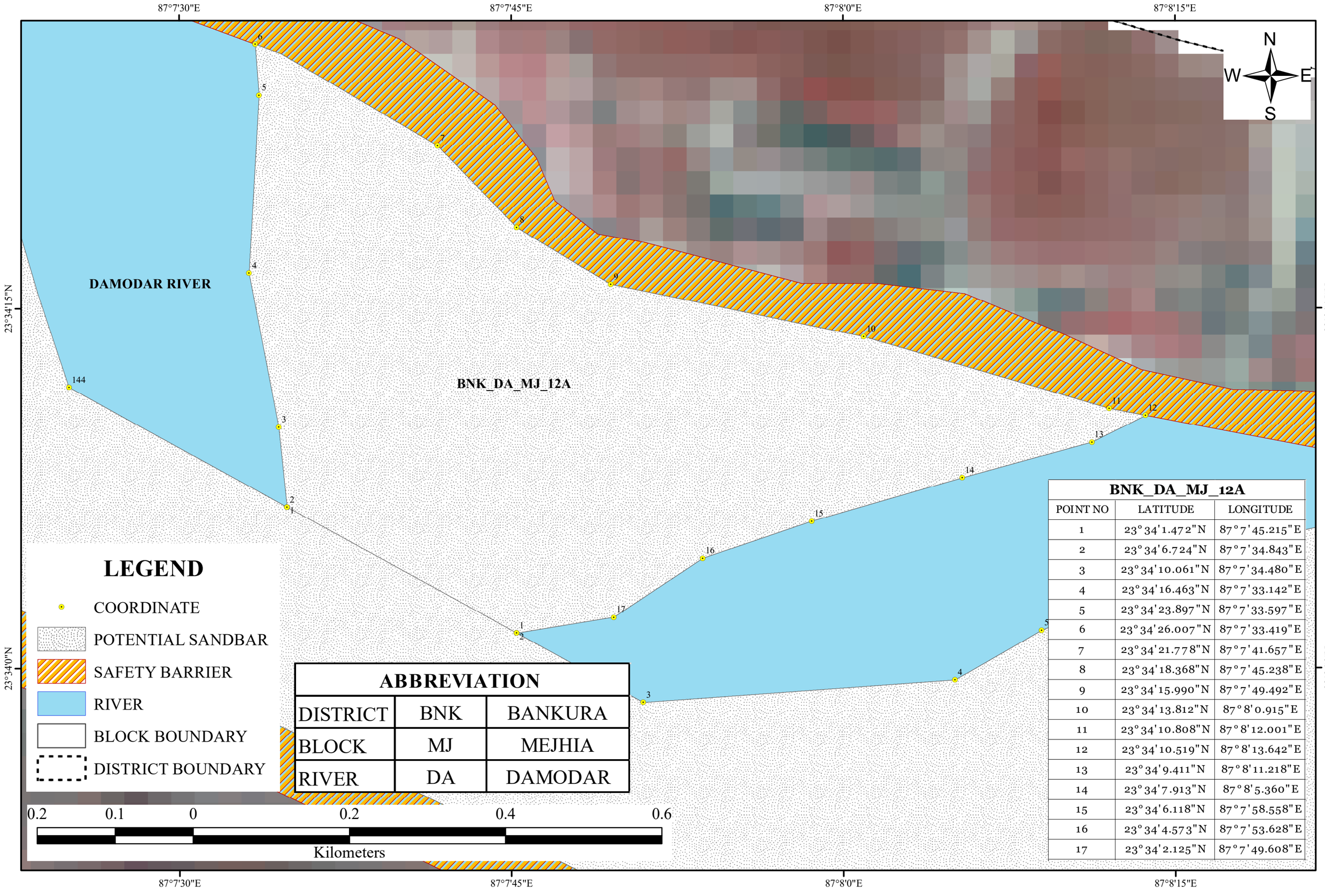
LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_MJ_12A OF DAMODAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

BNK_DA_MJ_12A		
POINT NO	LATITUDE	LONGITUDE
1	23°34'1.472"N	87°7'45.215"E
2	23°34'6.724"N	87°7'34.843"E
3	23°34'10.061"N	87°7'34.480"E
4	23°34'16.463"N	87°7'33.142"E
5	23°34'23.897"N	87°7'33.597"E
6	23°34'26.007"N	87°7'33.419"E
7	23°34'21.778"N	87°7'41.657"E
8	23°34'18.368"N	87°7'45.238"E
9	23°34'15.990"N	87°7'49.492"E
10	23°34'13.812"N	87°8'0.915"E
11	23°34'10.808"N	87°8'12.001"E
12	23°34'10.519"N	87°8'13.642"E
13	23°34'9.411"N	87°8'11.218"E
14	23°34'7.913"N	87°8'5.360"E
15	23°34'6.118"N	87°7'58.558"E
16	23°34'4.573"N	87°7'53.628"E
17	23°34'2.125"N	87°7'49.608"E

POTENTIAL BLOCK BNK_DA_MJ_17A OF DAMODAR RIVER

87°13'15"E 87°13'30"E 87°13'45"E 87°14'0"E

23°32'30"N

23°32'15"N

N W E S

BNK_DA_MJ_17A

DAMODAR RIVER

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

0.15 0.075 0 0.15 0.3 0.45

Kilometers

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

BNK_DA_MJ_17A

POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°32'16.948"N	87°13'44.814"E	10	23°32'34.997"N	87°13'14.787"E
2	23°32'9.407"N	87°13'46.464"E	11	23°32'36.152"N	87°13'19.186"E
3	23°32'4.455"N	87°13'44.067"E	12	23°32'36.503"N	87°13'21.039"E
4	23°32'4.460"N	87°13'40.334"E	13	23°32'35.730"N	87°13'22.439"E
5	23°32'8.184"N	87°13'35.115"E	14	23°32'32.724"N	87°13'24.414"E
6	23°32'12.736"N	87°13'29.001"E	15	23°32'29.418"N	87°13'25.976"E
7	23°32'17.422"N	87°13'25.276"E	16	23°32'27.866"N	87°13'28.325"E
8	23°32'21.252"N	87°13'21.687"E	17	23°32'28.739"N	87°13'31.031"E
9	23°32'26.187"N	87°13'20.092"E	18	23°32'18.399"N	87°13'42.640"E

POTENTIAL BLOCK BNK_DA_MJ_17B OF DAMODAR RIVER

87°13'45"E 87°14'0"E 87°14'15"E 87°14'30"E

23°32'15"N 23°32'0"N 23°31'45"N

N W E S

BNK_DA_MJ_17B

DAMODAR RIVER

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

0.15 0.075 0 0.15 0.3 0.45

Kilometers

BNK_DA_MJ_17B		
POINT NO	LATITUDE	LONGITUDE
1	23°32'4.455"N	87°13'44.067"E
2	23°32'9.407"N	87°13'46.464"E
3	23°32'16.948"N	87°13'44.814"E
4	23°32'10.535"N	87°13'54.421"E
5	23°31'56.866"N	87°14'8.459"E
6	23°31'55.149"N	87°14'9.526"E
7	23°31'50.512"N	87°14'10.021"E
8	23°31'48.452"N	87°14'7.031"E
9	23°31'49.146"N	87°14'3.150"E
10	23°31'52.594"N	87°13'58.677"E
11	23°31'56.458"N	87°13'52.414"E
12	23°31'59.492"N	87°13'48.686"E
13	23°32'3.217"N	87°13'43.019"E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_MJ_18 OF DAMODAR RIVER

87°14'0"E 87°14'15"E 87°14'30"E 87°14'45"E 87°15'0"E 87°15'15"E 87°15'30"E

23°31'0"N 23°30'45"N 23°30'30"N 23°30'15"N

DAMODAR RIVER

BNK_DA_MJ_18

N W E S

BNK_DA_MJ_18					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°30'13.498"N	87°15'11.674"E	14	23°31'8.677"N	87°14'6.649"E
2	23°30'8.357"N	87°15'6.904"E	15	23°31'4.015"N	87°14'16.829"E
3	23°30'5.688"N	87°15'3.208"E	16	23°30'55.358"N	87°14'27.752"E
4	23°30'12.583"N	87°14'57.433"E	17	23°30'53.294"N	87°14'36.909"E
5	23°30'21.471"N	87°14'51.404"E	18	23°30'53.803"N	87°14'41.052"E
6	23°30'26.850"N	87°14'45.256"E	19	23°30'52.662"N	87°14'44.521"E
7	23°30'27.714"N	87°14'41.227"E	20	23°30'49.562"N	87°14'46.530"E
8	23°30'35.081"N	87°14'31.037"E	21	23°30'42.435"N	87°14'48.308"E
9	23°30'44.787"N	87°14'21.180"E	22	23°30'37.479"N	87°14'48.411"E
10	23°30'45.906"N	87°14'21.694"E	23	23°30'31.695"N	87°14'49.856"E
11	23°30'50.912"N	87°14'14.778"E	24	23°30'29.006"N	87°14'52.985"E
12	23°30'56.517"N	87°14'8.357"E	25	23°30'23.525"N	87°14'58.461"E
13	23°31'7.703"N	87°14'5.143"E	26	23°30'18.557"N	87°15'6.288"E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

0.3 0.15 0 0.3 0.6 0.9

Kilometers

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_DA_MJ_18A OF DAMODAR RIVER

87°13'45"E 87°14'0"E 87°14'15"E 87°14'30"E 87°14'45"E 87°15'0"E

23°31'45"N 23°31'30"N 23°31'15"N 23°31'0"N

N W E S

DAMODAR RIVER

BNK_DA_MJ_18A

BNK_DA_MJ_18A

POINT NO	LATITUDE	LONGITUDE
1	23° 31' 3.352"N	87° 14' 49.735"E
2	23° 30' 51.386"N	87° 14' 50.319"E
3	23° 31' 12.335"N	87° 14' 23.207"E
4	23° 31' 47.076"N	87° 14' 7.814"E
5	23° 31' 41.367"N	87° 14' 16.453"E
6	23° 31' 28.848"N	87° 14' 28.754"E
7	23° 31' 18.712"N	87° 14' 37.846"E

0.25 0.125 0 0.25 0.5 0.75

Kilometers

ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_DA_MJ_18B OF DAMODAR RIVER

87°15'0"E 87°15'15"E 87°15'30"E 87°15'45"E

23°30'45"N 23°30'30"N 23°30'15"N

N W E S

DAMODAR RIVER

BNK_DA_MJ_18B

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	MJ	MEJHIA
RIVER	DA	DAMODAR

0.15 0.075 0 0.15 0.3 0.45

Kilometers

BNK_DA_MJ_18B					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°30'30.790"N	87°15'44.798"E	15	23°30'48.728"N	87°14'51.343"E
2	23°30'24.631"N	87°15'30.205"E	16	23°30'52.753"N	87°14'52.134"E
3	23°30'22.628"N	87°15'26.098"E	17	23°30'54.222"N	87°14'53.212"E
4	23°30'23.624"N	87°15'20.911"E	18	23°30'53.262"N	87°14'56.949"E
5	23°30'24.915"N	87°15'19.576"E	19	23°30'54.084"N	87°14'59.414"E
6	23°30'22.676"N	87°15'12.901"E	20	23°30'54.938"N	87°15'0.160"E
7	23°30'23.508"N	87°15'9.096"E	21	23°30'55.017"N	87°15'1.363"E
8	23°30'25.265"N	87°15'8.092"E	22	23°30'54.001"N	87°15'3.116"E
9	23°30'31.562"N	87°15'8.552"E	23	23°30'52.236"N	87°15'4.446"E
10	23°30'35.431"N	87°15'7.050"E	24	23°30'38.999"N	87°15'17.557"E
11	23°30'39.626"N	87°15'1.738"E	25	23°30'36.372"N	87°15'24.718"E
12	23°30'41.386"N	87°14'58.383"E	26	23°30'35.111"N	87°15'37.851"E
13	23°30'43.046"N	87°14'53.460"E	27	23°30'32.212"N	87°15'42.921"E
14	23°30'45.116"N	87°14'50.664"E			

POTENTIAL BLOCK BNK_DA_BJ_18C OF DAMODAR RIVER

87°15'30"E 87°15'45"E 87°16'0"E 87°16'15"E 87°16'30"E

23°30'30"N 23°30'15"N 23°30'0"N

N W E S

DAMODAR RIVER

BNK_DA_BJ_18C

BNK_DA_BJ_18C		
POINT NO	LATITUDE	LONGITUDE
1	23°30'24.631"N	87°15'30.205"E
2	23°30'30.790"N	87°15'44.798"E
3	23°30'27.785"N	87°15'48.766"E
4	23°30'23.398"N	87°15'51.845"E
5	23°30'20.914"N	87°15'55.646"E
6	23°30'17.597"N	87°16'3.252"E
7	23°30'17.333"N	87°16'4.190"E
8	23°30'15.514"N	87°16'7.070"E
9	23°30'13.712"N	87°16'14.082"E
10	23°30'6.178"N	87°16'20.519"E
11	23°30'0.422"N	87°16'24.040"E
12	23°29'56.492"N	87°16'28.062"E
13	23°29'54.640"N	87°16'24.028"E
14	23°29'56.304"N	87°16'17.315"E
15	23°30'3.343"N	87°16'6.582"E
16	23°30'14.525"N	87°15'48.468"E

0.15 0.075 0 0.15 0.3 0.45

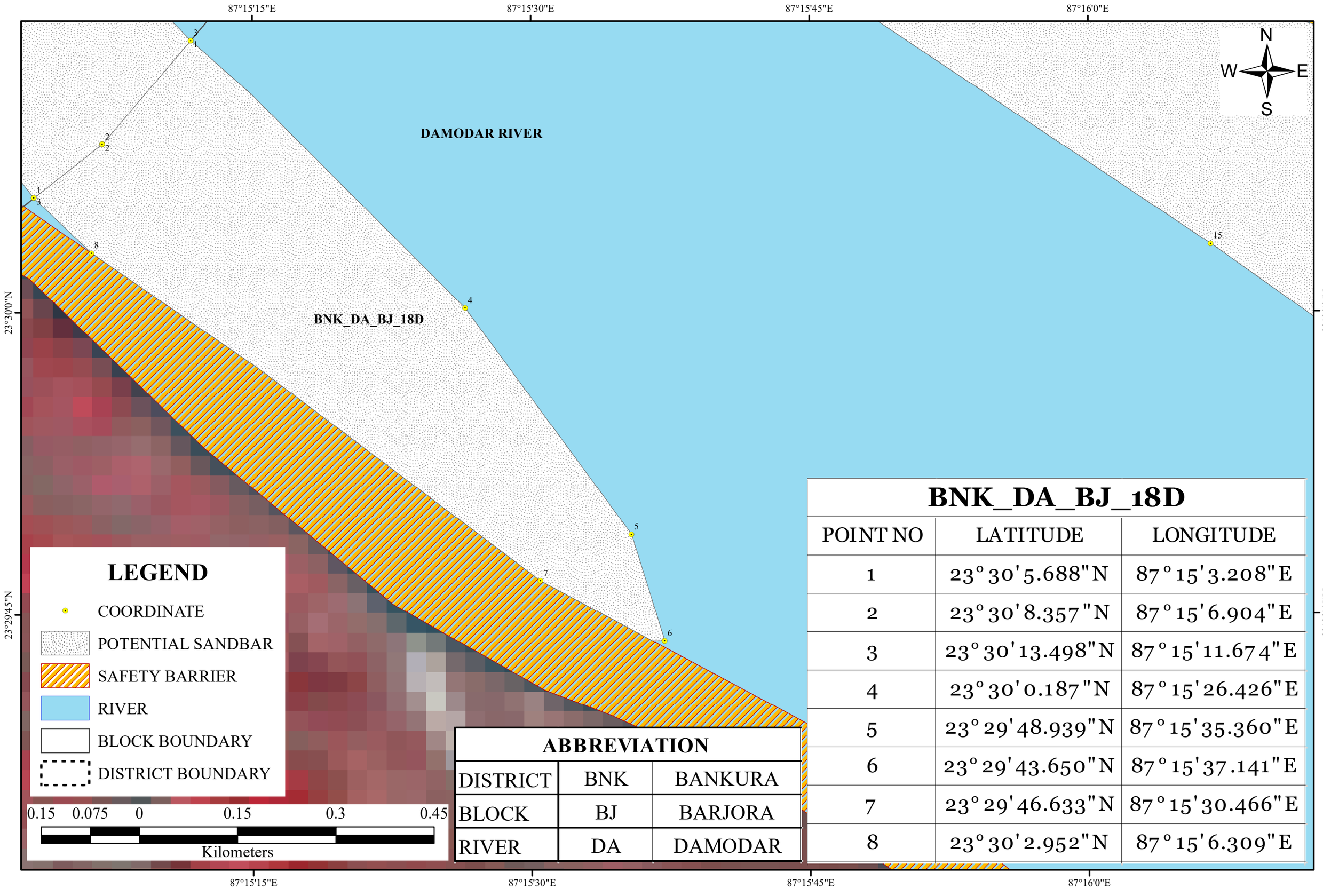
Kilometers

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	BJ	BARJORA
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_BJ_18D OF DAMODAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	BJ	BARJORA
RIVER	DA	DAMODAR

BNK_DA_BJ_18D		
POINT NO	LATITUDE	LONGITUDE
1	23°30'5.688"N	87°15'3.208"E
2	23°30'8.357"N	87°15'6.904"E
3	23°30'13.498"N	87°15'11.674"E
4	23°30'0.187"N	87°15'26.426"E
5	23°29'48.939"N	87°15'35.360"E
6	23°29'43.650"N	87°15'37.141"E
7	23°29'46.633"N	87°15'30.466"E
8	23°30'2.952"N	87°15'6.309"E

POTENTIAL BLOCK BNK_DA_BJ_19 OF DAMODAR RIVER

87°17'30"E 87°17'45"E 87°18'0"E 87°18'15"E 87°18'30"E 87°18'45"E 87°19'0"E 87°19'15"E 87°19'30"E 87°19'45"E 87°20'0"E 87°20'15"E 87°20'30"E

23°28'0"N 23°27'45"N 23°27'30"N 23°27'15"N 23°27'0"N 23°26'45"N 23°26'30"N 23°26'15"N

DAMODAR RIVER

BNK_DA_BJ_19

N W E S

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

BNK_DA_BJ_19

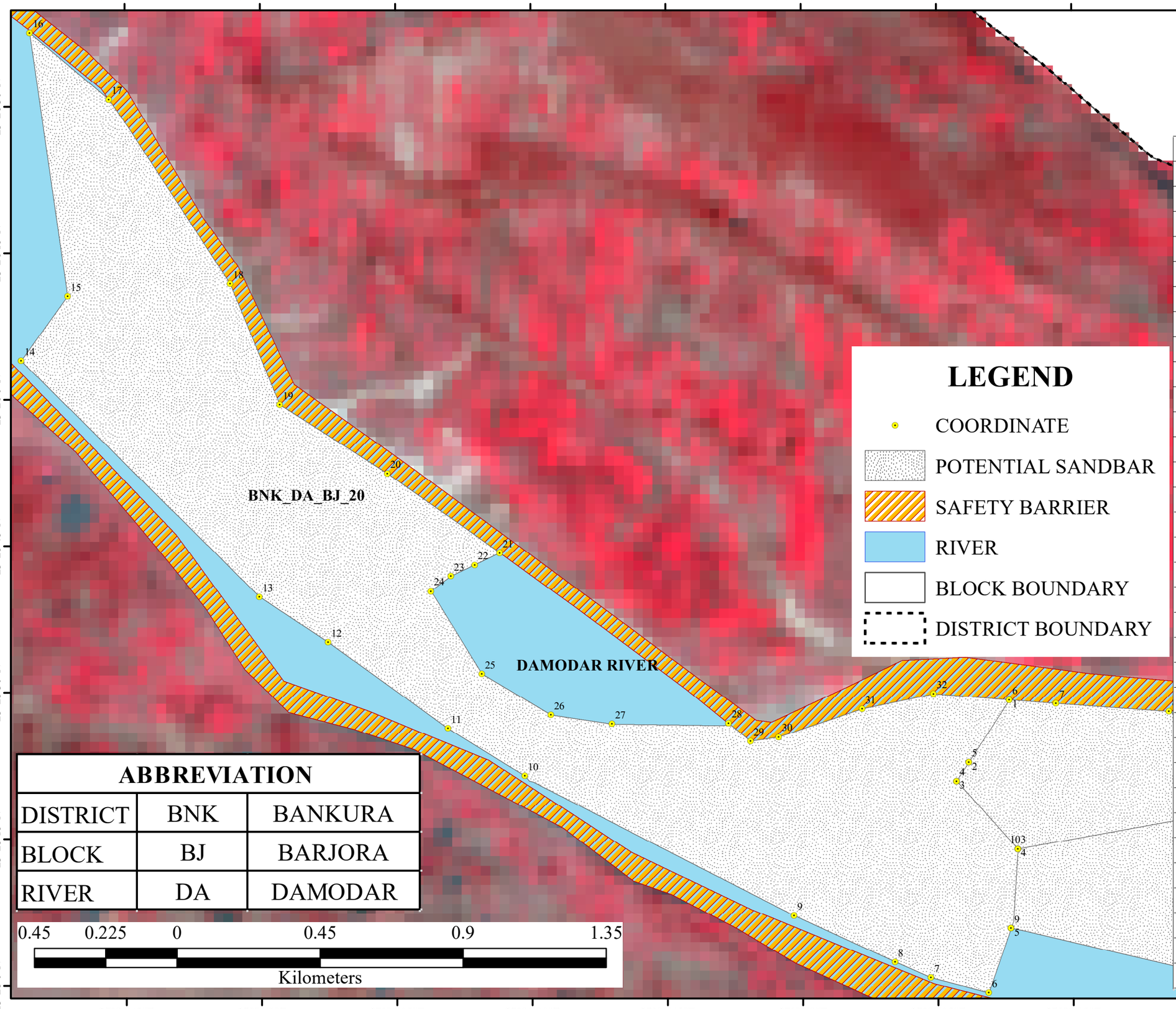
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°26'20.018"N	87°20'31.590"E	13	23°27'56.946"N	87°19'10.224"E
2	23°26'14.439"N	87°20'25.515"E	14	23°27'49.236"N	87°19'16.287"E
3	23°26'37.987"N	87°20'1.273"E	15	23°27'39.043"N	87°19'19.097"E
4	23°26'41.864"N	87°19'49.996"E	16	23°27'25.126"N	87°19'25.629"E
5	23°26'55.299"N	87°19'37.069"E	17	23°27'20.429"N	87°19'33.377"E
6	23°27'7.714"N	87°19'24.417"E	18	23°27'6.891"N	87°19'55.874"E
7	23°27'13.579"N	87°19'17.530"E	19	23°26'58.879"N	87°20'8.835"E
8	23°27'17.382"N	87°19'9.332"E	20	23°26'51.978"N	87°20'17.024"E
9	23°27'21.009"N	87°19'2.813"E	21	23°26'46.459"N	87°20'23.127"E
10	23°27'26.530"N	87°18'55.552"E	22	23°26'42.141"N	87°20'28.367"E
11	23°27'31.183"N	87°18'51.832"E	23	23°26'38.327"N	87°20'26.919"E
12	23°27'34.442"N	87°18'50.474"E	24	23°26'30.831"N	87°20'31.376"E

0.55 0.275 0 0.55 1.1 1.65

Kilometers

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	BJ	BARJORA
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_BJ_20 OF DAMODAR RIVER



LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

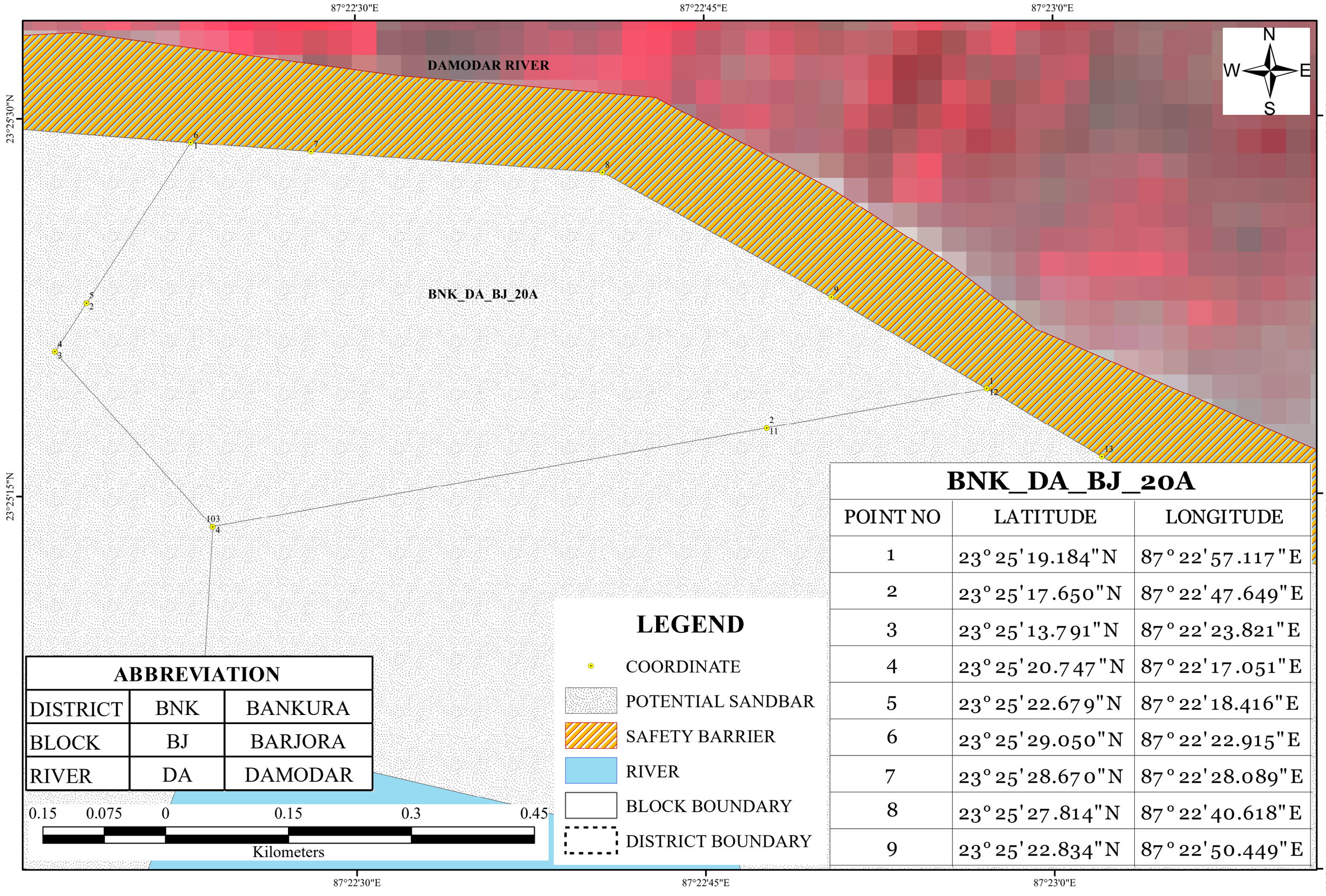
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	BJ	BARJORA
RIVER	DA	DAMODAR

0.45 0.225 0 0.45 0.9 1.35

Kilometers

BNK_DA_BJ_20		
POINT NO	LATITUDE	LONGITUDE
1	23°25'29.050"N	87°22'22.915"E
2	23°25'22.679"N	87°22'18.416"E
3	23°25'20.747"N	87°22'17.051"E
4	23°25'13.791"N	87°22'23.821"E
5	23°25'5.653"N	87°22'23.054"E
6	23°24'59.034"N	87°22'20.569"E
7	23°25'0.621"N	87°22'14.155"E
8	23°25'2.242"N	87°22'10.180"E
9	23°25'7.001"N	87°21'59.005"E
10	23°25'21.374"N	87°21'29.163"E
11	23°25'26.261"N	87°21'20.673"E
12	23°25'35.104"N	87°21'7.396"E
13	23°25'39.766"N	87°20'59.786"E
14	23°26'3.984"N	87°20'33.443"E
15	23°26'10.581"N	87°20'38.607"E
16	23°26'37.555"N	87°20'34.458"E
17	23°26'30.724"N	87°20'43.185"E
18	23°26'11.832"N	87°20'56.607"E
19	23°25'59.430"N	87°21'2.094"E
20	23°25'52.383"N	87°21'14.011"E
21	23°25'44.210"N	87°21'26.444"E
22	23°25'42.993"N	87°21'23.668"E
23	23°25'41.835"N	87°21'21.028"E
24	23°25'40.329"N	87°21'18.794"E
25	23°25'31.835"N	87°21'24.439"E
26	23°25'27.609"N	87°21'32.086"E
27	23°25'26.669"N	87°21'38.844"E
28	23°25'26.690"N	87°21'51.785"E
29	23°25'24.896"N	87°21'54.215"E
30	23°25'25.301"N	87°21'57.349"E
31	23°25'28.171"N	87°22'6.606"E
32	23°25'29.666"N	87°22'14.517"E

POTENTIAL BLOCK BNK_DA_BJ_20A OF DAMODAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	BJ	BARJORA
RIVER	DA	DAMODAR

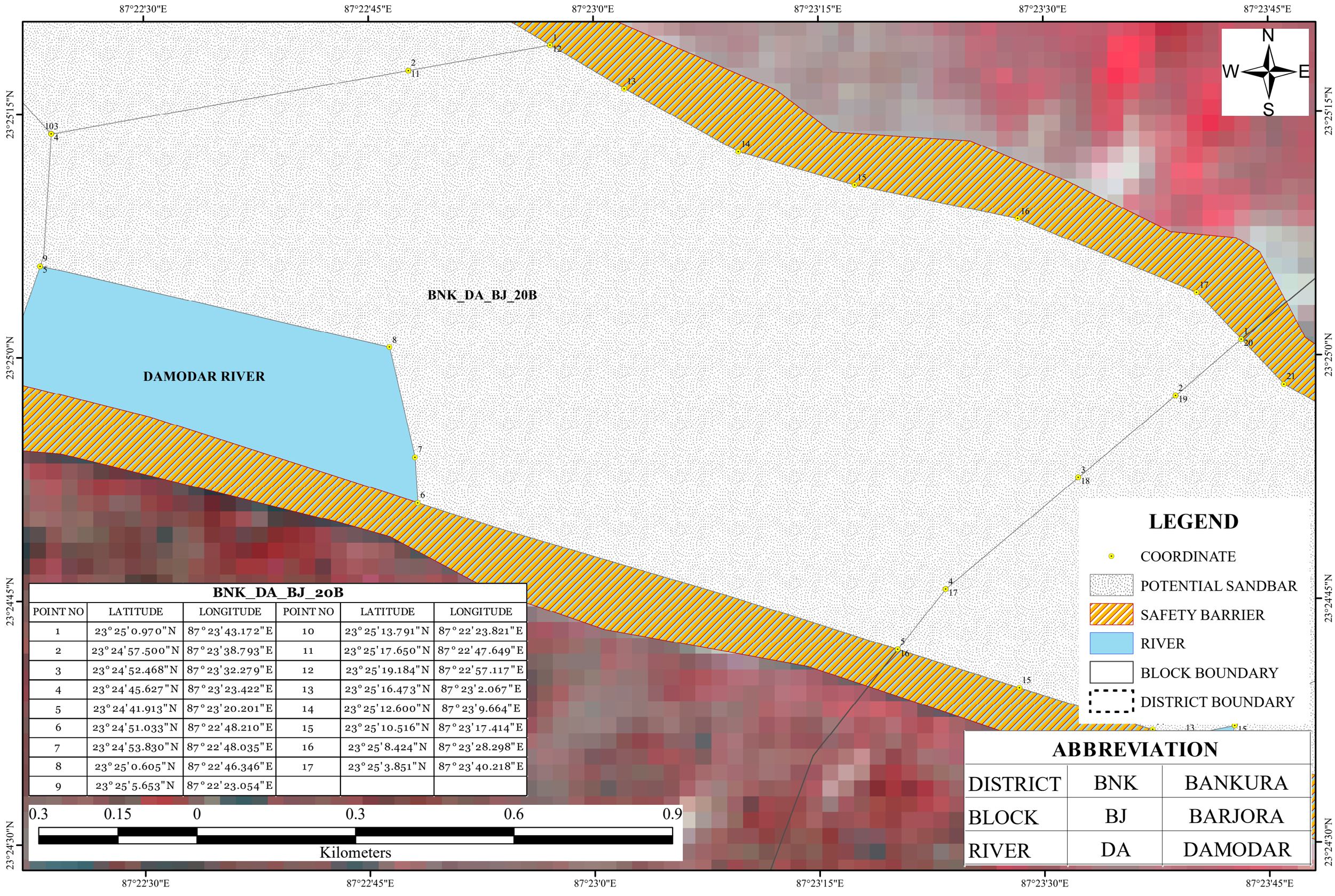
LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

BNK_DA_BJ_20A

POINT NO	LATITUDE	LONGITUDE
1	23° 25' 19.184" N	87° 22' 57.117" E
2	23° 25' 17.650" N	87° 22' 47.649" E
3	23° 25' 13.791" N	87° 22' 23.821" E
4	23° 25' 20.747" N	87° 22' 17.051" E
5	23° 25' 22.679" N	87° 22' 18.416" E
6	23° 25' 29.050" N	87° 22' 22.915" E
7	23° 25' 28.670" N	87° 22' 28.089" E
8	23° 25' 27.814" N	87° 22' 40.618" E
9	23° 25' 22.834" N	87° 22' 50.449" E

POTENTIAL BLOCK BNK_DA_BJ_20B OF DAMODAR RIVER



BNK_DA_BJ_20B

POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°25'0.970"N	87°23'43.172"E	10	23°25'13.791"N	87°22'23.821"E
2	23°24'57.500"N	87°23'38.793"E	11	23°25'17.650"N	87°22'47.649"E
3	23°24'52.468"N	87°23'32.279"E	12	23°25'19.184"N	87°22'57.117"E
4	23°24'45.627"N	87°23'23.422"E	13	23°25'16.473"N	87°23'2.067"E
5	23°24'41.913"N	87°23'20.201"E	14	23°25'12.600"N	87°23'9.664"E
6	23°24'51.033"N	87°22'48.210"E	15	23°25'10.516"N	87°23'17.414"E
7	23°24'53.830"N	87°22'48.035"E	16	23°25'8.424"N	87°23'28.298"E
8	23°25'0.605"N	87°22'46.346"E	17	23°25'3.851"N	87°23'40.218"E
9	23°25'5.653"N	87°22'23.054"E			

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	BJ	BARJORA
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_SM_21 OF DAMODAR RIVER

87°23'30"E 87°23'45"E 87°24'0"E 87°24'15"E

23°25'0"N

23°24'45"N

23°24'30"N

N W E S

DAMODAR RIVER

BNK_DA_SM_21

BNK_DA_SM_21		
POINT NO	LATITUDE	LONGITUDE
1	23° 24' 49.611"N	87° 24' 3.981"E
2	23° 24' 48.981"N	87° 24' 5.300"E
3	23° 24' 48.359"N	87° 24' 10.359"E
4	23° 24' 46.909"N	87° 24' 12.032"E
5	23° 24' 44.951"N	87° 24' 10.460"E
6	23° 24' 43.100"N	87° 24' 7.882"E
7	23° 24' 41.767"N	87° 24' 4.074"E
8	23° 24' 41.678"N	87° 23' 58.368"E
9	23° 24' 40.969"N	87° 23' 53.108"E
10	23° 24' 40.463"N	87° 23' 49.191"E
11	23° 24' 39.128"N	87° 23' 46.390"E
12	23° 24' 37.176"N	87° 23' 42.693"E
13	23° 24' 36.565"N	87° 23' 39.223"E
14	23° 24' 36.941"N	87° 23' 37.214"E
15	23° 24' 39.515"N	87° 23' 28.311"E
16	23° 24' 41.913"N	87° 23' 20.201"E
17	23° 24' 45.627"N	87° 23' 23.422"E
18	23° 24' 52.468"N	87° 23' 32.279"E
19	23° 24' 57.500"N	87° 23' 38.793"E
20	23° 25' 0.970"N	87° 23' 43.172"E
21	23° 24' 58.193"N	87° 23' 46.019"E
22	23° 24' 52.660"N	87° 23' 56.444"E
23	23° 24' 52.098"N	87° 23' 58.770"E

LEGEND

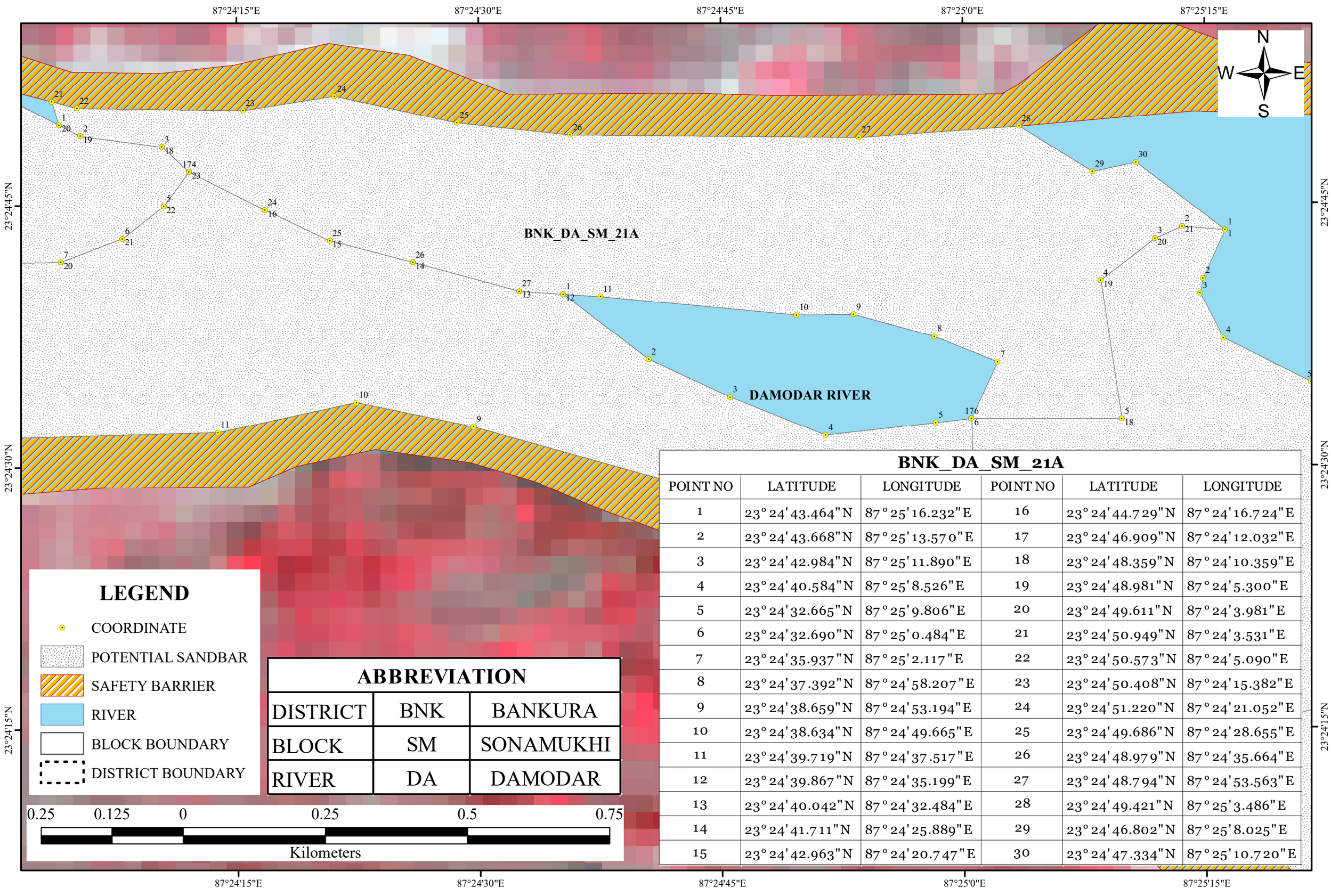
- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SONAMUKHI
RIVER	DA	DAMODAR

0.25 0.125 0 0.25 0.5 0.75

Kilometers

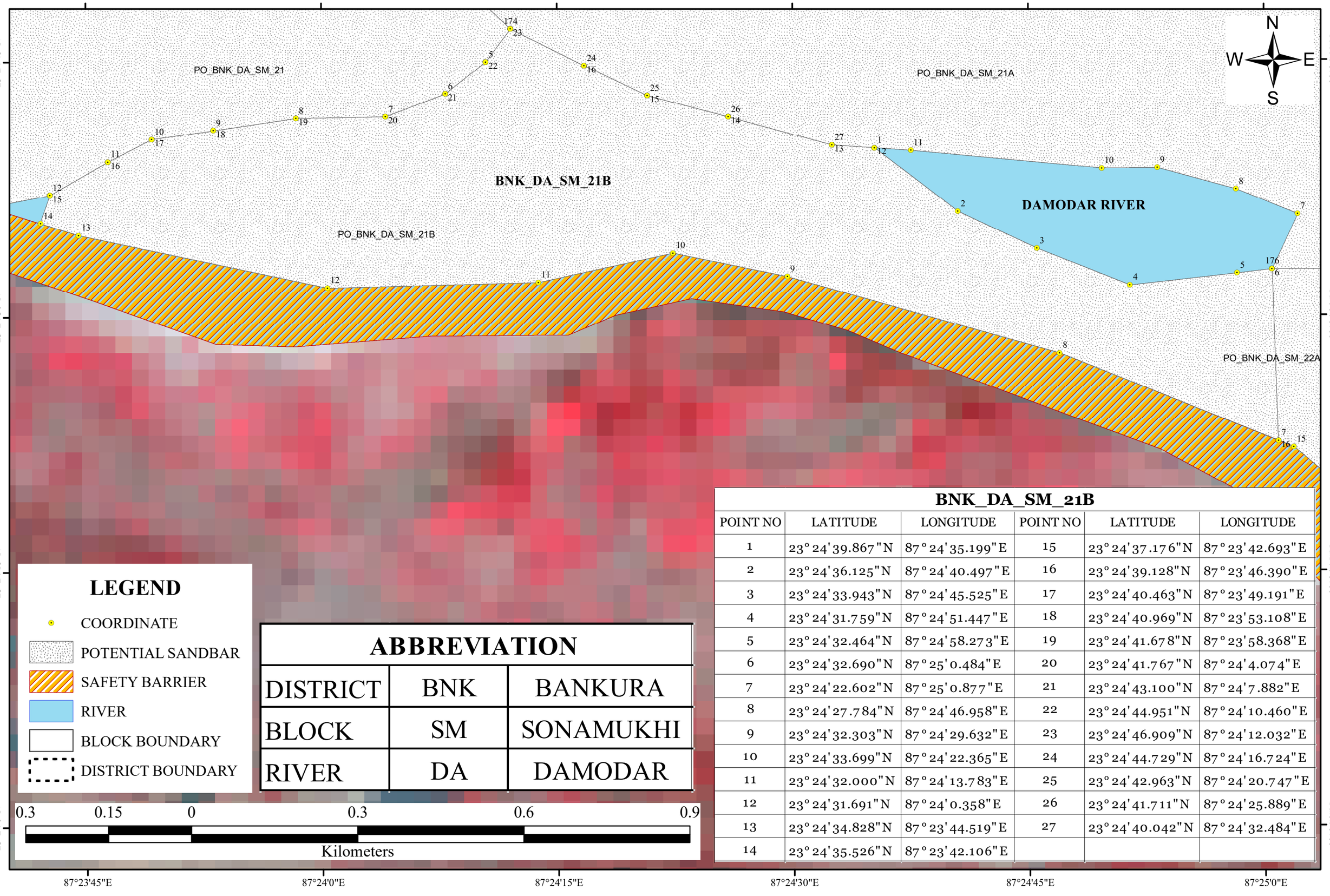
POTENTIAL BLOCK BNK_DA_SM_21A OF DAMODAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SONAMUKHI
RIVER	DA	DAMODAR

BNK_DA_SM_21A					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 24' 43.464"N	87° 25' 16.232"E	16	23° 24' 44.729"N	87° 24' 16.724"E
2	23° 24' 43.668"N	87° 25' 13.570"E	17	23° 24' 46.909"N	87° 24' 12.032"E
3	23° 24' 42.984"N	87° 25' 11.890"E	18	23° 24' 48.359"N	87° 24' 10.359"E
4	23° 24' 40.584"N	87° 25' 8.526"E	19	23° 24' 48.981"N	87° 24' 5.300"E
5	23° 24' 32.665"N	87° 25' 9.806"E	20	23° 24' 49.611"N	87° 24' 3.981"E
6	23° 24' 32.690"N	87° 25' 0.484"E	21	23° 24' 50.949"N	87° 24' 3.531"E
7	23° 24' 35.937"N	87° 25' 2.117"E	22	23° 24' 50.573"N	87° 24' 5.090"E
8	23° 24' 37.392"N	87° 24' 58.207"E	23	23° 24' 50.408"N	87° 24' 15.382"E
9	23° 24' 38.659"N	87° 24' 53.194"E	24	23° 24' 51.220"N	87° 24' 21.052"E
10	23° 24' 38.634"N	87° 24' 49.665"E	25	23° 24' 49.686"N	87° 24' 28.655"E
11	23° 24' 39.719"N	87° 24' 37.517"E	26	23° 24' 48.979"N	87° 24' 35.664"E
12	23° 24' 39.867"N	87° 24' 35.199"E	27	23° 24' 48.794"N	87° 24' 53.563"E
13	23° 24' 40.042"N	87° 24' 32.484"E	28	23° 24' 49.421"N	87° 25' 3.486"E
14	23° 24' 41.711"N	87° 24' 25.889"E	29	23° 24' 46.802"N	87° 25' 8.025"E
15	23° 24' 42.963"N	87° 24' 20.747"E	30	23° 24' 47.334"N	87° 25' 10.720"E

POTENTIAL BLOCK BNK_DA_SM_21B OF DAMODAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SONAMUKHI
RIVER	DA	DAMODAR

BNK_DA_SM_21B

POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°24'39.867"N	87°24'35.199"E	15	23°24'37.176"N	87°23'42.693"E
2	23°24'36.125"N	87°24'40.497"E	16	23°24'39.128"N	87°23'46.390"E
3	23°24'33.943"N	87°24'45.525"E	17	23°24'40.463"N	87°23'49.191"E
4	23°24'31.759"N	87°24'51.447"E	18	23°24'40.969"N	87°23'53.108"E
5	23°24'32.464"N	87°24'58.273"E	19	23°24'41.678"N	87°23'58.368"E
6	23°24'32.690"N	87°25'0.484"E	20	23°24'41.767"N	87°24'4.074"E
7	23°24'22.602"N	87°25'0.877"E	21	23°24'43.100"N	87°24'7.882"E
8	23°24'27.784"N	87°24'46.958"E	22	23°24'44.951"N	87°24'10.460"E
9	23°24'32.303"N	87°24'29.632"E	23	23°24'46.909"N	87°24'12.032"E
10	23°24'33.699"N	87°24'22.365"E	24	23°24'44.729"N	87°24'16.724"E
11	23°24'32.000"N	87°24'13.783"E	25	23°24'42.963"N	87°24'20.747"E
12	23°24'31.691"N	87°24'0.358"E	26	23°24'41.711"N	87°24'25.889"E
13	23°24'34.828"N	87°23'44.519"E	27	23°24'40.042"N	87°24'32.484"E
14	23°24'35.526"N	87°23'42.106"E			

POTENTIAL BLOCK BNK_DA_SM_22 OF DAMODAR RIVER

87°25'15"E 87°25'30"E 87°25'45"E 87°26'0"E 87°26'15"E 87°26'30"E 87°26'45"E 87°27'0"E 87°27'15"E 87°27'30"E 87°27'45"E 87°28'0"E 87°28'15"E

23°24'30"N 23°24'15"N 23°24'0"N 23°23'45"N 23°23'30"N 23°23'15"N 23°23'0"N 23°22'45"N

N W E S

BNK_DA_SM_22

DAMODAR RIVER

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SONAMUKHI
RIVER	DA	DAMODAR

BNK_DA_SM_22

POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°24'14.438"N	87°25'11.848"E	22	23°23'36.098"N	87°26'48.500"E	43	23°22'43.155"N	87°27'16.507"E	64	23°23'7.922"N	87°26'44.714"E
2	23°24'13.913"N	87°25'13.298"E	23	23°23'29.484"N	87°26'50.715"E	44	23°22'45.952"N	87°27'13.273"E	65	23°23'0.779"N	87°26'51.513"E
3	23°24'16.986"N	87°25'25.505"E	24	23°23'24.118"N	87°26'49.690"E	45	23°22'48.125"N	87°27'11.715"E	66	23°22'57.565"N	87°26'56.088"E
4	23°24'20.197"N	87°25'29.558"E	25	23°23'19.886"N	87°26'49.117"E	46	23°22'49.775"N	87°27'12.391"E	67	23°22'53.320"N	87°27'0.212"E
5	23°24'23.998"N	87°25'36.394"E	26	23°23'15.847"N	87°26'53.465"E	47	23°22'48.627"N	87°27'16.526"E	68	23°22'49.598"N	87°27'2.101"E
6	23°24'26.986"N	87°25'38.641"E	27	23°23'12.525"N	87°26'59.830"E	48	23°22'47.900"N	87°27'18.201"E	69	23°22'46.653"N	87°27'2.590"E
7	23°24'28.424"N	87°25'41.666"E	28	23°23'11.064"N	87°27'5.305"E	49	23°22'48.925"N	87°27'20.777"E	70	23°22'46.818"N	87°26'59.631"E
8	23°24'28.509"N	87°25'48.155"E	29	23°23'8.780"N	87°27'9.660"E	50	23°22'50.576"N	87°27'20.895"E	71	23°22'45.895"N	87°26'56.879"E
9	23°24'25.805"N	87°25'55.194"E	30	23°23'6.919"N	87°27'10.660"E	51	23°22'51.319"N	87°27'14.074"E	72	23°22'55.393"N	87°26'47.281"E
10	23°24'22.588"N	87°26'1.336"E	31	23°23'4.759"N	87°27'7.857"E	52	23°22'56.508"N	87°27'4.809"E	73	23°23'10.396"N	87°26'35.773"E
11	23°24'20.298"N	87°26'7.705"E	32	23°23'2.594"N	87°27'6.507"E	53	23°23'1.791"N	87°26'58.563"E	74	23°23'17.312"N	87°26'24.238"E
12	23°24'18.632"N	87°26'13.069"E	33	23°23'0.011"N	87°27'7.281"E	54	23°23'5.103"N	87°26'56.002"E	75	23°23'21.871"N	87°26'9.292"E
13	23°24'13.764"N	87°26'18.423"E	34	23°22'57.319"N	87°27'10.068"E	55	23°23'6.766"N	87°26'51.981"E	76	23°23'23.836"N	87°26'7.120"E
14	23°24'8.487"N	87°26'22.656"E	35	23°22'55.862"N	87°27'13.978"E	56	23°23'9.459"N	87°26'48.858"E	77	23°23'35.284"N	87°25'39.268"E
15	23°24'4.312"N	87°26'28.448"E	36	23°22'55.640"N	87°27'19.122"E	57	23°23'17.112"N	87°26'44.633"E	78	23°23'37.272"N	87°25'36.386"E
16	23°24'5.918"N	87°26'30.407"E	37	23°22'52.626"N	87°27'25.935"E	58	23°23'21.246"N	87°26'43.081"E	79	23°23'47.923"N	87°25'28.596"E
17	23°24'5.086"N	87°26'32.731"E	38	23°22'50.128"N	87°27'33.084"E	59	23°23'25.381"N	87°26'41.193"E	80	23°24'0.150"N	87°25'25.092"E
18	23°24'1.945"N	87°26'33.258"E	39	23°22'47.231"N	87°27'35.199"E	60	23°23'29.944"N	87°26'38.235"E	81	23°24'9.460"N	87°25'18.224"E
19	23°23'57.482"N	87°26'34.496"E	40	23°22'45.065"N	87°27'34.297"E	61	23°23'28.907"N	87°26'35.724"E			
20	23°23'46.144"N	87°26'37.571"E	41	23°22'40.647"N	87°27'26.788"E	62	23°23'24.056"N	87°26'35.261"E			
21	23°23'39.204"N	87°26'45.490"E	42	23°22'40.247"N	87°27'22.537"E	63	23°23'14.860"N	87°26'37.803"E			

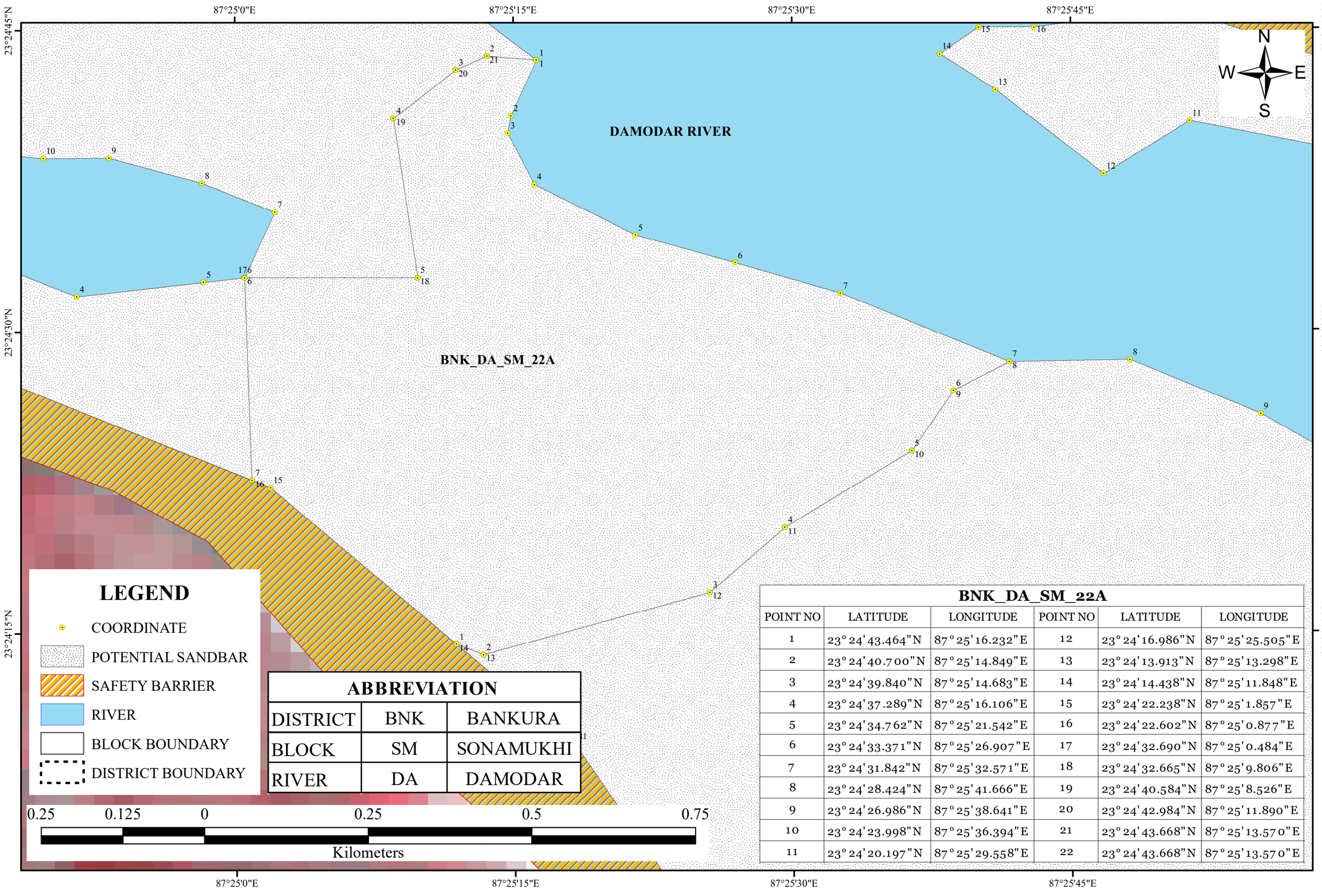
0.7 0.35 0 0.7 1.4 2.1

Kilometers

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_DA_SM_22A OF DAMODAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SONAMUKHI
RIVER	DA	DAMODAR

BNK_DA_SM_22A					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°24'43.464"N	87°25'16.232"E	12	23°24'16.986"N	87°25'25.505"E
2	23°24'40.700"N	87°25'14.849"E	13	23°24'13.913"N	87°25'13.298"E
3	23°24'39.840"N	87°25'14.683"E	14	23°24'14.438"N	87°25'11.848"E
4	23°24'37.289"N	87°25'16.106"E	15	23°24'22.238"N	87°25'1.857"E
5	23°24'34.762"N	87°25'21.542"E	16	23°24'22.602"N	87°25'0.877"E
6	23°24'33.371"N	87°25'26.907"E	17	23°24'32.690"N	87°25'0.484"E
7	23°24'31.842"N	87°25'32.571"E	18	23°24'32.665"N	87°25'9.806"E
8	23°24'28.424"N	87°25'41.666"E	19	23°24'40.584"N	87°25'8.526"E
9	23°24'26.986"N	87°25'38.641"E	20	23°24'42.984"N	87°25'11.890"E
10	23°24'23.998"N	87°25'36.394"E	21	23°24'43.668"N	87°25'13.570"E
11	23°24'20.197"N	87°25'29.558"E	22	23°24'43.668"N	87°25'13.570"E

POTENTIAL BLOCK BNK_DA_SM_22B OF DAMODAR RIVER

87°25'45"E 87°26'0"E 87°26'15"E 87°26'30"E 87°26'45"E

23°24'45"N 23°24'30"N 23°24'15"N

N W E S

BNK_DA_SM_22B

DAMODAR RIVER

BNK_DA_SM_22B					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°24'43.108"N	87°25'59.625"E	10	23°24'37.723"N	87°26'6.255"E
2	23°24'35.490"N	87°26'16.306"E	11	23°24'40.382"N	87°25'51.403"E
3	23°24'25.953"N	87°26'29.997"E	12	23°24'37.752"N	87°25'46.764"E
4	23°24'15.158"N	87°26'39.684"E	13	23°24'41.953"N	87°25'40.948"E
5	23°24'15.163"N	87°26'39.652"E	14	23°24'43.726"N	87°25'37.948"E
6	23°24'20.972"N	87°26'30.006"E	15	23°24'45.059"N	87°25'40.045"E
7	23°24'25.943"N	87°26'24.832"E	16	23°24'45.051"N	87°25'43.028"E
8	23°24'31.904"N	87°26'19.661"E	17	23°24'46.099"N	87°25'50.410"E
9	23°24'35.392"N	87°26'13.049"E	18	23°24'43.108"N	87°25'59.625"E

0.25 0.125 0 0.25 0.5 0.75

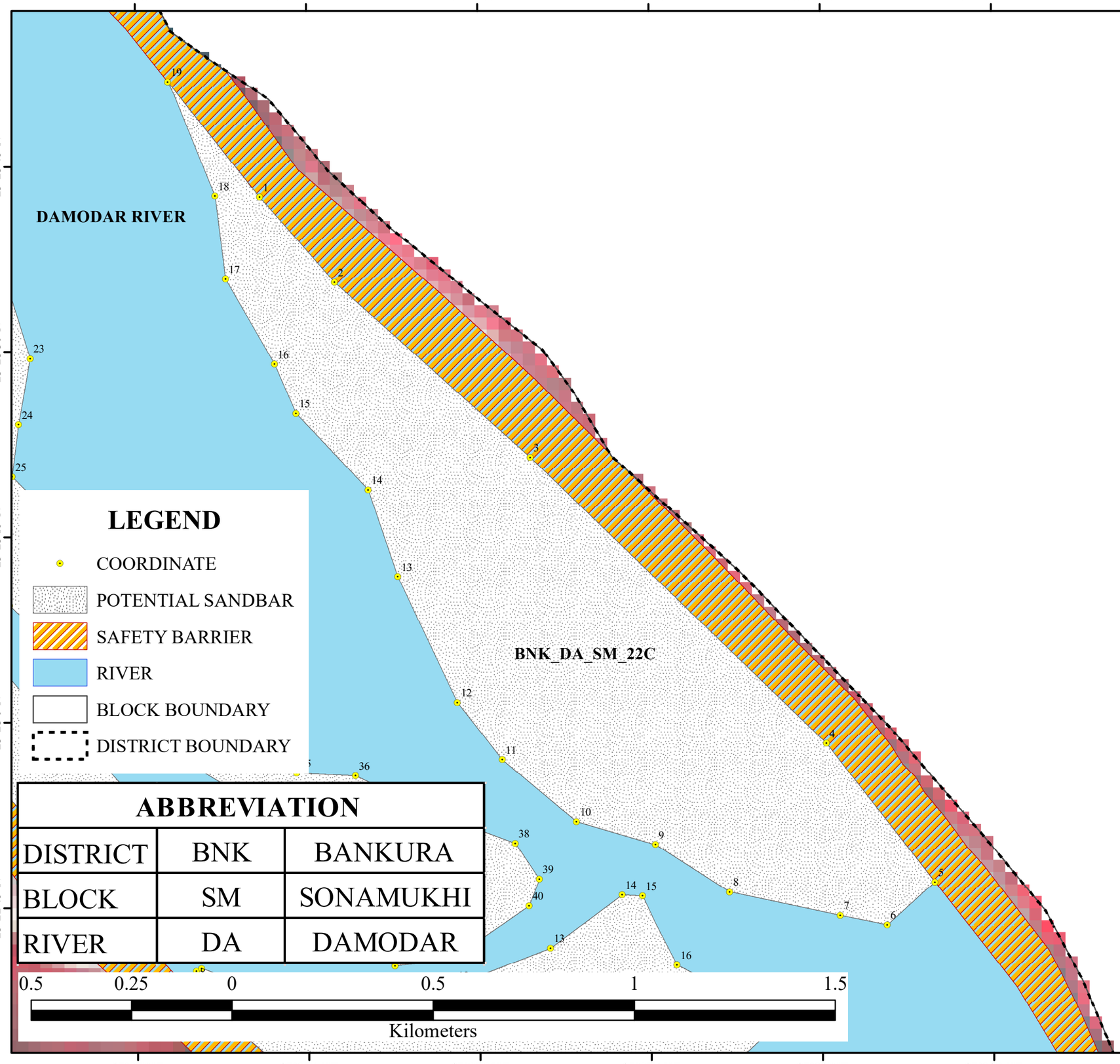
Kilometers

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

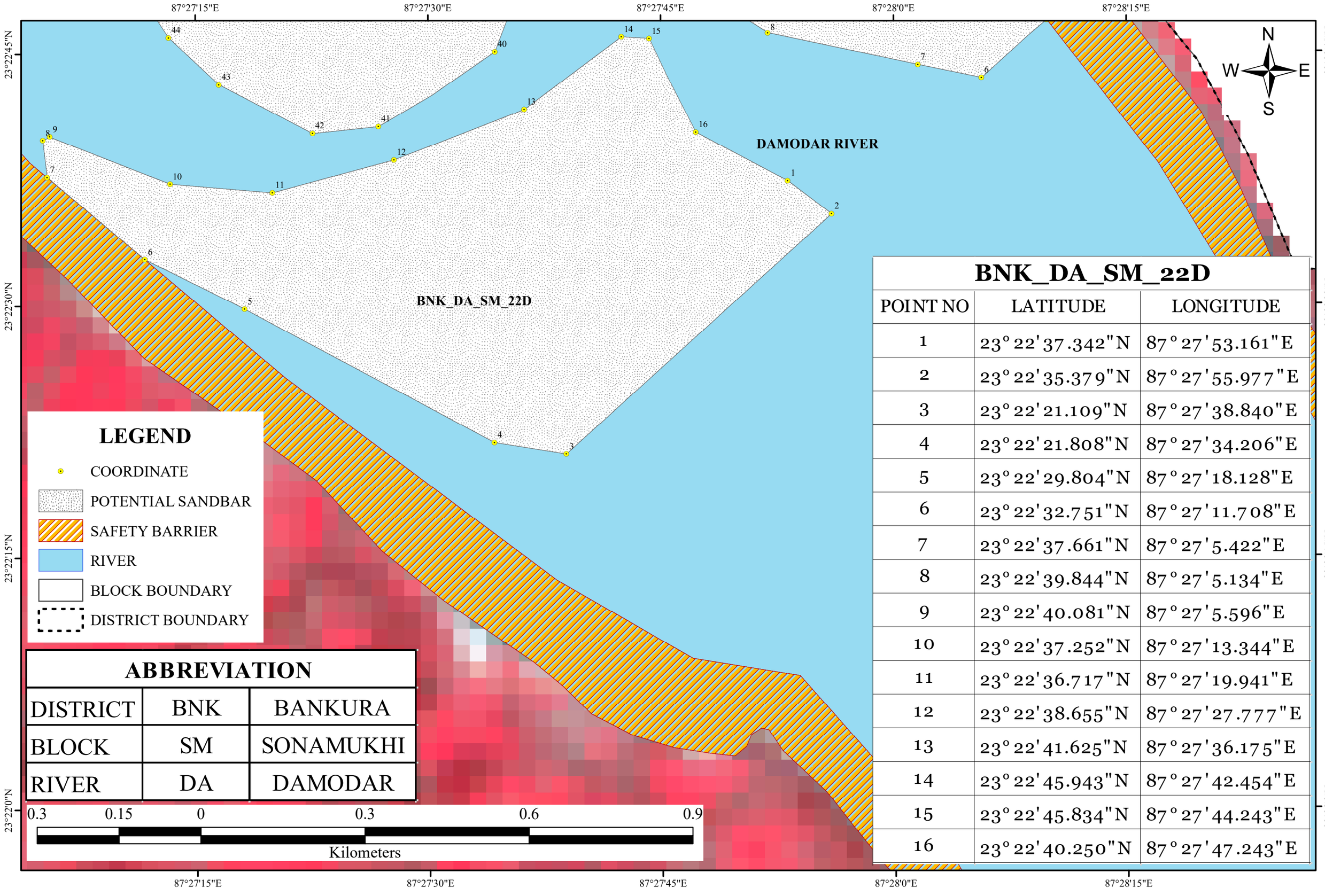
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SONAMUKHI
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_SM_22C OF DAMODAR RIVER



BNK_DA_SM_22C		
POINT NO	LATITUDE	LONGITUDE
1	23°23'42.473"N	87°27'10.868"E
2	23°23'35.571"N	87°27'17.407"E
3	23°23'21.342"N	87°27'34.509"E
4	23°22'58.139"N	87°28'0.378"E
5	23°22'46.876"N	87°28'9.870"E
6	23°22'43.446"N	87°28'5.667"E
7	23°22'44.234"N	87°28'1.573"E
8	23°22'46.156"N	87°27'51.887"E
9	23°22'49.961"N	87°27'45.376"E
10	23°22'51.874"N	87°27'38.485"E
11	23°22'56.883"N	87°27'31.978"E
12	23°23'1.541"N	87°27'28.079"E
13	23°23'11.708"N	87°27'22.894"E
14	23°23'18.771"N	87°27'20.309"E
15	23°23'24.984"N	87°27'13.992"E
16	23°23'28.947"N	87°27'12.141"E
17	23°23'35.842"N	87°27'7.876"E
18	23°23'42.556"N	87°27'6.967"E
19	23°23'51.796"N	87°27'2.859"E

POTENTIAL BLOCK BNK_DA_SM_22D OF DAMODAR RIVER



BNK_DA_SM_22D		
POINT NO	LATITUDE	LONGITUDE
1	23°22'37.342"N	87°27'53.161"E
2	23°22'35.379"N	87°27'55.977"E
3	23°22'21.109"N	87°27'38.840"E
4	23°22'21.808"N	87°27'34.206"E
5	23°22'29.804"N	87°27'18.128"E
6	23°22'32.751"N	87°27'11.708"E
7	23°22'37.661"N	87°27'5.422"E
8	23°22'39.844"N	87°27'5.134"E
9	23°22'40.081"N	87°27'5.596"E
10	23°22'37.252"N	87°27'13.344"E
11	23°22'36.717"N	87°27'19.941"E
12	23°22'38.655"N	87°27'27.777"E
13	23°22'41.625"N	87°27'36.175"E
14	23°22'45.943"N	87°27'42.454"E
15	23°22'45.834"N	87°27'44.243"E
16	23°22'40.250"N	87°27'47.243"E

POTENTIAL BLOCK BNK_DA_SM_23 OF DAMODAR RIVER

87°27'15"E 87°27'30"E 87°27'45"E 87°28'0"E 87°28'15"E 87°28'30"E 87°28'45"E 87°29'0"E 87°29'15"E 87°29'30"E 87°29'45"E 87°30'0"E 87°30'15"E 87°30'30"E

23°22'0"N 23°21'45"N 23°21'30"N 23°21'15"N 23°21'0"N 23°20'45"N 23°20'30"N 23°20'15"N 23°20'0"N

DAMODAR RIVER

BNK_DA_SM_23

N W E S

BNK_DA_SM_23					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°21'38.267"N	87°28'55.267"E	20	23°20'57.029"N	87°28'35.722"E
2	23°21'30.276"N	87°28'57.624"E	21	23°21'5.120"N	87°28'34.633"E
3	23°21'6.721"N	87°29'11.228"E	22	23°21'15.149"N	87°28'35.617"E
4	23°20'56.315"N	87°29'10.649"E	23	23°21'18.271"N	87°28'34.696"E
5	23°20'53.343"N	87°29'10.101"E	24	23°21'21.357"N	87°28'29.973"E
6	23°20'50.037"N	87°29'10.805"E	25	23°21'26.731"N	87°28'22.784"E
7	23°20'47.545"N	87°29'15.269"E	26	23°21'29.551"N	87°28'21.923"E
8	23°20'44.073"N	87°29'16.329"E	27	23°21'32.808"N	87°28'25.895"E
9	23°20'38.955"N	87°29'15.416"E	28	23°21'34.816"N	87°28'28.225"E
10	23°20'28.548"N	87°29'15.378"E	29	23°21'47.127"N	87°28'42.513"E
11	23°20'22.274"N	87°29'14.103"E	30	23°21'44.570"N	87°28'43.375"E
12	23°20'18.474"N	87°29'14.447"E	31	23°21'34.845"N	87°28'49.603"E
13	23°20'12.763"N	87°29'17.836"E	32	23°21'34.005"N	87°28'54.408"E
14	23°20'17.019"N	87°29'4.650"E	33	23°21'41.545"N	87°28'53.205"E
15	23°20'20.480"N	87°28'58.327"E	34	23°21'46.857"N	87°28'52.566"E
16	23°20'25.310"N	87°28'54.244"E	35	23°21'49.910"N	87°28'52.453"E
17	23°20'33.752"N	87°28'51.107"E	36	23°21'53.549"N	87°28'50.926"E
18	23°20'40.827"N	87°28'44.610"E	37	23°21'57.455"N	87°28'55.617"E
19	23°20'47.720"N	87°28'41.280"E	38	23°21'49.000"N	87°28'56.648"E

0.75 0.375 0 0.75 1.5 2.25

Kilometers

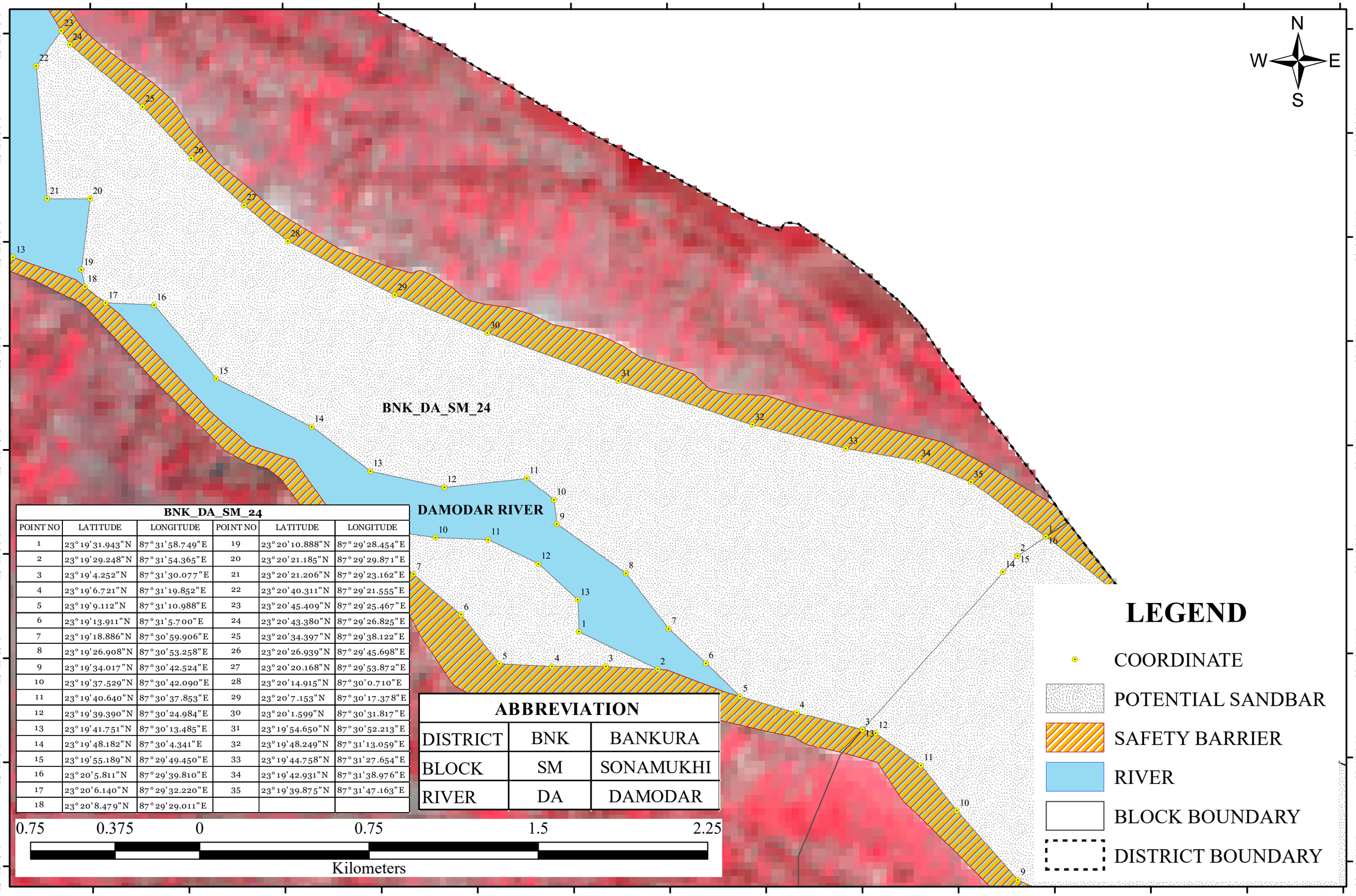
LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	SM	SONAMUKHI
RIVER	DA	DAMODAR

POTENTIAL BLOCK BNK_DA_SM_24 OF DAMODAR RIVER



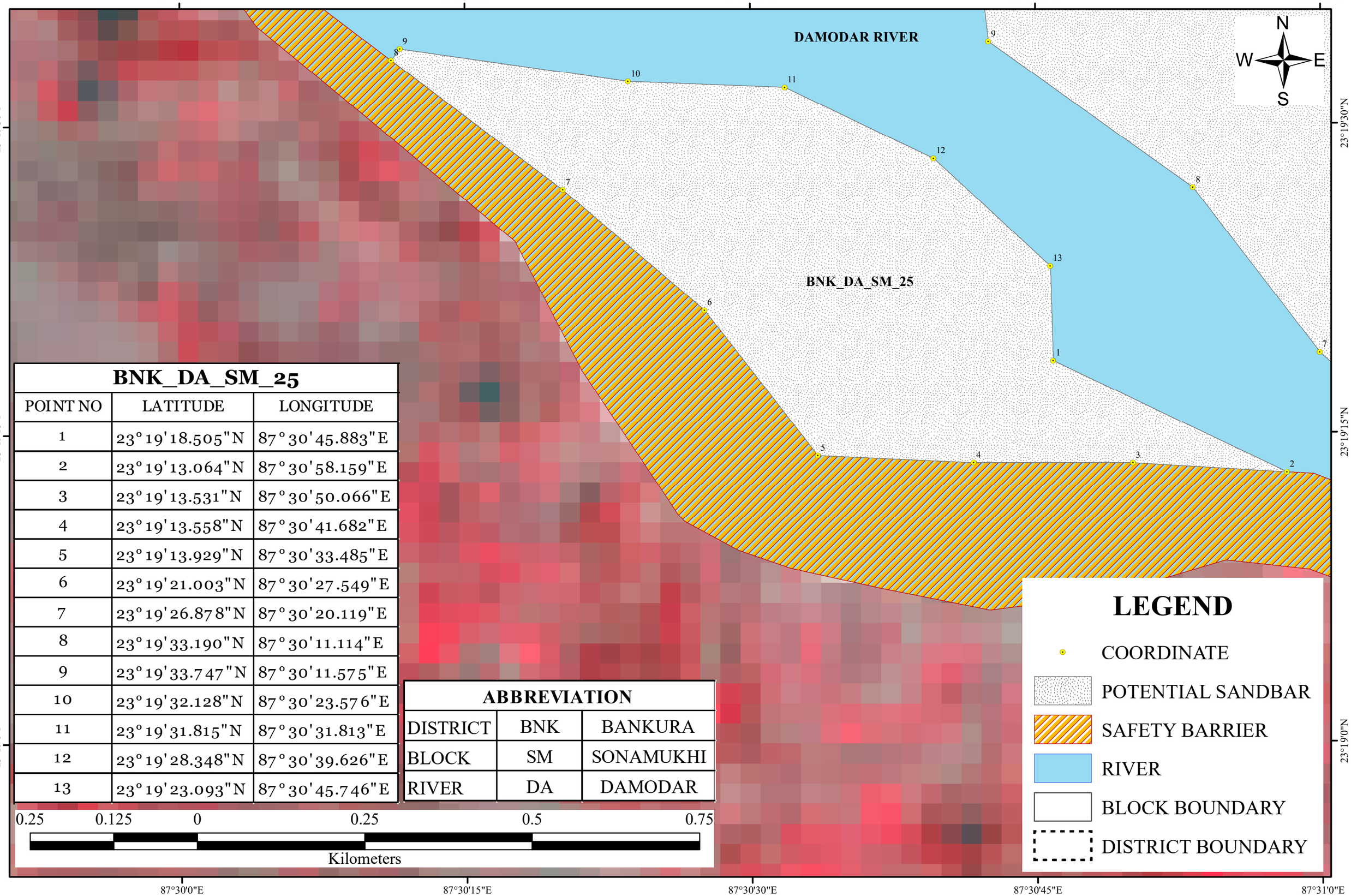
BNK_DA_SM_24					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°19'31.943"N	87°31'58.749"E	19	23°20'10.888"N	87°29'28.454"E
2	23°19'29.248"N	87°31'54.365"E	20	23°20'21.185"N	87°29'29.871"E
3	23°19'4.252"N	87°31'30.077"E	21	23°20'21.206"N	87°29'23.162"E
4	23°19'6.721"N	87°31'19.852"E	22	23°20'40.311"N	87°29'21.555"E
5	23°19'9.112"N	87°31'10.988"E	23	23°20'45.409"N	87°29'25.467"E
6	23°19'13.911"N	87°31'5.700"E	24	23°20'43.380"N	87°29'26.825"E
7	23°19'18.886"N	87°30'59.906"E	25	23°20'34.397"N	87°29'38.122"E
8	23°19'26.908"N	87°30'53.258"E	26	23°20'26.939"N	87°29'45.698"E
9	23°19'34.017"N	87°30'42.524"E	27	23°20'20.168"N	87°29'53.872"E
10	23°19'37.529"N	87°30'42.090"E	28	23°20'14.915"N	87°30'0.710"E
11	23°19'40.640"N	87°30'37.853"E	29	23°20'7.153"N	87°30'17.378"E
12	23°19'39.390"N	87°30'24.984"E	30	23°20'1.599"N	87°30'31.817"E
13	23°19'41.751"N	87°30'13.485"E	31	23°19'54.650"N	87°30'52.213"E
14	23°19'48.182"N	87°30'4.341"E	32	23°19'48.249"N	87°31'13.059"E
15	23°19'55.189"N	87°29'49.450"E	33	23°19'44.758"N	87°31'27.654"E
16	23°20'5.811"N	87°29'39.810"E	34	23°19'42.931"N	87°31'38.976"E
17	23°20'6.140"N	87°29'32.220"E	35	23°19'39.875"N	87°31'47.163"E
18	23°20'8.479"N	87°29'29.011"E			

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SONAMUKHI
RIVER	DA	DAMODAR

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_DA_SM_25 OF DAMODAR RIVER



BNK_DA_SM_25

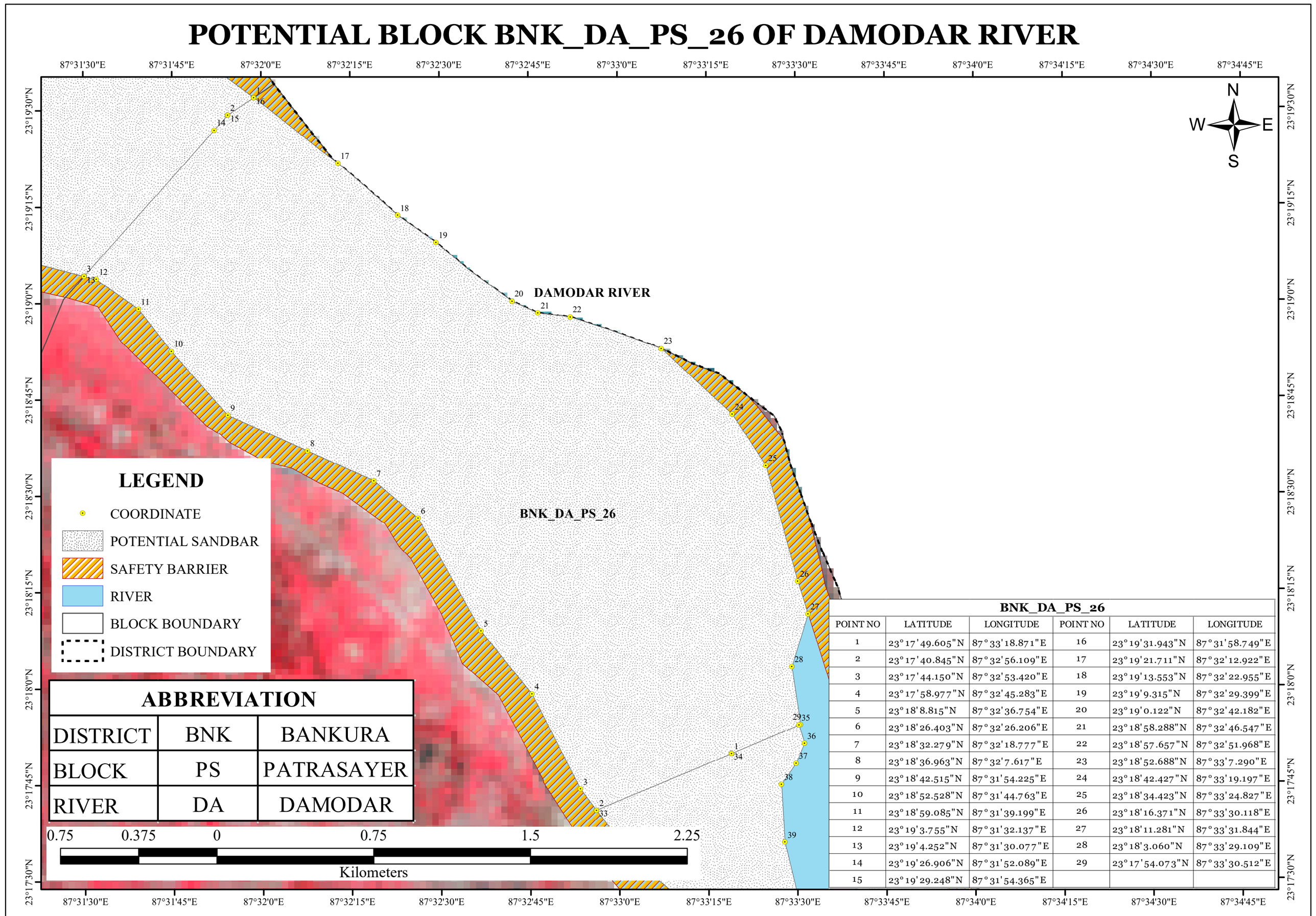
POINT NO	LATITUDE	LONGITUDE
1	23°19'18.505"N	87°30'45.883"E
2	23°19'13.064"N	87°30'58.159"E
3	23°19'13.531"N	87°30'50.066"E
4	23°19'13.558"N	87°30'41.682"E
5	23°19'13.929"N	87°30'33.485"E
6	23°19'21.003"N	87°30'27.549"E
7	23°19'26.878"N	87°30'20.119"E
8	23°19'33.190"N	87°30'11.114"E
9	23°19'33.747"N	87°30'11.575"E
10	23°19'32.128"N	87°30'23.576"E
11	23°19'31.815"N	87°30'31.813"E
12	23°19'28.348"N	87°30'39.626"E
13	23°19'23.093"N	87°30'45.746"E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SONAMUKHI
RIVER	DA	DAMODAR

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

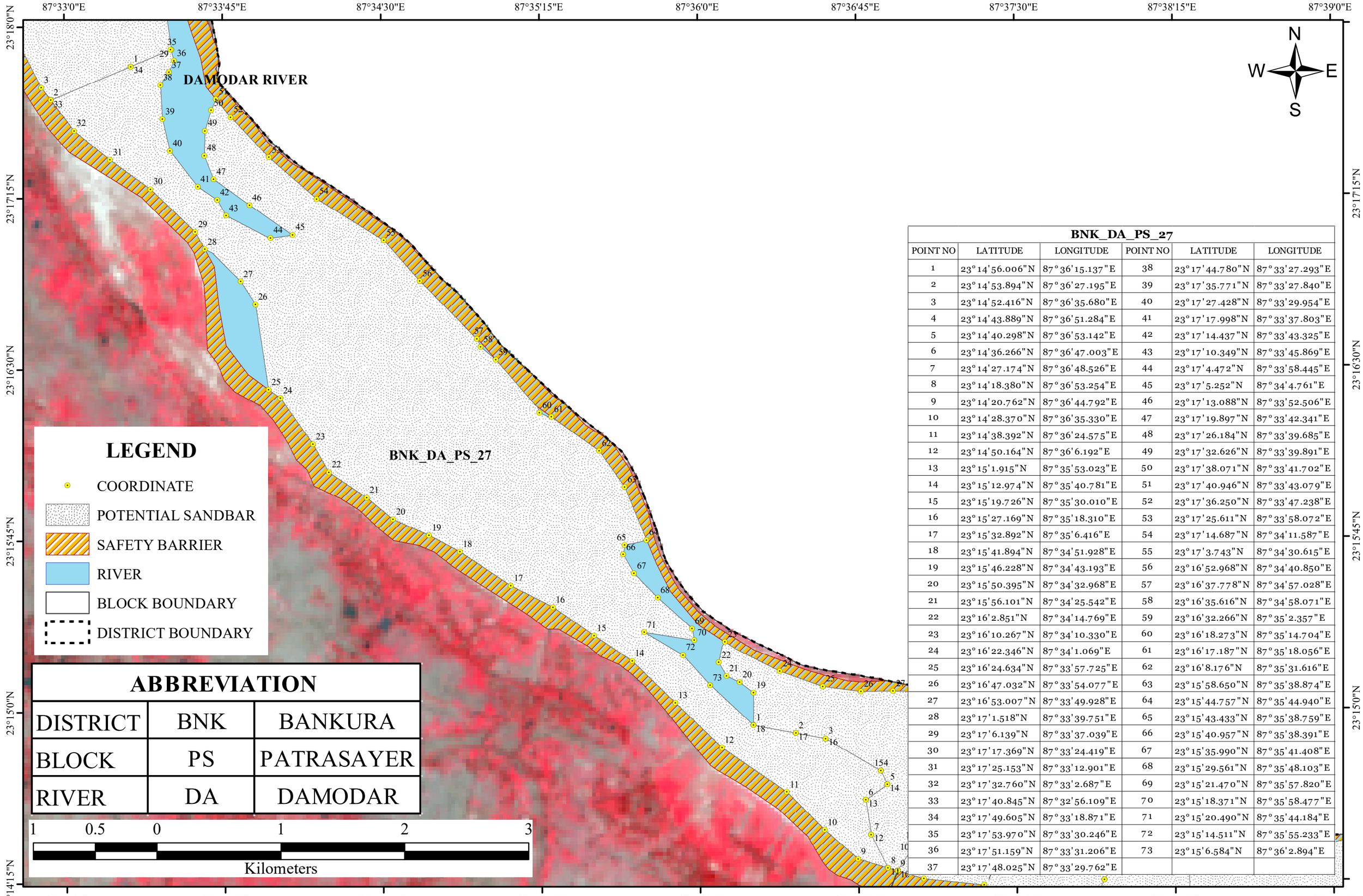
POTENTIAL BLOCK BNK_DA_PS_26 OF DAMODAR RIVER



BNK_DA_PS_26

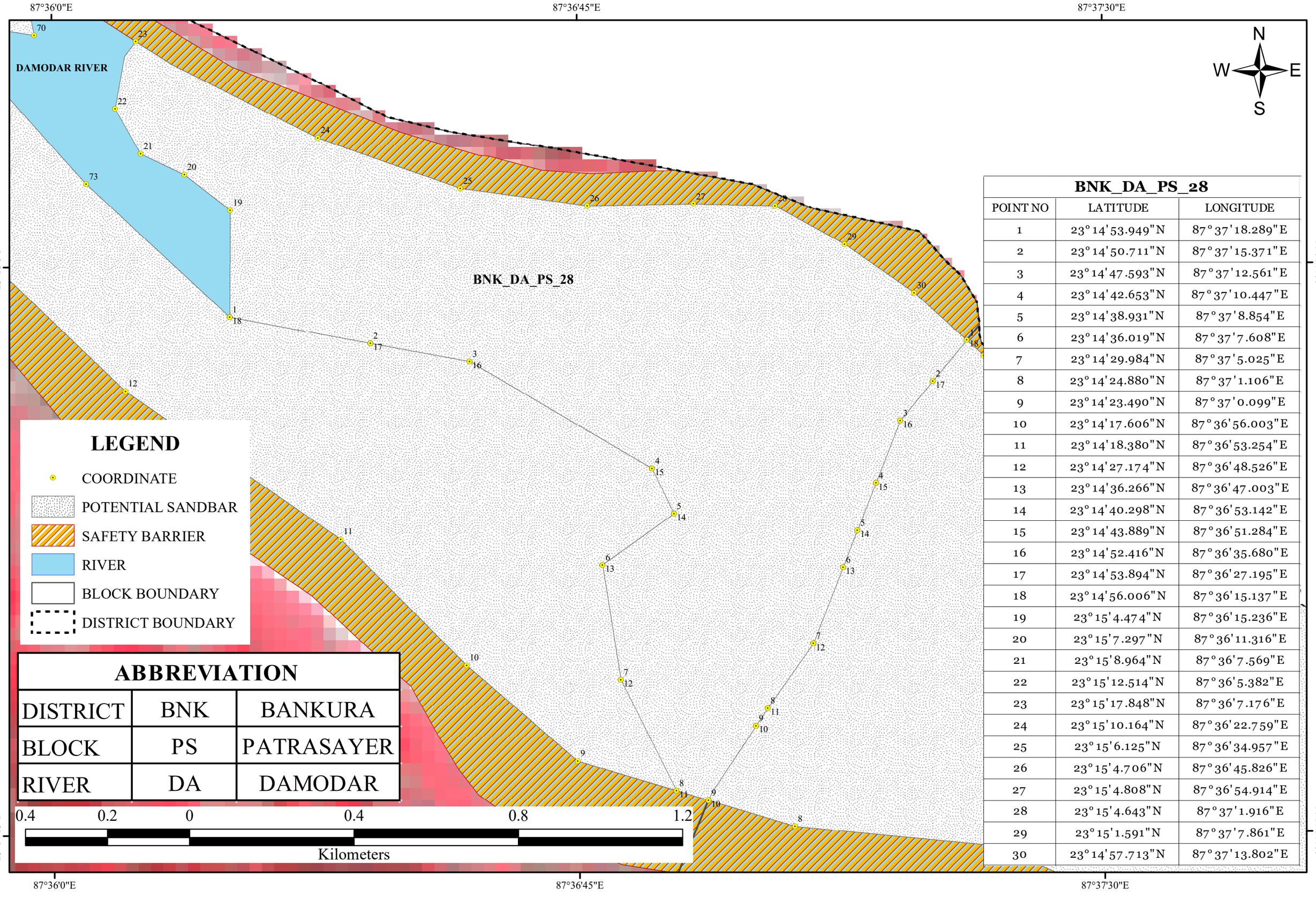
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°17'49.605"N	87°33'18.871"E	16	23°19'31.943"N	87°31'58.749"E
2	23°17'40.845"N	87°32'56.109"E	17	23°19'21.711"N	87°32'12.922"E
3	23°17'44.150"N	87°32'53.420"E	18	23°19'13.553"N	87°32'22.955"E
4	23°17'58.977"N	87°32'45.283"E	19	23°19'9.315"N	87°32'29.399"E
5	23°18'8.815"N	87°32'36.754"E	20	23°19'0.122"N	87°32'42.182"E
6	23°18'26.403"N	87°32'26.206"E	21	23°18'58.288"N	87°32'46.547"E
7	23°18'32.279"N	87°32'18.777"E	22	23°18'57.657"N	87°32'51.968"E
8	23°18'36.963"N	87°32'7.617"E	23	23°18'52.688"N	87°33'7.290"E
9	23°18'42.515"N	87°31'54.225"E	24	23°18'42.427"N	87°33'19.197"E
10	23°18'52.528"N	87°31'44.763"E	25	23°18'34.423"N	87°33'24.827"E
11	23°18'59.085"N	87°31'39.199"E	26	23°18'16.371"N	87°33'30.118"E
12	23°19'3.755"N	87°31'32.137"E	27	23°18'11.281"N	87°33'31.844"E
13	23°19'4.252"N	87°31'30.077"E	28	23°18'3.060"N	87°33'29.109"E
14	23°19'26.906"N	87°31'52.089"E	29	23°17'54.073"N	87°33'30.512"E
15	23°19'29.248"N	87°31'54.365"E			

POTENTIAL BLOCK BNK_DA_PS_27 OF DAMODAR RIVER



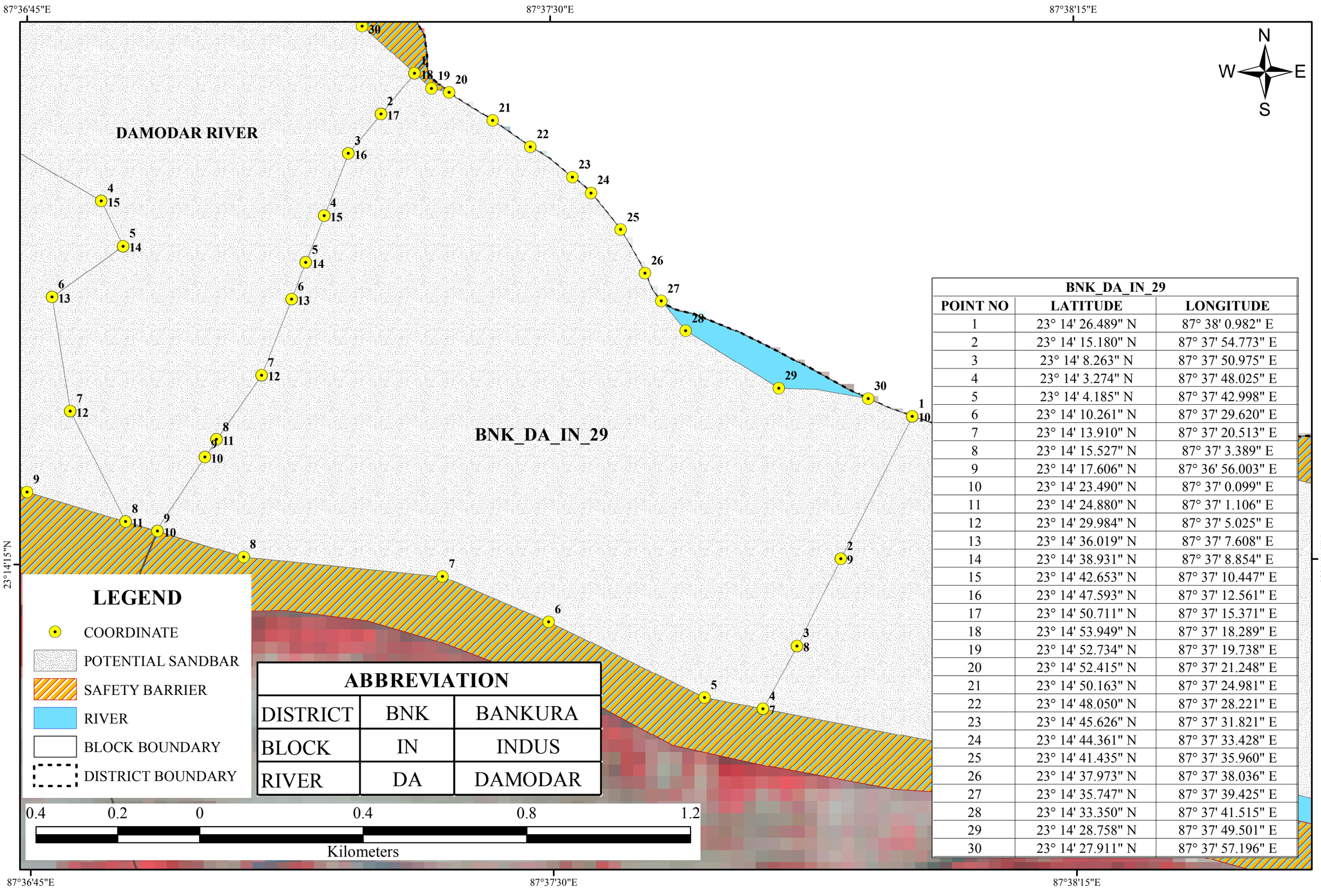
BNK_DA_PS_27					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°14'56.006"N	87°36'15.137"E	38	23°17'44.780"N	87°33'27.293"E
2	23°14'53.894"N	87°36'27.195"E	39	23°17'35.771"N	87°33'27.840"E
3	23°14'52.416"N	87°36'35.680"E	40	23°17'27.428"N	87°33'29.954"E
4	23°14'43.889"N	87°36'51.284"E	41	23°17'17.998"N	87°33'37.803"E
5	23°14'40.298"N	87°36'53.142"E	42	23°17'14.437"N	87°33'43.325"E
6	23°14'36.266"N	87°36'47.003"E	43	23°17'10.349"N	87°33'45.869"E
7	23°14'27.174"N	87°36'48.526"E	44	23°17'4.472"N	87°33'58.445"E
8	23°14'18.380"N	87°36'53.254"E	45	23°17'5.252"N	87°34'4.761"E
9	23°14'20.762"N	87°36'44.792"E	46	23°17'13.088"N	87°33'52.506"E
10	23°14'28.370"N	87°36'35.330"E	47	23°17'19.897"N	87°33'42.341"E
11	23°14'38.392"N	87°36'24.575"E	48	23°17'26.184"N	87°33'39.685"E
12	23°14'50.164"N	87°36'6.192"E	49	23°17'32.626"N	87°33'39.891"E
13	23°15'1.915"N	87°35'53.023"E	50	23°17'38.071"N	87°33'41.702"E
14	23°15'12.974"N	87°35'40.781"E	51	23°17'40.946"N	87°33'43.079"E
15	23°15'19.726"N	87°35'30.010"E	52	23°17'36.250"N	87°33'47.238"E
16	23°15'27.169"N	87°35'18.310"E	53	23°17'25.611"N	87°33'58.072"E
17	23°15'32.892"N	87°35'6.416"E	54	23°17'14.687"N	87°34'11.587"E
18	23°15'41.894"N	87°34'51.928"E	55	23°17'3.743"N	87°34'30.615"E
19	23°15'46.228"N	87°34'43.193"E	56	23°16'52.968"N	87°34'40.850"E
20	23°15'50.395"N	87°34'32.968"E	57	23°16'37.778"N	87°34'57.028"E
21	23°15'56.101"N	87°34'25.542"E	58	23°16'35.616"N	87°34'58.071"E
22	23°16'2.851"N	87°34'14.769"E	59	23°16'32.266"N	87°35'2.357"E
23	23°16'10.267"N	87°34'10.330"E	60	23°16'18.273"N	87°35'14.704"E
24	23°16'22.346"N	87°34'1.069"E	61	23°16'17.187"N	87°35'18.056"E
25	23°16'24.634"N	87°33'57.725"E	62	23°16'8.176"N	87°35'31.616"E
26	23°16'47.032"N	87°33'54.077"E	63	23°15'58.650"N	87°35'38.874"E
27	23°16'53.007"N	87°33'49.928"E	64	23°15'44.757"N	87°35'44.940"E
28	23°17'1.518"N	87°33'39.751"E	65	23°15'43.433"N	87°35'38.759"E
29	23°17'6.139"N	87°33'37.039"E	66	23°15'40.957"N	87°35'38.391"E
30	23°17'17.369"N	87°33'24.419"E	67	23°15'35.990"N	87°35'41.408"E
31	23°17'25.153"N	87°33'12.901"E	68	23°15'29.561"N	87°35'48.103"E
32	23°17'32.760"N	87°33'2.687"E	69	23°15'21.470"N	87°35'57.820"E
33	23°17'40.845"N	87°32'56.109"E	70	23°15'18.371"N	87°35'58.477"E
34	23°17'49.605"N	87°33'18.871"E	71	23°15'20.490"N	87°35'44.184"E
35	23°17'53.970"N	87°33'30.246"E	72	23°15'14.511"N	87°35'55.233"E
36	23°17'51.159"N	87°33'31.206"E	73	23°15'6.584"N	87°36'2.894"E
37	23°17'48.025"N	87°33'29.762"E			

POTENTIAL BLOCK BNK_DA_PS_28 OF DAMODAR RIVER



BNK_DA_PS_28		
POINT NO	LATITUDE	LONGITUDE
1	23°14'53.949"N	87°37'18.289"E
2	23°14'50.711"N	87°37'15.371"E
3	23°14'47.593"N	87°37'12.561"E
4	23°14'42.653"N	87°37'10.447"E
5	23°14'38.931"N	87°37'8.854"E
6	23°14'36.019"N	87°37'7.608"E
7	23°14'29.984"N	87°37'5.025"E
8	23°14'24.880"N	87°37'1.106"E
9	23°14'23.490"N	87°37'0.099"E
10	23°14'17.606"N	87°36'56.003"E
11	23°14'18.380"N	87°36'53.254"E
12	23°14'27.174"N	87°36'48.526"E
13	23°14'36.266"N	87°36'47.003"E
14	23°14'40.298"N	87°36'53.142"E
15	23°14'43.889"N	87°36'51.284"E
16	23°14'52.416"N	87°36'35.680"E
17	23°14'53.894"N	87°36'27.195"E
18	23°14'56.006"N	87°36'15.137"E
19	23°15'4.474"N	87°36'15.236"E
20	23°15'7.297"N	87°36'11.316"E
21	23°15'8.964"N	87°36'7.569"E
22	23°15'12.514"N	87°36'5.382"E
23	23°15'17.848"N	87°36'7.176"E
24	23°15'10.164"N	87°36'22.759"E
25	23°15'6.125"N	87°36'34.957"E
26	23°15'4.706"N	87°36'45.826"E
27	23°15'4.808"N	87°36'54.914"E
28	23°15'4.643"N	87°37'1.916"E
29	23°15'1.591"N	87°37'7.861"E
30	23°14'57.713"N	87°37'13.802"E

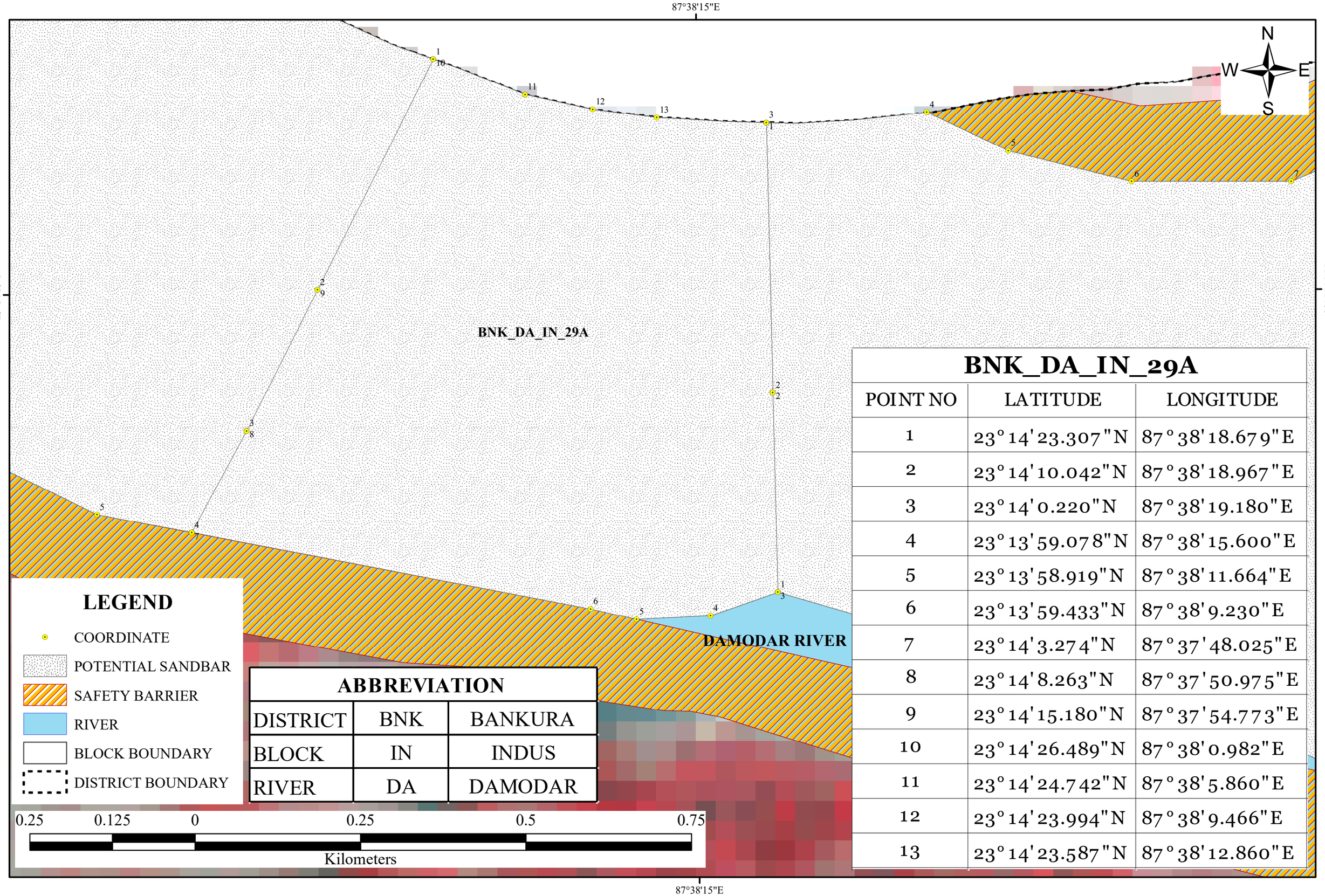
POTENTIAL BLOCK BNK_DA_IN_29 OF DAMODAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	IN	INDUS
RIVER	DA	DAMODAR

BNK_DA_IN_29		
POINT NO	LATITUDE	LONGITUDE
1	23° 14' 26.489" N	87° 38' 0.982" E
2	23° 14' 15.180" N	87° 37' 54.773" E
3	23° 14' 8.263" N	87° 37' 50.975" E
4	23° 14' 3.274" N	87° 37' 48.025" E
5	23° 14' 4.185" N	87° 37' 42.998" E
6	23° 14' 10.261" N	87° 37' 29.620" E
7	23° 14' 13.910" N	87° 37' 20.513" E
8	23° 14' 15.527" N	87° 37' 3.389" E
9	23° 14' 17.606" N	87° 36' 56.003" E
10	23° 14' 23.490" N	87° 37' 0.099" E
11	23° 14' 24.880" N	87° 37' 1.106" E
12	23° 14' 29.984" N	87° 37' 5.025" E
13	23° 14' 36.019" N	87° 37' 7.608" E
14	23° 14' 38.931" N	87° 37' 8.854" E
15	23° 14' 42.653" N	87° 37' 10.447" E
16	23° 14' 47.593" N	87° 37' 12.561" E
17	23° 14' 50.711" N	87° 37' 15.371" E
18	23° 14' 53.949" N	87° 37' 18.289" E
19	23° 14' 52.734" N	87° 37' 19.738" E
20	23° 14' 52.415" N	87° 37' 21.248" E
21	23° 14' 50.163" N	87° 37' 24.981" E
22	23° 14' 48.050" N	87° 37' 28.221" E
23	23° 14' 45.626" N	87° 37' 31.821" E
24	23° 14' 44.361" N	87° 37' 33.428" E
25	23° 14' 41.435" N	87° 37' 35.960" E
26	23° 14' 37.973" N	87° 37' 38.036" E
27	23° 14' 35.747" N	87° 37' 39.425" E
28	23° 14' 33.350" N	87° 37' 41.515" E
29	23° 14' 28.758" N	87° 37' 49.501" E
30	23° 14' 27.911" N	87° 37' 57.196" E

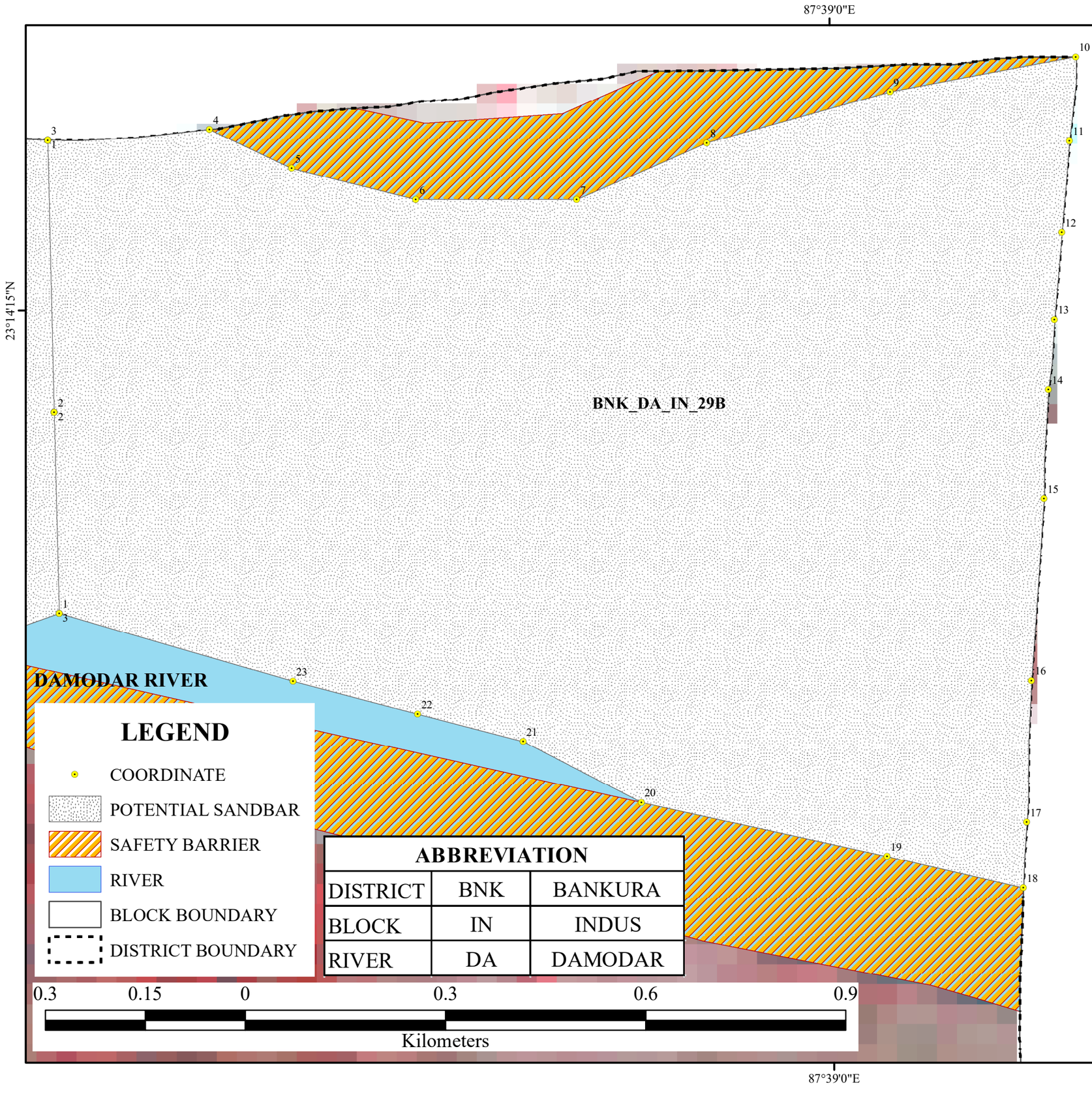
POTENTIAL BLOCK BNK_DA_IN_29A OF DAMODAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	IN	INDUS
RIVER	DA	DAMODAR

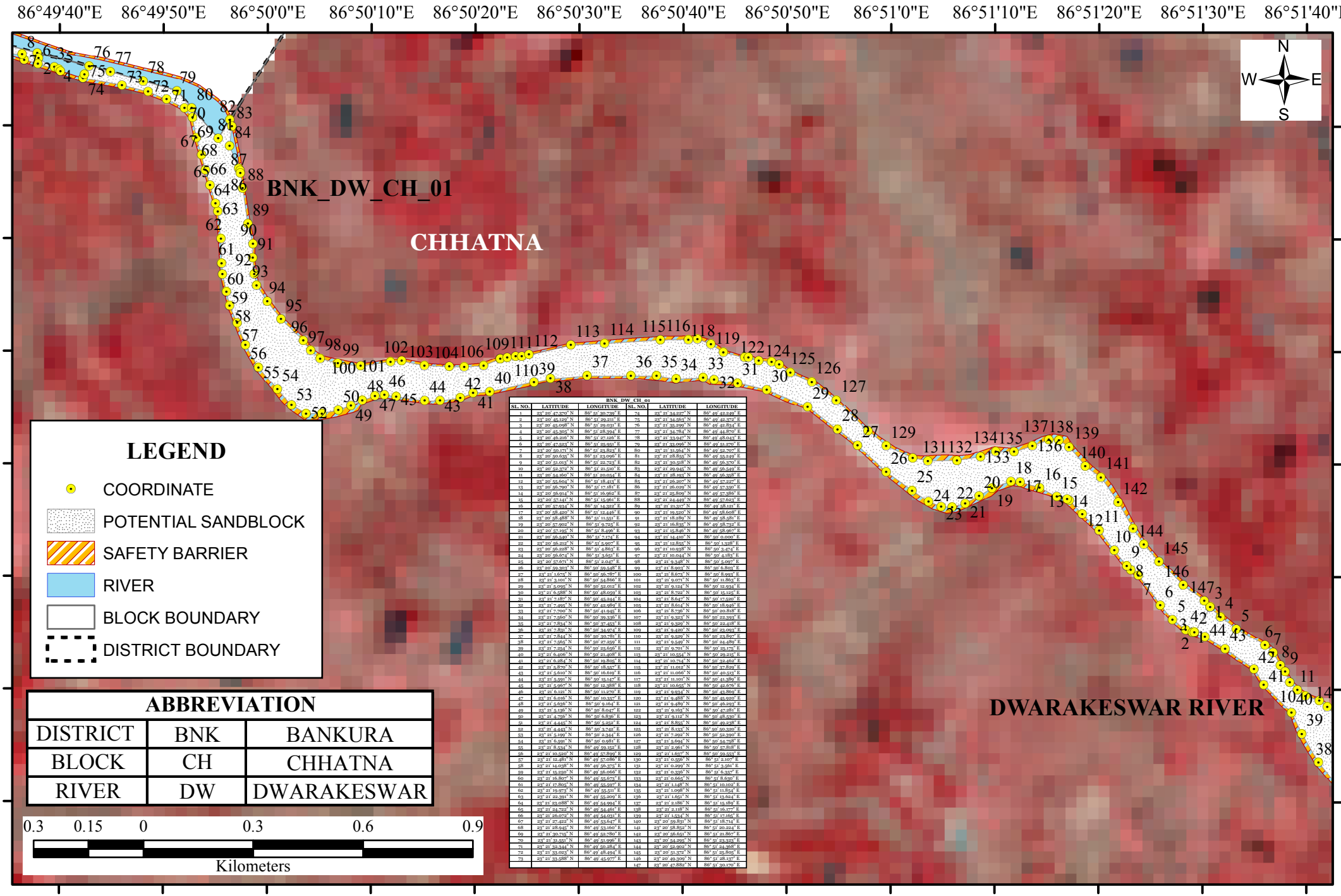
BNK_DA_IN_29A		
POINT NO	LATITUDE	LONGITUDE
1	23°14'23.307"N	87°38'18.679"E
2	23°14'10.042"N	87°38'18.967"E
3	23°14'0.220"N	87°38'19.180"E
4	23°13'59.078"N	87°38'15.600"E
5	23°13'58.919"N	87°38'11.664"E
6	23°13'59.433"N	87°38'9.230"E
7	23°14'3.274"N	87°37'48.025"E
8	23°14'8.263"N	87°37'50.975"E
9	23°14'15.180"N	87°37'54.773"E
10	23°14'26.489"N	87°38'0.982"E
11	23°14'24.742"N	87°38'5.860"E
12	23°14'23.994"N	87°38'9.466"E
13	23°14'23.587"N	87°38'12.860"E

POTENTIAL BLOCK BNK_DA_IN_29B OF DAMODAR RIVER



BNK_DA_IN_29B		
POINT NO	LATITUDE	LONGITUDE
1	23°14'0.220"N	87°38'19.180"E
2	23°14'10.042"N	87°38'18.967"E
3	23°14'23.307"N	87°38'18.679"E
4	23°14'23.780"N	87°38'27.224"E
5	23°14'21.884"N	87°38'31.547"E
6	23°14'20.343"N	87°38'38.094"E
7	23°14'20.308"N	87°38'46.585"E
8	23°14'23.033"N	87°38'53.450"E
9	23°14'25.471"N	87°39'3.145"E
10	23°14'27.154"N	87°39'12.943"E
11	23°14'23.058"N	87°39'12.591"E
12	23°14'18.587"N	87°39'12.165"E
13	23°14'14.347"N	87°39'11.762"E
14	23°14'10.934"N	87°39'11.427"E
15	23°14'5.619"N	87°39'11.162"E
16	23°13'56.745"N	87°39'10.456"E
17	23°13'49.840"N	87°39'10.173"E
18	23°13'46.650"N	87°39'9.981"E
19	23°13'48.201"N	87°39'2.802"E
20	23°13'50.901"N	87°38'49.845"E
21	23°13'53.885"N	87°38'43.624"E
22	23°13'55.248"N	87°38'38.082"E
23	23°13'56.866"N	87°38'31.498"E

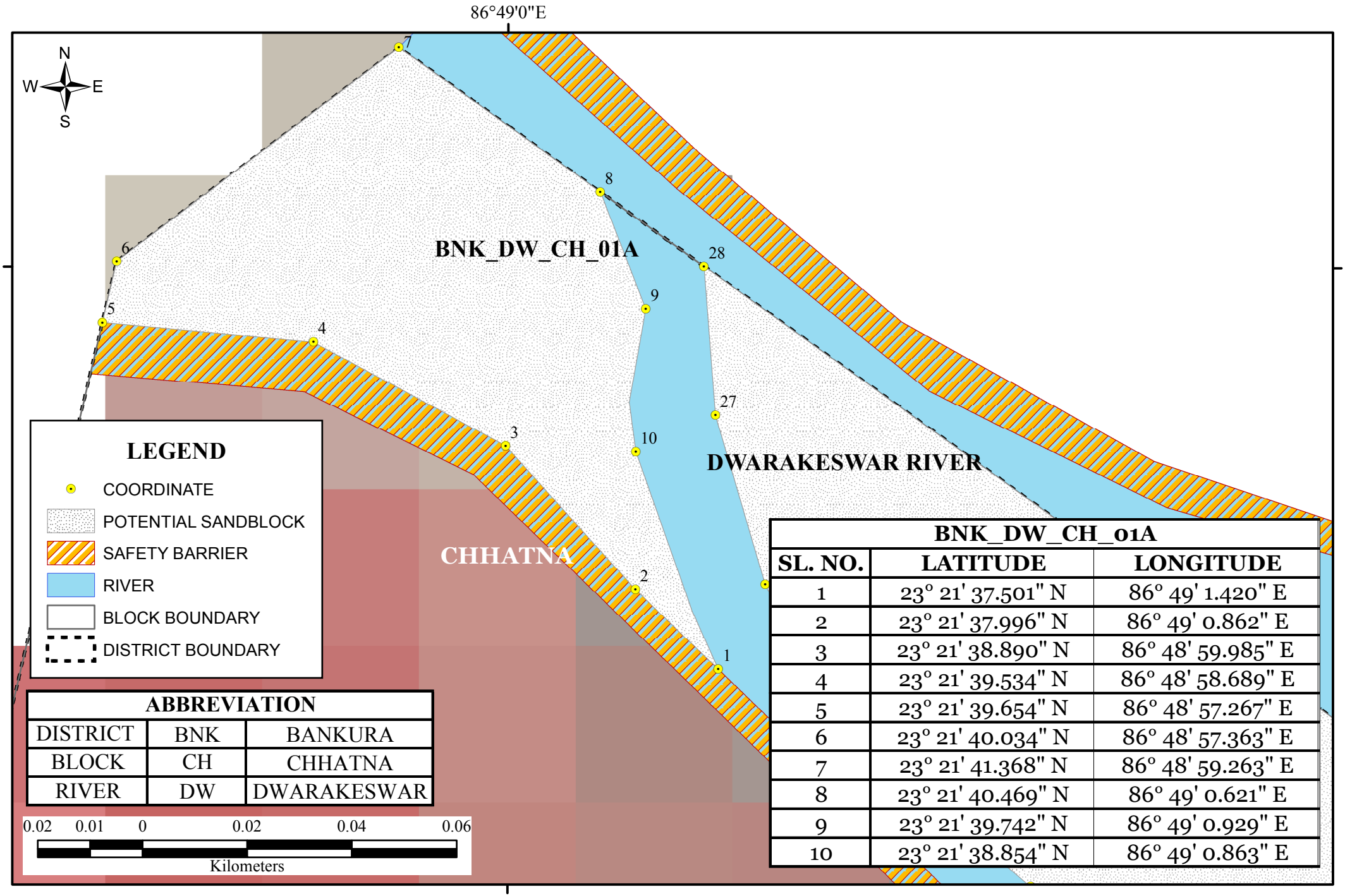
POTENTIAL BLOCK BNK_DW_CH_01 OF DWARAKESWAR RIVER



BNK_DW_CH_01

SL. NO.	LATTITUDE	LONGITUDE	SL. NO.	LATTITUDE	LONGITUDE
1	23° 20' 47.370" N	86° 51' 30.739" E	74	23° 21' 34.227" N	86° 49' 42.249" E
2	23° 20' 45.129" N	86° 51' 29.211" E	75	23° 21' 34.561" N	86° 49' 42.172" E
3	23° 20' 45.098" N	86° 51' 29.031" E	76	23° 21' 35.299" N	86° 49' 42.834" E
4	23° 20' 45.395" N	86° 51' 28.394" E	77	23° 21' 34.784" N	86° 49' 44.870" E
5	23° 20' 46.216" N	86° 51' 27.126" E	78	23° 21' 33.947" N	86° 49' 48.043" E
6	23° 20' 47.623" N	86° 51' 25.951" E	79	23° 21' 33.096" N	86° 49' 51.570" E
7	23° 20' 50.171" N	86° 51' 24.883" E	80	23° 21' 31.564" N	86° 49' 52.707" E
8	23° 20' 50.633" N	86° 51' 23.096" E	81	23° 21' 28.853" N	86° 49' 53.249" E
9	23° 20' 51.013" N	86° 51' 22.783" E	82	23° 21' 30.318" N	86° 49' 56.370" E
10	23° 20' 52.372" N	86° 51' 21.510" E	83	23° 21' 29.945" N	86° 49' 56.549" E
11	23° 20' 54.160" N	86° 51' 20.054" E	84	23° 21' 28.193" N	86° 49' 56.358" E
12	23° 20' 55.604" N	86° 51' 18.418" E	85	23° 21' 26.307" N	86° 49' 57.227" E
13	23° 20' 56.790" N	86° 51' 17.181" E	86	23° 21' 26.039" N	86° 49' 57.350" E
14	23° 20' 56.914" N	86° 51' 16.962" E	87	23° 21' 25.809" N	86° 49' 57.986" E
15	23° 20' 57.141" N	86° 51' 15.961" E	88	23° 21' 24.449" N	86° 49' 57.623" E
16	23° 20' 57.934" N	86° 51' 14.322" E	89	23° 21' 21.317" N	86° 49' 58.121" E
17	23° 20' 58.420" N	86° 51' 12.446" E	90	23° 21' 19.520" N	86° 49' 58.608" E
18	23° 20' 58.488" N	86° 51' 11.551" E	91	23° 21' 18.289" N	86° 49' 58.581" E
19	23° 20' 57.992" N	86° 51' 9.755" E	92	23° 21' 16.836" N	86° 49' 58.732" E
20	23° 20' 57.195" N	86° 51' 8.496" E	93	23° 21' 15.846" N	86° 49' 58.967" E
21	23° 20' 56.540" N	86° 51' 7.174" E	94	23° 21' 14.119" N	86° 50' 0.000" E
22	23° 20' 56.212" N	86° 51' 5.907" E	95	23° 21' 12.852" N	86° 50' 1.128" E
23	23° 20' 56.228" N	86° 51' 4.863" E	96	23° 21' 10.938" N	86° 50' 3.474" E
24	23° 20' 56.674" N	86° 51' 3.651" E	97	23° 21' 10.044" N	86° 50' 4.183" E
25	23° 20' 57.671" N	86° 51' 2.047" E	98	23° 21' 9.348" N	86° 50' 5.997" E
26	23° 20' 59.393" N	86° 50' 59.548" E	99	23° 21' 8.993" N	86° 50' 6.803" E
27	23° 21' 1.672" N	86° 50' 56.787" E	100	23° 21' 8.673" N	86° 50' 8.993" E
28	23° 21' 3.101" N	86° 50' 54.866" E	101	23° 21' 9.071" N	86° 50' 11.863" E
29	23° 21' 5.095" N	86° 50' 52.012" E	102	23° 21' 9.124" N	86° 50' 12.934" E
30	23° 21' 6.588" N	86° 50' 48.059" E	103	23° 21' 8.722" N	86° 50' 15.125" E
31	23° 21' 7.187" N	86° 50' 45.244" E	104	23° 21' 8.647" N	86° 50' 17.520" E
32	23° 21' 7.495" N	86° 50' 42.989" E	105	23° 21' 8.614" N	86° 50' 18.646" E
33	23° 21' 7.700" N	86° 50' 41.945" E	106	23° 21' 8.736" N	86° 50' 20.818" E
34	23° 21' 7.560" N	86° 50' 39.336" E	107	23° 21' 9.323" N	86° 50' 22.393" E
35	23° 21' 7.814" N	86° 50' 37.451" E	108	23° 21' 9.329" N	86° 50' 22.418" E
36	23° 21' 7.831" N	86° 50' 34.974" E	109	23° 21' 9.420" N	86° 50' 23.093" E
37	23° 21' 7.844" N	86° 50' 30.781" E	110	23° 21' 9.529" N	86° 50' 23.897" E
38	23° 21' 7.565" N	86° 50' 27.259" E	111	23° 21' 9.549" N	86° 50' 24.489" E
39	23° 21' 7.254" N	86° 50' 25.656" E	112	23° 21' 9.701" N	86° 50' 25.175" E
40	23° 21' 6.406" N	86° 50' 21.498" E	113	23° 21' 10.554" N	86° 50' 29.215" E
41	23° 21' 6.284" N	86° 50' 19.895" E	114	23° 21' 10.714" N	86° 50' 32.469" E
42	23° 21' 5.870" N	86° 50' 18.327" E	115	23° 21' 11.012" N	86° 50' 37.829" E
43	23° 21' 5.610" N	86° 50' 16.619" E	116	23° 21' 11.066" N	86° 50' 40.533" E
44	23° 21' 5.591" N	86° 50' 15.147" E	117	23° 21' 11.101" N	86° 50' 41.389" E
45	23° 21' 5.965" N	86° 50' 12.388" E	118	23° 21' 10.652" N	86° 50' 42.676" E
46	23° 21' 6.121" N	86° 50' 11.270" E	119	23° 21' 9.934" N	86° 50' 43.866" E
47	23° 21' 6.016" N	86° 50' 10.357" E	120	23° 21' 9.488" N	86° 50' 45.920" E
48	23° 21' 5.636" N	86° 50' 9.164" E	121	23° 21' 9.489" N	86° 50' 46.293" E
49	23° 21' 5.136" N	86° 50' 8.047" E	122	23° 21' 9.163" N	86° 50' 47.281" E
50	23° 21' 4.756" N	86° 50' 6.836" E	123	23° 21' 9.112" N	86° 50' 48.530" E
51	23° 21' 4.445" N	86° 50' 5.252" E	124	23° 21' 8.855" N	86° 50' 49.238" E
52	23° 21' 4.443" N	86° 50' 3.742" E	125	23° 21' 8.133" N	86° 50' 50.230" E
53	23° 21' 3.199" N	86° 50' 2.344" E	126	23° 21' 7.392" N	86° 50' 52.399" E
54	23° 21' 6.591" N	86° 50' 0.981" E	127	23° 21' 5.694" N	86° 50' 54.758" E
55	23° 21' 8.514" N	86° 49' 59.152" E	128	23° 21' 2.961" N	86° 50' 57.818" E
56	23° 21' 10.520" N	86° 49' 57.899" E	129	23° 21' 1.637" N	86° 50' 59.553" E
57	23° 21' 12.481" N	86° 49' 57.086" E	130	23° 21' 0.556" N	86° 51' 2.107" E
58	23° 21' 14.038" N	86° 49' 56.375" E	131	23° 21' 0.299" N	86° 51' 3.561" E
59	23° 21' 15.250" N	86° 49' 56.066" E	132	23° 21' 0.330" N	86° 51' 6.357" E
60	23° 21' 16.807" N	86° 49' 55.673" E	133	23° 21' 0.665" N	86° 51' 8.630" E
61	23° 21' 17.805" N	86° 49' 55.597" E	134	23° 21' 1.148" N	86° 51' 10.102" E
62	23° 21' 19.973" N	86° 49' 55.511" E	135	23° 21' 1.098" N	86° 51' 11.854" E
63	23° 21' 22.391" N	86° 49' 55.209" E	136	23° 21' 1.651" N	86° 51' 13.624" E
64	23° 21' 23.088" N	86° 49' 54.994" E	137	23° 21' 2.186" N	86° 51' 15.189" E
65	23° 21' 24.722" N	86° 49' 54.461" E	138	23° 21' 2.118" N	86° 51' 16.177" E
66	23° 21' 26.072" N	86° 49' 54.031" E	139	23° 21' 1.534" N	86° 51' 17.165" E
67	23° 21' 27.422" N	86° 49' 53.647" E	140	23° 20' 59.831" N	86° 51' 18.714" E
68	23° 21' 28.945" N	86° 49' 53.160" E	141	23° 20' 58.852" N	86° 51' 20.224" E
69	23° 21' 30.715" N	86° 49' 52.780" E	142	23° 20' 56.641" N	86° 51' 21.867" E
70	23° 21' 31.551" N	86° 49' 51.996" E	143	23° 20' 54.295" N	86° 51' 23.323" E
71	23° 21' 32.344" N	86° 49' 50.284" E	144	23° 20' 52.992" N	86° 51' 24.368" E
72	23° 21' 33.023" N	86° 49' 48.494" E	145	23° 20' 51.375" N	86° 51' 25.805" E
73	23° 21' 33.588" N	86° 49' 45.977" E	146	23° 20' 49.390" N	86° 51' 28.137" E
			147	23° 20' 47.882" N	86° 51' 30.170" E

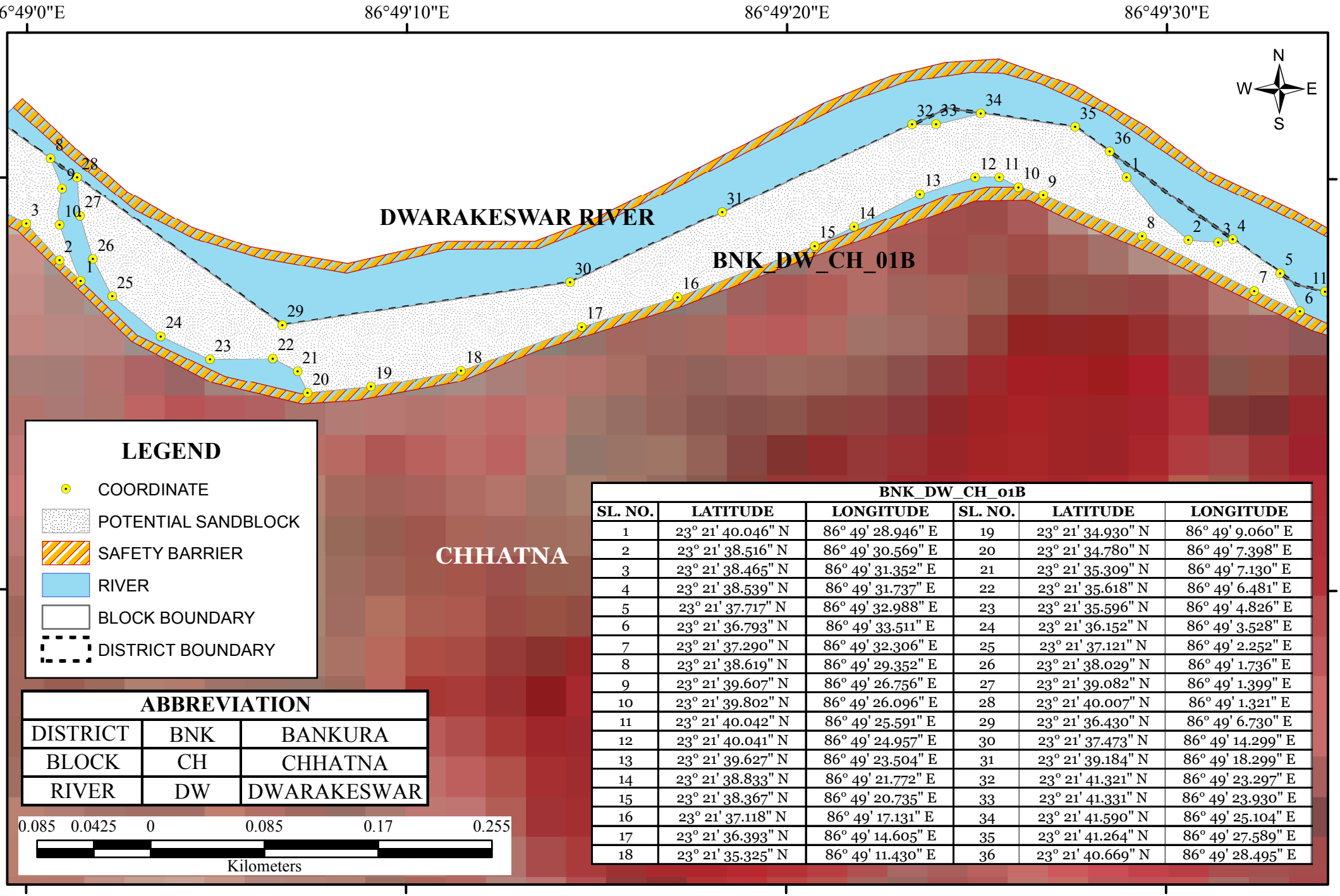
POTENTIAL BLOCK BNK_DW_CH_01A OF DWARAKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	CH	CHHATNA
RIVER	DW	DWARAKESWAR

BNK_DW_CH_01A		
SL. NO.	LATITUDE	LONGITUDE
1	23° 21' 37.501" N	86° 49' 1.420" E
2	23° 21' 37.996" N	86° 49' 0.862" E
3	23° 21' 38.890" N	86° 48' 59.985" E
4	23° 21' 39.534" N	86° 48' 58.689" E
5	23° 21' 39.654" N	86° 48' 57.267" E
6	23° 21' 40.034" N	86° 48' 57.363" E
7	23° 21' 41.368" N	86° 48' 59.263" E
8	23° 21' 40.469" N	86° 49' 0.621" E
9	23° 21' 39.742" N	86° 49' 0.929" E
10	23° 21' 38.854" N	86° 49' 0.863" E

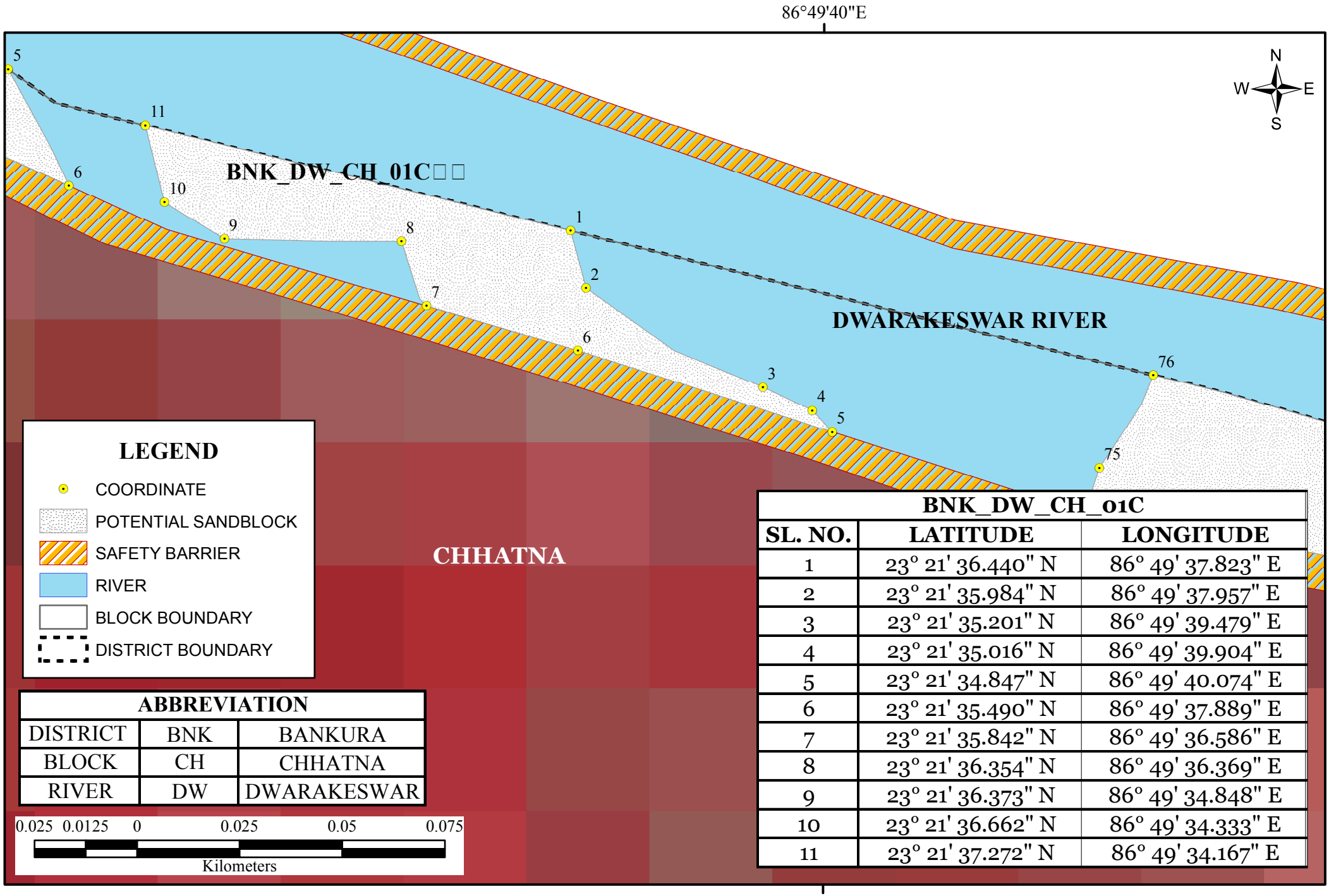
POTENTIAL BLOCK BNK_DW_CH_01B OF DWARAKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	CH	CHHATNA
RIVER	DW	DWARAKESWAR

BNK_DW_CH_01B					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 21' 40.046" N	86° 49' 28.946" E	19	23° 21' 34.930" N	86° 49' 9.060" E
2	23° 21' 38.516" N	86° 49' 30.569" E	20	23° 21' 34.780" N	86° 49' 7.398" E
3	23° 21' 38.465" N	86° 49' 31.352" E	21	23° 21' 35.309" N	86° 49' 7.130" E
4	23° 21' 38.539" N	86° 49' 31.737" E	22	23° 21' 35.618" N	86° 49' 6.481" E
5	23° 21' 37.717" N	86° 49' 32.988" E	23	23° 21' 35.596" N	86° 49' 4.826" E
6	23° 21' 36.793" N	86° 49' 33.511" E	24	23° 21' 36.152" N	86° 49' 3.528" E
7	23° 21' 37.290" N	86° 49' 32.306" E	25	23° 21' 37.121" N	86° 49' 2.252" E
8	23° 21' 38.619" N	86° 49' 29.352" E	26	23° 21' 38.029" N	86° 49' 1.736" E
9	23° 21' 39.607" N	86° 49' 26.756" E	27	23° 21' 39.082" N	86° 49' 1.399" E
10	23° 21' 39.802" N	86° 49' 26.096" E	28	23° 21' 40.007" N	86° 49' 1.321" E
11	23° 21' 40.042" N	86° 49' 25.591" E	29	23° 21' 36.430" N	86° 49' 6.730" E
12	23° 21' 40.041" N	86° 49' 24.957" E	30	23° 21' 37.473" N	86° 49' 14.299" E
13	23° 21' 39.627" N	86° 49' 23.504" E	31	23° 21' 39.184" N	86° 49' 18.299" E
14	23° 21' 38.833" N	86° 49' 21.772" E	32	23° 21' 41.321" N	86° 49' 23.297" E
15	23° 21' 38.367" N	86° 49' 20.735" E	33	23° 21' 41.331" N	86° 49' 23.930" E
16	23° 21' 37.118" N	86° 49' 17.131" E	34	23° 21' 41.590" N	86° 49' 25.104" E
17	23° 21' 36.393" N	86° 49' 14.605" E	35	23° 21' 41.264" N	86° 49' 27.589" E
18	23° 21' 35.325" N	86° 49' 11.430" E	36	23° 21' 40.669" N	86° 49' 28.495" E

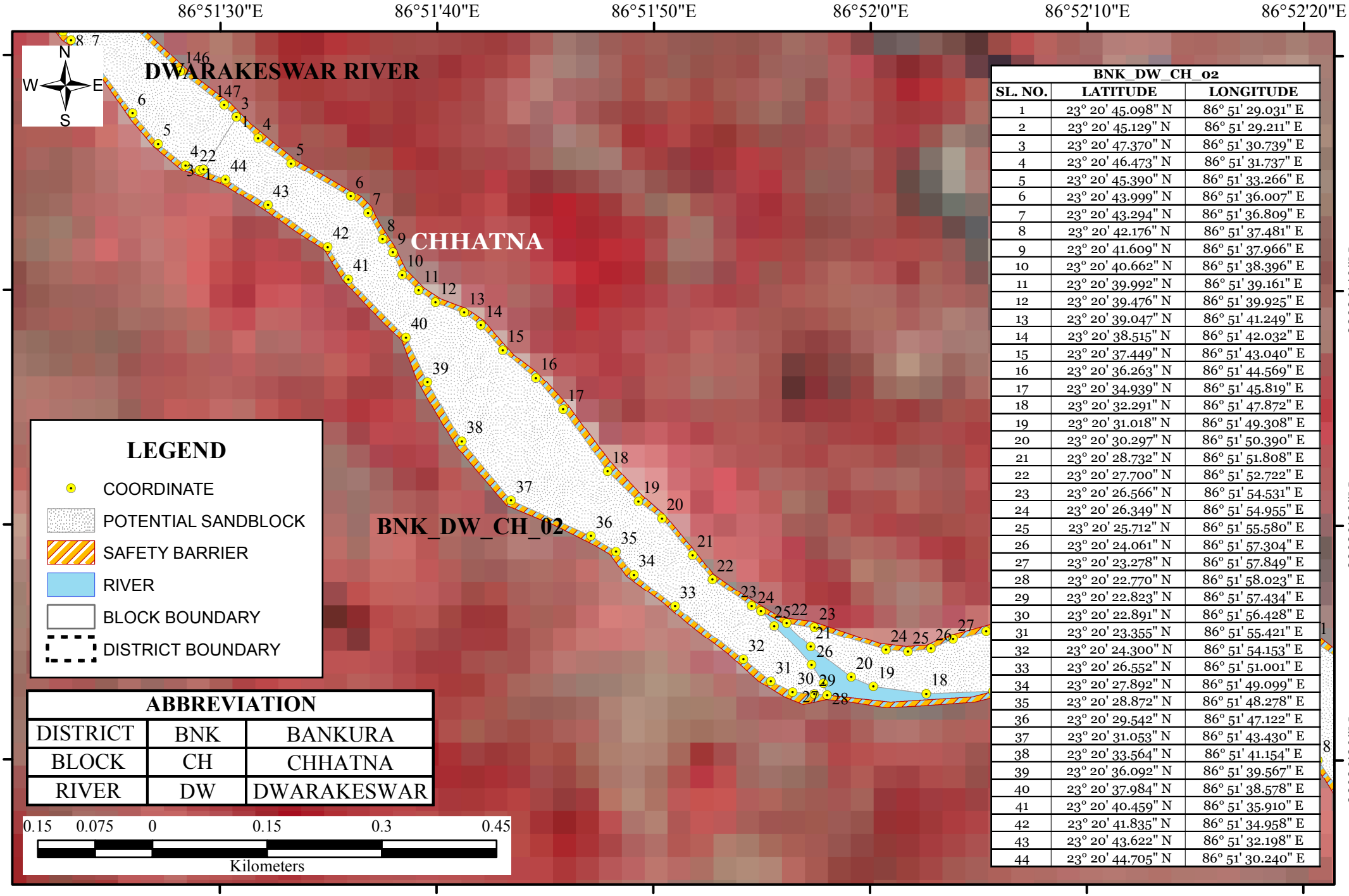
POTENTIAL BLOCK BNK_DW_CH_01C OF DWARAKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	CH	CHHATNA
RIVER	DW	DWARAKESWAR

BNK_DW_CH_01C		
SL. NO.	LATITUDE	LONGITUDE
1	23° 21' 36.440" N	86° 49' 37.823" E
2	23° 21' 35.984" N	86° 49' 37.957" E
3	23° 21' 35.201" N	86° 49' 39.479" E
4	23° 21' 35.016" N	86° 49' 39.904" E
5	23° 21' 34.847" N	86° 49' 40.074" E
6	23° 21' 35.490" N	86° 49' 37.889" E
7	23° 21' 35.842" N	86° 49' 36.586" E
8	23° 21' 36.354" N	86° 49' 36.369" E
9	23° 21' 36.373" N	86° 49' 34.848" E
10	23° 21' 36.662" N	86° 49' 34.333" E
11	23° 21' 37.272" N	86° 49' 34.167" E

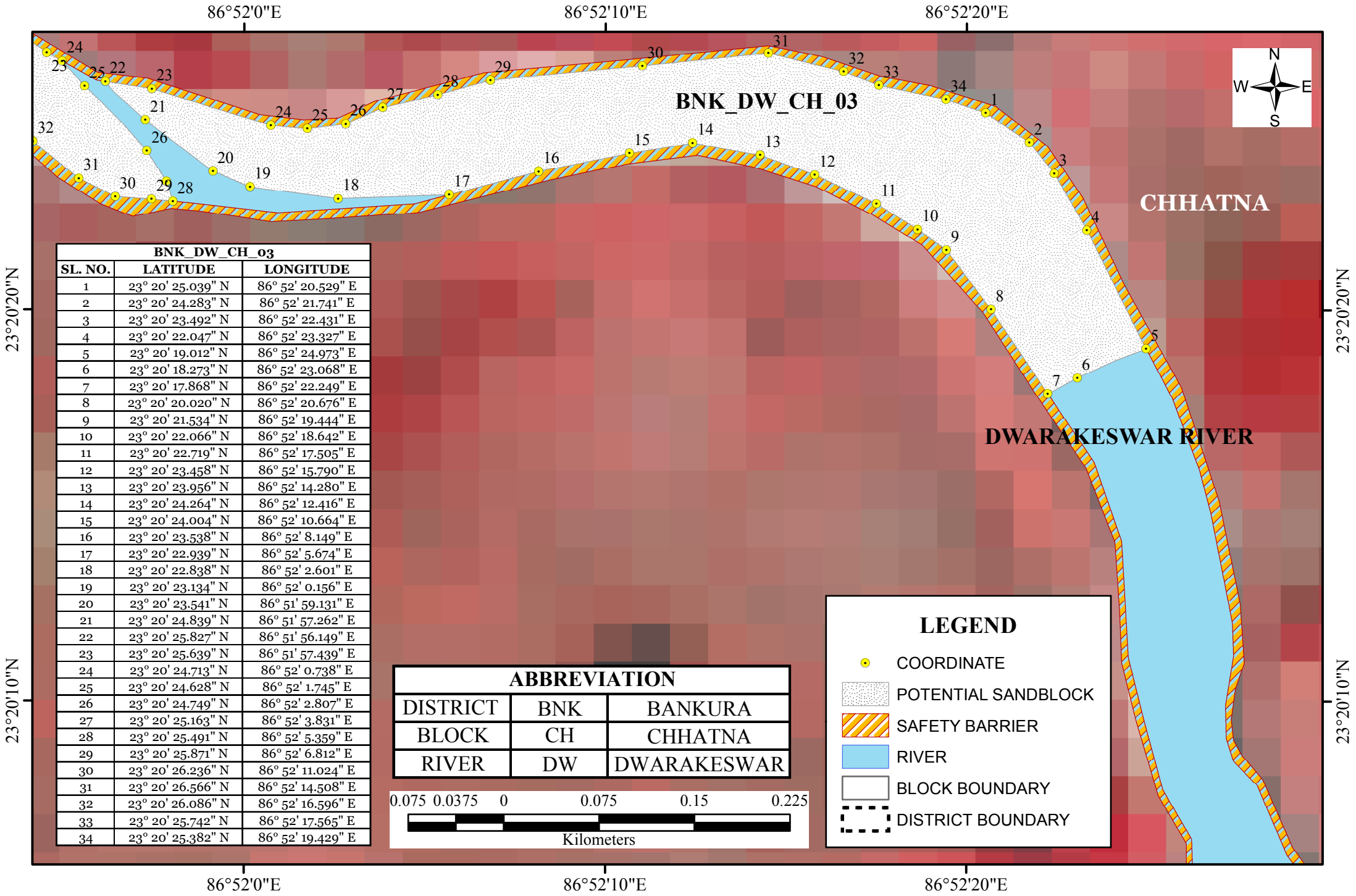
POTENTIAL BLOCK BNK_DW_CH_02 OF DWARAKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	CH	CHHATNA
RIVER	DW	DWARAKESWAR

BNK_DW_CH_02		
SL. NO.	LATITUDE	LONGITUDE
1	23° 20' 45.098" N	86° 51' 29.031" E
2	23° 20' 45.129" N	86° 51' 29.211" E
3	23° 20' 47.370" N	86° 51' 30.739" E
4	23° 20' 46.473" N	86° 51' 31.737" E
5	23° 20' 45.390" N	86° 51' 33.266" E
6	23° 20' 43.999" N	86° 51' 36.007" E
7	23° 20' 43.294" N	86° 51' 36.809" E
8	23° 20' 42.176" N	86° 51' 37.481" E
9	23° 20' 41.609" N	86° 51' 37.966" E
10	23° 20' 40.662" N	86° 51' 38.396" E
11	23° 20' 39.992" N	86° 51' 39.161" E
12	23° 20' 39.476" N	86° 51' 39.925" E
13	23° 20' 39.047" N	86° 51' 41.249" E
14	23° 20' 38.515" N	86° 51' 42.032" E
15	23° 20' 37.449" N	86° 51' 43.040" E
16	23° 20' 36.263" N	86° 51' 44.569" E
17	23° 20' 34.939" N	86° 51' 45.819" E
18	23° 20' 32.291" N	86° 51' 47.872" E
19	23° 20' 31.018" N	86° 51' 49.308" E
20	23° 20' 30.297" N	86° 51' 50.390" E
21	23° 20' 28.732" N	86° 51' 51.808" E
22	23° 20' 27.700" N	86° 51' 52.722" E
23	23° 20' 26.566" N	86° 51' 54.531" E
24	23° 20' 26.349" N	86° 51' 54.955" E
25	23° 20' 25.712" N	86° 51' 55.580" E
26	23° 20' 24.061" N	86° 51' 57.304" E
27	23° 20' 23.278" N	86° 51' 57.849" E
28	23° 20' 22.770" N	86° 51' 58.023" E
29	23° 20' 22.823" N	86° 51' 57.434" E
30	23° 20' 22.891" N	86° 51' 56.428" E
31	23° 20' 23.355" N	86° 51' 55.421" E
32	23° 20' 24.300" N	86° 51' 54.153" E
33	23° 20' 26.552" N	86° 51' 51.001" E
34	23° 20' 27.892" N	86° 51' 49.099" E
35	23° 20' 28.872" N	86° 51' 48.278" E
36	23° 20' 29.542" N	86° 51' 47.122" E
37	23° 20' 31.053" N	86° 51' 43.430" E
38	23° 20' 33.564" N	86° 51' 41.154" E
39	23° 20' 36.092" N	86° 51' 39.567" E
40	23° 20' 37.984" N	86° 51' 38.578" E
41	23° 20' 40.459" N	86° 51' 35.910" E
42	23° 20' 41.835" N	86° 51' 34.958" E
43	23° 20' 43.622" N	86° 51' 32.198" E
44	23° 20' 44.705" N	86° 51' 30.240" E

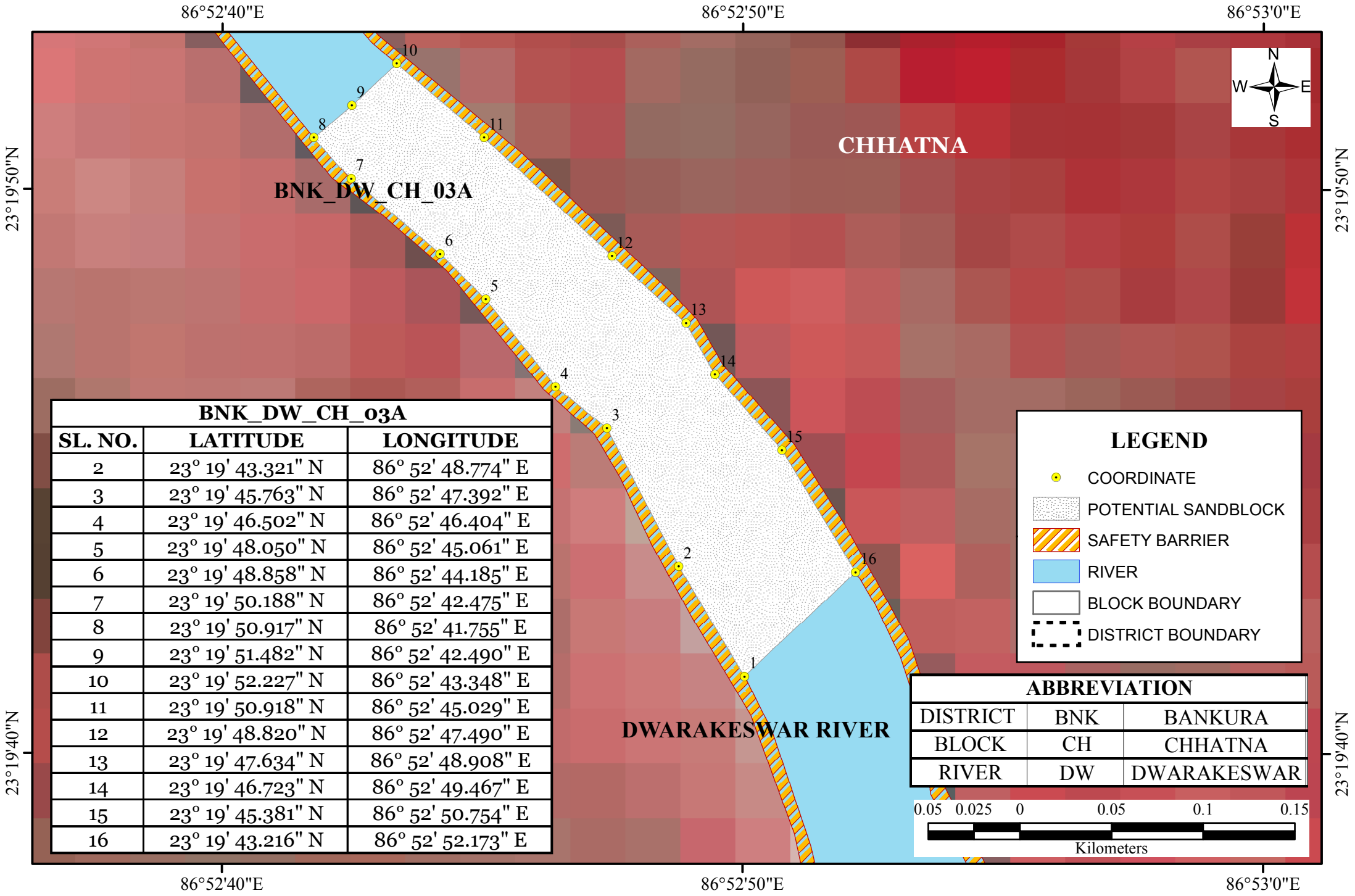
POTENTIAL BLOCK BNK_DW_CH_03 OF DWARAKESWAR RIVER



BNK_DW_CH_03		
SL. NO.	LATITUDE	LONGITUDE
1	23° 20' 25.039" N	86° 52' 20.529" E
2	23° 20' 24.283" N	86° 52' 21.741" E
3	23° 20' 23.492" N	86° 52' 22.431" E
4	23° 20' 22.047" N	86° 52' 23.327" E
5	23° 20' 19.012" N	86° 52' 24.973" E
6	23° 20' 18.273" N	86° 52' 23.068" E
7	23° 20' 17.868" N	86° 52' 22.249" E
8	23° 20' 20.020" N	86° 52' 20.676" E
9	23° 20' 21.534" N	86° 52' 19.444" E
10	23° 20' 22.066" N	86° 52' 18.642" E
11	23° 20' 22.719" N	86° 52' 17.505" E
12	23° 20' 23.458" N	86° 52' 15.790" E
13	23° 20' 23.956" N	86° 52' 14.280" E
14	23° 20' 24.264" N	86° 52' 12.416" E
15	23° 20' 24.004" N	86° 52' 10.664" E
16	23° 20' 23.538" N	86° 52' 8.149" E
17	23° 20' 22.939" N	86° 52' 5.674" E
18	23° 20' 22.838" N	86° 52' 2.601" E
19	23° 20' 23.134" N	86° 52' 0.156" E
20	23° 20' 23.541" N	86° 51' 59.131" E
21	23° 20' 24.839" N	86° 51' 57.262" E
22	23° 20' 25.827" N	86° 51' 56.149" E
23	23° 20' 25.639" N	86° 51' 57.439" E
24	23° 20' 24.713" N	86° 52' 0.738" E
25	23° 20' 24.628" N	86° 52' 1.745" E
26	23° 20' 24.749" N	86° 52' 2.807" E
27	23° 20' 25.163" N	86° 52' 3.831" E
28	23° 20' 25.491" N	86° 52' 5.359" E
29	23° 20' 25.871" N	86° 52' 6.812" E
30	23° 20' 26.236" N	86° 52' 11.024" E
31	23° 20' 26.566" N	86° 52' 14.508" E
32	23° 20' 26.086" N	86° 52' 16.596" E
33	23° 20' 25.742" N	86° 52' 17.565" E
34	23° 20' 25.382" N	86° 52' 19.429" E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	CH	CHHATNA
RIVER	DW	DWARAKESWAR

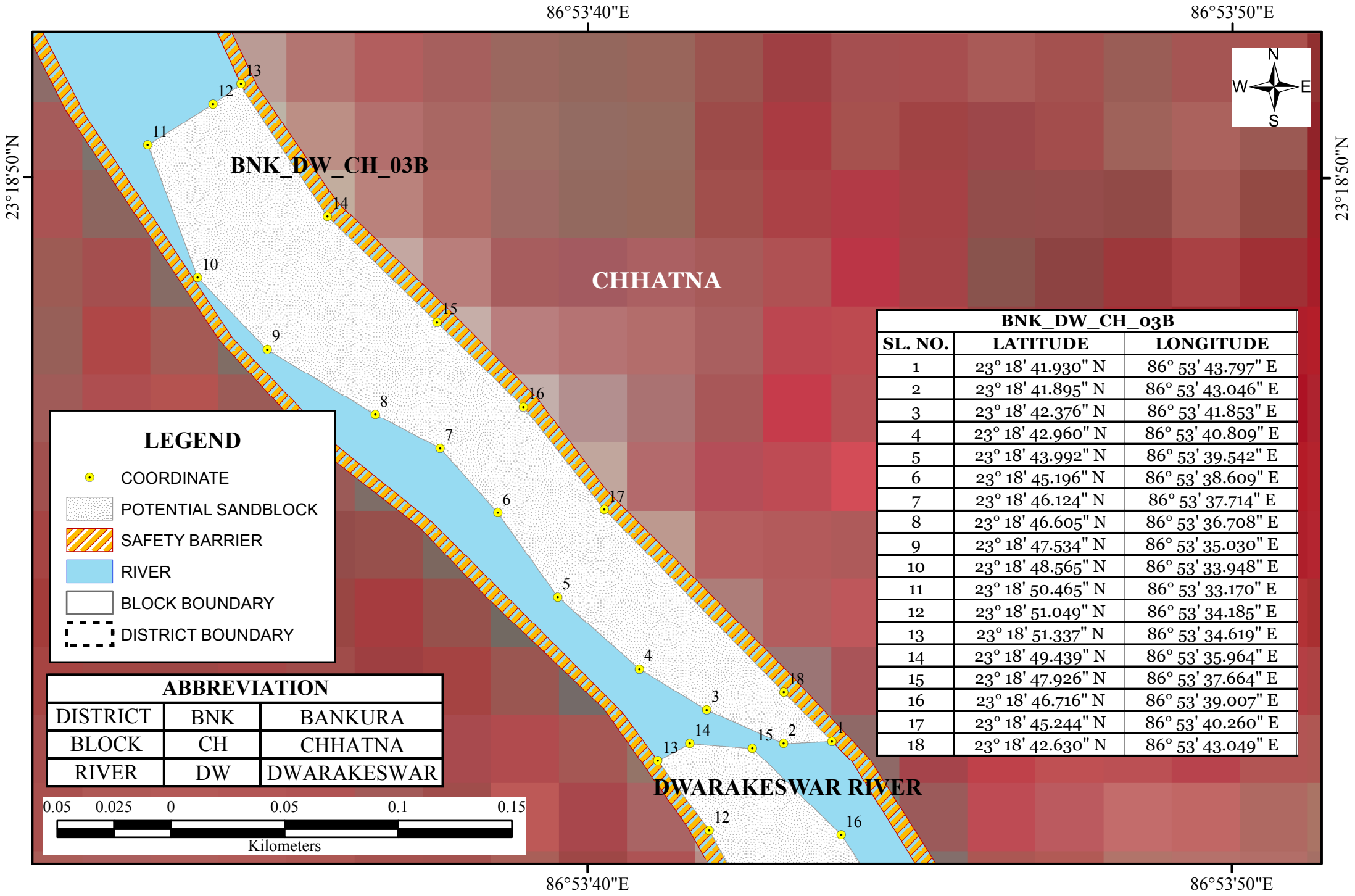
POTENTIAL BLOCK BNK_DW_CH_03A OF DWARAKESWAR RIVER



BNK_DW_CH_03A		
SL. NO.	LATITUDE	LONGITUDE
2	23° 19' 43.321" N	86° 52' 48.774" E
3	23° 19' 45.763" N	86° 52' 47.392" E
4	23° 19' 46.502" N	86° 52' 46.404" E
5	23° 19' 48.050" N	86° 52' 45.061" E
6	23° 19' 48.858" N	86° 52' 44.185" E
7	23° 19' 50.188" N	86° 52' 42.475" E
8	23° 19' 50.917" N	86° 52' 41.755" E
9	23° 19' 51.482" N	86° 52' 42.490" E
10	23° 19' 52.227" N	86° 52' 43.348" E
11	23° 19' 50.918" N	86° 52' 45.029" E
12	23° 19' 48.820" N	86° 52' 47.490" E
13	23° 19' 47.634" N	86° 52' 48.908" E
14	23° 19' 46.723" N	86° 52' 49.467" E
15	23° 19' 45.381" N	86° 52' 50.754" E
16	23° 19' 43.216" N	86° 52' 52.173" E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	CH	CHHATNA
RIVER	DW	DWARAKESWAR

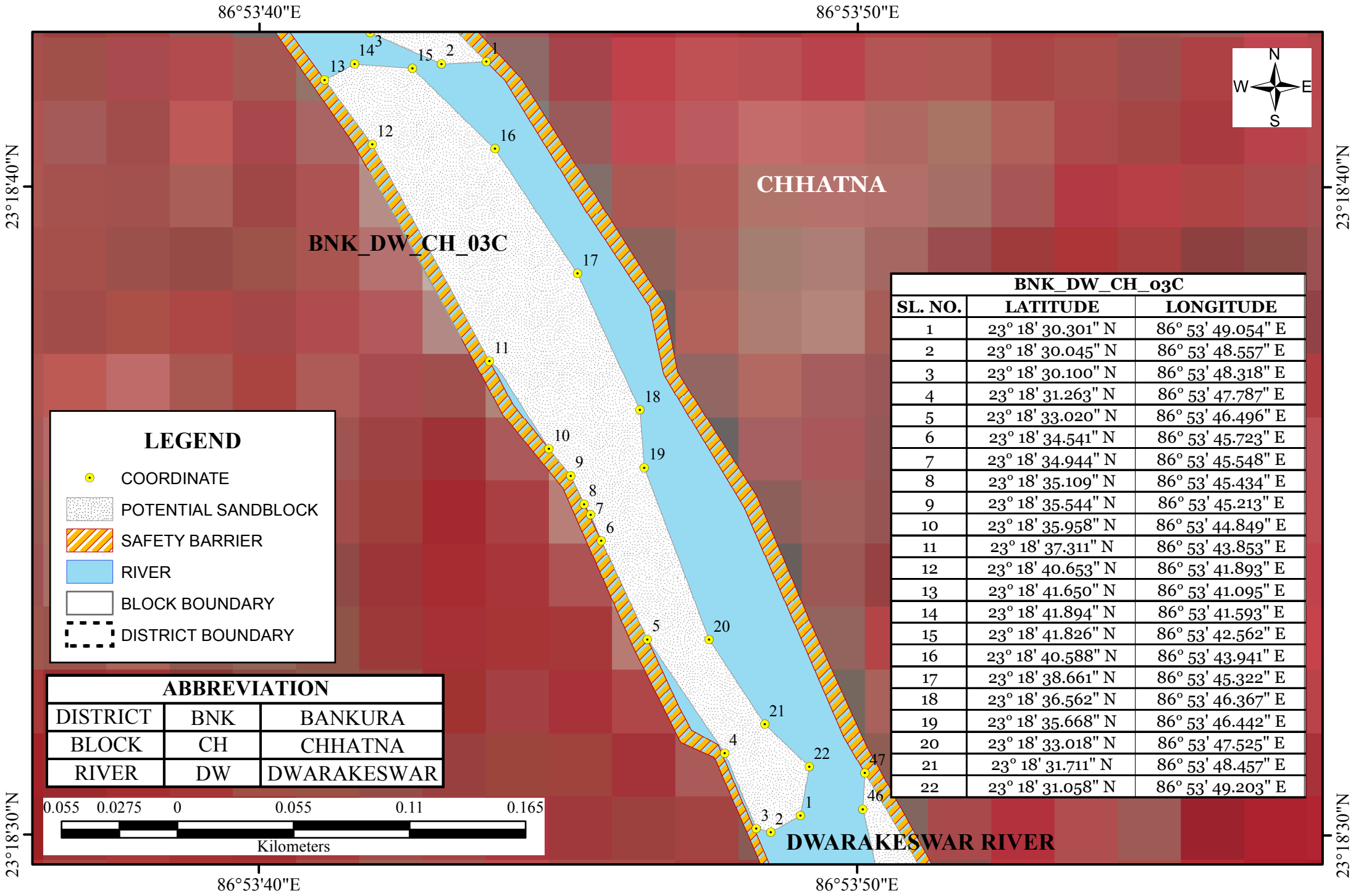
POTENTIAL BLOCK BNK_DW_CH_03B OF DWARAKESWAR RIVER



BNK_DW_CH_03B		
SL. NO.	LATITUDE	LONGITUDE
1	23° 18' 41.930" N	86° 53' 43.797" E
2	23° 18' 41.895" N	86° 53' 43.046" E
3	23° 18' 42.376" N	86° 53' 41.853" E
4	23° 18' 42.960" N	86° 53' 40.809" E
5	23° 18' 43.992" N	86° 53' 39.542" E
6	23° 18' 45.196" N	86° 53' 38.609" E
7	23° 18' 46.124" N	86° 53' 37.714" E
8	23° 18' 46.605" N	86° 53' 36.708" E
9	23° 18' 47.534" N	86° 53' 35.030" E
10	23° 18' 48.565" N	86° 53' 33.948" E
11	23° 18' 50.465" N	86° 53' 33.170" E
12	23° 18' 51.049" N	86° 53' 34.185" E
13	23° 18' 51.337" N	86° 53' 34.619" E
14	23° 18' 49.439" N	86° 53' 35.964" E
15	23° 18' 47.926" N	86° 53' 37.664" E
16	23° 18' 46.716" N	86° 53' 39.007" E
17	23° 18' 45.244" N	86° 53' 40.260" E
18	23° 18' 42.630" N	86° 53' 43.049" E

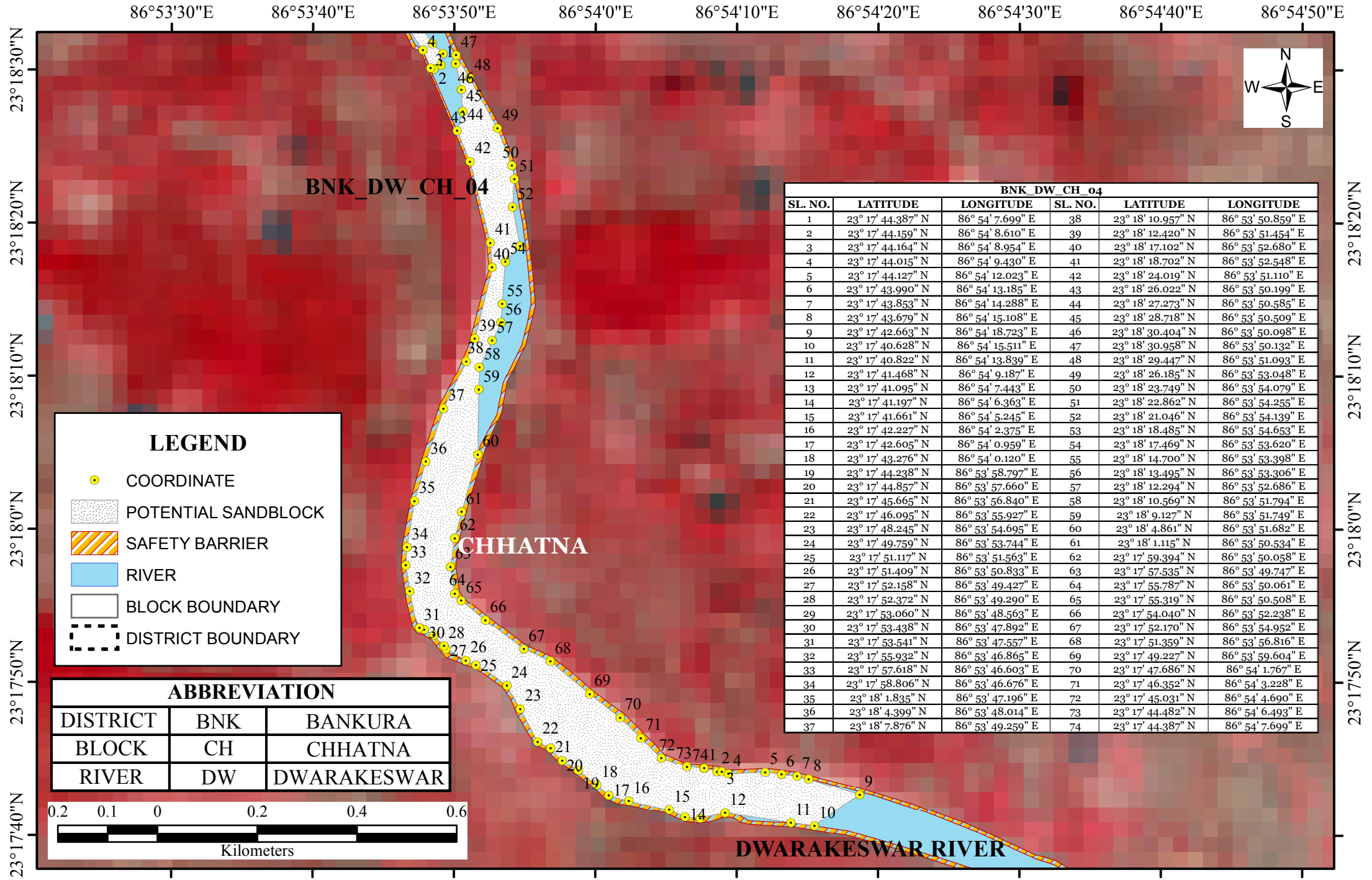
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	CH	CHHATNA
RIVER	DW	DWARAKESWAR

POTENTIAL BLOCK BNK_DW_CH_03C OF DWARAKESWAR RIVER



BNK_DW_CH_03C		
SL. NO.	LATITUDE	LONGITUDE
1	23° 18' 30.301" N	86° 53' 49.054" E
2	23° 18' 30.045" N	86° 53' 48.557" E
3	23° 18' 30.100" N	86° 53' 48.318" E
4	23° 18' 31.263" N	86° 53' 47.787" E
5	23° 18' 33.020" N	86° 53' 46.496" E
6	23° 18' 34.541" N	86° 53' 45.723" E
7	23° 18' 34.944" N	86° 53' 45.548" E
8	23° 18' 35.109" N	86° 53' 45.434" E
9	23° 18' 35.544" N	86° 53' 45.213" E
10	23° 18' 35.958" N	86° 53' 44.849" E
11	23° 18' 37.311" N	86° 53' 43.853" E
12	23° 18' 40.653" N	86° 53' 41.893" E
13	23° 18' 41.650" N	86° 53' 41.095" E
14	23° 18' 41.894" N	86° 53' 41.593" E
15	23° 18' 41.826" N	86° 53' 42.562" E
16	23° 18' 40.588" N	86° 53' 43.941" E
17	23° 18' 38.661" N	86° 53' 45.322" E
18	23° 18' 36.562" N	86° 53' 46.367" E
19	23° 18' 35.668" N	86° 53' 46.442" E
20	23° 18' 33.018" N	86° 53' 47.525" E
21	23° 18' 31.711" N	86° 53' 48.457" E
22	23° 18' 31.058" N	86° 53' 49.203" E

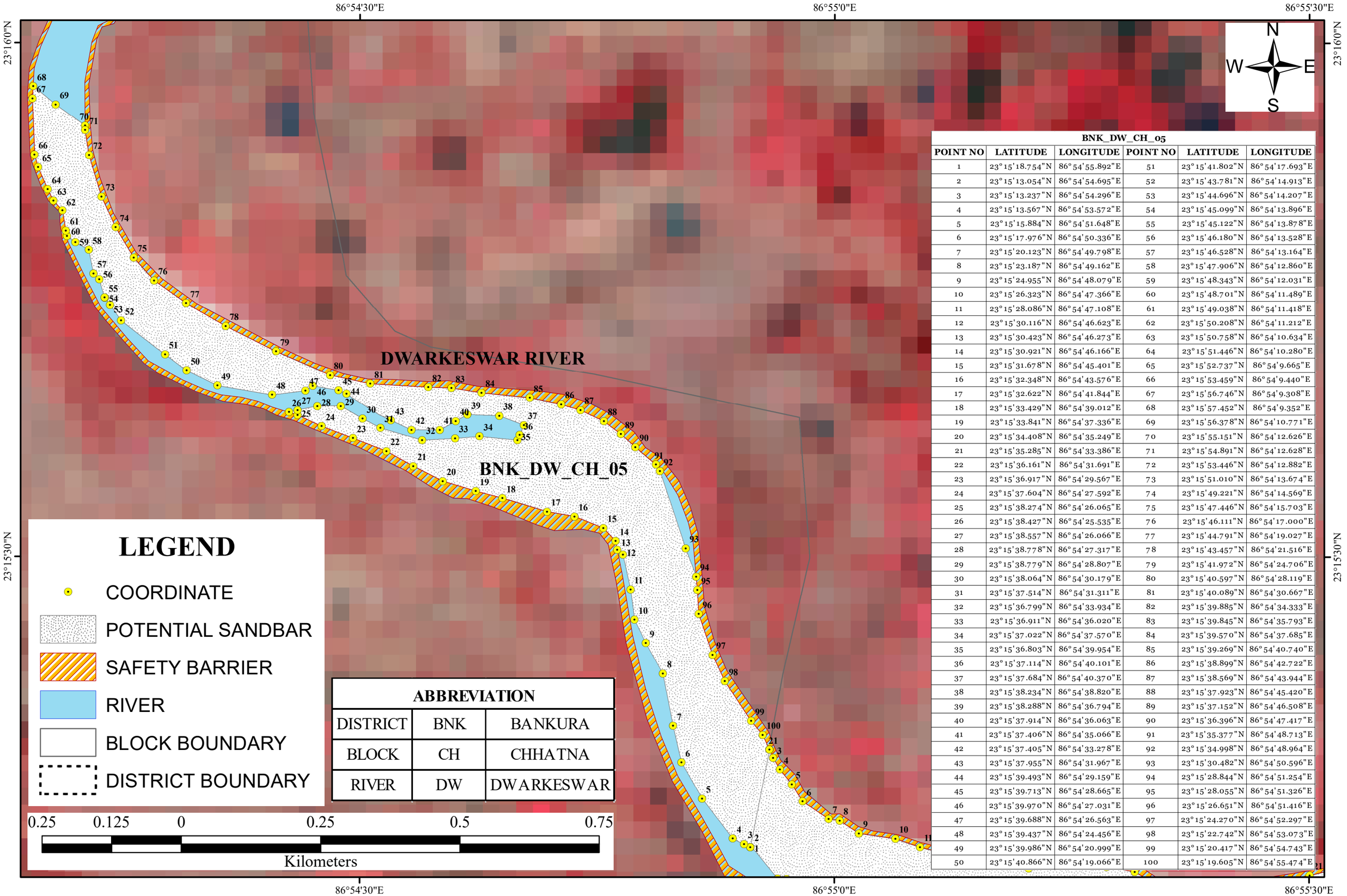
POTENTIAL BLOCK BNK_DW_CH_04 OF DWARAKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	CH	CHHATNA
RIVER	DW	DWARAKESWAR

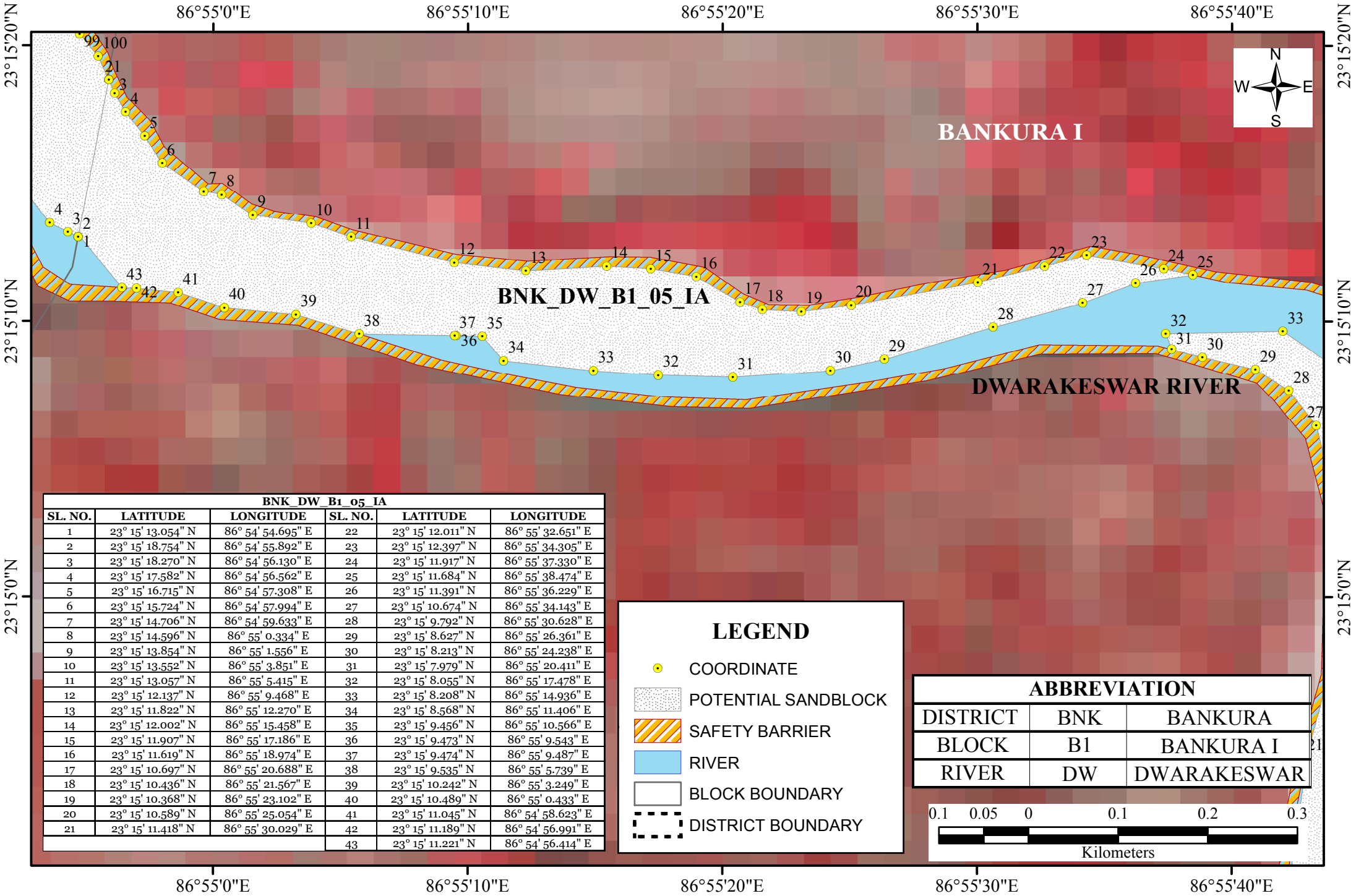
BNK_DW_CH_04					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 17' 44.387" N	86° 54' 7.699" E	38	23° 18' 10.957" N	86° 53' 50.859" E
2	23° 17' 44.159" N	86° 54' 8.610" E	39	23° 18' 12.420" N	86° 53' 51.454" E
3	23° 17' 44.164" N	86° 54' 8.954" E	40	23° 18' 17.102" N	86° 53' 52.680" E
4	23° 17' 44.015" N	86° 54' 9.430" E	41	23° 18' 18.702" N	86° 53' 52.548" E
5	23° 17' 44.127" N	86° 54' 12.023" E	42	23° 18' 24.019" N	86° 53' 51.110" E
6	23° 17' 43.990" N	86° 54' 13.185" E	43	23° 18' 26.022" N	86° 53' 50.199" E
7	23° 17' 43.853" N	86° 54' 14.288" E	44	23° 18' 27.273" N	86° 53' 50.585" E
8	23° 17' 43.679" N	86° 54' 15.108" E	45	23° 18' 28.718" N	86° 53' 50.509" E
9	23° 17' 42.663" N	86° 54' 18.723" E	46	23° 18' 30.404" N	86° 53' 50.098" E
10	23° 17' 40.628" N	86° 54' 15.511" E	47	23° 18' 30.958" N	86° 53' 50.132" E
11	23° 17' 40.822" N	86° 54' 13.839" E	48	23° 18' 29.447" N	86° 53' 51.093" E
12	23° 17' 41.468" N	86° 54' 9.187" E	49	23° 18' 26.185" N	86° 53' 53.048" E
13	23° 17' 41.095" N	86° 54' 7.443" E	50	23° 18' 23.749" N	86° 53' 54.079" E
14	23° 17' 41.197" N	86° 54' 6.363" E	51	23° 18' 22.862" N	86° 53' 54.255" E
15	23° 17' 41.661" N	86° 54' 5.245" E	52	23° 18' 21.046" N	86° 53' 54.139" E
16	23° 17' 42.227" N	86° 54' 2.375" E	53	23° 18' 18.485" N	86° 53' 54.653" E
17	23° 17' 42.605" N	86° 54' 0.959" E	54	23° 18' 17.469" N	86° 53' 53.620" E
18	23° 17' 43.276" N	86° 54' 0.120" E	55	23° 18' 14.700" N	86° 53' 53.398" E
19	23° 17' 44.238" N	86° 53' 58.797" E	56	23° 18' 13.495" N	86° 53' 53.306" E
20	23° 17' 44.857" N	86° 53' 57.660" E	57	23° 18' 12.294" N	86° 53' 52.686" E
21	23° 17' 45.665" N	86° 53' 56.840" E	58	23° 18' 10.569" N	86° 53' 51.794" E
22	23° 17' 46.095" N	86° 53' 55.927" E	59	23° 18' 9.127" N	86° 53' 51.749" E
23	23° 17' 48.245" N	86° 53' 54.695" E	60	23° 18' 4.861" N	86° 53' 51.682" E
24	23° 17' 49.759" N	86° 53' 53.744" E	61	23° 18' 1.115" N	86° 53' 50.534" E
25	23° 17' 51.117" N	86° 53' 51.563" E	62	23° 17' 59.394" N	86° 53' 50.058" E
26	23° 17' 51.409" N	86° 53' 50.833" E	63	23° 17' 57.535" N	86° 53' 49.747" E
27	23° 17' 52.158" N	86° 53' 49.427" E	64	23° 17' 55.787" N	86° 53' 50.061" E
28	23° 17' 52.372" N	86° 53' 49.290" E	65	23° 17' 55.319" N	86° 53' 50.508" E
29	23° 17' 53.060" N	86° 53' 48.563" E	66	23° 17' 54.040" N	86° 53' 52.238" E
30	23° 17' 53.438" N	86° 53' 47.892" E	67	23° 17' 52.170" N	86° 53' 54.952" E
31	23° 17' 53.541" N	86° 53' 47.557" E	68	23° 17' 51.359" N	86° 53' 56.816" E
32	23° 17' 55.932" N	86° 53' 46.865" E	69	23° 17' 49.227" N	86° 53' 59.604" E
33	23° 17' 57.618" N	86° 53' 46.603" E	70	23° 17' 47.686" N	86° 54' 1.767" E
34	23° 17' 58.806" N	86° 53' 46.676" E	71	23° 17' 46.352" N	86° 54' 3.228" E
35	23° 18' 1.835" N	86° 53' 47.196" E	72	23° 17' 45.031" N	86° 54' 4.690" E
36	23° 18' 4.399" N	86° 53' 48.014" E	73	23° 17' 44.482" N	86° 54' 6.493" E
37	23° 18' 7.876" N	86° 53' 49.259" E	74	23° 17' 44.387" N	86° 54' 7.699" E

POTENTIAL BLOCK BNK_DW_CH_05 OF DWARKESWAR RIVER



BNK_DW_CH_05					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23°15'18.754"N	86°54'55.892"E	51	23°15'41.802"N	86°54'17.693"E
2	23°15'13.054"N	86°54'54.695"E	52	23°15'43.781"N	86°54'14.913"E
3	23°15'13.237"N	86°54'54.296"E	53	23°15'44.696"N	86°54'14.207"E
4	23°15'13.567"N	86°54'53.572"E	54	23°15'45.099"N	86°54'13.896"E
5	23°15'15.884"N	86°54'51.648"E	55	23°15'45.122"N	86°54'13.878"E
6	23°15'17.976"N	86°54'50.336"E	56	23°15'46.180"N	86°54'13.528"E
7	23°15'20.123"N	86°54'49.798"E	57	23°15'46.528"N	86°54'13.164"E
8	23°15'23.187"N	86°54'49.162"E	58	23°15'47.906"N	86°54'12.860"E
9	23°15'24.955"N	86°54'48.079"E	59	23°15'48.343"N	86°54'12.031"E
10	23°15'26.323"N	86°54'47.366"E	60	23°15'48.701"N	86°54'11.489"E
11	23°15'28.086"N	86°54'47.108"E	61	23°15'49.038"N	86°54'11.418"E
12	23°15'30.116"N	86°54'46.623"E	62	23°15'50.208"N	86°54'11.212"E
13	23°15'30.423"N	86°54'46.273"E	63	23°15'50.758"N	86°54'10.634"E
14	23°15'30.921"N	86°54'46.166"E	64	23°15'51.446"N	86°54'10.280"E
15	23°15'31.678"N	86°54'45.401"E	65	23°15'52.737"N	86°54'9.665"E
16	23°15'32.348"N	86°54'43.576"E	66	23°15'53.459"N	86°54'9.440"E
17	23°15'32.622"N	86°54'41.844"E	67	23°15'56.746"N	86°54'9.308"E
18	23°15'33.429"N	86°54'39.012"E	68	23°15'57.452"N	86°54'9.352"E
19	23°15'33.841"N	86°54'37.336"E	69	23°15'56.378"N	86°54'10.771"E
20	23°15'34.408"N	86°54'35.249"E	70	23°15'55.151"N	86°54'12.626"E
21	23°15'35.285"N	86°54'33.386"E	71	23°15'54.891"N	86°54'12.628"E
22	23°15'36.161"N	86°54'31.691"E	72	23°15'53.446"N	86°54'12.882"E
23	23°15'36.917"N	86°54'29.567"E	73	23°15'51.010"N	86°54'13.674"E
24	23°15'37.604"N	86°54'27.592"E	74	23°15'49.221"N	86°54'14.569"E
25	23°15'38.274"N	86°54'26.065"E	75	23°15'47.446"N	86°54'15.703"E
26	23°15'38.427"N	86°54'25.535"E	76	23°15'46.111"N	86°54'17.000"E
27	23°15'38.557"N	86°54'26.066"E	77	23°15'44.791"N	86°54'19.027"E
28	23°15'38.778"N	86°54'27.317"E	78	23°15'43.457"N	86°54'21.516"E
29	23°15'38.779"N	86°54'28.807"E	79	23°15'41.972"N	86°54'24.706"E
30	23°15'38.064"N	86°54'30.179"E	80	23°15'40.597"N	86°54'28.119"E
31	23°15'37.514"N	86°54'31.311"E	81	23°15'40.089"N	86°54'30.667"E
32	23°15'36.799"N	86°54'33.934"E	82	23°15'39.885"N	86°54'34.333"E
33	23°15'36.911"N	86°54'36.020"E	83	23°15'39.845"N	86°54'35.793"E
34	23°15'37.022"N	86°54'37.570"E	84	23°15'39.570"N	86°54'37.685"E
35	23°15'36.803"N	86°54'39.954"E	85	23°15'39.269"N	86°54'40.740"E
36	23°15'37.114"N	86°54'40.101"E	86	23°15'38.899"N	86°54'42.722"E
37	23°15'37.684"N	86°54'40.370"E	87	23°15'38.569"N	86°54'43.944"E
38	23°15'38.234"N	86°54'38.820"E	88	23°15'37.923"N	86°54'45.420"E
39	23°15'38.288"N	86°54'36.794"E	89	23°15'37.152"N	86°54'46.508"E
40	23°15'37.914"N	86°54'36.063"E	90	23°15'36.396"N	86°54'47.417"E
41	23°15'37.406"N	86°54'35.066"E	91	23°15'35.377"N	86°54'48.713"E
42	23°15'37.405"N	86°54'33.278"E	92	23°15'34.998"N	86°54'48.964"E
43	23°15'37.955"N	86°54'31.967"E	93	23°15'30.482"N	86°54'50.596"E
44	23°15'39.493"N	86°54'29.159"E	94	23°15'28.844"N	86°54'51.254"E
45	23°15'39.713"N	86°54'28.665"E	95	23°15'28.055"N	86°54'51.326"E
46	23°15'39.970"N	86°54'27.031"E	96	23°15'26.651"N	86°54'51.416"E
47	23°15'39.688"N	86°54'26.563"E	97	23°15'24.270"N	86°54'52.297"E
48	23°15'39.437"N	86°54'24.456"E	98	23°15'22.742"N	86°54'53.073"E
49	23°15'39.986"N	86°54'20.999"E	99	23°15'20.417"N	86°54'54.743"E
50	23°15'40.866"N	86°54'19.066"E	100	23°15'19.605"N	86°54'55.474"E

POTENTIAL BLOCK BNK_DW_B1_05_IA OF DWARAKESWAR RIVER



BNK_DW_B1_05_IA					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 15' 13.054" N	86° 54' 54.695" E	22	23° 15' 12.011" N	86° 55' 32.651" E
2	23° 15' 18.754" N	86° 54' 55.892" E	23	23° 15' 12.397" N	86° 55' 34.305" E
3	23° 15' 18.270" N	86° 54' 56.130" E	24	23° 15' 11.917" N	86° 55' 37.330" E
4	23° 15' 17.582" N	86° 54' 56.562" E	25	23° 15' 11.684" N	86° 55' 38.474" E
5	23° 15' 16.715" N	86° 54' 57.308" E	26	23° 15' 11.391" N	86° 55' 36.229" E
6	23° 15' 15.724" N	86° 54' 57.994" E	27	23° 15' 10.674" N	86° 55' 34.143" E
7	23° 15' 14.706" N	86° 54' 59.633" E	28	23° 15' 9.792" N	86° 55' 30.628" E
8	23° 15' 14.596" N	86° 55' 0.334" E	29	23° 15' 8.627" N	86° 55' 26.361" E
9	23° 15' 13.854" N	86° 55' 1.556" E	30	23° 15' 8.213" N	86° 55' 24.238" E
10	23° 15' 13.552" N	86° 55' 3.851" E	31	23° 15' 7.979" N	86° 55' 20.411" E
11	23° 15' 13.057" N	86° 55' 5.415" E	32	23° 15' 8.055" N	86° 55' 17.478" E
12	23° 15' 12.137" N	86° 55' 9.468" E	33	23° 15' 8.208" N	86° 55' 14.936" E
13	23° 15' 11.822" N	86° 55' 12.270" E	34	23° 15' 8.568" N	86° 55' 11.406" E
14	23° 15' 12.002" N	86° 55' 15.458" E	35	23° 15' 9.456" N	86° 55' 10.566" E
15	23° 15' 11.907" N	86° 55' 17.186" E	36	23° 15' 9.473" N	86° 55' 9.543" E
16	23° 15' 11.619" N	86° 55' 18.974" E	37	23° 15' 9.474" N	86° 55' 9.487" E
17	23° 15' 10.697" N	86° 55' 20.688" E	38	23° 15' 9.535" N	86° 55' 5.739" E
18	23° 15' 10.436" N	86° 55' 21.567" E	39	23° 15' 10.242" N	86° 55' 3.249" E
19	23° 15' 10.368" N	86° 55' 23.102" E	40	23° 15' 10.489" N	86° 55' 0.433" E
20	23° 15' 10.589" N	86° 55' 25.054" E	41	23° 15' 11.045" N	86° 54' 58.623" E
21	23° 15' 11.418" N	86° 55' 30.029" E	42	23° 15' 11.189" N	86° 54' 56.991" E
			43	23° 15' 11.221" N	86° 54' 56.414" E

LEGEND

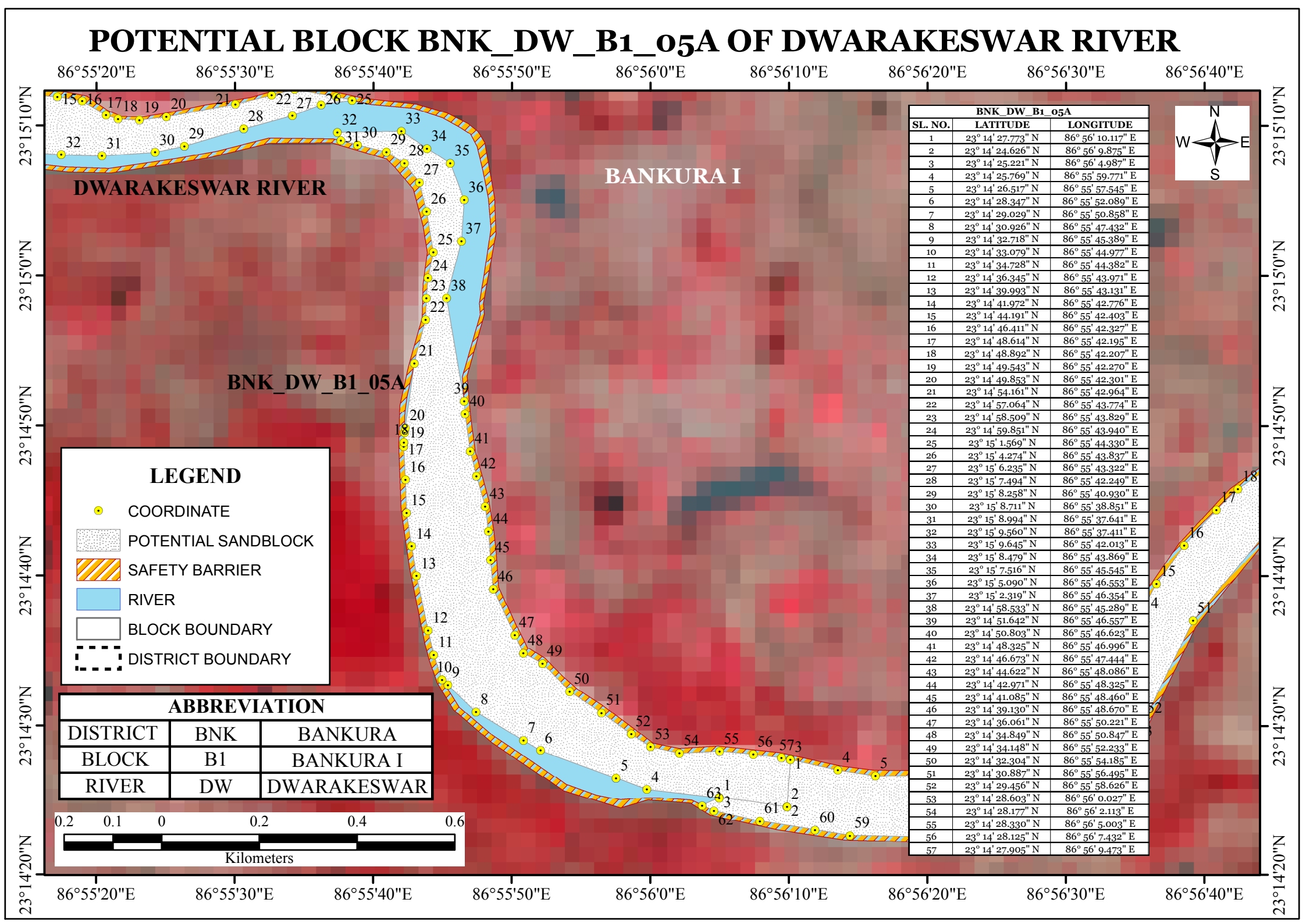
- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	B1	BANKURA I
RIVER	DW	DWARAKESWAR

0.1 0.05 0 0.1 0.2 0.3

Kilometers

POTENTIAL BLOCK BNK_DW_B1_05A OF DWARAKESWAR RIVER



LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

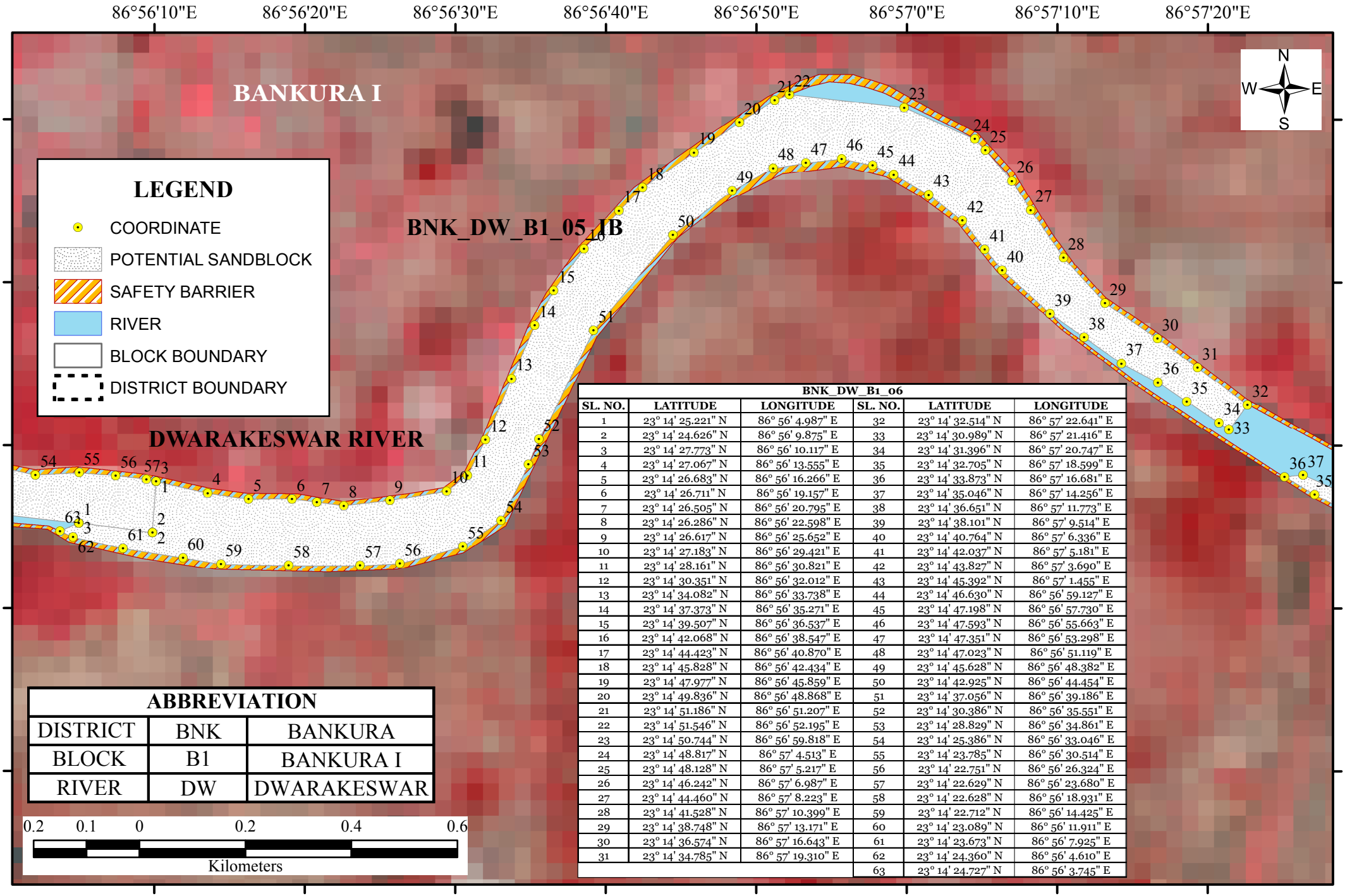
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	B1	BANKURA I
RIVER	DW	DWARAKESWAR

0.2 0.1 0 0.2 0.4 0.6

Kilometers

BNK_DW_B1_05A		
SL. NO.	LATITUDE	LONGITUDE
1	23° 14' 27.773" N	86° 56' 10.117" E
2	23° 14' 24.626" N	86° 56' 9.875" E
3	23° 14' 25.221" N	86° 56' 4.987" E
4	23° 14' 25.769" N	86° 55' 59.771" E
5	23° 14' 26.517" N	86° 55' 57.545" E
6	23° 14' 28.347" N	86° 55' 52.089" E
7	23° 14' 29.029" N	86° 55' 50.858" E
8	23° 14' 30.926" N	86° 55' 47.432" E
9	23° 14' 32.718" N	86° 55' 45.389" E
10	23° 14' 33.079" N	86° 55' 44.977" E
11	23° 14' 34.728" N	86° 55' 44.382" E
12	23° 14' 36.345" N	86° 55' 43.971" E
13	23° 14' 39.993" N	86° 55' 43.131" E
14	23° 14' 41.972" N	86° 55' 42.776" E
15	23° 14' 44.191" N	86° 55' 42.403" E
16	23° 14' 46.411" N	86° 55' 42.327" E
17	23° 14' 48.614" N	86° 55' 42.195" E
18	23° 14' 48.892" N	86° 55' 42.207" E
19	23° 14' 49.543" N	86° 55' 42.270" E
20	23° 14' 49.853" N	86° 55' 42.301" E
21	23° 14' 54.161" N	86° 55' 42.964" E
22	23° 14' 57.064" N	86° 55' 43.774" E
23	23° 14' 58.509" N	86° 55' 43.829" E
24	23° 14' 59.851" N	86° 55' 43.940" E
25	23° 15' 1.569" N	86° 55' 44.330" E
26	23° 15' 4.274" N	86° 55' 43.837" E
27	23° 15' 6.235" N	86° 55' 43.322" E
28	23° 15' 7.494" N	86° 55' 42.249" E
29	23° 15' 8.258" N	86° 55' 40.930" E
30	23° 15' 8.711" N	86° 55' 38.851" E
31	23° 15' 8.994" N	86° 55' 37.641" E
32	23° 15' 9.560" N	86° 55' 37.411" E
33	23° 15' 9.645" N	86° 55' 42.013" E
34	23° 15' 8.479" N	86° 55' 43.869" E
35	23° 15' 7.516" N	86° 55' 45.545" E
36	23° 15' 5.090" N	86° 55' 46.553" E
37	23° 15' 2.319" N	86° 55' 46.354" E
38	23° 14' 58.533" N	86° 55' 45.289" E
39	23° 14' 51.642" N	86° 55' 46.557" E
40	23° 14' 50.803" N	86° 55' 46.623" E
41	23° 14' 48.325" N	86° 55' 46.996" E
42	23° 14' 46.673" N	86° 55' 47.444" E
43	23° 14' 44.622" N	86° 55' 48.086" E
44	23° 14' 42.971" N	86° 55' 48.325" E
45	23° 14' 41.085" N	86° 55' 48.460" E
46	23° 14' 39.130" N	86° 55' 48.670" E
47	23° 14' 36.061" N	86° 55' 50.221" E
48	23° 14' 34.849" N	86° 55' 50.847" E
49	23° 14' 34.148" N	86° 55' 52.233" E
50	23° 14' 32.304" N	86° 55' 54.185" E
51	23° 14' 30.887" N	86° 55' 56.495" E
52	23° 14' 29.456" N	86° 55' 58.626" E
53	23° 14' 28.603" N	86° 56' 0.027" E
54	23° 14' 28.177" N	86° 56' 2.113" E
55	23° 14' 28.330" N	86° 56' 5.003" E
56	23° 14' 28.125" N	86° 56' 7.432" E
57	23° 14' 27.905" N	86° 56' 9.473" E

POTENTIAL BLOCK BNK_DW_B1_06 OF DWARAKESWAR RIVER

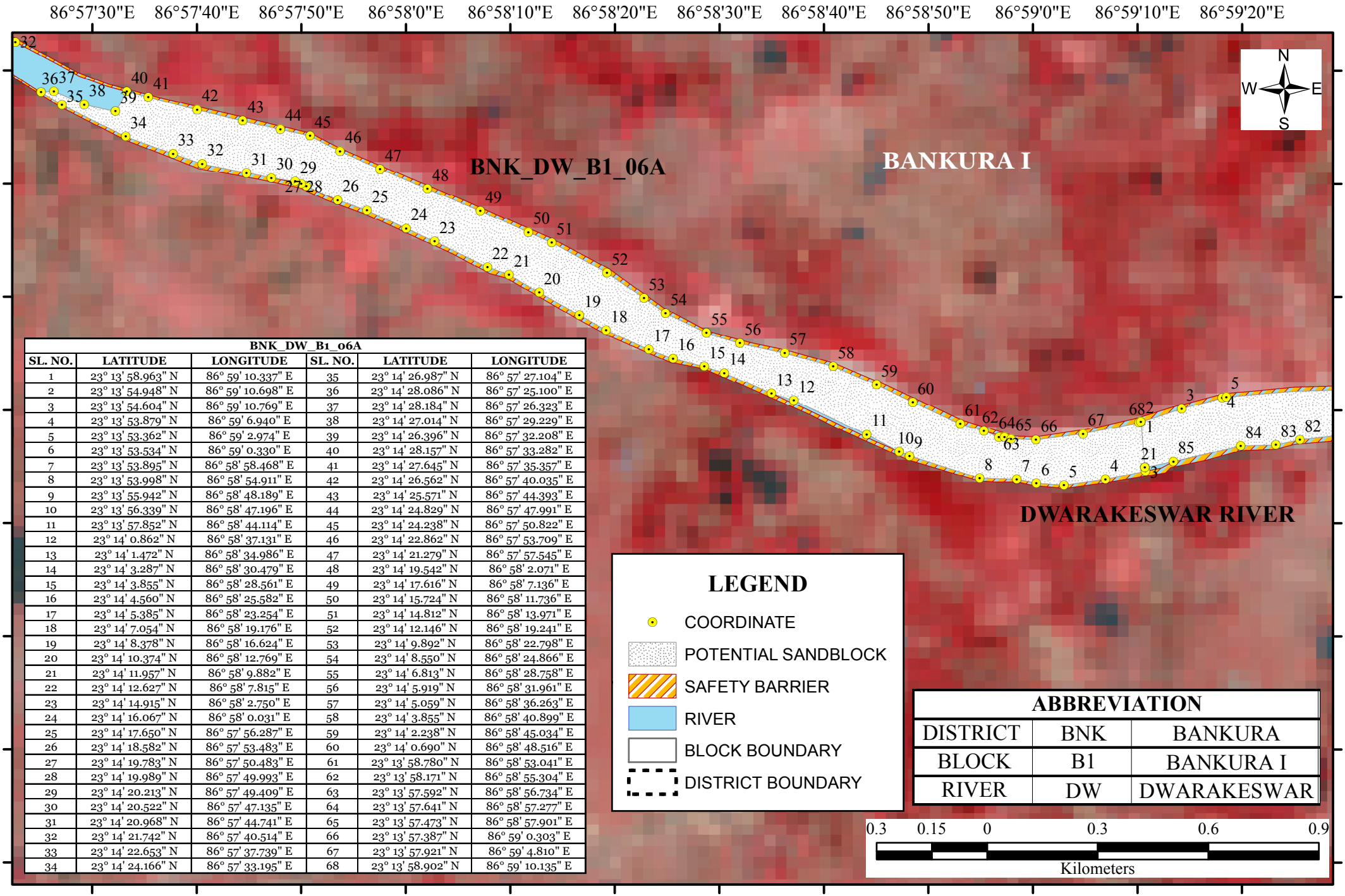


ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	B1	BANKURA I
RIVER	DW	DWARAKESWAR

BNK_DW_B1_06

SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 14' 25.221" N	86° 56' 4.987" E	32	23° 14' 32.514" N	86° 57' 22.641" E
2	23° 14' 24.626" N	86° 56' 9.875" E	33	23° 14' 30.989" N	86° 57' 21.416" E
3	23° 14' 27.773" N	86° 56' 10.117" E	34	23° 14' 31.396" N	86° 57' 20.747" E
4	23° 14' 27.067" N	86° 56' 13.555" E	35	23° 14' 32.705" N	86° 57' 18.599" E
5	23° 14' 26.683" N	86° 56' 16.266" E	36	23° 14' 33.873" N	86° 57' 16.681" E
6	23° 14' 26.711" N	86° 56' 19.157" E	37	23° 14' 35.046" N	86° 57' 14.256" E
7	23° 14' 26.505" N	86° 56' 20.795" E	38	23° 14' 36.651" N	86° 57' 11.773" E
8	23° 14' 26.286" N	86° 56' 22.598" E	39	23° 14' 38.101" N	86° 57' 9.514" E
9	23° 14' 26.617" N	86° 56' 25.652" E	40	23° 14' 40.764" N	86° 57' 6.336" E
10	23° 14' 27.183" N	86° 56' 29.421" E	41	23° 14' 42.037" N	86° 57' 5.181" E
11	23° 14' 28.161" N	86° 56' 30.821" E	42	23° 14' 43.827" N	86° 57' 3.690" E
12	23° 14' 30.351" N	86° 56' 32.012" E	43	23° 14' 45.392" N	86° 57' 1.455" E
13	23° 14' 34.082" N	86° 56' 33.738" E	44	23° 14' 46.630" N	86° 56' 59.127" E
14	23° 14' 37.373" N	86° 56' 35.271" E	45	23° 14' 47.198" N	86° 56' 57.730" E
15	23° 14' 39.507" N	86° 56' 36.537" E	46	23° 14' 47.593" N	86° 56' 55.663" E
16	23° 14' 42.068" N	86° 56' 38.547" E	47	23° 14' 47.351" N	86° 56' 53.298" E
17	23° 14' 44.423" N	86° 56' 40.870" E	48	23° 14' 47.023" N	86° 56' 51.119" E
18	23° 14' 45.828" N	86° 56' 42.434" E	49	23° 14' 45.628" N	86° 56' 48.382" E
19	23° 14' 47.977" N	86° 56' 45.859" E	50	23° 14' 42.925" N	86° 56' 44.454" E
20	23° 14' 49.836" N	86° 56' 48.868" E	51	23° 14' 37.056" N	86° 56' 39.186" E
21	23° 14' 51.186" N	86° 56' 51.207" E	52	23° 14' 30.386" N	86° 56' 35.551" E
22	23° 14' 51.546" N	86° 56' 52.195" E	53	23° 14' 28.829" N	86° 56' 34.861" E
23	23° 14' 50.744" N	86° 56' 59.818" E	54	23° 14' 25.386" N	86° 56' 33.046" E
24	23° 14' 48.817" N	86° 57' 4.513" E	55	23° 14' 23.785" N	86° 56' 30.514" E
25	23° 14' 48.128" N	86° 57' 5.217" E	56	23° 14' 22.751" N	86° 56' 26.324" E
26	23° 14' 46.242" N	86° 57' 6.987" E	57	23° 14' 22.629" N	86° 56' 23.680" E
27	23° 14' 44.460" N	86° 57' 8.223" E	58	23° 14' 22.628" N	86° 56' 18.931" E
28	23° 14' 41.528" N	86° 57' 10.399" E	59	23° 14' 22.712" N	86° 56' 14.425" E
29	23° 14' 38.748" N	86° 57' 13.171" E	60	23° 14' 23.089" N	86° 56' 11.911" E
30	23° 14' 36.574" N	86° 57' 16.643" E	61	23° 14' 23.673" N	86° 56' 7.925" E
31	23° 14' 34.785" N	86° 57' 19.310" E	62	23° 14' 24.360" N	86° 56' 4.610" E
			63	23° 14' 24.727" N	86° 56' 3.745" E

POTENTIAL BLOCK BNK_DW_B1_06A OF DWARAKESWAR RIVER



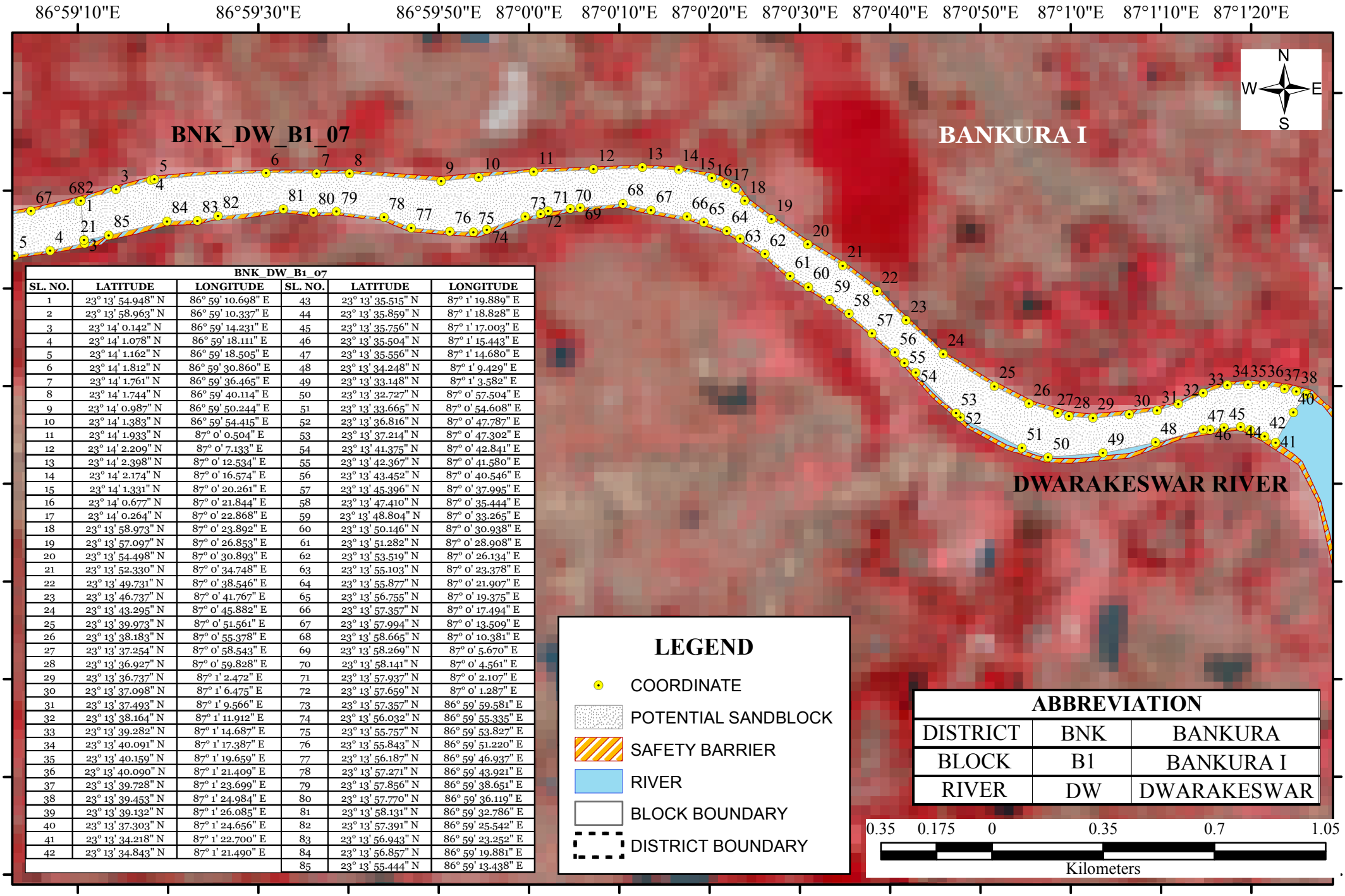
BNK_DW_B1_06A					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 13' 58.963" N	86° 59' 10.337" E	35	23° 14' 26.987" N	86° 57' 27.104" E
2	23° 13' 54.948" N	86° 59' 10.698" E	36	23° 14' 28.086" N	86° 57' 25.100" E
3	23° 13' 54.604" N	86° 59' 10.769" E	37	23° 14' 28.184" N	86° 57' 26.323" E
4	23° 13' 53.879" N	86° 59' 6.940" E	38	23° 14' 27.014" N	86° 57' 29.229" E
5	23° 13' 53.362" N	86° 59' 2.974" E	39	23° 14' 26.396" N	86° 57' 32.208" E
6	23° 13' 53.534" N	86° 59' 0.330" E	40	23° 14' 28.157" N	86° 57' 33.282" E
7	23° 13' 53.895" N	86° 58' 58.468" E	41	23° 14' 27.645" N	86° 57' 35.357" E
8	23° 13' 53.998" N	86° 58' 54.911" E	42	23° 14' 26.562" N	86° 57' 40.035" E
9	23° 13' 55.942" N	86° 58' 48.189" E	43	23° 14' 25.571" N	86° 57' 44.393" E
10	23° 13' 56.339" N	86° 58' 47.196" E	44	23° 14' 24.829" N	86° 57' 47.991" E
11	23° 13' 57.852" N	86° 58' 44.114" E	45	23° 14' 24.238" N	86° 57' 50.822" E
12	23° 14' 0.862" N	86° 58' 37.131" E	46	23° 14' 22.862" N	86° 57' 53.709" E
13	23° 14' 1.472" N	86° 58' 34.986" E	47	23° 14' 21.279" N	86° 57' 57.545" E
14	23° 14' 3.287" N	86° 58' 30.479" E	48	23° 14' 19.542" N	86° 58' 2.071" E
15	23° 14' 3.855" N	86° 58' 28.561" E	49	23° 14' 17.616" N	86° 58' 7.136" E
16	23° 14' 4.560" N	86° 58' 25.582" E	50	23° 14' 15.724" N	86° 58' 11.736" E
17	23° 14' 5.385" N	86° 58' 23.254" E	51	23° 14' 14.812" N	86° 58' 13.971" E
18	23° 14' 7.054" N	86° 58' 19.176" E	52	23° 14' 12.146" N	86° 58' 19.241" E
19	23° 14' 8.378" N	86° 58' 16.624" E	53	23° 14' 9.892" N	86° 58' 22.798" E
20	23° 14' 10.374" N	86° 58' 12.769" E	54	23° 14' 8.550" N	86° 58' 24.866" E
21	23° 14' 11.957" N	86° 58' 9.882" E	55	23° 14' 6.813" N	86° 58' 28.758" E
22	23° 14' 12.627" N	86° 58' 7.815" E	56	23° 14' 5.919" N	86° 58' 31.961" E
23	23° 14' 14.915" N	86° 58' 2.750" E	57	23° 14' 5.059" N	86° 58' 36.263" E
24	23° 14' 16.067" N	86° 58' 0.031" E	58	23° 14' 3.855" N	86° 58' 40.899" E
25	23° 14' 17.650" N	86° 57' 56.287" E	59	23° 14' 2.238" N	86° 58' 45.034" E
26	23° 14' 18.582" N	86° 57' 53.483" E	60	23° 14' 0.690" N	86° 58' 48.516" E
27	23° 14' 19.783" N	86° 57' 50.483" E	61	23° 13' 58.780" N	86° 58' 53.041" E
28	23° 14' 19.989" N	86° 57' 49.993" E	62	23° 13' 58.171" N	86° 58' 55.304" E
29	23° 14' 20.213" N	86° 57' 49.409" E	63	23° 13' 57.592" N	86° 58' 56.734" E
30	23° 14' 20.522" N	86° 57' 47.135" E	64	23° 13' 57.641" N	86° 58' 57.277" E
31	23° 14' 20.968" N	86° 57' 44.741" E	65	23° 13' 57.473" N	86° 58' 57.901" E
32	23° 14' 21.742" N	86° 57' 40.514" E	66	23° 13' 57.387" N	86° 59' 0.303" E
33	23° 14' 22.653" N	86° 57' 37.739" E	67	23° 13' 57.921" N	86° 59' 4.810" E
34	23° 14' 24.166" N	86° 57' 33.195" E	68	23° 13' 58.902" N	86° 59' 10.135" E

LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

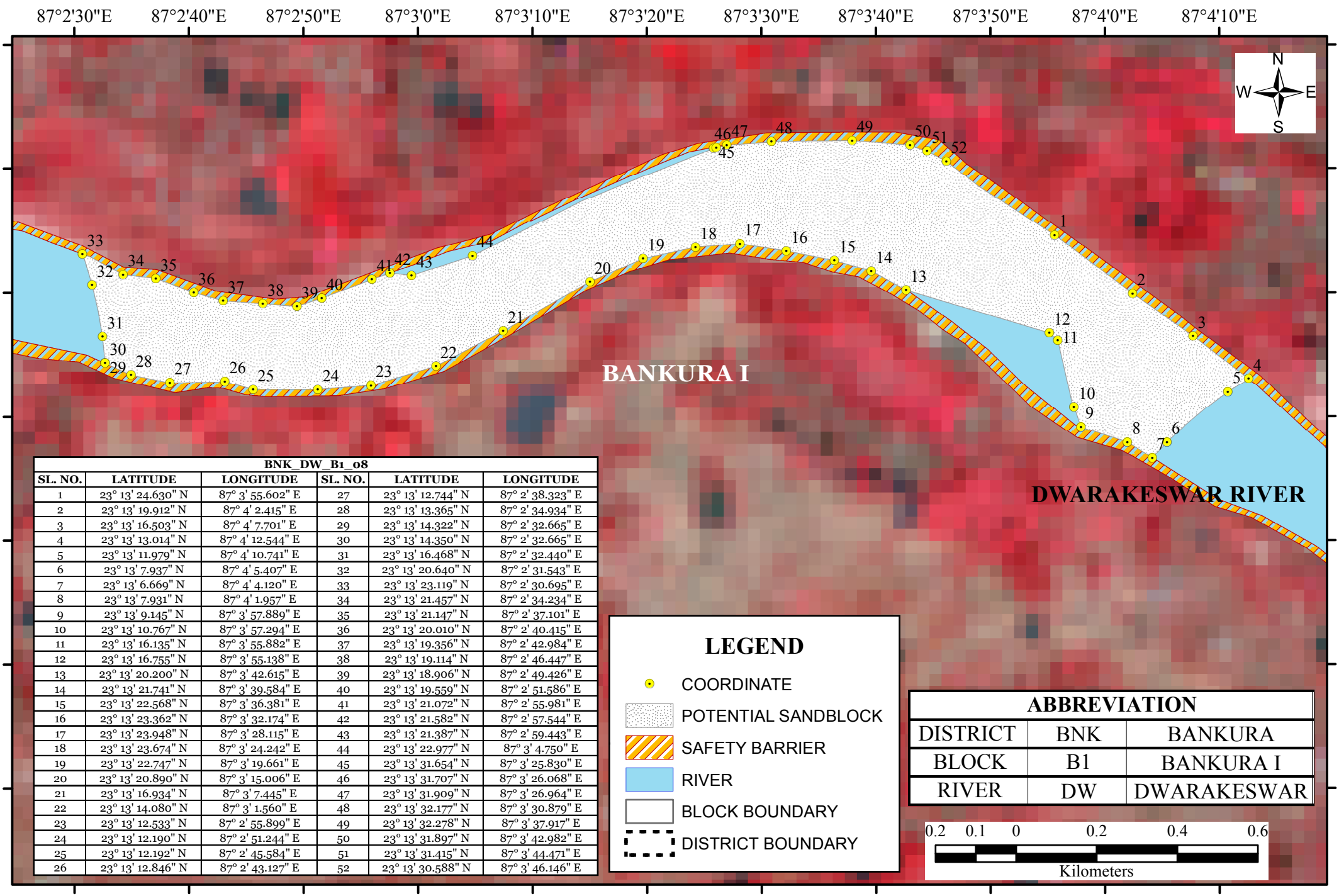
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	B1	BANKURA I
RIVER	DW	DWARAKESWAR

POTENTIAL BLOCK BNK_DW_B1_07 OF DWARAKESWAR RIVER



BNK_DW_B1_07					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 13' 54.948" N	86° 59' 10.698" E	43	23° 13' 35.515" N	87° 1' 19.889" E
2	23° 13' 58.963" N	86° 59' 10.337" E	44	23° 13' 35.859" N	87° 1' 18.828" E
3	23° 14' 0.142" N	86° 59' 14.231" E	45	23° 13' 35.756" N	87° 1' 17.003" E
4	23° 14' 1.078" N	86° 59' 18.111" E	46	23° 13' 35.504" N	87° 1' 15.443" E
5	23° 14' 1.162" N	86° 59' 18.505" E	47	23° 13' 35.556" N	87° 1' 14.680" E
6	23° 14' 1.812" N	86° 59' 30.860" E	48	23° 13' 34.248" N	87° 1' 9.429" E
7	23° 14' 1.761" N	86° 59' 36.465" E	49	23° 13' 33.148" N	87° 1' 3.582" E
8	23° 14' 1.744" N	86° 59' 40.114" E	50	23° 13' 32.727" N	87° 0' 57.504" E
9	23° 14' 0.987" N	86° 59' 50.244" E	51	23° 13' 33.665" N	87° 0' 54.608" E
10	23° 14' 1.383" N	86° 59' 54.415" E	52	23° 13' 36.816" N	87° 0' 47.787" E
11	23° 14' 1.933" N	87° 0' 0.504" E	53	23° 13' 37.214" N	87° 0' 47.302" E
12	23° 14' 2.209" N	87° 0' 7.133" E	54	23° 13' 41.375" N	87° 0' 42.841" E
13	23° 14' 2.398" N	87° 0' 12.534" E	55	23° 13' 42.367" N	87° 0' 41.580" E
14	23° 14' 2.174" N	87° 0' 16.574" E	56	23° 13' 43.452" N	87° 0' 40.546" E
15	23° 14' 1.331" N	87° 0' 20.261" E	57	23° 13' 45.396" N	87° 0' 37.995" E
16	23° 14' 0.677" N	87° 0' 21.844" E	58	23° 13' 47.410" N	87° 0' 35.444" E
17	23° 14' 0.264" N	87° 0' 22.868" E	59	23° 13' 48.804" N	87° 0' 33.265" E
18	23° 13' 58.973" N	87° 0' 23.892" E	60	23° 13' 50.146" N	87° 0' 30.938" E
19	23° 13' 57.097" N	87° 0' 26.853" E	61	23° 13' 51.282" N	87° 0' 28.908" E
20	23° 13' 54.498" N	87° 0' 30.893" E	62	23° 13' 53.519" N	87° 0' 26.134" E
21	23° 13' 52.330" N	87° 0' 34.748" E	63	23° 13' 55.103" N	87° 0' 23.378" E
22	23° 13' 49.731" N	87° 0' 38.546" E	64	23° 13' 55.877" N	87° 0' 21.907" E
23	23° 13' 46.737" N	87° 0' 41.767" E	65	23° 13' 56.755" N	87° 0' 19.375" E
24	23° 13' 43.295" N	87° 0' 45.882" E	66	23° 13' 57.357" N	87° 0' 17.494" E
25	23° 13' 39.973" N	87° 0' 51.561" E	67	23° 13' 57.994" N	87° 0' 13.509" E
26	23° 13' 38.183" N	87° 0' 55.378" E	68	23° 13' 58.665" N	87° 0' 10.381" E
27	23° 13' 37.254" N	87° 0' 58.543" E	69	23° 13' 58.269" N	87° 0' 5.670" E
28	23° 13' 36.927" N	87° 0' 59.828" E	70	23° 13' 58.141" N	87° 0' 4.561" E
29	23° 13' 36.737" N	87° 1' 2.472" E	71	23° 13' 57.937" N	87° 0' 2.107" E
30	23° 13' 37.098" N	87° 1' 6.475" E	72	23° 13' 57.659" N	87° 0' 1.287" E
31	23° 13' 37.493" N	87° 1' 9.566" E	73	23° 13' 57.357" N	86° 59' 59.581" E
32	23° 13' 38.164" N	87° 1' 11.912" E	74	23° 13' 56.032" N	86° 59' 55.335" E
33	23° 13' 39.282" N	87° 1' 14.687" E	75	23° 13' 55.757" N	86° 59' 53.827" E
34	23° 13' 40.091" N	87° 1' 17.387" E	76	23° 13' 55.843" N	86° 59' 51.220" E
35	23° 13' 40.159" N	87° 1' 19.659" E	77	23° 13' 56.187" N	86° 59' 46.937" E
36	23° 13' 40.090" N	87° 1' 21.409" E	78	23° 13' 57.271" N	86° 59' 43.921" E
37	23° 13' 39.728" N	87° 1' 23.699" E	79	23° 13' 57.856" N	86° 59' 38.651" E
38	23° 13' 39.453" N	87° 1' 24.984" E	80	23° 13' 57.770" N	86° 59' 36.119" E
39	23° 13' 39.132" N	87° 1' 26.085" E	81	23° 13' 58.131" N	86° 59' 32.786" E
40	23° 13' 37.303" N	87° 1' 24.656" E	82	23° 13' 57.391" N	86° 59' 25.542" E
41	23° 13' 34.218" N	87° 1' 22.700" E	83	23° 13' 56.943" N	86° 59' 23.252" E
42	23° 13' 34.843" N	87° 1' 21.490" E	84	23° 13' 56.857" N	86° 59' 19.881" E
			85	23° 13' 55.444" N	86° 59' 13.438" E

POTENTIAL BLOCK BNK_DW_B1_08 OF DWARAKESWAR RIVER



BNK_DW_B1_08					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 13' 24.630" N	87° 3' 55.602" E	27	23° 13' 12.744" N	87° 2' 38.323" E
2	23° 13' 19.912" N	87° 4' 2.415" E	28	23° 13' 13.365" N	87° 2' 34.934" E
3	23° 13' 16.503" N	87° 4' 7.701" E	29	23° 13' 14.322" N	87° 2' 32.665" E
4	23° 13' 13.014" N	87° 4' 12.544" E	30	23° 13' 14.350" N	87° 2' 32.665" E
5	23° 13' 11.979" N	87° 4' 10.741" E	31	23° 13' 16.468" N	87° 2' 32.440" E
6	23° 13' 7.937" N	87° 4' 5.407" E	32	23° 13' 20.640" N	87° 2' 31.543" E
7	23° 13' 6.669" N	87° 4' 4.120" E	33	23° 13' 23.119" N	87° 2' 30.695" E
8	23° 13' 7.931" N	87° 4' 1.957" E	34	23° 13' 21.457" N	87° 2' 34.234" E
9	23° 13' 9.145" N	87° 3' 57.889" E	35	23° 13' 21.147" N	87° 2' 37.101" E
10	23° 13' 10.767" N	87° 3' 57.294" E	36	23° 13' 20.010" N	87° 2' 40.415" E
11	23° 13' 16.135" N	87° 3' 55.882" E	37	23° 13' 19.356" N	87° 2' 42.984" E
12	23° 13' 16.755" N	87° 3' 55.138" E	38	23° 13' 19.114" N	87° 2' 46.447" E
13	23° 13' 20.200" N	87° 3' 42.615" E	39	23° 13' 18.906" N	87° 2' 49.426" E
14	23° 13' 21.741" N	87° 3' 39.584" E	40	23° 13' 19.559" N	87° 2' 51.586" E
15	23° 13' 22.568" N	87° 3' 36.381" E	41	23° 13' 21.072" N	87° 2' 55.981" E
16	23° 13' 23.362" N	87° 3' 32.174" E	42	23° 13' 21.582" N	87° 2' 57.544" E
17	23° 13' 23.948" N	87° 3' 28.115" E	43	23° 13' 21.387" N	87° 2' 59.443" E
18	23° 13' 23.674" N	87° 3' 24.242" E	44	23° 13' 22.977" N	87° 3' 4.750" E
19	23° 13' 22.747" N	87° 3' 19.661" E	45	23° 13' 31.654" N	87° 3' 25.830" E
20	23° 13' 20.890" N	87° 3' 15.006" E	46	23° 13' 31.707" N	87° 3' 26.068" E
21	23° 13' 16.934" N	87° 3' 7.445" E	47	23° 13' 31.909" N	87° 3' 26.964" E
22	23° 13' 14.080" N	87° 3' 1.560" E	48	23° 13' 32.177" N	87° 3' 30.879" E
23	23° 13' 12.533" N	87° 2' 55.899" E	49	23° 13' 32.278" N	87° 3' 37.917" E
24	23° 13' 12.190" N	87° 2' 51.244" E	50	23° 13' 31.897" N	87° 3' 42.982" E
25	23° 13' 12.192" N	87° 2' 45.584" E	51	23° 13' 31.415" N	87° 3' 44.471" E
26	23° 13' 12.846" N	87° 2' 43.127" E	52	23° 13' 30.588" N	87° 3' 46.146" E

LEGEND

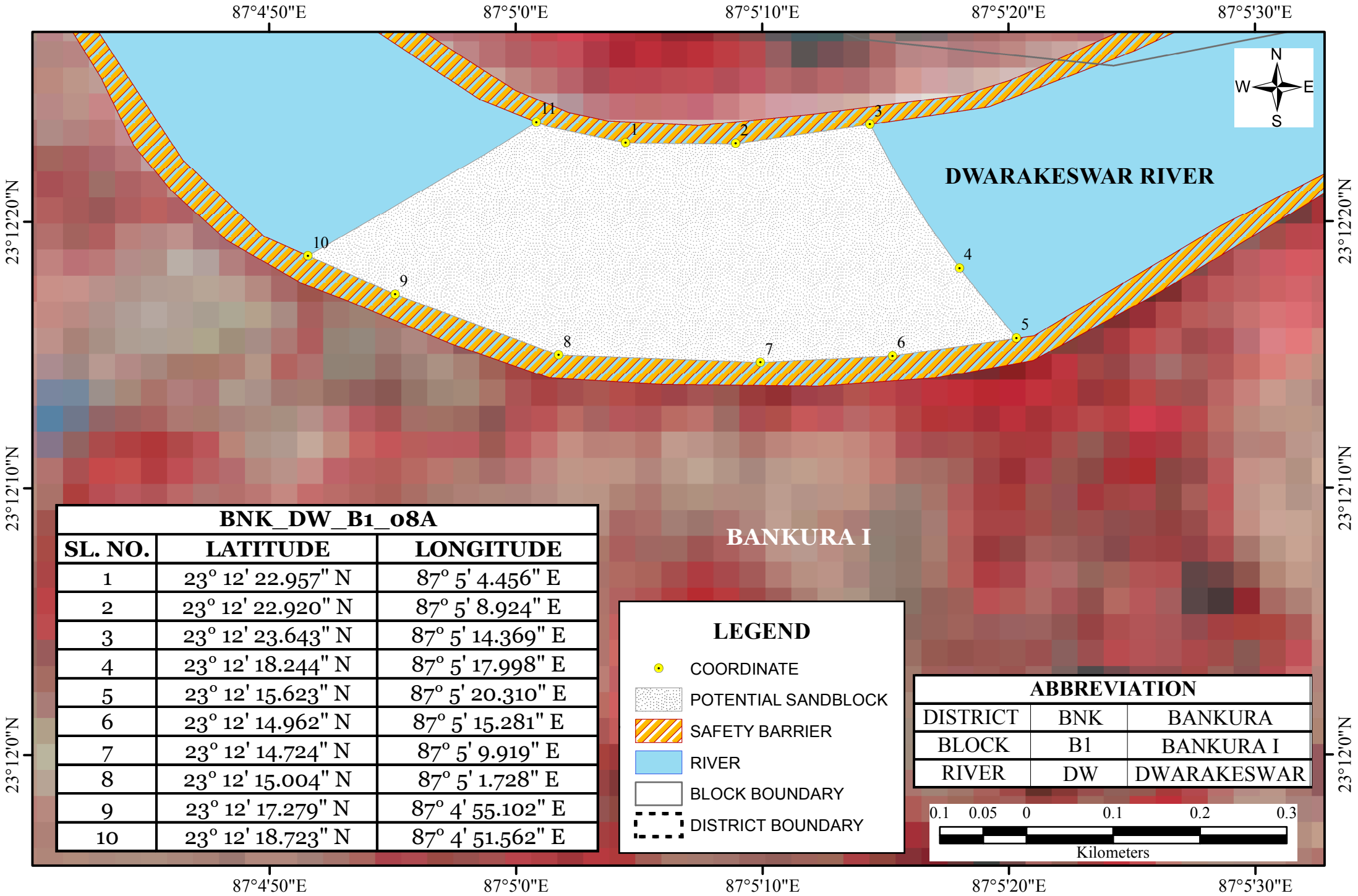
- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	B1	BANKURA I
RIVER	DW	DWARAKESWAR

0.2 0.1 0 0.2 0.4 0.6

Kilometers

POTENTIAL BLOCK BNK_DW_B1_08A OF DWARAKESWAR RIVER



BNK_DW_B1_08A		
SL. NO.	LATITUDE	LONGITUDE
1	23° 12' 22.957" N	87° 5' 4.456" E
2	23° 12' 22.920" N	87° 5' 8.924" E
3	23° 12' 23.643" N	87° 5' 14.369" E
4	23° 12' 18.244" N	87° 5' 17.998" E
5	23° 12' 15.623" N	87° 5' 20.310" E
6	23° 12' 14.962" N	87° 5' 15.281" E
7	23° 12' 14.724" N	87° 5' 9.919" E
8	23° 12' 15.004" N	87° 5' 1.728" E
9	23° 12' 17.279" N	87° 4' 55.102" E
10	23° 12' 18.723" N	87° 4' 51.562" E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	B1	BANKURA I
RIVER	DW	DWARAKESWAR

POTENTIAL BLOCK BNK_DW_ON_09 OF DWARKESWAR RIVER

87°8'0"E

87°8'30"E

23°13'30"N

DWARKESWAR RIVER

BNK_DW_ON_09

BNK_DW_ON_09		
POINT NO	LATITUDE	LONGITUDE
1	23° 13' 40.384" N	87° 7' 33.539" E
2	23° 13' 41.352" N	87° 7' 32.555" E
3	23° 13' 43.863" N	87° 7' 34.202" E
4	23° 13' 46.441" N	87° 7' 44.225" E
5	23° 13' 46.843" N	87° 8' 3.725" E
6	23° 13' 45.886" N	87° 8' 4.866" E
7	23° 13' 43.470" N	87° 8' 12.963" E
8	23° 13' 40.959" N	87° 8' 28.648" E
9	23° 13' 41.818" N	87° 8' 32.327" E
10	23° 13' 41.815" N	87° 8' 35.585" E
11	23° 13' 40.435" N	87° 8' 39.401" E
12	23° 13' 38.265" N	87° 8' 41.199" E
13	23° 13' 36.902" N	87° 8' 45.169" E
14	23° 13' 36.138" N	87° 8' 45.010" E
15	23° 13' 36.550" N	87° 8' 40.509" E
16	23° 13' 36.513" N	87° 8' 35.549" E
17	23° 13' 36.932" N	87° 8' 29.650" E
18	23° 13' 35.199" N	87° 8' 27.101" E
19	23° 13' 30.412" N	87° 8' 23.521" E
20	23° 13' 28.638" N	87° 8' 21.375" E
21	23° 13' 27.773" N	87° 8' 18.469" E
22	23° 13' 27.940" N	87° 8' 16.280" E
23	23° 13' 30.836" N	87° 8' 10.518" E
24	23° 13' 32.991" N	87° 8' 1.717" E
25	23° 13' 37.169" N	87° 7' 54.168" E
26	23° 13' 40.850" N	87° 7' 47.379" E
27	23° 13' 41.927" N	87° 7' 43.314" E
28	23° 13' 41.725" N	87° 7' 37.906" E

LEGEND

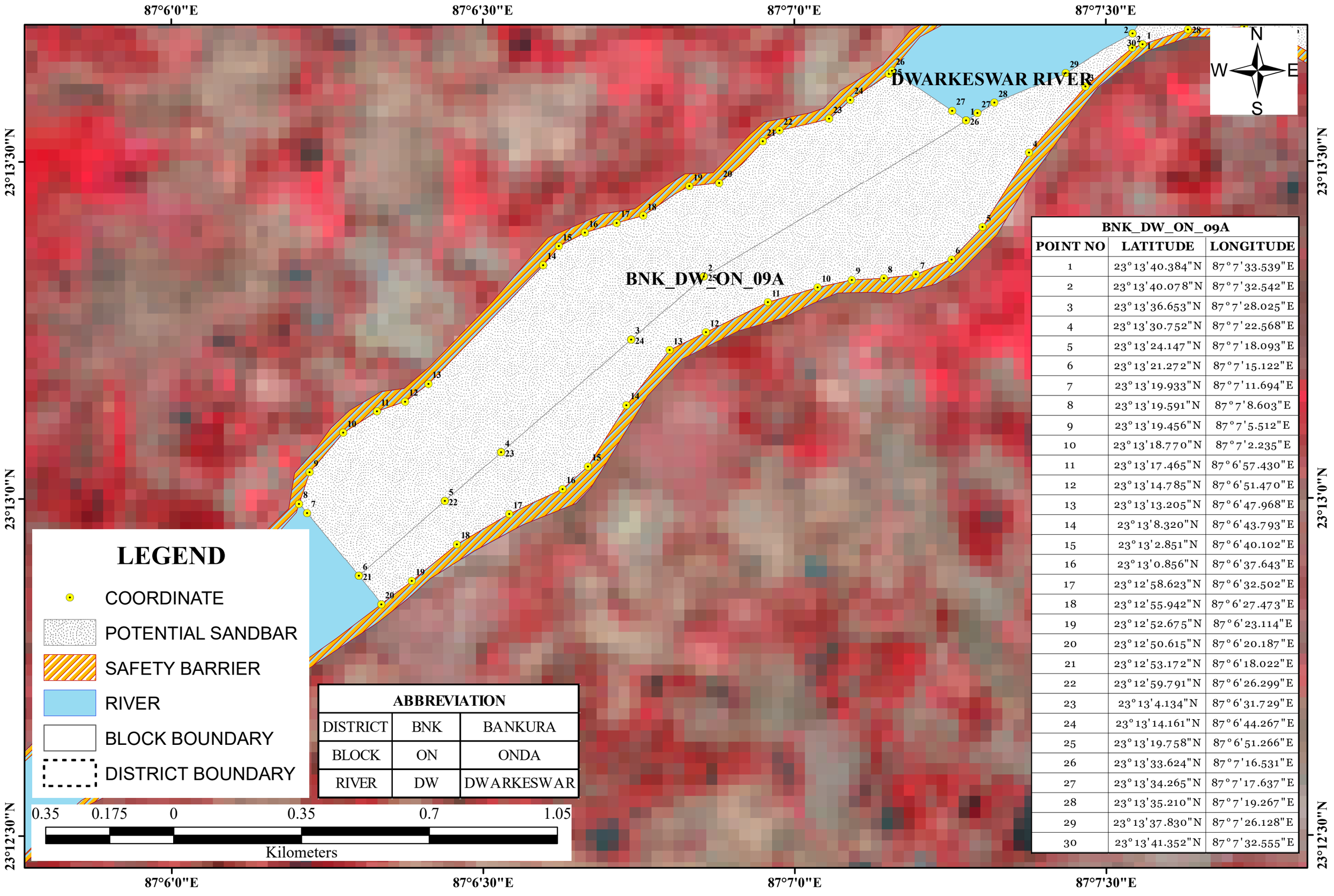
- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	ON	ONDA
RIVER	DW	DWARKESWAR

0.2 0.1 0 0.2 0.4 0.6

Kilometers

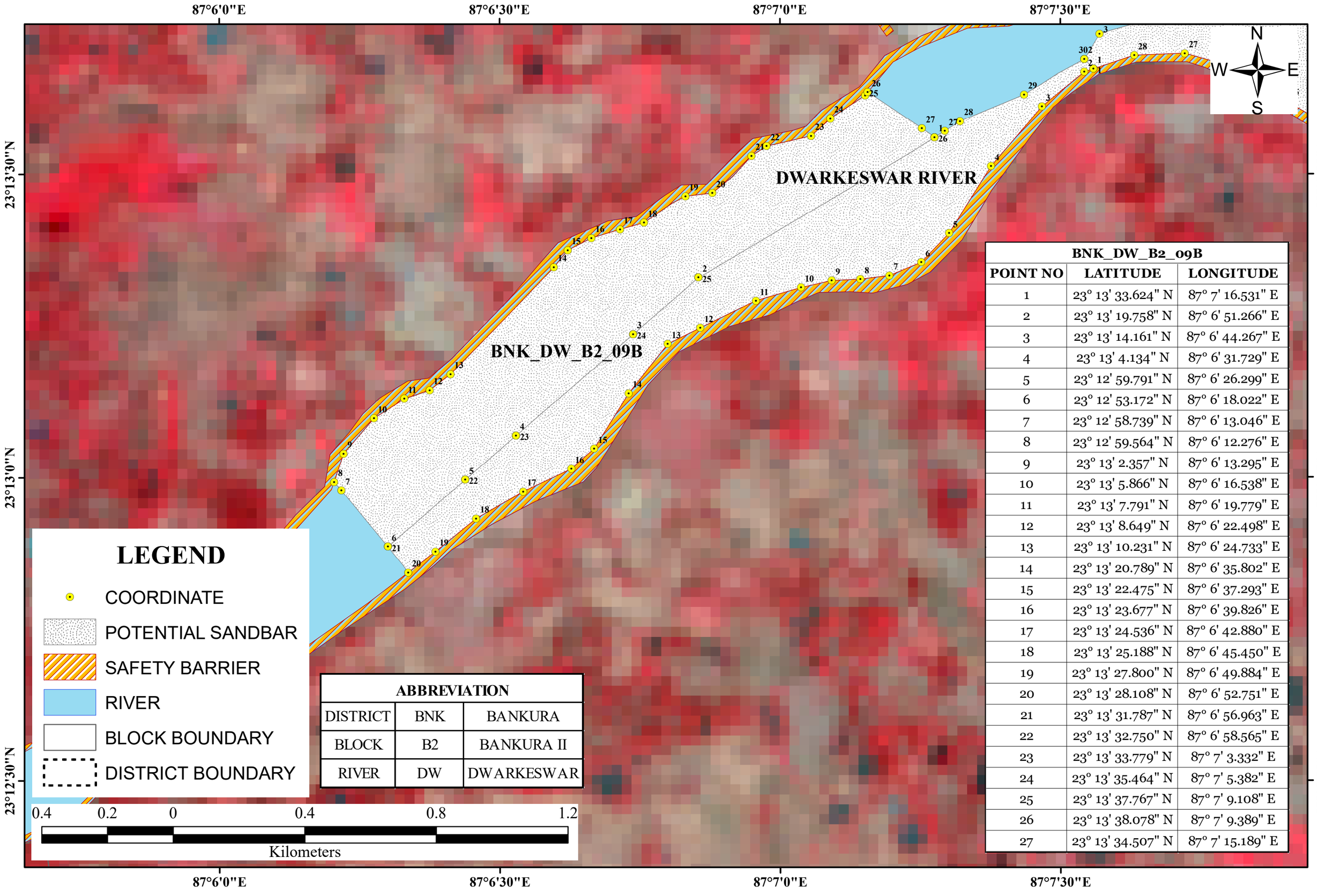
POTENTIAL BLOCK BNK_DW_ON_09A OF DWARKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	ON	ONDA
RIVER	DW	DWARKESWAR

BNK_DW_ON_09A		
POINT NO	LATITUDE	LONGITUDE
1	23°13'40.384"N	87°7'33.539"E
2	23°13'40.078"N	87°7'32.542"E
3	23°13'36.653"N	87°7'28.025"E
4	23°13'30.752"N	87°7'22.568"E
5	23°13'24.147"N	87°7'18.093"E
6	23°13'21.272"N	87°7'15.122"E
7	23°13'19.933"N	87°7'11.694"E
8	23°13'19.591"N	87°7'8.603"E
9	23°13'19.456"N	87°7'5.512"E
10	23°13'18.770"N	87°7'2.235"E
11	23°13'17.465"N	87°6'57.430"E
12	23°13'14.785"N	87°6'51.470"E
13	23°13'13.205"N	87°6'47.968"E
14	23°13'8.320"N	87°6'43.793"E
15	23°13'2.851"N	87°6'40.102"E
16	23°13'0.856"N	87°6'37.643"E
17	23°12'58.623"N	87°6'32.502"E
18	23°12'55.942"N	87°6'27.473"E
19	23°12'52.675"N	87°6'23.114"E
20	23°12'50.615"N	87°6'20.187"E
21	23°12'53.172"N	87°6'18.022"E
22	23°12'59.791"N	87°6'26.299"E
23	23°13'4.134"N	87°6'31.729"E
24	23°13'14.161"N	87°6'44.267"E
25	23°13'19.758"N	87°6'51.266"E
26	23°13'33.624"N	87°7'16.531"E
27	23°13'34.265"N	87°7'17.637"E
28	23°13'35.210"N	87°7'19.267"E
29	23°13'37.830"N	87°7'26.128"E
30	23°13'41.352"N	87°7'32.555"E

POTENTIAL BLOCK BNK_DW_B2_09B OF DWARKESWAR RIVER



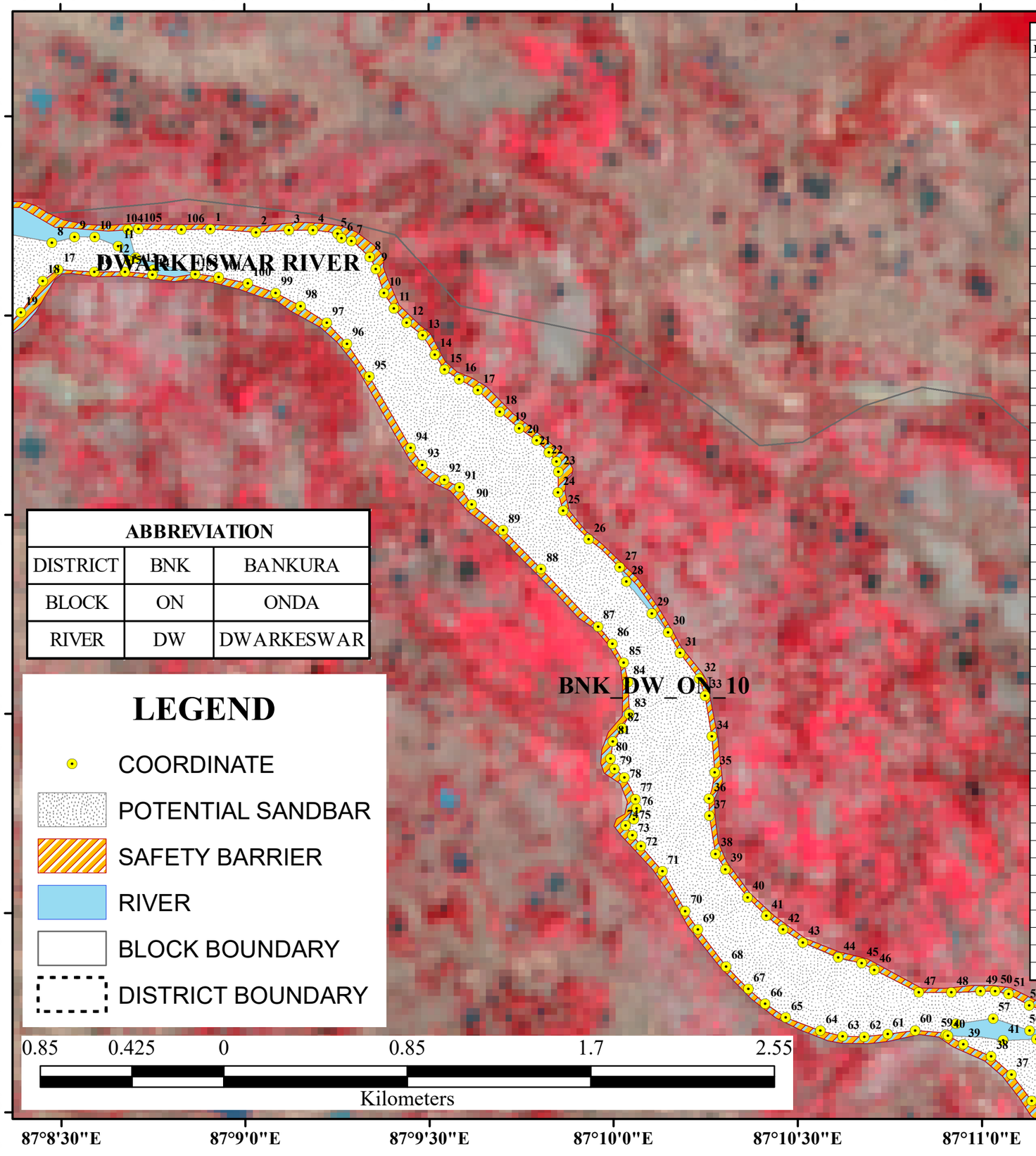
BNK_DW_B2_09B		
POINT NO	LATITUDE	LONGITUDE
1	23° 13' 33.624" N	87° 7' 16.531" E
2	23° 13' 19.758" N	87° 6' 51.266" E
3	23° 13' 14.161" N	87° 6' 44.267" E
4	23° 13' 4.134" N	87° 6' 31.729" E
5	23° 12' 59.791" N	87° 6' 26.299" E
6	23° 12' 53.172" N	87° 6' 18.022" E
7	23° 12' 58.739" N	87° 6' 13.046" E
8	23° 12' 59.564" N	87° 6' 12.276" E
9	23° 13' 2.357" N	87° 6' 13.295" E
10	23° 13' 5.866" N	87° 6' 16.538" E
11	23° 13' 7.791" N	87° 6' 19.779" E
12	23° 13' 8.649" N	87° 6' 22.498" E
13	23° 13' 10.231" N	87° 6' 24.733" E
14	23° 13' 20.789" N	87° 6' 35.802" E
15	23° 13' 22.475" N	87° 6' 37.293" E
16	23° 13' 23.677" N	87° 6' 39.826" E
17	23° 13' 24.536" N	87° 6' 42.880" E
18	23° 13' 25.188" N	87° 6' 45.450" E
19	23° 13' 27.800" N	87° 6' 49.884" E
20	23° 13' 28.108" N	87° 6' 52.751" E
21	23° 13' 31.787" N	87° 6' 56.963" E
22	23° 13' 32.750" N	87° 6' 58.565" E
23	23° 13' 33.779" N	87° 7' 3.332" E
24	23° 13' 35.464" N	87° 7' 5.382" E
25	23° 13' 37.767" N	87° 7' 9.108" E
26	23° 13' 38.078" N	87° 7' 9.389" E
27	23° 13' 34.507" N	87° 7' 15.189" E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	B2	BANKURA II
RIVER	DW	DWARKESWAR

POTENTIAL BLOCK BNK_DW_ON_10 OF DWARKESWAR RIVER

87°8'30"E 87°9'0"E 87°9'30"E 87°10'0"E 87°10'30"E 87°11'0"E 87°11'30"E 87°12'0"E 87°12'30"E

23°14'0"N 23°13'30"N 23°12'30"N 23°12'0"N 23°11'30"N



BNK_DW_ON_10			BNK_DW_ON_10		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 13' 43.012" N	87° 8' 54.429" E	54	23° 11' 44.545" N	87° 11' 11.993" E
2	23° 13' 42.488" N	87° 9' 1.876" E	55	23° 11' 42.681" N	87° 11' 10.966" E
3	23° 13' 42.793" N	87° 9' 7.202" E	56	23° 11' 42.189" N	87° 11' 7.749" E
4	23° 13' 42.824" N	87° 9' 11.149" E	57	23° 11' 44.013" N	87° 11' 1.854" E
5	23° 13' 42.248" N	87° 9' 15.168" E	58	23° 11' 43.183" N	87° 10' 55.801" E
6	23° 13' 41.552" N	87° 9' 15.836" E	59	23° 11' 41.583" N	87° 10' 54.121" E
7	23° 13' 41.188" N	87° 9' 17.421" E	60	23° 11' 42.182" N	87° 10' 49.102" E
8	23° 13' 38.719" N	87° 9' 20.380" E	61	23° 11' 41.650" N	87° 10' 44.633" E
9	23° 13' 36.963" N	87° 9' 21.421" E	62	23° 11' 41.283" N	87° 10' 40.835" E
10	23° 13' 33.313" N	87° 9' 22.720" E	63	23° 11' 41.328" N	87° 10' 37.306" E
11	23° 13' 31.040" N	87° 9' 24.319" E	64	23° 11' 42.158" N	87° 10' 33.688" E
12	23° 13' 28.870" N	87° 9' 26.402" E	65	23° 11' 44.147" N	87° 10' 28.061" E
13	23° 13' 26.974" N	87° 9' 29.043" E	66	23° 11' 46.257" N	87° 10' 24.713" E
14	23° 13' 24.013" N	87° 9' 30.976" E	67	23° 11' 48.449" N	87° 10' 21.946" E
15	23° 13' 21.774" N	87° 9' 32.612" E	68	23° 11' 51.881" N	87° 10' 18.331" E
16	23° 13' 20.360" N	87° 9' 34.994" E	69	23° 11' 57.420" N	87° 10' 13.736" E
17	23° 13' 18.705" N	87° 9' 38.008" E	70	23° 12' 0.230" N	87° 10' 11.685" E
18	23° 13' 15.432" N	87° 9' 41.579" E	71	23° 12' 6.181" N	87° 10' 7.984" E
19	23° 13' 12.951" N	87° 9' 44.704" E	72	23° 12' 9.985" N	87° 10' 4.459" E
20	23° 13' 11.089" N	87° 9' 47.569" E	73	23° 12' 11.638" N	87° 10' 3.121" E
21	23° 13' 9.298" N	87° 9' 49.541" E	74	23° 12' 13.085" N	87° 10' 1.961" E
22	23° 13' 7.954" N	87° 9' 50.805" E	75	23° 12' 13.992" N	87° 10' 3.347" E
23	23° 13' 6.336" N	87° 9' 51.101" E	76	23° 12' 15.644" N	87° 10' 3.751" E
24	23° 13' 3.239" N	87° 9' 51.023" E	77	23° 12' 17.089" N	87° 10' 3.574" E
25	23° 13' 0.519" N	87° 9' 51.839" E	78	23° 12' 20.354" N	87° 10' 1.791" E
26	23° 12' 56.213" N	87° 9' 56.041" E	79	23° 12' 21.677" N	87° 10' 0.229" E
27	23° 12' 51.961" N	87° 10' 1.088" E	80	23° 12' 23.206" N	87° 9' 59.561" E
28	23° 12' 49.832" N	87° 10' 2.157" E	81	23° 12' 25.725" N	87° 9' 59.921" E
29	23° 12' 45.078" N	87° 10' 6.340" E	82	23° 12' 27.706" N	87° 10' 1.487" E
30	23° 12' 42.201" N	87° 10' 8.945" E	83	23° 12' 29.852" N	87° 10' 2.607" E
31	23° 12' 39.057" N	87° 10' 10.914" E	84	23° 12' 34.726" N	87° 10' 2.435" E
32	23° 12' 35.199" N	87° 10' 14.000" E	85	23° 12' 37.617" N	87° 10' 1.723" E
33	23° 12' 32.652" N	87° 10' 14.928" E	86	23° 12' 40.510" N	87° 9' 59.850" E
34	23° 12' 26.490" N	87° 10' 16.037" E	87	23° 12' 43.115" N	87° 9' 57.530" E
35	23° 12' 21.120" N	87° 10' 16.514" E	88	23° 12' 51.756" N	87° 9' 48.291" E
36	23° 12' 17.163" N	87° 10' 15.578" E	89	23° 12' 57.586" N	87° 9' 42.087" E
37	23° 12' 14.582" N	87° 10' 15.612" E	90	23° 13' 1.473" N	87° 9' 36.953" E
38	23° 12' 8.833" N	87° 10' 16.647" E	91	23° 13' 4.118" N	87° 9' 35.035" E
39	23° 12' 6.526" N	87° 10' 18.245" E	92	23° 13' 5.195" N	87° 9' 32.489" E
40	23° 12' 2.254" N	87° 10' 21.851" E	93	23° 13' 7.470" N	87° 9' 28.961" E
41	23° 11' 59.463" N	87° 10' 24.901" E	94	23° 13' 9.991" N	87° 9' 27.043" E
42	23° 11' 57.430" N	87° 10' 27.616" E	95	23° 13' 20.735" N	87° 9' 20.308" E
43	23° 11' 55.499" N	87° 10' 30.853" E	96	23° 13' 25.695" N	87° 9' 16.694" E
44	23° 11' 53.152" N	87° 10' 36.621" E	97	23° 13' 28.837" N	87° 9' 13.435" E
45	23° 11' 52.356" N	87° 10' 40.417" E	98	23° 13' 31.360" N	87° 9' 9.104" E
46	23° 11' 51.356" N	87° 10' 42.464" E	99	23° 13' 33.347" N	87° 9' 5.084" E
47	23° 11' 47.940" N	87° 10' 49.719" E	100	23° 13' 34.797" N	87° 9' 0.572" E
48	23° 11' 47.900" N	87° 10' 55.043" E	101	23° 13' 35.710" N	87° 8' 55.792" E
49	23° 11' 48.101" N	87° 10' 59.809" E	102	23° 13' 36.239" N	87° 8' 51.967" E
50	23° 11' 48.132" N	87° 11' 2.192" E	103	23° 13' 38.679" N	87° 8' 42.244" E
51	23° 11' 47.682" N	87° 11' 4.351" E	104	23° 13' 42.882" N	87° 8' 41.044" E
52	23° 11' 45.992" N	87° 11' 7.737" E	105	23° 13' 42.988" N	87° 8' 42.772" E
53	23° 11' 44.852" N	87° 11' 10.825" E	106	23° 13' 42.913" N	87° 8' 49.736" E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	ON	ONDA
RIVER	DW	DWARKESWAR

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

0.85 0.425 0 0.85 1.7 2.55

Kilometers

N W E S

POTENTIAL BLOCK BNK_DW_ON_11 OF DWARKESWAR RIVER

87°11'0"E 87°11'30"E 87°12'0"E 87°12'30"E 87°13'0"E

23°11'30"N

23°11'0"N

N W E S

DWARKESWAR RIVER

BNK_DW_ON_11

BNK_DW_ON_11			BNK_DW_ON_11		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 11' 41.959" N	87° 11' 21.263" E	24	23° 10' 50.552" N	87° 12' 1.268" E
2	23° 11' 40.650" N	87° 11' 25.101" E	25	23° 10' 57.008" N	87° 11' 51.226" E
3	23° 11' 39.157" N	87° 11' 30.505" E	26	23° 11' 2.175" N	87° 11' 47.392" E
4	23° 11' 37.542" N	87° 11' 33.854" E	27	23° 11' 3.748" N	87° 11' 44.490" E
5	23° 11' 35.599" N	87° 11' 35.683" E	28	23° 11' 5.444" N	87° 11' 42.125" E
6	23° 11' 32.871" N	87° 11' 37.734" E	29	23° 11' 12.350" N	87° 11' 35.344" E
7	23° 11' 29.027" N	87° 11' 40.007" E	30	23° 11' 18.221" N	87° 11' 30.349" E
8	23° 11' 26.465" N	87° 11' 40.763" E	31	23° 11' 22.190" N	87° 11' 26.736" E
9	23° 11' 23.738" N	87° 11' 42.322" E	32	23° 11' 24.424" N	87° 11' 23.031" E
10	23° 11' 21.008" N	87° 11' 45.177" E	33	23° 11' 24.717" N	87° 11' 19.770" E
11	23° 11' 16.252" N	87° 11' 50.353" E	34	23° 11' 27.326" N	87° 11' 14.368" E
12	23° 11' 11.620" N	87° 11' 55.618" E	35	23° 11' 29.850" N	87° 11' 9.859" E
13	23° 11' 8.643" N	87° 11' 58.115" E	36	23° 11' 31.546" N	87° 11' 8.119" E
14	23° 11' 6.119" N	87° 12' 1.864" E	37	23° 11' 35.556" N	87° 11' 4.819" E
15	23° 11' 3.883" N	87° 12' 6.730" E	38	23° 11' 38.285" N	87° 11' 1.517" E
16	23° 11' 2.348" N	87° 12' 11.999" E	39	23° 11' 40.108" N	87° 10' 56.962" E
17	23° 11' 1.394" N	87° 12' 15.036" E	40	23° 11' 41.398" N	87° 10' 54.477" E
18	23° 10' 59.572" N	87° 12' 18.651" E	41	23° 11' 40.708" N	87° 11' 3.458" E
19	23° 10' 56.347" N	87° 12' 21.639" E	42	23° 11' 40.906" N	87° 11' 8.900" E
20	23° 10' 55.034" N	87° 12' 24.851" E	43	23° 11' 42.188" N	87° 11' 18.827" E
21	23° 10' 48.799" N	87° 12' 24.779" E			
22	23° 10' 47.975" N	87° 12' 14.666" E			
23	23° 10' 48.397" N	87° 12' 7.295" E			

LEGEND

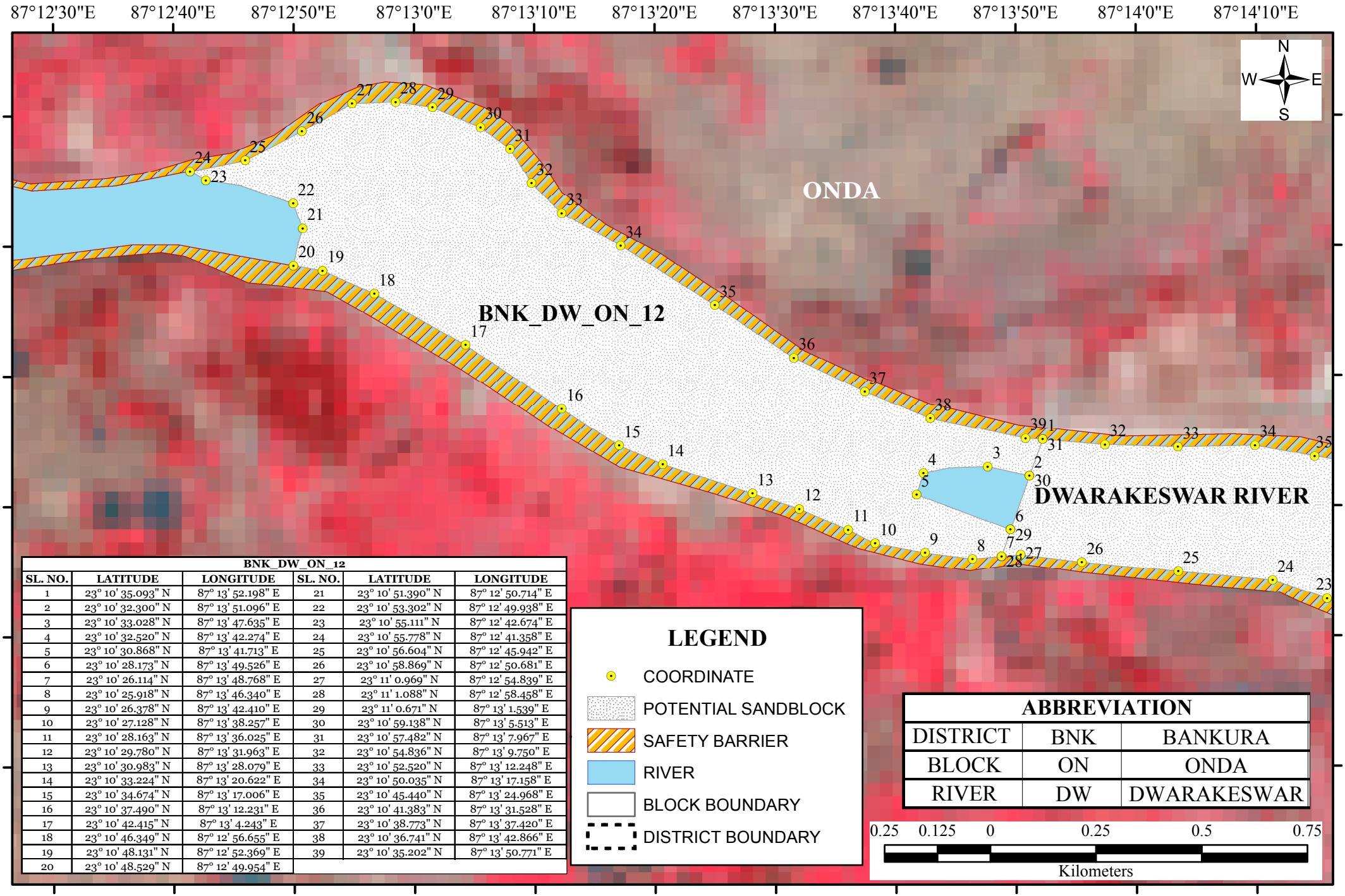
- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	ON	ONDA
RIVER	DW	DWARKESWAR

0.4 0.2 0 0.4 0.8 1.2

Kilometers

POTENTIAL BLOCK BNK_DW_ON_12 OF DWARAKESWAR RIVER



BNK_DW_ON_12					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 10' 35.093" N	87° 13' 52.198" E	21	23° 10' 51.390" N	87° 12' 50.714" E
2	23° 10' 32.300" N	87° 13' 51.096" E	22	23° 10' 53.302" N	87° 12' 49.938" E
3	23° 10' 33.028" N	87° 13' 47.635" E	23	23° 10' 55.111" N	87° 12' 42.674" E
4	23° 10' 32.520" N	87° 13' 42.274" E	24	23° 10' 55.778" N	87° 12' 41.358" E
5	23° 10' 30.868" N	87° 13' 41.713" E	25	23° 10' 56.604" N	87° 12' 45.942" E
6	23° 10' 28.173" N	87° 13' 49.526" E	26	23° 10' 58.869" N	87° 12' 50.681" E
7	23° 10' 26.114" N	87° 13' 48.768" E	27	23° 11' 0.969" N	87° 12' 54.839" E
8	23° 10' 25.918" N	87° 13' 46.340" E	28	23° 11' 1.088" N	87° 12' 58.458" E
9	23° 10' 26.378" N	87° 13' 42.410" E	29	23° 11' 0.671" N	87° 13' 1.539" E
10	23° 10' 27.128" N	87° 13' 38.257" E	30	23° 10' 59.138" N	87° 13' 5.513" E
11	23° 10' 28.163" N	87° 13' 36.025" E	31	23° 10' 57.482" N	87° 13' 7.967" E
12	23° 10' 29.780" N	87° 13' 31.963" E	32	23° 10' 54.836" N	87° 13' 9.750" E
13	23° 10' 30.983" N	87° 13' 28.079" E	33	23° 10' 52.520" N	87° 13' 12.248" E
14	23° 10' 33.224" N	87° 13' 20.622" E	34	23° 10' 50.035" N	87° 13' 17.158" E
15	23° 10' 34.674" N	87° 13' 17.006" E	35	23° 10' 45.440" N	87° 13' 24.968" E
16	23° 10' 37.490" N	87° 13' 12.231" E	36	23° 10' 41.383" N	87° 13' 31.528" E
17	23° 10' 42.415" N	87° 13' 4.243" E	37	23° 10' 38.773" N	87° 13' 37.420" E
18	23° 10' 46.349" N	87° 12' 56.655" E	38	23° 10' 36.741" N	87° 13' 42.866" E
19	23° 10' 48.131" N	87° 12' 52.369" E	39	23° 10' 35.202" N	87° 13' 50.771" E
20	23° 10' 48.529" N	87° 12' 49.954" E			

LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	ON	ONDA
RIVER	DW	DWARAKESWAR

POTENTIAL BLOCK BNK_DW_ON_13 OF DWARKESWAR RIVER

87°14'0"E 87°14'30"E 87°15'0"E 87°15'30"E 87°16'0"E 87°16'30"E

23°10'30"N 23°10'0"N 23°9'30"N 23°9'0"N

DWARKESWAR RIVER

BNK_DW_ON_13

N W E S

BNK_DW_ON_13			BNK_DW_ON_13		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 8' 53.862" N	87° 16' 14.746" E	30	23° 10' 32.300" N	87° 13' 51.096" E
2	23° 8' 51.611" N	87° 16' 14.175" E	31	23° 10' 35.093" N	87° 13' 52.198" E
3	23° 8' 51.099" N	87° 16' 11.606" E	32	23° 10' 34.696" N	87° 13' 57.381" E
4	23° 8' 57.737" N	87° 15' 53.866" E	33	23° 10' 34.522" N	87° 14' 3.456" E
5	23° 9' 0.270" N	87° 15' 46.029" E	34	23° 10' 34.637" N	87° 14' 9.844" E
6	23° 9' 4.759" N	87° 15' 40.203" E	35	23° 10' 33.803" N	87° 14' 14.801" E
7	23° 9' 8.863" N	87° 15' 30.877" E	36	23° 10' 32.261" N	87° 14' 24.135" E
8	23° 9' 14.033" N	87° 15' 26.197" E	37	23° 10' 31.174" N	87° 14' 32.397" E
9	23° 9' 16.927" N	87° 15' 24.550" E	38	23° 10' 29.971" N	87° 14' 35.923" E
10	23° 9' 22.383" N	87° 15' 21.434" E	39	23° 10' 25.664" N	87° 14' 44.001" E
11	23° 9' 27.966" N	87° 15' 16.665" E	40	23° 10' 21.398" N	87° 14' 51.230" E
12	23° 9' 33.173" N	87° 15' 15.201" E	41	23° 10' 18.912" N	87° 14' 56.273" E
13	23° 9' 40.902" N	87° 15' 11.017" E	42	23° 10' 14.194" N	87° 15' 2.428" E
14	23° 9' 46.856" N	87° 15' 6.830" E	43	23° 10' 8.155" N	87° 15' 8.269" E
15	23° 9' 55.992" N	87° 15' 1.219" E	44	23° 10' 0.630" N	87° 15' 13.749" E
16	23° 9' 58.970" N	87° 14' 58.500" E	45	23° 9' 54.139" N	87° 15' 17.801" E
17	23° 10' 5.258" N	87° 14' 51.945" E	46	23° 9' 46.491" N	87° 15' 22.745" E
18	23° 10' 7.703" N	87° 14' 46.634" E	47	23° 9' 40.081" N	87° 15' 28.092" E
19	23° 10' 9.899" N	87° 14' 42.394" E	48	23° 9' 34.458" N	87° 15' 31.432" E
20	23° 10' 15.407" N	87° 14' 32.711" E	49	23° 9' 30.201" N	87° 15' 33.567" E
21	23° 10' 20.078" N	87° 14' 25.416" E	50	23° 9' 25.322" N	87° 15' 36.684" E
22	23° 10' 20.870" N	87° 14' 20.772" E	51	23° 9' 22.800" N	87° 15' 38.689" E
23	23° 10' 22.860" N	87° 14' 15.817" E	52	23° 9' 17.760" N	87° 15' 39.350" E
24	23° 10' 24.271" N	87° 14' 11.308" E	53	23° 9' 14.206" N	87° 15' 40.549" E
25	23° 10' 24.943" N	87° 14' 3.447" E	54	23° 9' 10.852" N	87° 15' 45.991" E
26	23° 10' 25.657" N	87° 13' 55.452" E	55	23° 9' 6.917" N	87° 15' 52.683" E
27	23° 10' 26.243" N	87° 13' 50.361" E	56	23° 9' 3.439" N	87° 15' 58.437" E
28	23° 10' 26.114" N	87° 13' 48.768" E	57	23° 8' 57.558" N	87° 16' 7.760" E
29	23° 10' 28.173" N	87° 13' 49.526" E			

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	ON	ONDA
RIVER	DW	DWARKESWAR

0.6 0.3 0 0.6 1.2 1.8

Kilometers

POTENTIAL BLOCK BNK_DW_ON_14 OF DWARKESWAR RIVER

87°16'30"E

87°17'0"E

23°8'30"N

DWARKESWAR RIVER

BNK_DW_ON_14

N

W E

S

BNK_DW_ON_14		
POINT NO	LATITUDE	LONGITUDE
1	23° 8' 25.854" N	87° 17' 4.957" E
2	23° 8' 16.356" N	87° 17' 0.064" E
3	23° 8' 12.906" N	87° 16' 57.543" E
4	23° 8' 11.233" N	87° 16' 54.658" E
5	23° 8' 14.166" N	87° 16' 52.183" E
6	23° 8' 17.147" N	87° 16' 47.947" E
7	23° 8' 25.223" N	87° 16' 35.325" E
8	23° 8' 28.121" N	87° 16' 31.535" E
9	23° 8' 37.221" N	87° 16' 23.560" E
10	23° 8' 43.137" N	87° 16' 17.676" E
11	23° 8' 46.861" N	87° 16' 13.486" E
12	23° 8' 47.514" N	87° 16' 11.965" E
13	23° 8' 48.377" N	87° 16' 12.312" E
14	23° 8' 51.099" N	87° 16' 11.606" E
15	23° 8' 51.611" N	87° 16' 14.175" E
16	23° 8' 53.862" N	87° 16' 14.746" E
17	23° 8' 51.832" N	87° 16' 23.291" E
18	23° 8' 50.628" N	87° 16' 27.040" E
19	23° 8' 48.099" N	87° 16' 32.394" E
20	23° 8' 46.358" N	87° 16' 36.276" E
21	23° 8' 42.633" N	87° 16' 40.511" E
22	23° 8' 38.991" N	87° 16' 44.880" E
23	23° 8' 29.769" N	87° 16' 59.376" E

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	ON	ONDA
RIVER	DW	DWARKESWAR

0.25 0.125 0 0.25 0.5 0.75

Kilometers

POTENTIAL BLOCK BNK_DW_BSP_14A OF DWARKESWAR RIVER

87°17'0"E 87°17'30"E 87°18'0"E 87°18'30"E

23°8'30"N 23°8'0"N 23°7'30"N

N W E S

DWARKESWAR RIVER

BNK_DW_BSP_14A

BNK_DW_BSP_14A		
POINT NO	LATITUDE	LONGITUDE
1	23° 8' 11.233" N	87° 16' 54.658" E
2	23° 8' 12.906" N	87° 16' 57.543" E
3	23° 8' 16.356" N	87° 17' 0.064" E
4	23° 8' 25.854" N	87° 17' 4.957" E
5	23° 8' 25.077" N	87° 17' 6.065" E
6	23° 8' 20.939" N	87° 17' 10.298" E
7	23° 8' 9.080" N	87° 17' 20.917" E
8	23° 7' 53.035" N	87° 17' 24.827" E
9	23° 7' 49.729" N	87° 17' 25.862" E
10	23° 7' 48.694" N	87° 17' 27.140" E
11	23° 7' 44.599" N	87° 17' 30.659" E
12	23° 7' 41.740" N	87° 17' 35.386" E
13	23° 7' 37.390" N	87° 17' 42.878" E
14	23° 7' 31.589" N	87° 17' 53.091" E
15	23° 7' 25.953" N	87° 18' 3.171" E
16	23° 7' 21.393" N	87° 18' 11.734" E
17	23° 7' 16.712" N	87° 18' 20.653" E
18	23° 7' 10.737" N	87° 18' 13.538" E
19	23° 7' 16.210" N	87° 18' 6.057" E
20	23° 7' 18.436" N	87° 18' 2.819" E
21	23° 7' 20.724" N	87° 18' 2.764" E
22	23° 7' 26.005" N	87° 17' 54.738" E
23	23° 7' 31.809" N	87° 17' 43.141" E
24	23° 7' 35.849" N	87° 17' 36.228" E
25	23° 7' 37.504" N	87° 17' 34.446" E
26	23° 7' 37.772" N	87° 17' 29.952" E
27	23° 7' 38.925" N	87° 17' 29.305" E
28	23° 7' 40.787" N	87° 17' 27.300" E
29	23° 7' 47.063" N	87° 17' 20.736" E
30	23° 7' 52.853" N	87° 17' 16.283" E
31	23° 7' 57.484" N	87° 17' 5.798" E
32	23° 8' 4.818" N	87° 17' 0.068" E

LEGEND

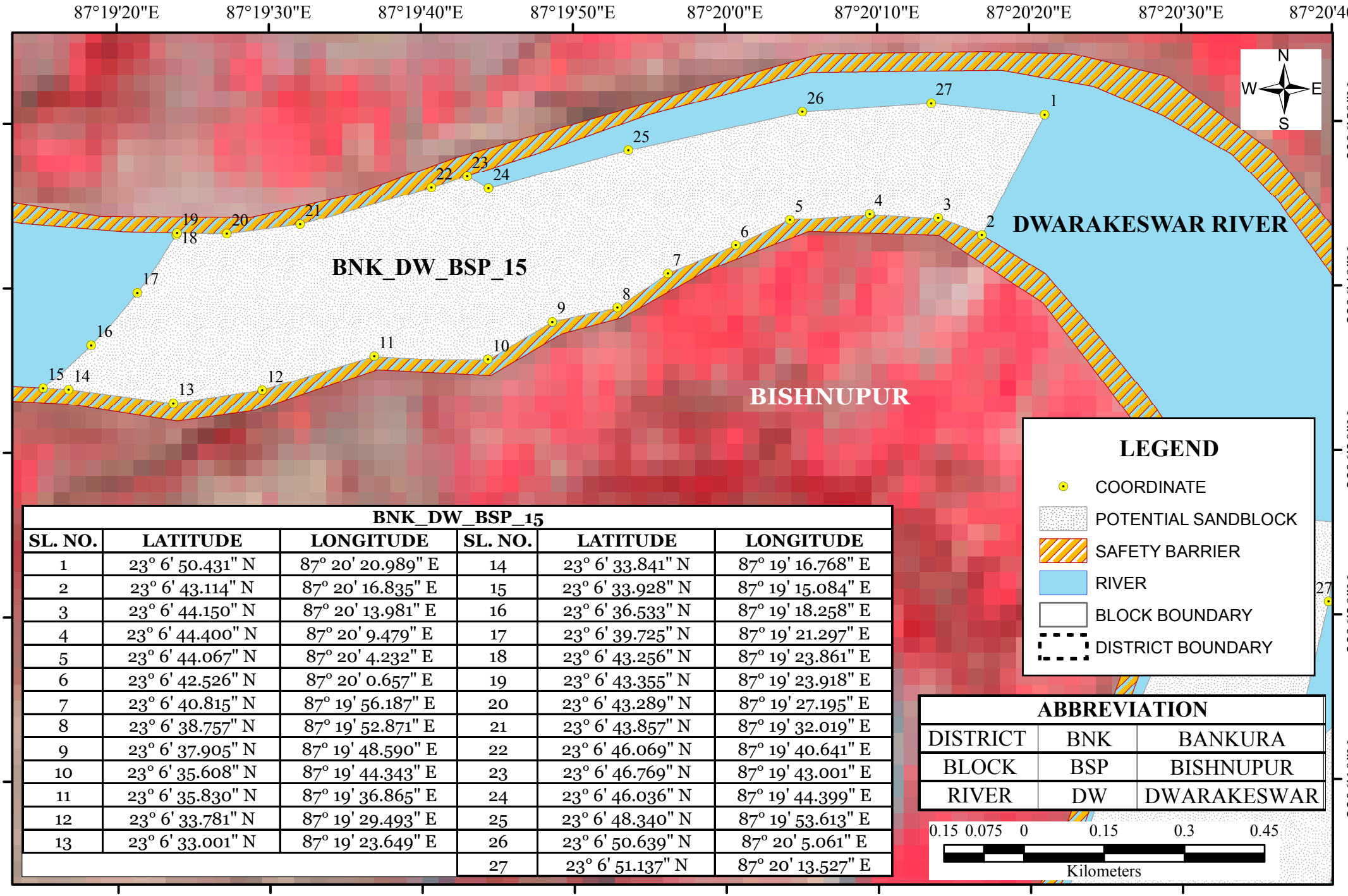
- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	BSP	BISHNUPUR
RIVER	DW	DWARKESWAR

0.4 0.2 0 0.4 0.8 1.2

Kilometers

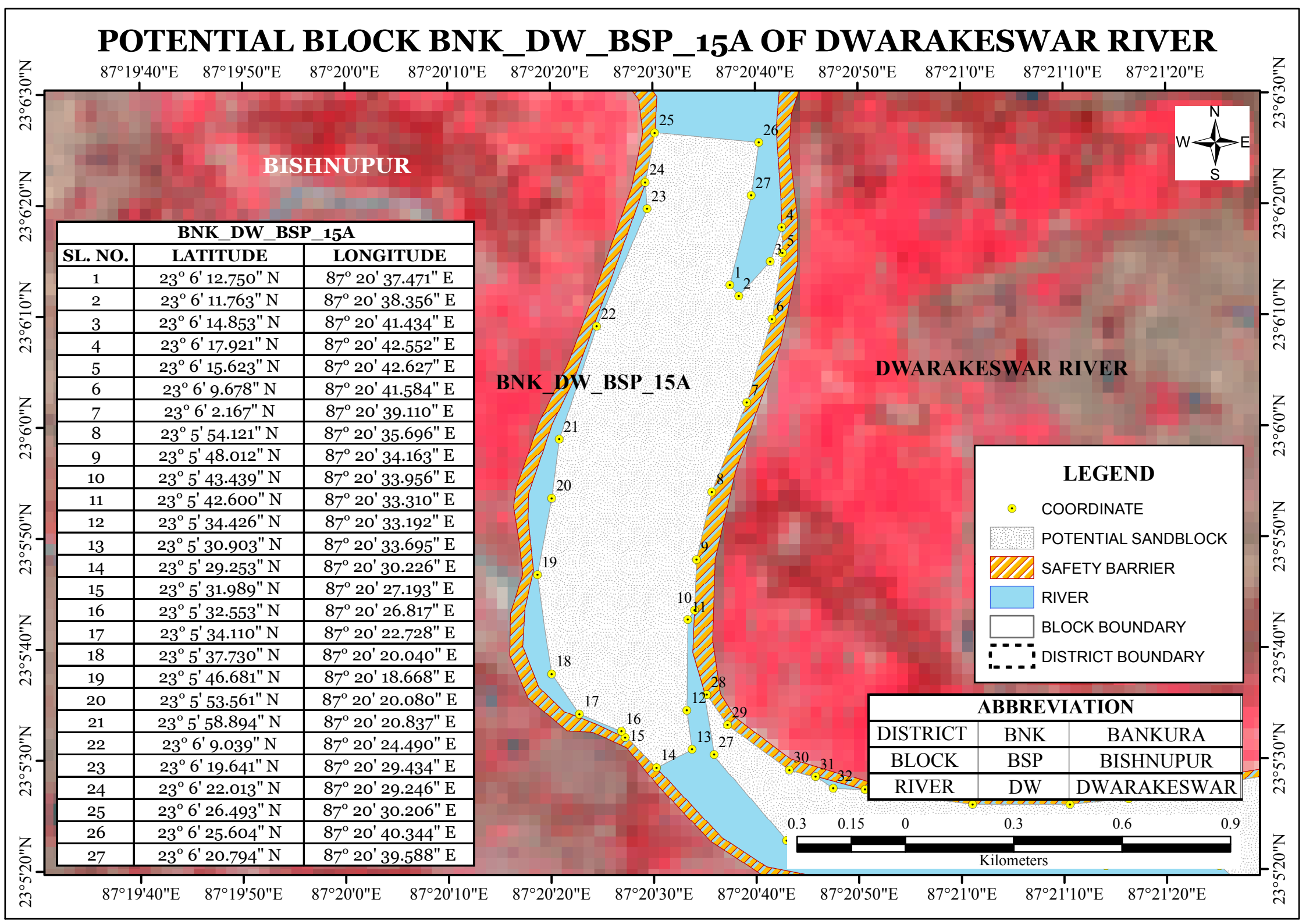
POTENTIAL BLOCK BNK_DW_BSP_15 OF DWARAKESWAR RIVER



BNK_DW_BSP_15					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 6' 50.431" N	87° 20' 20.989" E	14	23° 6' 33.841" N	87° 19' 16.768" E
2	23° 6' 43.114" N	87° 20' 16.835" E	15	23° 6' 33.928" N	87° 19' 15.084" E
3	23° 6' 44.150" N	87° 20' 13.981" E	16	23° 6' 36.533" N	87° 19' 18.258" E
4	23° 6' 44.400" N	87° 20' 9.479" E	17	23° 6' 39.725" N	87° 19' 21.297" E
5	23° 6' 44.067" N	87° 20' 4.232" E	18	23° 6' 43.256" N	87° 19' 23.861" E
6	23° 6' 42.526" N	87° 20' 0.657" E	19	23° 6' 43.355" N	87° 19' 23.918" E
7	23° 6' 40.815" N	87° 19' 56.187" E	20	23° 6' 43.289" N	87° 19' 27.195" E
8	23° 6' 38.757" N	87° 19' 52.871" E	21	23° 6' 43.857" N	87° 19' 32.019" E
9	23° 6' 37.905" N	87° 19' 48.590" E	22	23° 6' 46.069" N	87° 19' 40.641" E
10	23° 6' 35.608" N	87° 19' 44.343" E	23	23° 6' 46.769" N	87° 19' 43.001" E
11	23° 6' 35.830" N	87° 19' 36.865" E	24	23° 6' 46.036" N	87° 19' 44.399" E
12	23° 6' 33.781" N	87° 19' 29.493" E	25	23° 6' 48.340" N	87° 19' 53.613" E
13	23° 6' 33.001" N	87° 19' 23.649" E	26	23° 6' 50.639" N	87° 20' 5.061" E
			27	23° 6' 51.137" N	87° 20' 13.527" E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	BSP	BISHNUPUR
RIVER	DW	DWARAKESWAR

POTENTIAL BLOCK BNK_DW_BSP_15A OF DWARAKESWAR RIVER



BNK_DW_BSP_15A		
SL. NO.	LATITUDE	LONGITUDE
1	23° 6' 12.750" N	87° 20' 37.471" E
2	23° 6' 11.763" N	87° 20' 38.356" E
3	23° 6' 14.853" N	87° 20' 41.434" E
4	23° 6' 17.921" N	87° 20' 42.552" E
5	23° 6' 15.623" N	87° 20' 42.627" E
6	23° 6' 9.678" N	87° 20' 41.584" E
7	23° 6' 2.167" N	87° 20' 39.110" E
8	23° 5' 54.121" N	87° 20' 35.696" E
9	23° 5' 48.012" N	87° 20' 34.163" E
10	23° 5' 43.439" N	87° 20' 33.956" E
11	23° 5' 42.600" N	87° 20' 33.310" E
12	23° 5' 34.426" N	87° 20' 33.192" E
13	23° 5' 30.903" N	87° 20' 33.695" E
14	23° 5' 29.253" N	87° 20' 30.226" E
15	23° 5' 31.989" N	87° 20' 27.193" E
16	23° 5' 32.553" N	87° 20' 26.817" E
17	23° 5' 34.110" N	87° 20' 22.728" E
18	23° 5' 37.730" N	87° 20' 20.040" E
19	23° 5' 46.681" N	87° 20' 18.668" E
20	23° 5' 53.561" N	87° 20' 20.080" E
21	23° 5' 58.894" N	87° 20' 20.837" E
22	23° 6' 9.039" N	87° 20' 24.490" E
23	23° 6' 19.641" N	87° 20' 29.434" E
24	23° 6' 22.013" N	87° 20' 29.246" E
25	23° 6' 26.493" N	87° 20' 30.206" E
26	23° 6' 25.604" N	87° 20' 40.344" E
27	23° 6' 20.794" N	87° 20' 39.588" E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	BSP	BISHNUPUR
RIVER	DW	DWARAKESWAR

POTENTIAL BLOCK BNK_DW_BSP_16 OF DWARKESWAR RIVER

87°21'0"E 87°21'30"E 87°22'0"E 87°22'30"E 87°23'0"E 87°23'30"E 87°24'0"E 87°24'30"E 87°25'0"E

23°6'30"N 23°6'0"N 23°5'30"N 23°5'0"N 23°4'30"N

N W E S

BNK_DW_BSP_16

DWARKESWAR RIVER

BNK_DW_BSP_16			BNK_DW_BSP_16		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 6' 38.072" N	87° 23' 40.158" E	31	23° 5' 28.410" N	87° 20' 45.735" E
2	23° 6' 37.343" N	87° 23' 39.657" E	32	23° 5' 27.365" N	87° 20' 47.459" E
3	23° 6' 30.564" N	87° 23' 35.400" E	33	23° 5' 27.238" N	87° 20' 50.535" E
4	23° 6' 13.498" N	87° 23' 26.781" E	34	23° 5' 26.910" N	87° 20' 51.877" E
5	23° 6' 3.551" N	87° 23' 21.708" E	35	23° 5' 25.899" N	87° 21' 1.026" E
6	23° 5' 58.143" N	87° 23' 18.951" E	36	23° 5' 25.877" N	87° 21' 10.535" E
7	23° 5' 39.465" N	87° 23' 13.358" E	37	23° 5' 26.360" N	87° 21' 16.250" E
8	23° 5' 38.651" N	87° 23' 12.403" E	38	23° 5' 28.476" N	87° 21' 30.318" E
9	23° 5' 35.636" N	87° 23' 6.926" E	39	23° 5' 29.451" N	87° 21' 37.330" E
10	23° 5' 32.214" N	87° 22' 58.992" E	40	23° 5' 29.258" N	87° 21' 49.427" E
11	23° 5' 29.205" N	87° 22' 50.874" E	41	23° 5' 30.186" N	87° 21' 59.073" E
12	23° 5' 25.477" N	87° 22' 40.819" E	42	23° 5' 31.031" N	87° 22' 8.673" E
13	23° 5' 22.922" N	87° 22' 30.172" E	43	23° 5' 31.682" N	87° 22' 13.005" E
14	23° 5' 22.119" N	87° 22' 20.162" E	44	23° 5' 30.503" N	87° 22' 22.421" E
15	23° 5' 21.995" N	87° 22' 13.026" E	45	23° 5' 31.512" N	87° 22' 32.201" E
16	23° 5' 20.424" N	87° 22' 7.739" E	46	23° 5' 32.941" N	87° 22' 39.303" E
17	23° 5' 20.732" N	87° 21' 53.417" E	47	23° 5' 37.011" N	87° 22' 46.949" E
18	23° 5' 20.265" N	87° 21' 47.091" E	48	23° 5' 40.668" N	87° 22' 54.816" E
19	23° 5' 19.705" N	87° 21' 36.041" E	49	23° 5' 45.721" N	87° 23' 5.902" E
20	23° 5' 19.055" N	87° 21' 26.733" E	50	23° 5' 50.907" N	87° 23' 13.328" E
21	23° 5' 20.326" N	87° 21' 25.081" E	51	23° 5' 54.121" N	87° 23' 16.150" E
22	23° 5' 21.450" N	87° 21' 22.851" E	52	23° 5' 58.080" N	87° 23' 18.527" E
23	23° 5' 20.351" N	87° 21' 14.013" E	53	23° 6' 7.775" N	87° 23' 22.886" E
24	23° 5' 20.884" N	87° 21' 6.481" E	54	23° 6' 19.862" N	87° 23' 28.501" E
25	23° 5' 21.179" N	87° 20' 50.113" E	55	23° 6' 30.546" N	87° 23' 33.399" E
26	23° 5' 22.686" N	87° 20' 42.910" E	56	23° 6' 42.189" N	87° 23' 36.236" E
27	23° 5' 30.420" N	87° 20' 35.859" E			
28	23° 5' 35.831" N	87° 20' 35.133" E			
29	23° 5' 33.096" N	87° 20' 37.161" E			
30	23° 5' 29.035" N	87° 20' 43.177" E			

LEGEND

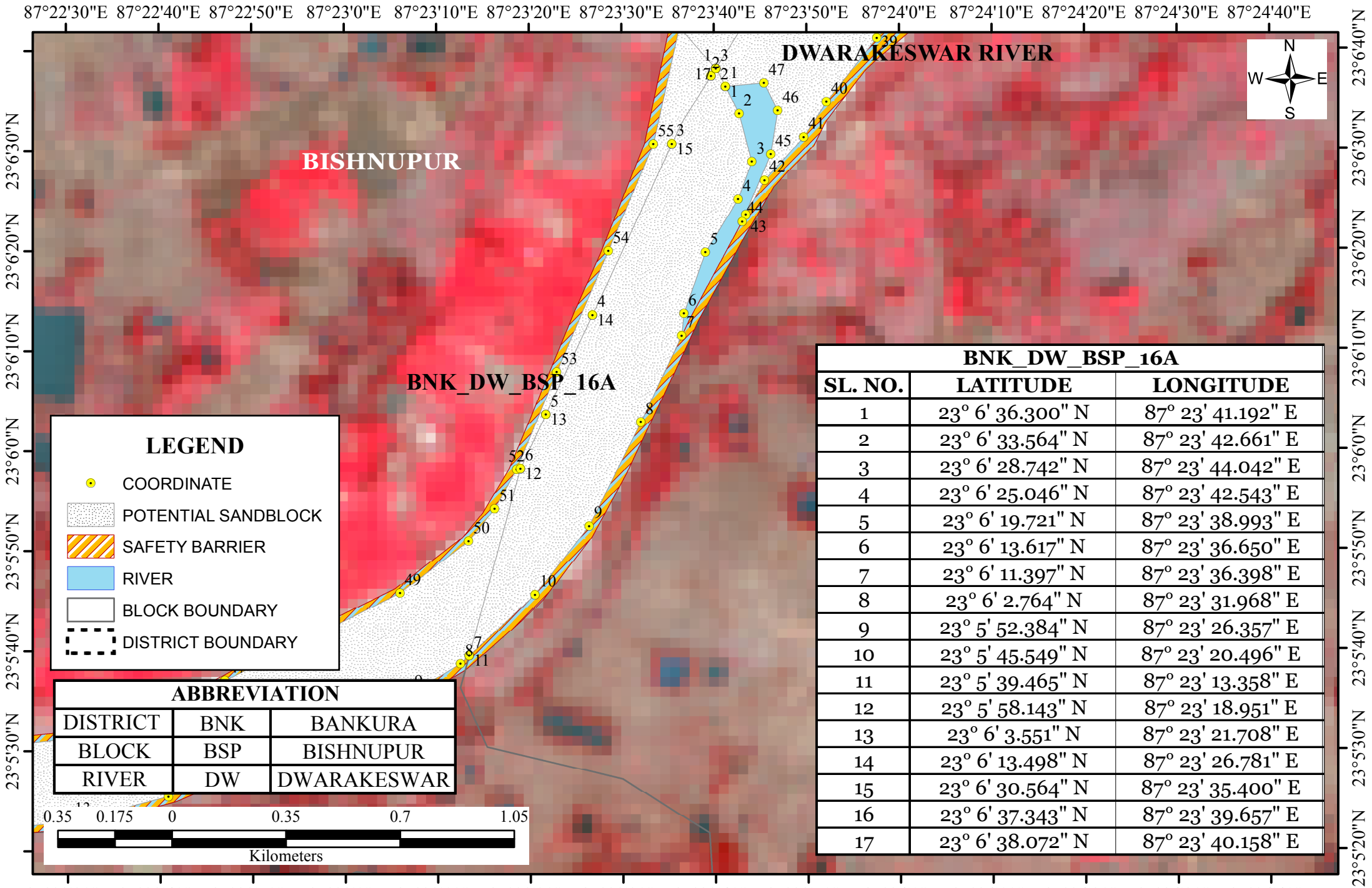
- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	BSP	BISHNUPUR
RIVER	DW	DWARKESWAR

0.85 0.425 0 0.85 1.7 2.55

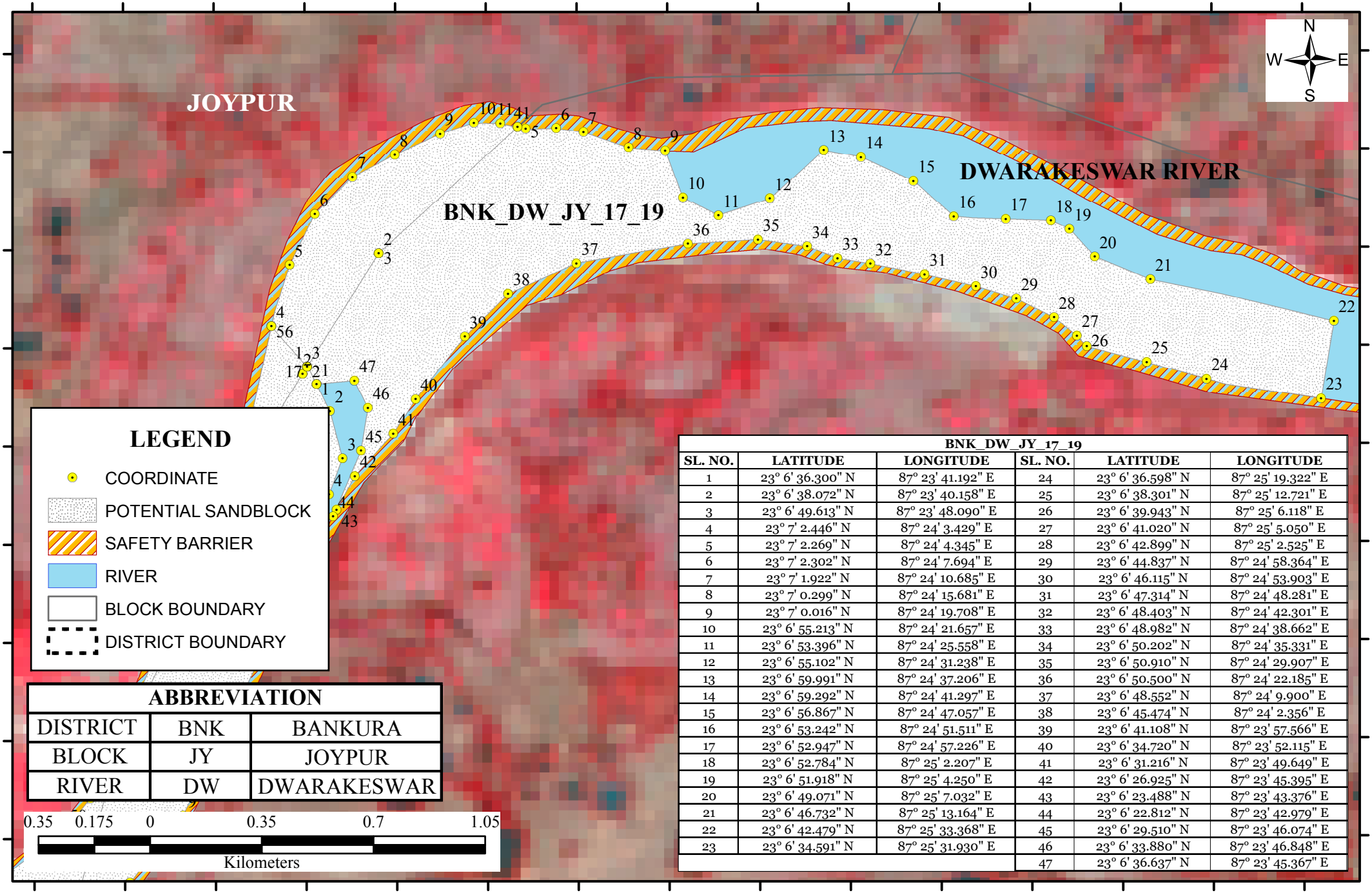
Kilometers

POTENTIAL BLOCK BNK_DW_BSP_16A OF DWARAKESWAR RIVER



BNK_DW_BSP_16A		
SL. NO.	LATITUDE	LONGITUDE
1	23° 6' 36.300" N	87° 23' 41.192" E
2	23° 6' 33.564" N	87° 23' 42.661" E
3	23° 6' 28.742" N	87° 23' 44.042" E
4	23° 6' 25.046" N	87° 23' 42.543" E
5	23° 6' 19.721" N	87° 23' 38.993" E
6	23° 6' 13.617" N	87° 23' 36.650" E
7	23° 6' 11.397" N	87° 23' 36.398" E
8	23° 6' 2.764" N	87° 23' 31.968" E
9	23° 5' 52.384" N	87° 23' 26.357" E
10	23° 5' 45.549" N	87° 23' 20.496" E
11	23° 5' 39.465" N	87° 23' 13.358" E
12	23° 5' 58.143" N	87° 23' 18.951" E
13	23° 6' 3.551" N	87° 23' 21.708" E
14	23° 6' 13.498" N	87° 23' 26.781" E
15	23° 6' 30.564" N	87° 23' 35.400" E
16	23° 6' 37.343" N	87° 23' 39.657" E
17	23° 6' 38.072" N	87° 23' 40.158" E

POTENTIAL BLOCK BNK_DW_JY_17_19 OF DWARAKESWAR RIVER



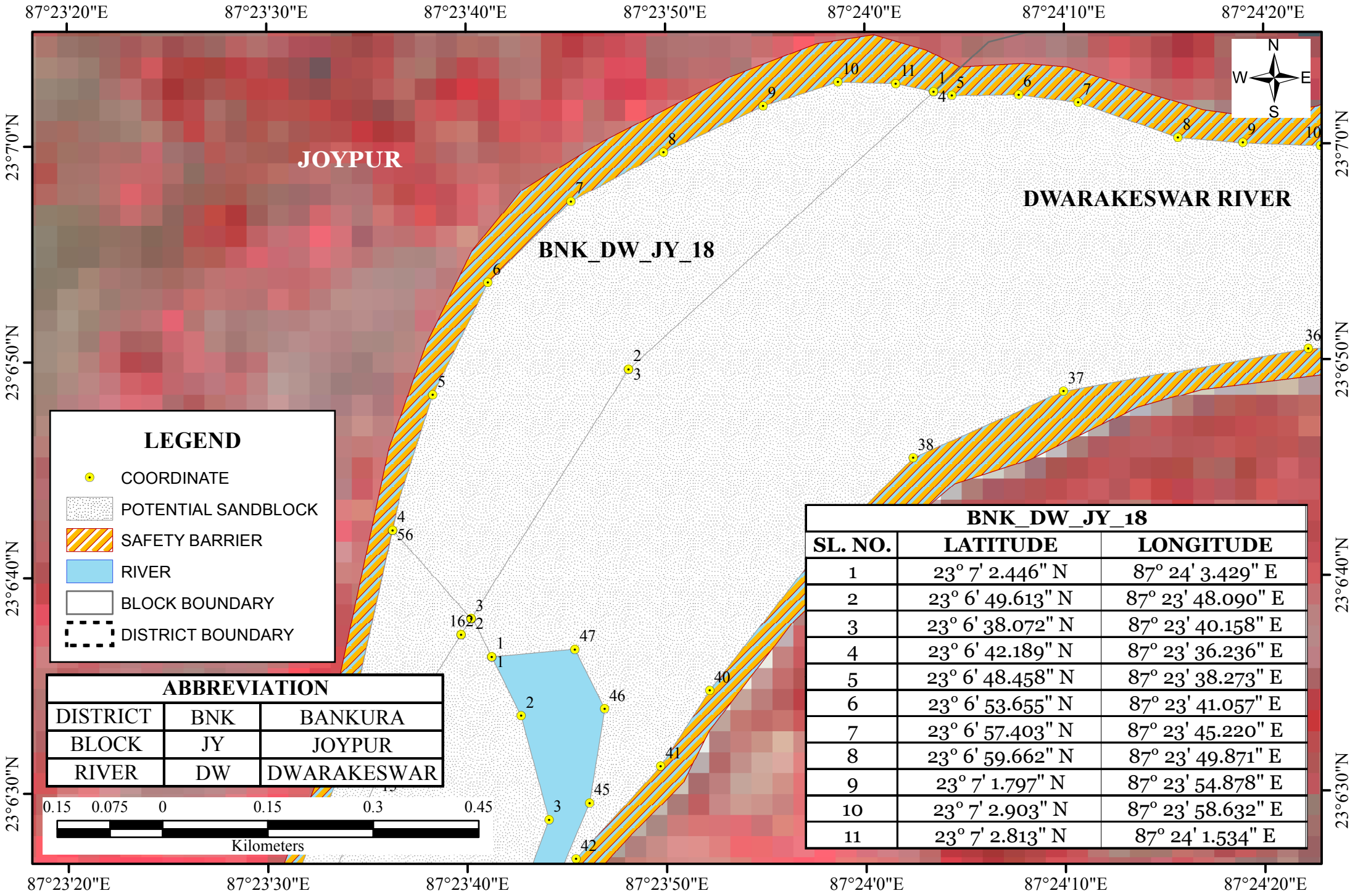
LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	JY	JOYPUR
RIVER	DW	DWARAKESWAR

BNK_DW_JY_17_19					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 6' 36.300" N	87° 23' 41.192" E	24	23° 6' 36.598" N	87° 25' 19.322" E
2	23° 6' 38.072" N	87° 23' 40.158" E	25	23° 6' 38.301" N	87° 25' 12.721" E
3	23° 6' 49.613" N	87° 23' 48.090" E	26	23° 6' 39.943" N	87° 25' 6.118" E
4	23° 7' 2.446" N	87° 24' 3.429" E	27	23° 6' 41.020" N	87° 25' 5.050" E
5	23° 7' 2.269" N	87° 24' 4.345" E	28	23° 6' 42.899" N	87° 25' 2.525" E
6	23° 7' 2.302" N	87° 24' 7.694" E	29	23° 6' 44.837" N	87° 24' 58.364" E
7	23° 7' 1.922" N	87° 24' 10.685" E	30	23° 6' 46.115" N	87° 24' 53.903" E
8	23° 7' 0.299" N	87° 24' 15.681" E	31	23° 6' 47.314" N	87° 24' 48.281" E
9	23° 7' 0.016" N	87° 24' 19.708" E	32	23° 6' 48.403" N	87° 24' 42.301" E
10	23° 6' 55.213" N	87° 24' 21.657" E	33	23° 6' 48.982" N	87° 24' 38.662" E
11	23° 6' 53.396" N	87° 24' 25.558" E	34	23° 6' 50.202" N	87° 24' 35.331" E
12	23° 6' 55.102" N	87° 24' 31.238" E	35	23° 6' 50.910" N	87° 24' 29.907" E
13	23° 6' 59.991" N	87° 24' 37.206" E	36	23° 6' 50.500" N	87° 24' 22.185" E
14	23° 6' 59.292" N	87° 24' 41.297" E	37	23° 6' 48.552" N	87° 24' 9.900" E
15	23° 6' 56.867" N	87° 24' 47.057" E	38	23° 6' 45.474" N	87° 24' 2.356" E
16	23° 6' 53.242" N	87° 24' 51.511" E	39	23° 6' 41.108" N	87° 23' 57.566" E
17	23° 6' 52.947" N	87° 24' 57.226" E	40	23° 6' 34.720" N	87° 23' 52.115" E
18	23° 6' 52.784" N	87° 25' 2.207" E	41	23° 6' 31.216" N	87° 23' 49.649" E
19	23° 6' 51.918" N	87° 25' 4.250" E	42	23° 6' 26.925" N	87° 23' 45.395" E
20	23° 6' 49.071" N	87° 25' 7.032" E	43	23° 6' 23.488" N	87° 23' 43.376" E
21	23° 6' 46.732" N	87° 25' 13.164" E	44	23° 6' 22.812" N	87° 23' 42.979" E
22	23° 6' 42.479" N	87° 25' 33.368" E	45	23° 6' 29.510" N	87° 23' 46.074" E
23	23° 6' 34.591" N	87° 25' 31.930" E	46	23° 6' 33.880" N	87° 23' 46.848" E
			47	23° 6' 36.637" N	87° 23' 45.367" E

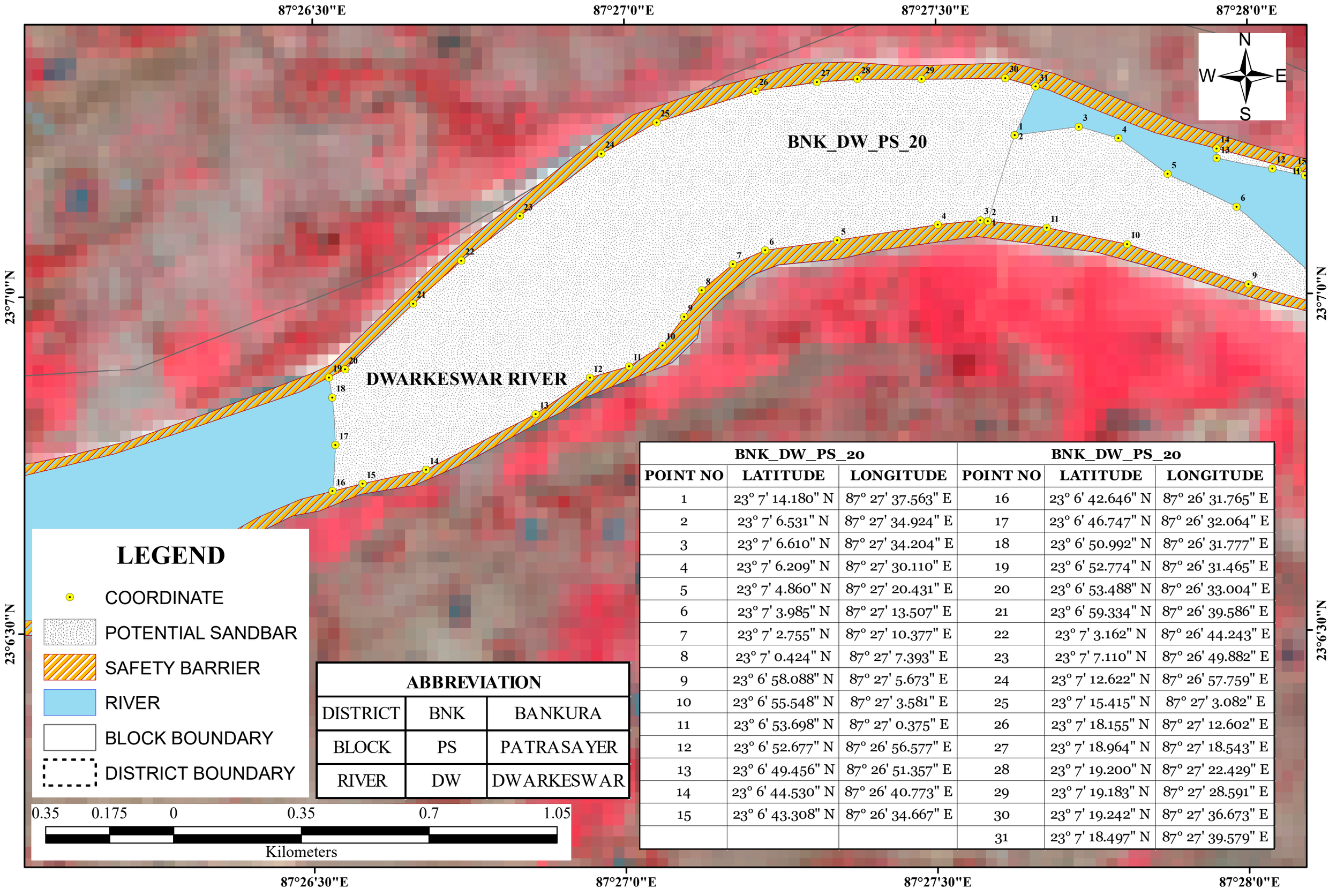
POTENTIAL BLOCK BNK_DW_JY_18 OF DWARAKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	JY	JOYPUR
RIVER	DW	DWARAKESWAR

BNK_DW_JY_18		
SL. NO.	LATITUDE	LONGITUDE
1	23° 7' 2.446" N	87° 24' 3.429" E
2	23° 6' 49.613" N	87° 23' 48.090" E
3	23° 6' 38.072" N	87° 23' 40.158" E
4	23° 6' 42.189" N	87° 23' 36.236" E
5	23° 6' 48.458" N	87° 23' 38.273" E
6	23° 6' 53.655" N	87° 23' 41.057" E
7	23° 6' 57.403" N	87° 23' 45.220" E
8	23° 6' 59.662" N	87° 23' 49.871" E
9	23° 7' 1.797" N	87° 23' 54.878" E
10	23° 7' 2.903" N	87° 23' 58.632" E
11	23° 7' 2.813" N	87° 24' 1.534" E

POTENTIAL BLOCK BNK_DW_PS_20 OF DWARKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	PS	PATRASAYER
RIVER	DW	DWARKESWAR

BNK_DW_PS_20			BNK_DW_PS_20		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 7' 14.180" N	87° 27' 37.563" E	16	23° 6' 42.646" N	87° 26' 31.765" E
2	23° 7' 6.531" N	87° 27' 34.924" E	17	23° 6' 46.747" N	87° 26' 32.064" E
3	23° 7' 6.610" N	87° 27' 34.204" E	18	23° 6' 50.992" N	87° 26' 31.777" E
4	23° 7' 6.209" N	87° 27' 30.110" E	19	23° 6' 52.774" N	87° 26' 31.465" E
5	23° 7' 4.860" N	87° 27' 20.431" E	20	23° 6' 53.488" N	87° 26' 33.004" E
6	23° 7' 3.985" N	87° 27' 13.507" E	21	23° 6' 59.334" N	87° 26' 39.586" E
7	23° 7' 2.755" N	87° 27' 10.377" E	22	23° 7' 3.162" N	87° 26' 44.243" E
8	23° 7' 0.424" N	87° 27' 7.393" E	23	23° 7' 7.110" N	87° 26' 49.882" E
9	23° 6' 58.088" N	87° 27' 5.673" E	24	23° 7' 12.622" N	87° 26' 57.759" E
10	23° 6' 55.548" N	87° 27' 3.581" E	25	23° 7' 15.415" N	87° 27' 3.082" E
11	23° 6' 53.698" N	87° 27' 0.375" E	26	23° 7' 18.155" N	87° 27' 12.602" E
12	23° 6' 52.677" N	87° 26' 56.577" E	27	23° 7' 18.964" N	87° 27' 18.543" E
13	23° 6' 49.456" N	87° 26' 51.357" E	28	23° 7' 19.200" N	87° 27' 22.429" E
14	23° 6' 44.530" N	87° 26' 40.773" E	29	23° 7' 19.183" N	87° 27' 28.591" E
15	23° 6' 43.308" N	87° 26' 34.667" E	30	23° 7' 19.242" N	87° 27' 36.673" E
			31	23° 7' 18.497" N	87° 27' 39.579" E

POTENTIAL BLOCK BNK_DW_JY_21 OF DWARKESWAR RIVER

87°28'0"E

23°7'0"N

DWARKESWAR RIVER

BNK_DW_JY_21

N

W E

S

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

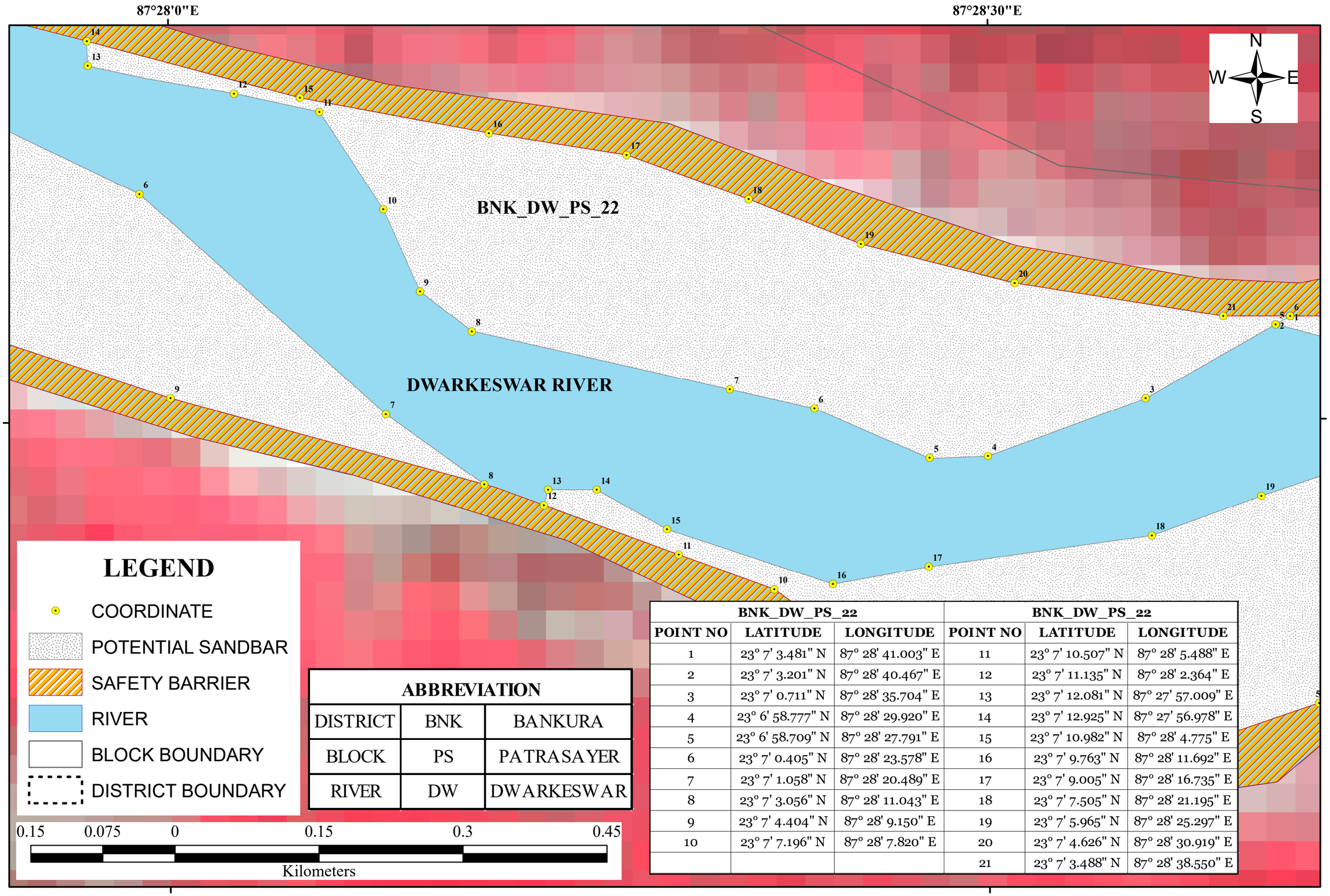
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	JY	JOYPUR
RIVER	DW	DWARKESWAR

0.15 0.075 0 0.15 0.3 0.45

Kilometers

BNK_DW_JY_21		
POINT NO	LATITUDE	LONGITUDE
1	23° 7' 6.531" N	87° 27' 34.924" E
2	23° 7' 14.180" N	87° 27' 37.563" E
3	23° 7' 14.907" N	87° 27' 43.735" E
4	23° 7' 13.864" N	87° 27' 47.527" E
5	23° 7' 10.684" N	87° 27' 52.263" E
6	23° 7' 7.739" N	87° 27' 58.892" E
7	23° 7' 0.258" N	87° 28' 7.892" E
8	23° 6' 57.865" N	87° 28' 11.486" E
9	23° 7' 0.821" N	87° 28' 0.007" E
10	23° 7' 4.435" N	87° 27' 48.336" E
11	23° 7' 5.903" N	87° 27' 40.602" E

POTENTIAL BLOCK BNK_DW_PS_22 OF DWARKESWAR RIVER



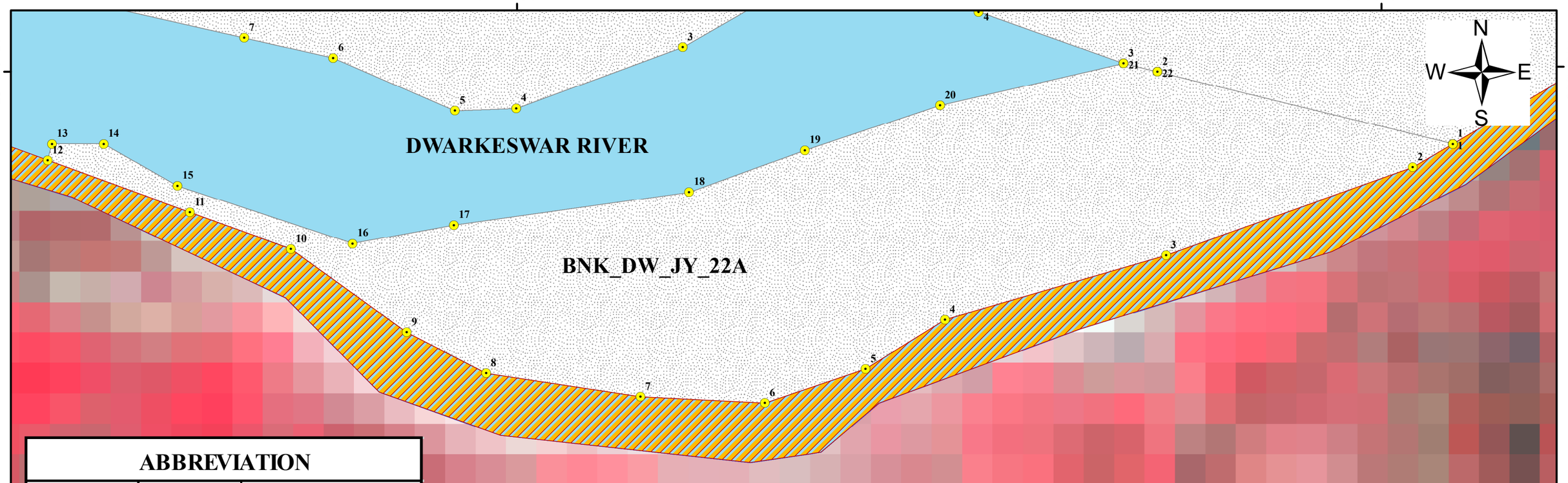
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	PS	PATRASAYER
RIVER	DW	DWARKESWAR

BNK_DW_PS_22			BNK_DW_PS_22		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 7' 3.481" N	87° 28' 41.003" E	11	23° 7' 10.507" N	87° 28' 5.488" E
2	23° 7' 3.201" N	87° 28' 40.467" E	12	23° 7' 11.135" N	87° 28' 2.364" E
3	23° 7' 0.711" N	87° 28' 35.704" E	13	23° 7' 12.081" N	87° 27' 57.009" E
4	23° 6' 58.777" N	87° 28' 29.920" E	14	23° 7' 12.925" N	87° 27' 56.978" E
5	23° 6' 58.709" N	87° 28' 27.791" E	15	23° 7' 10.982" N	87° 28' 4.775" E
6	23° 7' 0.405" N	87° 28' 23.578" E	16	23° 7' 9.763" N	87° 28' 11.692" E
7	23° 7' 1.058" N	87° 28' 20.489" E	17	23° 7' 9.005" N	87° 28' 16.735" E
8	23° 7' 3.056" N	87° 28' 11.043" E	18	23° 7' 7.505" N	87° 28' 21.195" E
9	23° 7' 4.404" N	87° 28' 9.150" E	19	23° 7' 5.965" N	87° 28' 25.297" E
10	23° 7' 7.196" N	87° 28' 7.820" E	20	23° 7' 4.626" N	87° 28' 30.919" E
			21	23° 7' 3.488" N	87° 28' 38.550" E

POTENTIAL BLOCK BNK_DW_JY_22A OF DWARKESWAR RIVER

87°28'30"E 87°29'0"E

23°7'0"N



23°6'30"N

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	JY	JOYPUR
RIVER	DW	DWARKESWAR

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

0.15 0.075 0 0.15 0.3 0.45

Kilometers

BNK_DW_JY_22A			BNK_DW_JY_22A		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 6' 57.536" N	87° 29' 2.411" E	12	23° 6' 57.158" N	87° 28' 13.654" E
2	23° 6' 56.783" N	87° 29' 1.015" E	13	23° 6' 57.679" N	87° 28' 13.815" E
3	23° 6' 53.987" N	87° 28' 52.447" E	14	23° 6' 57.674" N	87° 28' 15.601" E
4	23° 6' 51.945" N	87° 28' 44.775" E	15	23° 6' 56.324" N	87° 28' 18.164" E
5	23° 6' 50.371" N	87° 28' 42.016" E	16	23° 6' 54.454" N	87° 28' 24.235" E
6	23° 6' 49.280" N	87° 28' 38.515" E	17	23° 6' 55.030" N	87° 28' 27.748" E
7	23° 6' 49.499" N	87° 28' 34.200" E	18	23° 6' 56.064" N	87° 28' 35.911" E
8	23° 6' 50.273" N	87° 28' 28.844" E	19	23° 6' 57.394" N	87° 28' 39.934" E
9	23° 6' 51.589" N	87° 28' 26.096" E	20	23° 6' 58.825" N	87° 28' 44.628" E
10	23° 6' 54.285" N	87° 28' 22.087" E	21	23° 7' 0.148" N	87° 28' 50.995" E
11	23° 6' 55.466" N	87° 28' 18.593" E	22	23° 6' 59.878" N	87° 28' 52.176" E

23°6'30"N
87°28'30"E
87°29'0"E
23°6'30"N

POTENTIAL BLOCK BNK_DW_PS_23 OF DWARKESWAR RIVER

87°28'30"E 87°29'0"E 87°29'30"E

23°7'30"N

23°7'0"N

N W E S

BNK_DW_PS_23

DWARKESWAR RIVER

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	PS	PATRASAYER
RIVER	DW	DWARKESWAR

0.25 0.125 0 0.25 0.5 0.75

Kilometers

BNK_DW_PS_23			BNK_DW_PS_23		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 6' 57.536" N	87° 29' 2.411" E	13	23° 7' 22.801" N	87° 29' 23.985" E
2	23° 6' 59.878" N	87° 28' 52.176" E	14	23° 7' 25.955" N	87° 29' 31.490" E
3	23° 7' 0.148" N	87° 28' 50.995" E	15	23° 7' 24.498" N	87° 29' 29.818" E
4	23° 7' 1.815" N	87° 28' 45.978" E	16	23° 7' 20.821" N	87° 29' 25.378" E
5	23° 7' 3.201" N	87° 28' 40.467" E	17	23° 7' 15.546" N	87° 29' 20.199" E
6	23° 7' 3.481" N	87° 28' 41.003" E	18	23° 7' 14.769" N	87° 29' 19.111" E
7	23° 7' 3.466" N	87° 28' 45.649" E	19	23° 7' 11.327" N	87° 29' 15.593" E
8	23° 7' 4.817" N	87° 28' 49.628" E	20	23° 7' 9.892" N	87° 29' 12.239" E
9	23° 7' 7.038" N	87° 28' 52.538" E	21	23° 7' 8.661" N	87° 29' 9.556" E
10	23° 7' 10.234" N	87° 29' 1.078" E	22	23° 7' 7.113" N	87° 29' 9.327" E
11	23° 7' 13.312" N	87° 29' 7.206" E	23	23° 7' 5.665" N	87° 29' 10.215" E
12	23° 7' 19.964" N	87° 29' 19.911" E	24	23° 7' 4.128" N	87° 29' 11.279" E
			25	23° 7' 0.000" N	87° 29' 6.980" E

POTENTIAL BLOCK BNK_DW_PS_23A OF DWARKESWAR RIVER

87°29'30"E 87°30'0"E 87°30'30"E

23°7'30"N

BNK_DW_PS_23A

DWARKESWAR RIVER

N W E S

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	PS	PATRASAYER
RIVER	DW	DWARKESWAR

0.3 0.15 0 0.3 0.6 0.9

Kilometers

BNK_DW_PS_23A			BNK_DW_PS_23A		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 7' 26.261" N	87° 30' 42.785" E	19	23° 7' 26.224" N	87° 29' 39.425" E
2	23° 7' 25.924" N	87° 30' 41.044" E	20	23° 7' 27.971" N	87° 29' 41.887" E
3	23° 7' 25.457" N	87° 30' 34.783" E	21	23° 7' 29.776" N	87° 29' 39.717" E
4	23° 7' 24.365" N	87° 30' 33.109" E	22	23° 7' 35.734" N	87° 29' 48.234" E
5	23° 7' 22.946" N	87° 30' 25.824" E	23	23° 7' 39.064" N	87° 29' 53.069" E
6	23° 7' 25.317" N	87° 30' 17.027" E	24	23° 7' 41.439" N	87° 29' 59.508" E
7	23° 7' 25.889" N	87° 30' 10.108" E	25	23° 7' 43.982" N	87° 30' 4.965" E
8	23° 7' 25.913" N	87° 30' 2.815" E	26	23° 7' 44.586" N	87° 30' 10.058" E
9	23° 7' 25.032" N	87° 29' 58.197" E	27	23° 7' 44.325" N	87° 30' 14.031" E
10	23° 7' 22.991" N	87° 29' 50.673" E	28	23° 7' 42.861" N	87° 30' 19.742" E
11	23° 7' 18.898" N	87° 29' 39.049" E	29	23° 7' 40.990" N	87° 30' 23.888" E
12	23° 7' 14.726" N	87° 29' 30.475" E	30	23° 7' 38.335" N	87° 30' 27.405" E
13	23° 7' 11.933" N	87° 29' 24.045" E	31	23° 7' 34.815" N	87° 30' 30.518" E
14	23° 7' 14.703" N	87° 29' 25.540" E	32	23° 7' 30.746" N	87° 30' 36.977" E
15	23° 7' 20.063" N	87° 29' 28.574" E			
16	23° 7' 22.838" N	87° 29' 32.379" E			
17	23° 7' 25.411" N	87° 29' 35.180" E			
18	23° 7' 26.746" N	87° 29' 37.417" E			

POTENTIAL BLOCK BNK_DW_JY_24 OF DWARKESWAR RIVER

87°30'30"E 87°31'0"E 87°31'30"E 87°32'0"E 87°32'30"E

23°7'0"N 23°6'30"N 23°6'0"N

DWARKESWAR RIVER

BNK_DW_JY_24

BNK_DW_JY_24			BNK_DW_JY_24		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 6' 22.110" N	87° 31' 58.911" E	23	23° 7' 21.826" N	87° 30' 31.205" E
2	23° 6' 16.574" N	87° 31' 58.153" E	24	23° 7' 23.660" N	87° 30' 38.803" E
3	23° 6' 12.518" N	87° 31' 57.974" E	25	23° 7' 23.546" N	87° 30' 42.040" E
4	23° 6' 13.010" N	87° 31' 50.960" E	26	23° 7' 21.472" N	87° 30' 44.711" E
5	23° 6' 12.620" N	87° 31' 44.038" E	27	23° 7' 17.535" N	87° 30' 49.050" E
6	23° 6' 12.086" N	87° 31' 39.199" E	28	23° 7' 9.938" N	87° 30' 56.433" E
7	23° 6' 13.478" N	87° 31' 34.442" E	29	23° 7' 9.996" N	87° 30' 56.508" E
8	23° 6' 14.727" N	87° 31' 31.620" E	30	23° 7' 7.898" N	87° 30' 58.559" E
9	23° 6' 18.464" N	87° 31' 25.533" E	31	23° 7' 5.320" N	87° 31' 1.079" E
10	23° 6' 22.685" N	87° 31' 18.703" E	32	23° 7' 5.313" N	87° 31' 1.106" E
11	23° 6' 24.754" N	87° 31' 17.521" E	33	23° 7' 5.227" N	87° 31' 1.171" E
12	23° 6' 28.211" N	87° 31' 12.920" E	34	23° 7' 1.001" N	87° 31' 5.396" E
13	23° 6' 38.497" N	87° 31' 3.881" E	35	23° 6' 51.809" N	87° 31' 12.639" E
14	23° 6' 47.878" N	87° 30' 57.741" E	36	23° 6' 47.381" N	87° 31' 15.301" E
15	23° 6' 55.468" N	87° 30' 52.189" E	37	23° 6' 44.229" N	87° 31' 19.262" E
16	23° 7' 0.776" N	87° 30' 49.753" E	38	23° 6' 39.415" N	87° 31' 26.343" E
17	23° 7' 3.523" N	87° 30' 47.445" E	39	23° 6' 34.969" N	87° 31' 34.407" E
18	23° 7' 8.397" N	87° 30' 45.183" E	40	23° 6' 32.525" N	87° 31' 36.719" E
19	23° 7' 10.843" N	87° 30' 44.136" E	41	23° 6' 30.610" N	87° 31' 41.131" E
20	23° 7' 13.812" N	87° 30' 41.394" E	42	23° 6' 27.661" N	87° 31' 46.254" E
21	23° 7' 18.373" N	87° 30' 35.680" E	43	23° 6' 24.504" N	87° 31' 51.734" E
22	23° 7' 21.905" N	87° 30' 28.849" E	44	23° 6' 22.463" N	87° 31' 56.815" E

N W E S

LEGEND

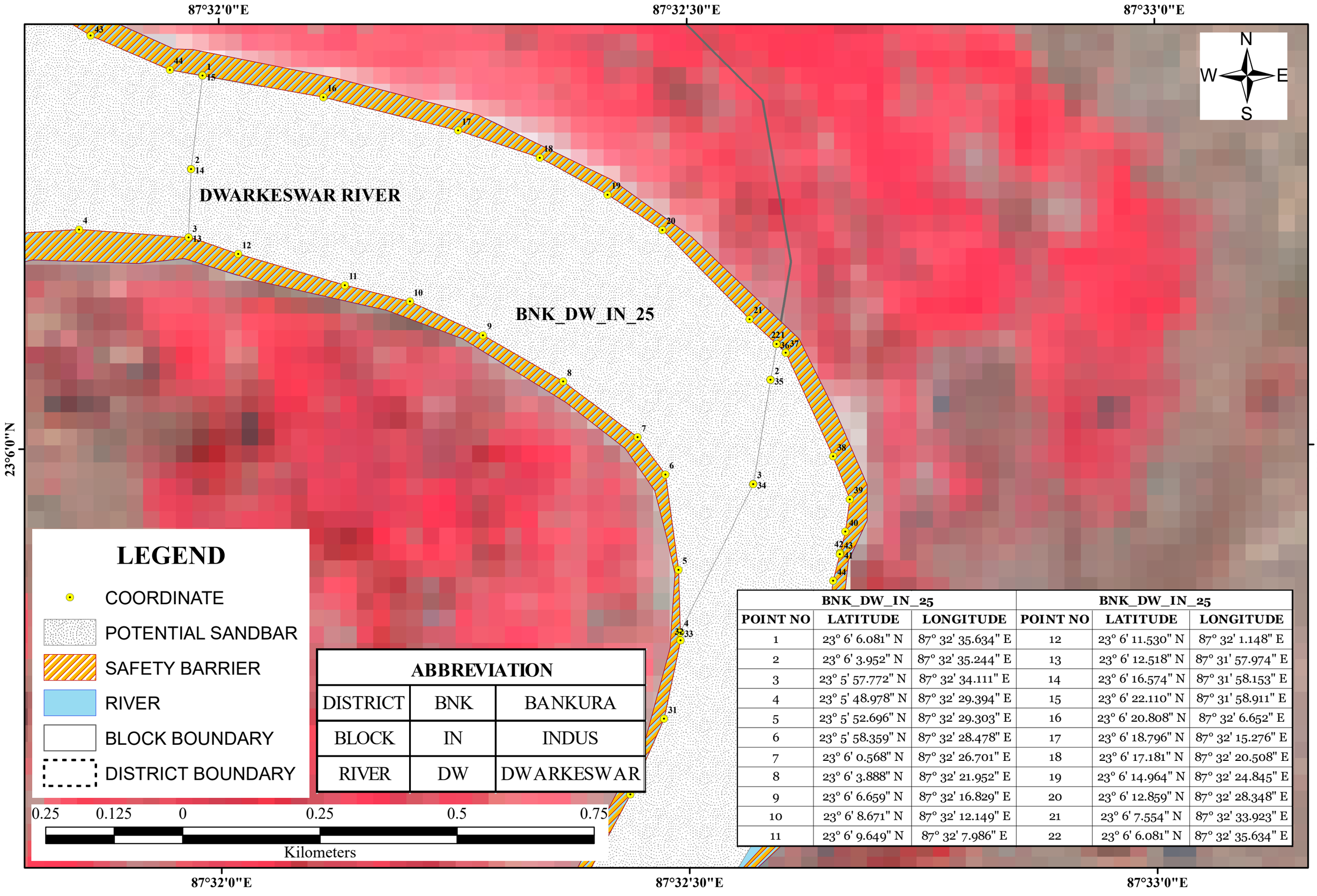
- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	JY	JOYPUR
RIVER	DW	DWARKESWAR

0.5 0.25 0 0.5 1 1.5

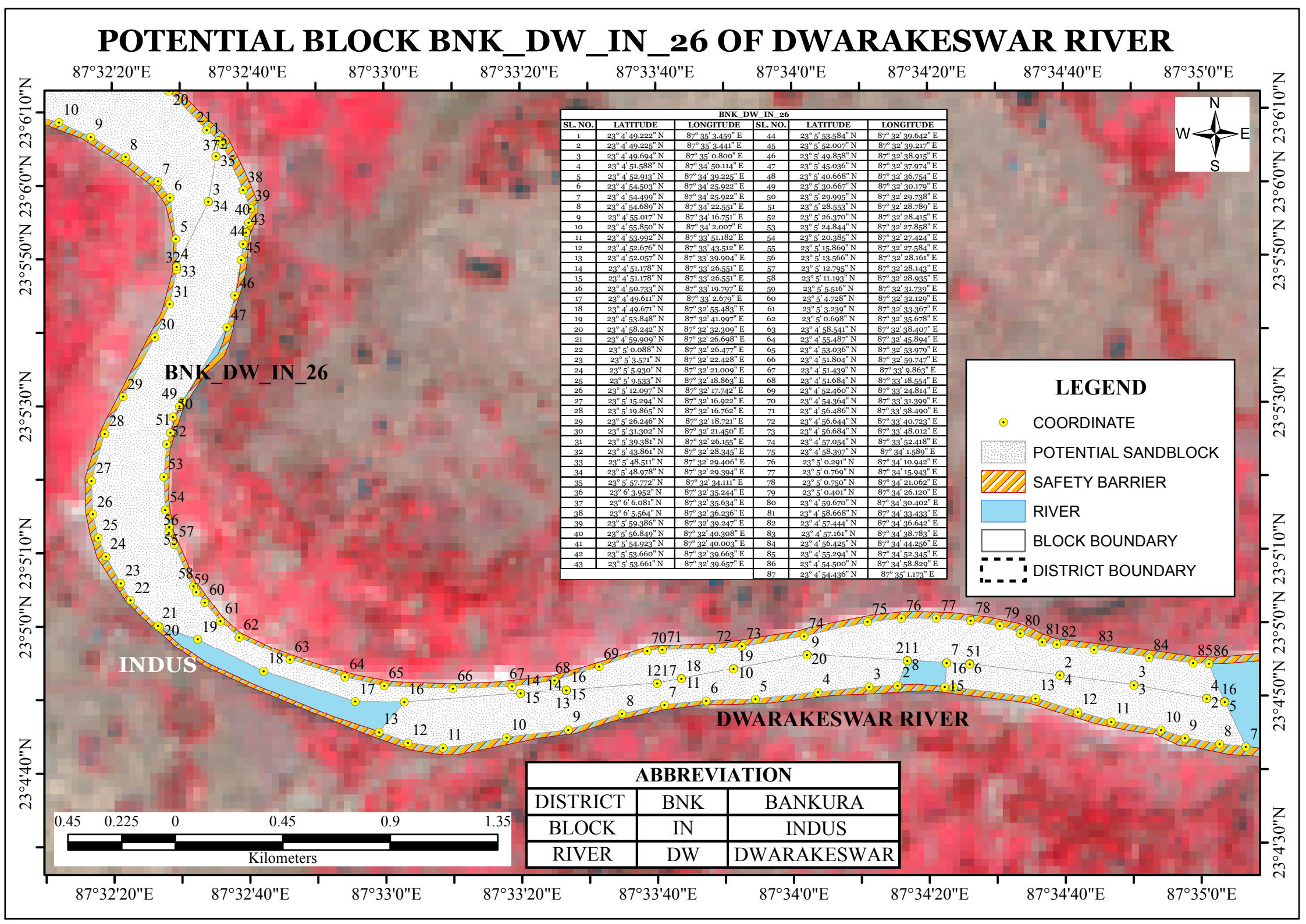
Kilometers

POTENTIAL BLOCK BNK_DW_IN_25 OF DWARKESWAR RIVER



BNK_DW_IN_25			BNK_DW_IN_25		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 6' 6.081" N	87° 32' 35.634" E	12	23° 6' 11.530" N	87° 32' 1.148" E
2	23° 6' 3.952" N	87° 32' 35.244" E	13	23° 6' 12.518" N	87° 31' 57.974" E
3	23° 5' 57.772" N	87° 32' 34.111" E	14	23° 6' 16.574" N	87° 31' 58.153" E
4	23° 5' 48.978" N	87° 32' 29.394" E	15	23° 6' 22.110" N	87° 31' 58.911" E
5	23° 5' 52.696" N	87° 32' 29.303" E	16	23° 6' 20.808" N	87° 32' 6.652" E
6	23° 5' 58.359" N	87° 32' 28.478" E	17	23° 6' 18.796" N	87° 32' 15.276" E
7	23° 6' 0.568" N	87° 32' 26.701" E	18	23° 6' 17.181" N	87° 32' 20.508" E
8	23° 6' 3.888" N	87° 32' 21.952" E	19	23° 6' 14.964" N	87° 32' 24.845" E
9	23° 6' 6.659" N	87° 32' 16.829" E	20	23° 6' 12.859" N	87° 32' 28.348" E
10	23° 6' 8.671" N	87° 32' 12.149" E	21	23° 6' 7.554" N	87° 32' 33.923" E
11	23° 6' 9.649" N	87° 32' 7.986" E	22	23° 6' 6.081" N	87° 32' 35.634" E

POTENTIAL BLOCK BNK_DW_IN_26 OF DWARAKESWAR RIVER



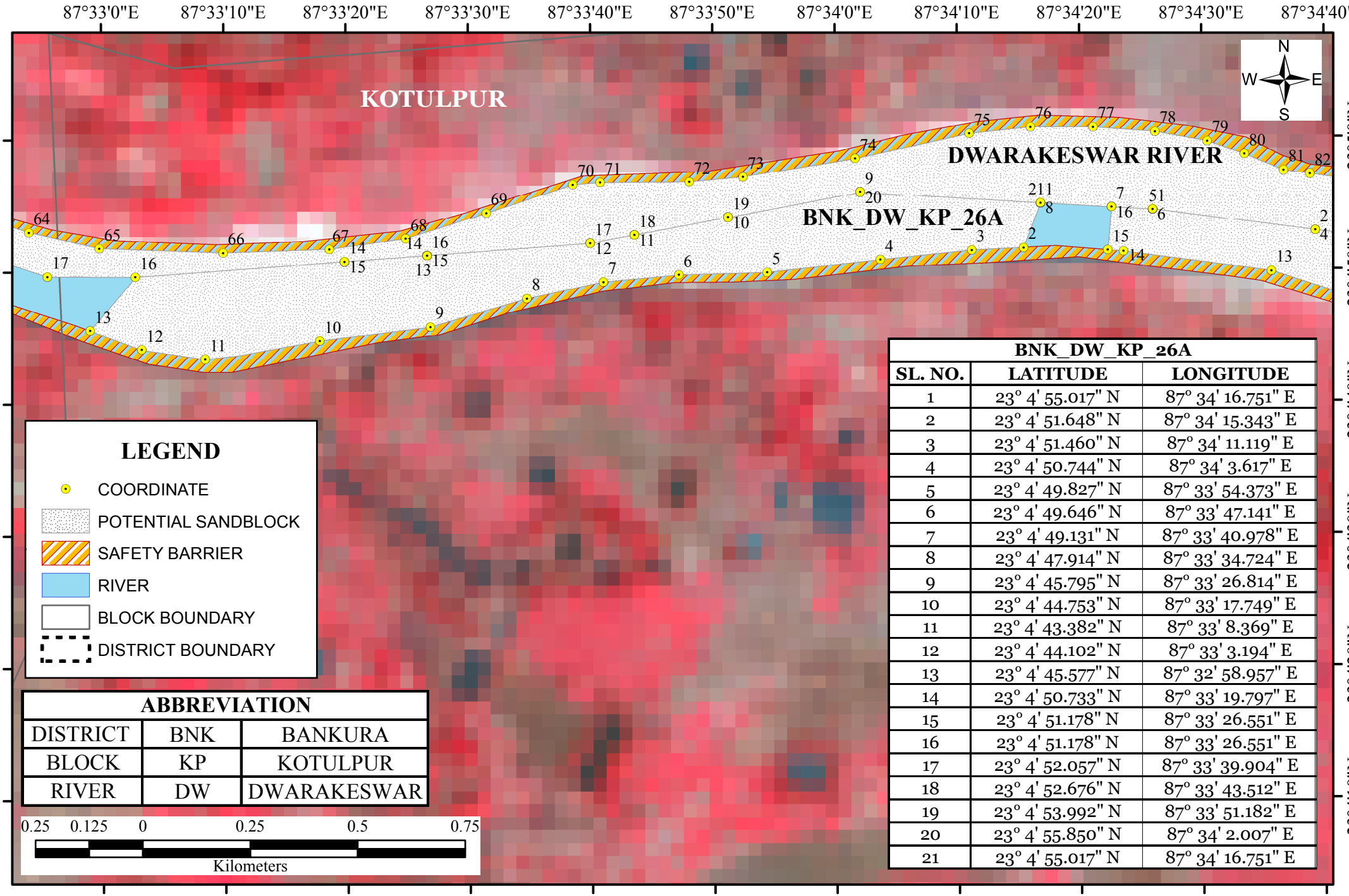
BNK_DW_IN_26					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 4' 49.222" N	87° 35' 3.459" E	44	23° 5' 53.584" N	87° 32' 39.642" E
2	23° 4' 49.225" N	87° 35' 3.441" E	45	23° 5' 52.007" N	87° 32' 39.217" E
3	23° 4' 49.694" N	87° 35' 0.800" E	46	23° 5' 49.858" N	87° 32' 38.915" E
4	23° 4' 51.588" N	87° 34' 50.114" E	47	23° 5' 45.036" N	87° 32' 37.974" E
5	23° 4' 52.913" N	87° 34' 39.225" E	48	23° 5' 40.668" N	87° 32' 36.754" E
6	23° 4' 54.503" N	87° 34' 25.922" E	49	23° 5' 30.667" N	87° 32' 30.179" E
7	23° 4' 54.499" N	87° 34' 25.922" E	50	23° 5' 29.995" N	87° 32' 29.738" E
8	23° 4' 54.689" N	87° 34' 22.551" E	51	23° 5' 28.553" N	87° 32' 28.789" E
9	23° 4' 55.017" N	87° 34' 16.751" E	52	23° 5' 26.370" N	87° 32' 28.415" E
10	23° 4' 55.850" N	87° 34' 2.007" E	53	23° 5' 24.844" N	87° 32' 27.858" E
11	23° 4' 53.992" N	87° 33' 51.182" E	54	23° 5' 20.385" N	87° 32' 27.424" E
12	23° 4' 52.676" N	87° 33' 43.512" E	55	23° 5' 15.869" N	87° 32' 27.584" E
13	23° 4' 52.057" N	87° 33' 39.904" E	56	23° 5' 13.566" N	87° 32' 28.161" E
14	23° 4' 51.178" N	87° 33' 26.551" E	57	23° 5' 12.795" N	87° 32' 28.143" E
15	23° 4' 51.178" N	87° 33' 26.551" E	58	23° 5' 11.193" N	87° 32' 28.935" E
16	23° 4' 50.733" N	87° 33' 19.797" E	59	23° 5' 5.516" N	87° 32' 31.739" E
17	23° 4' 49.611" N	87° 33' 2.679" E	60	23° 5' 4.728" N	87° 32' 32.129" E
18	23° 4' 49.671" N	87° 32' 55.483" E	61	23° 5' 3.239" N	87° 32' 33.367" E
19	23° 4' 53.848" N	87° 32' 41.997" E	62	23° 5' 0.698" N	87° 32' 35.678" E
20	23° 4' 58.242" N	87° 32' 32.309" E	63	23° 4' 58.541" N	87° 32' 38.407" E
21	23° 4' 59.909" N	87° 32' 26.698" E	64	23° 4' 55.487" N	87° 32' 45.894" E
22	23° 5' 0.088" N	87° 32' 26.477" E	65	23° 4' 53.036" N	87° 32' 53.979" E
23	23° 5' 3.571" N	87° 32' 22.428" E	66	23° 4' 51.804" N	87° 32' 59.747" E
24	23° 5' 5.930" N	87° 32' 21.009" E	67	23° 4' 51.439" N	87° 33' 9.863" E
25	23° 5' 9.533" N	87° 32' 18.863" E	68	23° 4' 51.684" N	87° 33' 18.554" E
26	23° 5' 12.097" N	87° 32' 17.742" E	69	23° 4' 52.460" N	87° 33' 24.814" E
27	23° 5' 15.294" N	87° 32' 16.922" E	70	23° 4' 54.364" N	87° 33' 31.399" E
28	23° 5' 19.865" N	87° 32' 16.762" E	71	23° 4' 56.486" N	87° 33' 38.490" E
29	23° 5' 26.246" N	87° 32' 18.721" E	72	23° 4' 56.644" N	87° 33' 40.723" E
30	23° 5' 31.302" N	87° 32' 21.450" E	73	23° 4' 56.684" N	87° 33' 48.012" E
31	23° 5' 39.381" N	87° 32' 26.155" E	74	23° 4' 57.054" N	87° 33' 52.418" E
32	23° 5' 43.861" N	87° 32' 28.345" E	75	23° 4' 58.397" N	87° 34' 1.589" E
33	23° 5' 48.511" N	87° 32' 29.406" E	76	23° 5' 0.291" N	87° 34' 10.942" E
34	23° 5' 48.978" N	87° 32' 29.394" E	77	23° 5' 0.769" N	87° 34' 15.943" E
35	23° 5' 57.772" N	87° 32' 34.111" E	78	23° 5' 0.750" N	87° 34' 21.062" E
36	23° 6' 3.952" N	87° 32' 35.244" E	79	23° 5' 0.401" N	87° 34' 26.120" E
37	23° 6' 6.081" N	87° 32' 35.634" E	80	23° 4' 59.670" N	87° 34' 30.402" E
38	23° 6' 5.564" N	87° 32' 36.236" E	81	23° 4' 58.668" N	87° 34' 33.433" E
39	23° 5' 59.386" N	87° 32' 39.247" E	82	23° 4' 57.444" N	87° 34' 36.642" E
40	23° 5' 56.849" N	87° 32' 40.308" E	83	23° 4' 57.161" N	87° 34' 38.783" E
41	23° 5' 54.923" N	87° 32' 40.003" E	84	23° 4' 56.425" N	87° 34' 44.256" E
42	23° 5' 53.660" N	87° 32' 39.663" E	85	23° 4' 55.294" N	87° 34' 52.345" E
43	23° 5' 53.661" N	87° 32' 39.657" E	86	23° 4' 54.500" N	87° 34' 58.829" E
			87	23° 4' 54.436" N	87° 35' 1.173" E

LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	IN	INDUS
RIVER	DW	DWARAKESWAR

POTENTIAL BLOCK BNK_DW_KP_26A OF DWARAKESWAR RIVER



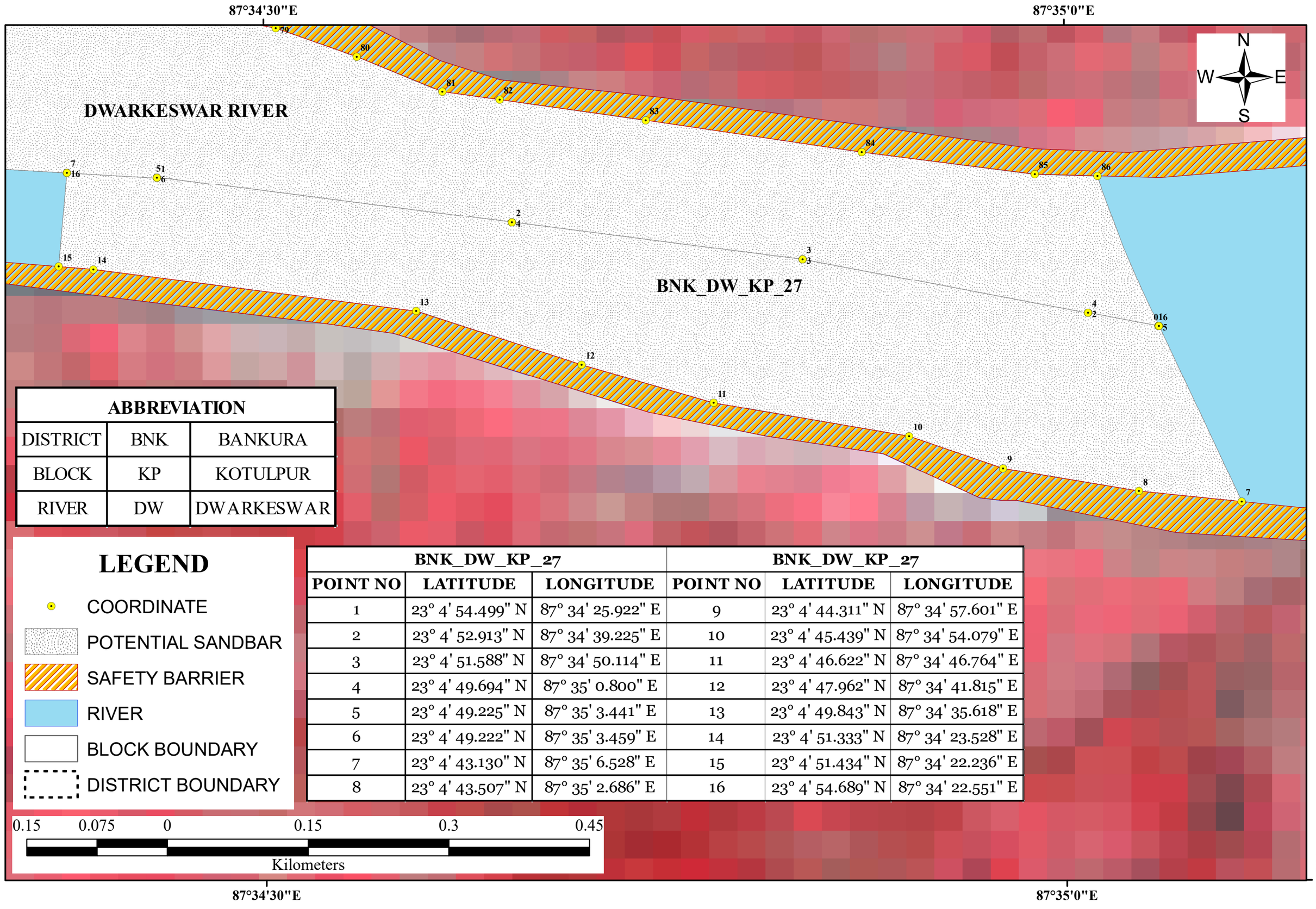
LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	KP	KOTULPUR
RIVER	DW	DWARAKESWAR

BNK_DW_KP_26A		
SL. NO.	LATITUDE	LONGITUDE
1	23° 4' 55.017" N	87° 34' 16.751" E
2	23° 4' 51.648" N	87° 34' 15.343" E
3	23° 4' 51.460" N	87° 34' 11.119" E
4	23° 4' 50.744" N	87° 34' 3.617" E
5	23° 4' 49.827" N	87° 33' 54.373" E
6	23° 4' 49.646" N	87° 33' 47.141" E
7	23° 4' 49.131" N	87° 33' 40.978" E
8	23° 4' 47.914" N	87° 33' 34.724" E
9	23° 4' 45.795" N	87° 33' 26.814" E
10	23° 4' 44.753" N	87° 33' 17.749" E
11	23° 4' 43.382" N	87° 33' 8.369" E
12	23° 4' 44.102" N	87° 33' 3.194" E
13	23° 4' 45.577" N	87° 32' 58.957" E
14	23° 4' 50.733" N	87° 33' 19.797" E
15	23° 4' 51.178" N	87° 33' 26.551" E
16	23° 4' 51.178" N	87° 33' 26.551" E
17	23° 4' 52.057" N	87° 33' 39.904" E
18	23° 4' 52.676" N	87° 33' 43.512" E
19	23° 4' 53.992" N	87° 33' 51.182" E
20	23° 4' 55.850" N	87° 34' 2.007" E
21	23° 4' 55.017" N	87° 34' 16.751" E

POTENTIAL BLOCK BNK_DW_KP_27 OF DWARKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	KP	KOTULPUR
RIVER	DW	DWARKESWAR

LEGEND

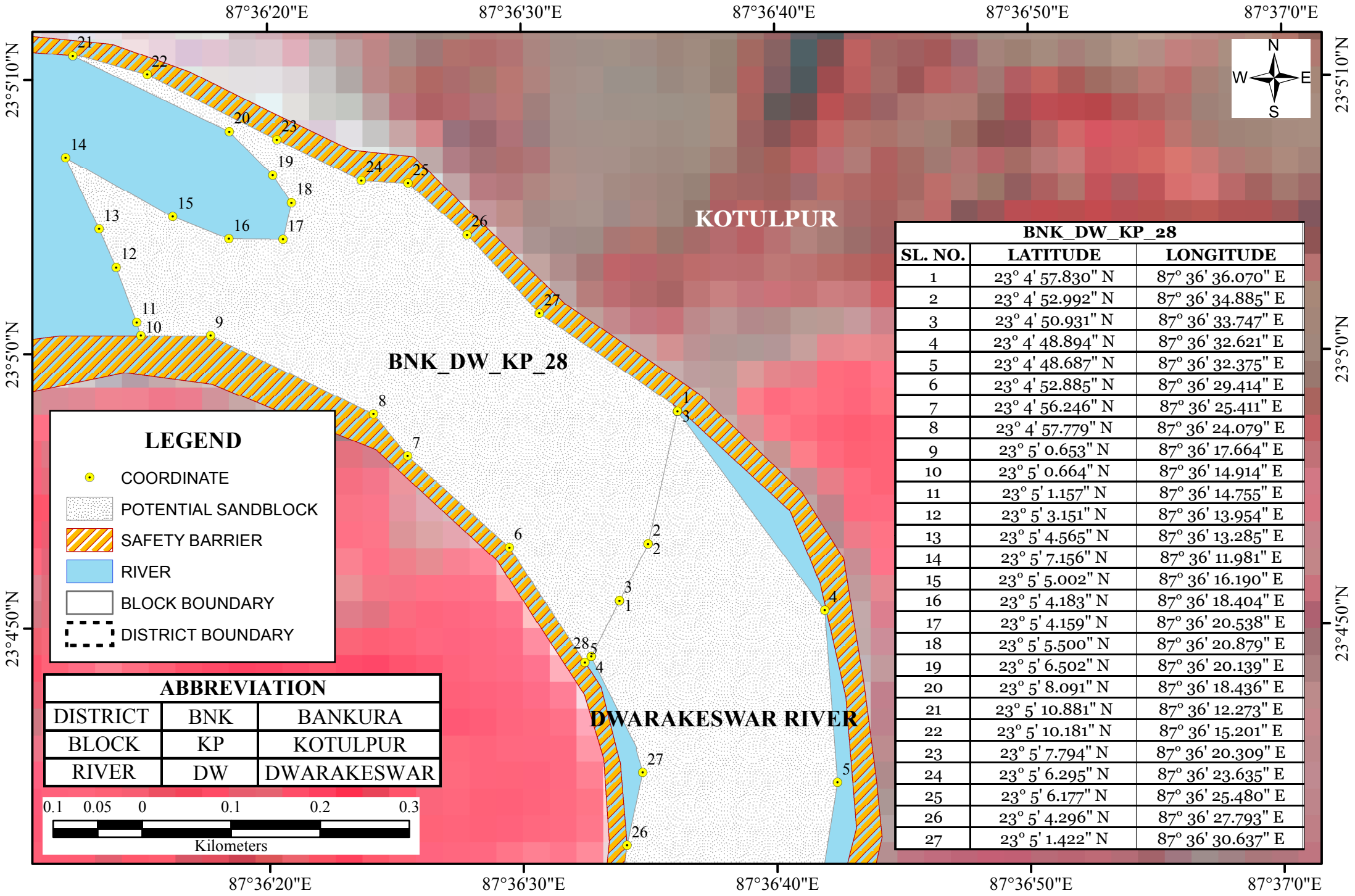
- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

BNK_DW_KP_27			BNK_DW_KP_27		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 4' 54.499" N	87° 34' 25.922" E	9	23° 4' 44.311" N	87° 34' 57.601" E
2	23° 4' 52.913" N	87° 34' 39.225" E	10	23° 4' 45.439" N	87° 34' 54.079" E
3	23° 4' 51.588" N	87° 34' 50.114" E	11	23° 4' 46.622" N	87° 34' 46.764" E
4	23° 4' 49.694" N	87° 35' 0.800" E	12	23° 4' 47.962" N	87° 34' 41.815" E
5	23° 4' 49.225" N	87° 35' 3.441" E	13	23° 4' 49.843" N	87° 34' 35.618" E
6	23° 4' 49.222" N	87° 35' 3.459" E	14	23° 4' 51.333" N	87° 34' 23.528" E
7	23° 4' 43.130" N	87° 35' 6.528" E	15	23° 4' 51.434" N	87° 34' 22.236" E
8	23° 4' 43.507" N	87° 35' 2.686" E	16	23° 4' 54.689" N	87° 34' 22.551" E

0.15 0.075 0 0.15 0.3 0.45

Kilometers

POTENTIAL BLOCK BNK_DW_KP_28 OF DWARAKESWAR RIVER



BNK_DW_KP_28		
SL. NO.	LATITUDE	LONGITUDE
1	23° 4' 57.830" N	87° 36' 36.070" E
2	23° 4' 52.992" N	87° 36' 34.885" E
3	23° 4' 50.931" N	87° 36' 33.747" E
4	23° 4' 48.894" N	87° 36' 32.621" E
5	23° 4' 48.687" N	87° 36' 32.375" E
6	23° 4' 52.885" N	87° 36' 29.414" E
7	23° 4' 56.246" N	87° 36' 25.411" E
8	23° 4' 57.779" N	87° 36' 24.079" E
9	23° 5' 0.653" N	87° 36' 17.664" E
10	23° 5' 0.664" N	87° 36' 14.914" E
11	23° 5' 1.157" N	87° 36' 14.755" E
12	23° 5' 3.151" N	87° 36' 13.954" E
13	23° 5' 4.565" N	87° 36' 13.285" E
14	23° 5' 7.156" N	87° 36' 11.981" E
15	23° 5' 5.002" N	87° 36' 16.190" E
16	23° 5' 4.183" N	87° 36' 18.404" E
17	23° 5' 4.159" N	87° 36' 20.538" E
18	23° 5' 5.500" N	87° 36' 20.879" E
19	23° 5' 6.502" N	87° 36' 20.139" E
20	23° 5' 8.091" N	87° 36' 18.436" E
21	23° 5' 10.881" N	87° 36' 12.273" E
22	23° 5' 10.181" N	87° 36' 15.201" E
23	23° 5' 7.794" N	87° 36' 20.309" E
24	23° 5' 6.295" N	87° 36' 23.635" E
25	23° 5' 6.177" N	87° 36' 25.480" E
26	23° 5' 4.296" N	87° 36' 27.793" E
27	23° 5' 1.422" N	87° 36' 30.637" E

POTENTIAL BLOCK BNK_DW_IN_28B OF DWARKESWAR RIVER

87°35'30"E 87°36'0"E 87°36'30"E 87°37'0"E 87°37'30"E

23°5'0"N 23°4'30"N 23°4'0"N

DWARKESWAR RIVER

BNK_DW_IN_28B

N W E S

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

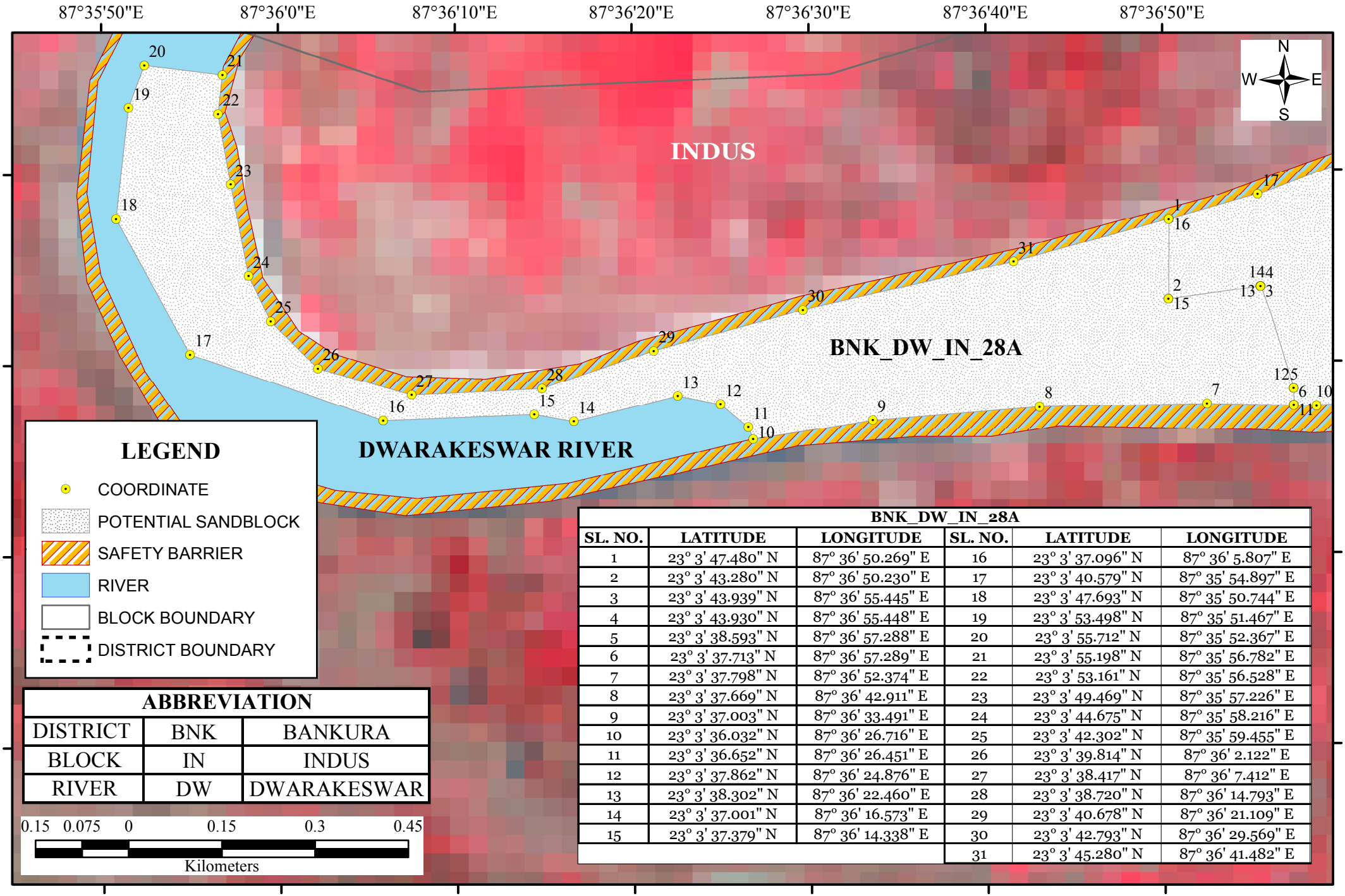
0.4 0.2 0 0.4 0.8 1.2

Kilometers

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	IN	INDUS
RIVER	DW	DWARKESWAR

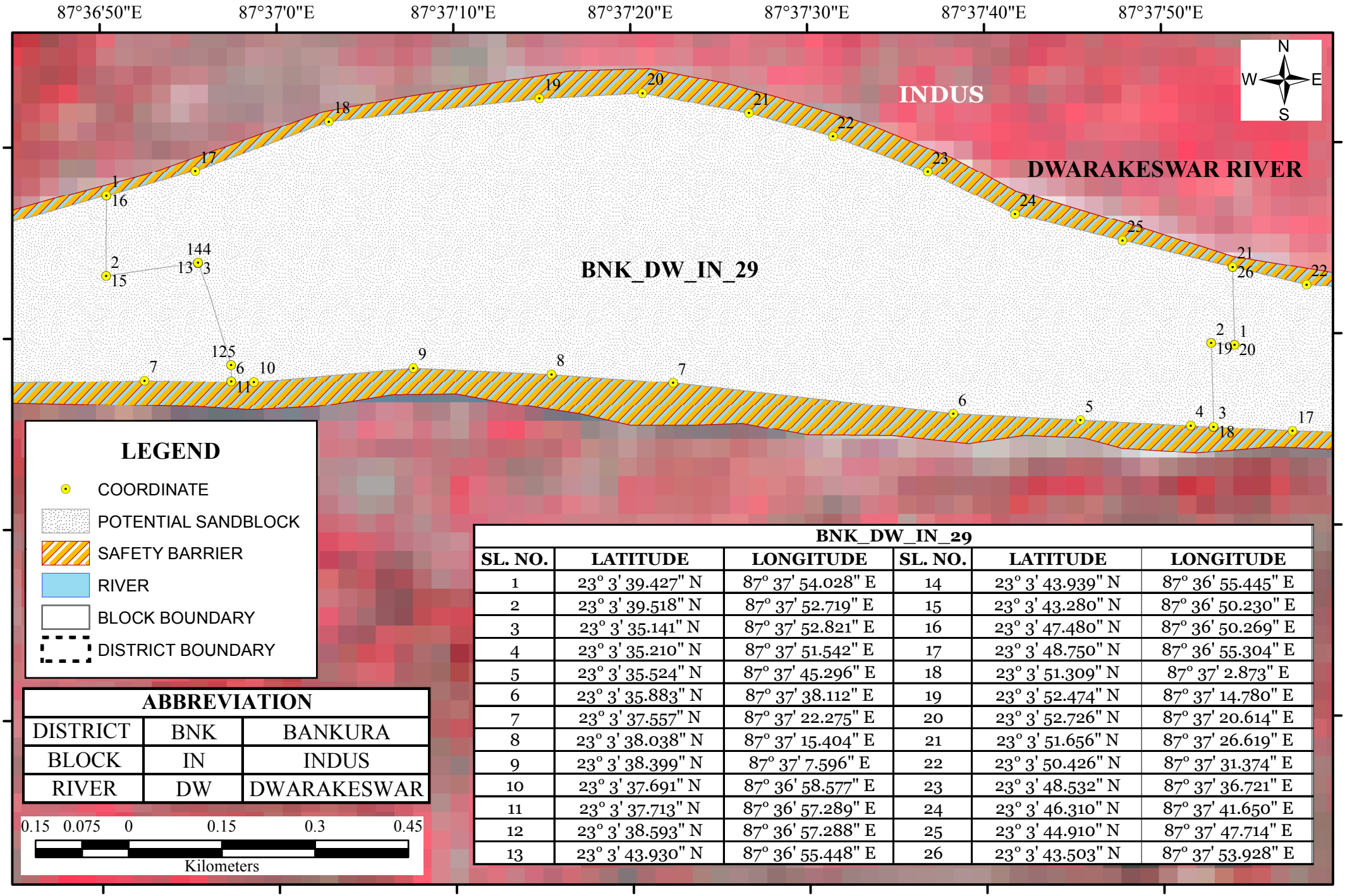
BNK_DW_IN_28B			BNK_DW_IN_28B		
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	23° 4' 50.931" N	87° 36' 33.747" E	15	23° 4' 1.881" N	87° 35' 58.835" E
2	23° 4' 52.992" N	87° 36' 34.885" E	16	23° 4' 0.243" N	87° 35' 55.034" E
3	23° 4' 57.830" N	87° 36' 36.070" E	17	23° 3' 59.923" N	87° 35' 52.745" E
4	23° 4' 50.545" N	87° 36' 41.832" E	18	23° 4' 3.373" N	87° 35' 55.761" E
5	23° 4' 44.262" N	87° 36' 42.315" E	19	23° 4' 6.786" N	87° 35' 59.659" E
6	23° 4' 33.774" N	87° 36' 40.444" E	20	23° 4' 10.358" N	87° 36' 4.986" E
7	23° 4' 30.041" N	87° 36' 37.508" E	21	23° 4' 13.884" N	87° 36' 11.742" E
8	23° 4' 26.267" N	87° 36' 34.422" E	22	23° 4' 17.664" N	87° 36' 16.981" E
9	23° 4' 24.047" N	87° 36' 30.545" E	23	23° 4' 24.772" N	87° 36' 26.565" E
10	23° 4' 20.565" N	87° 36' 26.704" E	24	23° 4' 30.126" N	87° 36' 30.427" E
11	23° 4' 15.330" N	87° 36' 18.869" E	25	23° 4' 37.755" N	87° 36' 33.408" E
12	23° 4' 13.289" N	87° 36' 12.611" E	26	23° 4' 42.010" N	87° 36' 34.002" E
13	23° 4' 10.003" N	87° 36' 7.798" E	27	23° 4' 44.656" N	87° 36' 34.636" E
14	23° 4' 6.094" N	87° 36' 4.099" E	28	23° 4' 48.894" N	87° 36' 32.621" E

POTENTIAL BLOCK BNK_DW_IN_28A OF DWARAKESWAR RIVER



BNK_DW_IN_28A					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 3' 47.480" N	87° 36' 50.269" E	16	23° 3' 37.096" N	87° 36' 5.807" E
2	23° 3' 43.280" N	87° 36' 50.230" E	17	23° 3' 40.579" N	87° 35' 54.897" E
3	23° 3' 43.939" N	87° 36' 55.445" E	18	23° 3' 47.693" N	87° 35' 50.744" E
4	23° 3' 43.930" N	87° 36' 55.448" E	19	23° 3' 53.498" N	87° 35' 51.467" E
5	23° 3' 38.593" N	87° 36' 57.288" E	20	23° 3' 55.712" N	87° 35' 52.367" E
6	23° 3' 37.713" N	87° 36' 57.289" E	21	23° 3' 55.198" N	87° 35' 56.782" E
7	23° 3' 37.798" N	87° 36' 52.374" E	22	23° 3' 53.161" N	87° 35' 56.528" E
8	23° 3' 37.669" N	87° 36' 42.911" E	23	23° 3' 49.469" N	87° 35' 57.226" E
9	23° 3' 37.003" N	87° 36' 33.491" E	24	23° 3' 44.675" N	87° 35' 58.216" E
10	23° 3' 36.032" N	87° 36' 26.716" E	25	23° 3' 42.302" N	87° 35' 59.455" E
11	23° 3' 36.652" N	87° 36' 26.451" E	26	23° 3' 39.814" N	87° 36' 2.122" E
12	23° 3' 37.862" N	87° 36' 24.876" E	27	23° 3' 38.417" N	87° 36' 7.412" E
13	23° 3' 38.302" N	87° 36' 22.460" E	28	23° 3' 38.720" N	87° 36' 14.793" E
14	23° 3' 37.001" N	87° 36' 16.573" E	29	23° 3' 40.678" N	87° 36' 21.109" E
15	23° 3' 37.379" N	87° 36' 14.338" E	30	23° 3' 42.793" N	87° 36' 29.569" E
			31	23° 3' 45.280" N	87° 36' 41.482" E

POTENTIAL BLOCK BNK_DW_IN_29 OF DWARAKESWAR RIVER



LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

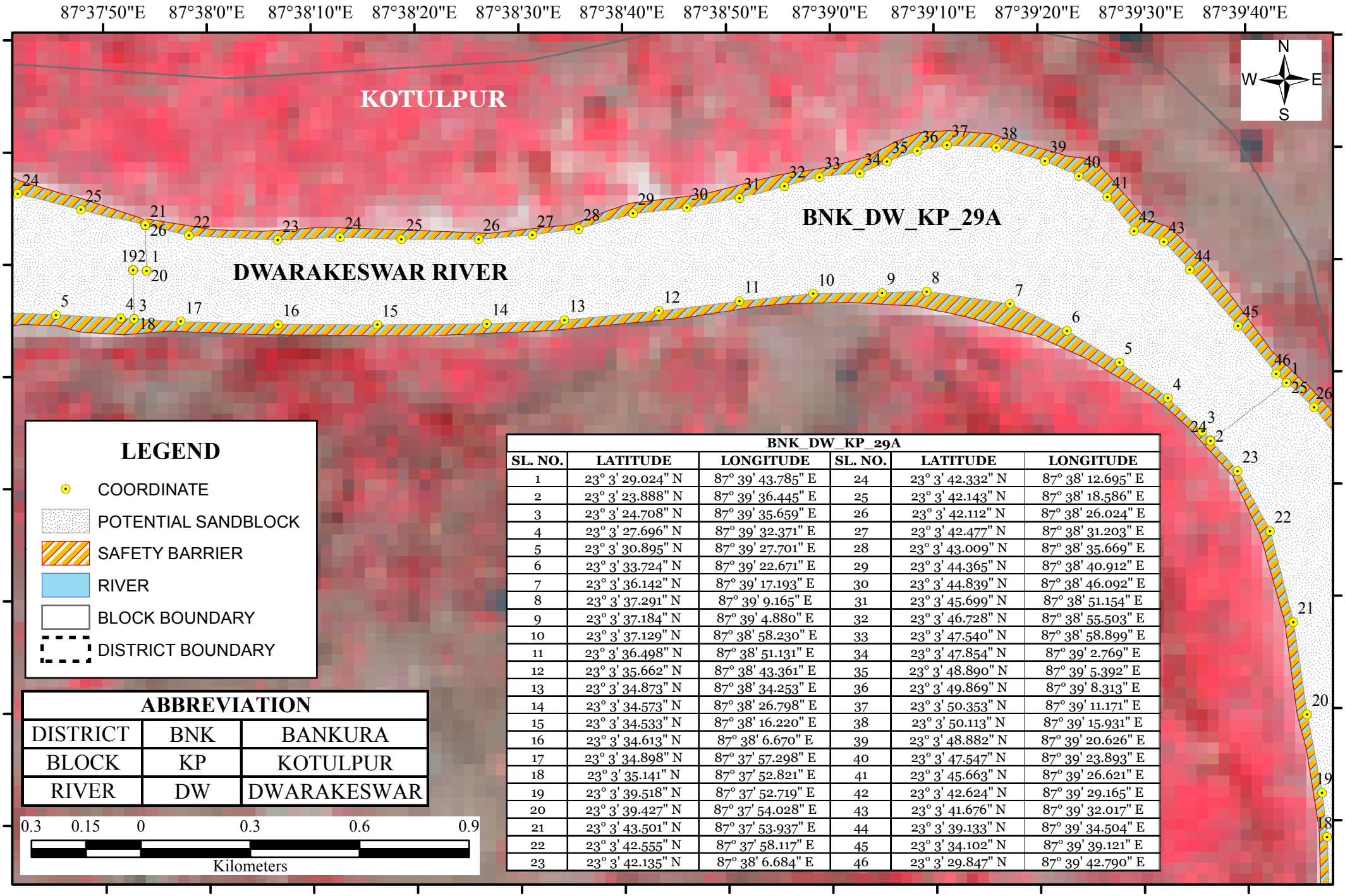
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	IN	INDUS
RIVER	DW	DWARAKESWAR

0.15 0.075 0 0.15 0.3 0.45

Kilometers

BNK_DW_IN_29					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 3' 39.427" N	87° 37' 54.028" E	14	23° 3' 43.939" N	87° 36' 55.445" E
2	23° 3' 39.518" N	87° 37' 52.719" E	15	23° 3' 43.280" N	87° 36' 50.230" E
3	23° 3' 35.141" N	87° 37' 52.821" E	16	23° 3' 47.480" N	87° 36' 50.269" E
4	23° 3' 35.210" N	87° 37' 51.542" E	17	23° 3' 48.750" N	87° 36' 55.304" E
5	23° 3' 35.524" N	87° 37' 45.296" E	18	23° 3' 51.309" N	87° 37' 2.873" E
6	23° 3' 35.883" N	87° 37' 38.112" E	19	23° 3' 52.474" N	87° 37' 14.780" E
7	23° 3' 37.557" N	87° 37' 22.275" E	20	23° 3' 52.726" N	87° 37' 20.614" E
8	23° 3' 38.038" N	87° 37' 15.404" E	21	23° 3' 51.656" N	87° 37' 26.619" E
9	23° 3' 38.399" N	87° 37' 7.596" E	22	23° 3' 50.426" N	87° 37' 31.374" E
10	23° 3' 37.691" N	87° 36' 58.577" E	23	23° 3' 48.532" N	87° 37' 36.721" E
11	23° 3' 37.713" N	87° 36' 57.289" E	24	23° 3' 46.310" N	87° 37' 41.650" E
12	23° 3' 38.593" N	87° 36' 57.288" E	25	23° 3' 44.910" N	87° 37' 47.714" E
13	23° 3' 43.930" N	87° 36' 55.448" E	26	23° 3' 43.503" N	87° 37' 53.928" E

POTENTIAL BLOCK BNK_DW_KP_29A OF DWARAKESWAR RIVER



LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

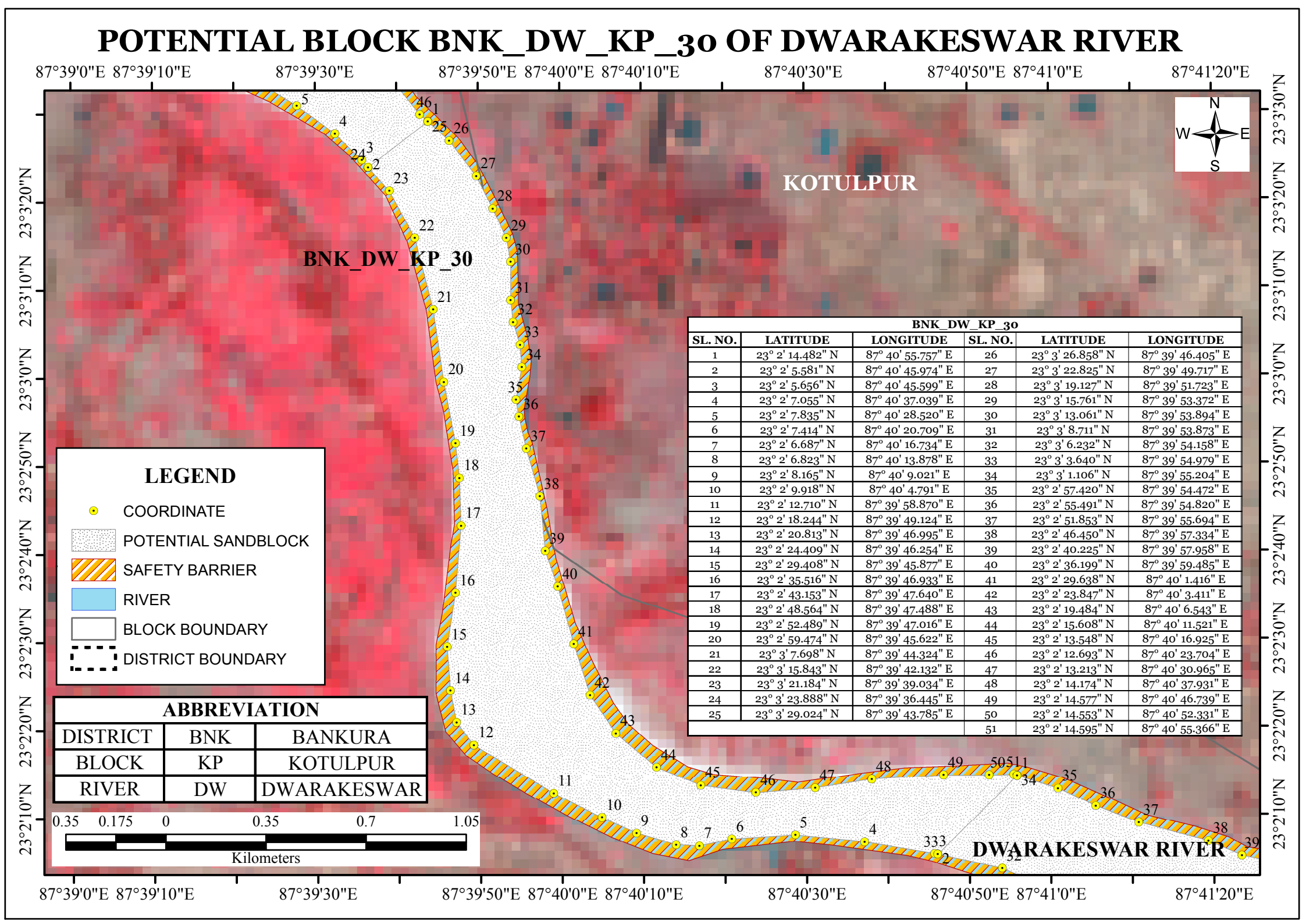
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	KP	KOTULPUR
RIVER	DW	DWARAKESWAR

0.3 0.15 0 0.3 0.6 0.9

Kilometers

BNK_DW_KP_29A					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 3' 29.024" N	87° 39' 43.785" E	24	23° 3' 42.332" N	87° 38' 12.695" E
2	23° 3' 23.888" N	87° 39' 36.445" E	25	23° 3' 42.143" N	87° 38' 18.586" E
3	23° 3' 24.708" N	87° 39' 35.659" E	26	23° 3' 42.112" N	87° 38' 26.024" E
4	23° 3' 27.696" N	87° 39' 32.371" E	27	23° 3' 42.477" N	87° 38' 31.203" E
5	23° 3' 30.895" N	87° 39' 27.701" E	28	23° 3' 43.009" N	87° 38' 35.669" E
6	23° 3' 33.724" N	87° 39' 22.671" E	29	23° 3' 44.365" N	87° 38' 40.912" E
7	23° 3' 36.142" N	87° 39' 17.193" E	30	23° 3' 44.839" N	87° 38' 46.092" E
8	23° 3' 37.291" N	87° 39' 9.165" E	31	23° 3' 45.699" N	87° 38' 51.154" E
9	23° 3' 37.184" N	87° 39' 4.880" E	32	23° 3' 46.728" N	87° 38' 55.503" E
10	23° 3' 37.129" N	87° 38' 58.230" E	33	23° 3' 47.540" N	87° 38' 58.899" E
11	23° 3' 36.498" N	87° 38' 51.131" E	34	23° 3' 47.854" N	87° 39' 2.769" E
12	23° 3' 35.662" N	87° 38' 43.361" E	35	23° 3' 48.890" N	87° 39' 5.392" E
13	23° 3' 34.873" N	87° 38' 34.253" E	36	23° 3' 49.869" N	87° 39' 8.313" E
14	23° 3' 34.573" N	87° 38' 26.798" E	37	23° 3' 50.353" N	87° 39' 11.171" E
15	23° 3' 34.533" N	87° 38' 16.220" E	38	23° 3' 50.113" N	87° 39' 15.931" E
16	23° 3' 34.613" N	87° 38' 6.670" E	39	23° 3' 48.882" N	87° 39' 20.626" E
17	23° 3' 34.898" N	87° 37' 57.298" E	40	23° 3' 47.547" N	87° 39' 23.893" E
18	23° 3' 35.141" N	87° 37' 52.821" E	41	23° 3' 45.663" N	87° 39' 26.621" E
19	23° 3' 39.518" N	87° 37' 52.719" E	42	23° 3' 42.624" N	87° 39' 29.165" E
20	23° 3' 39.427" N	87° 37' 54.028" E	43	23° 3' 41.676" N	87° 39' 32.017" E
21	23° 3' 43.501" N	87° 37' 53.937" E	44	23° 3' 39.133" N	87° 39' 34.504" E
22	23° 3' 42.555" N	87° 37' 58.117" E	45	23° 3' 34.102" N	87° 39' 39.121" E
23	23° 3' 42.135" N	87° 38' 6.684" E	46	23° 3' 29.847" N	87° 39' 42.790" E

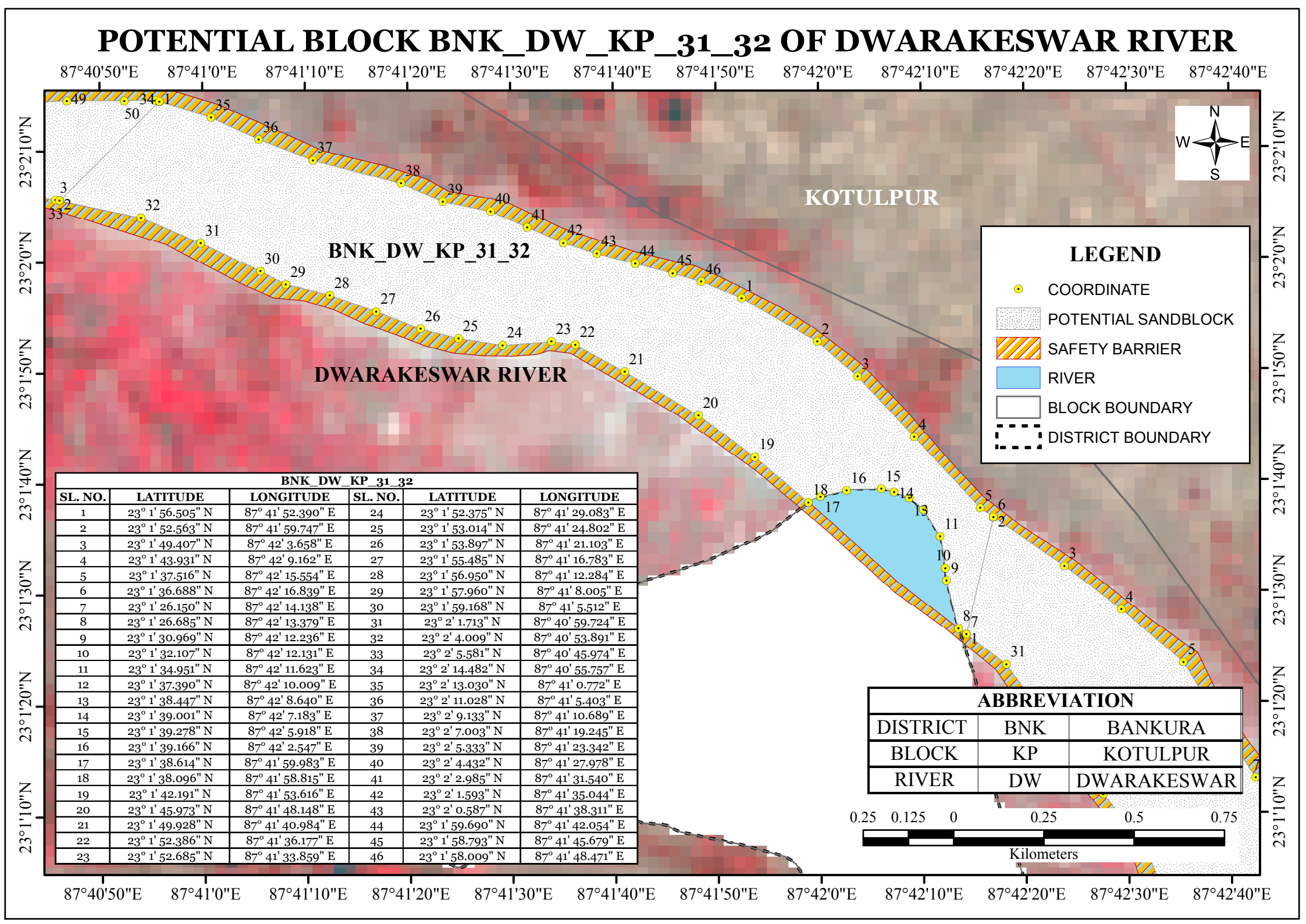
POTENTIAL BLOCK BNK_DW_KP_30 OF DWARAKESWAR RIVER



BNK_DW_KP_30					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 2' 14.482" N	87° 40' 55.757" E	26	23° 3' 26.858" N	87° 39' 46.405" E
2	23° 2' 5.581" N	87° 40' 45.974" E	27	23° 3' 22.825" N	87° 39' 49.717" E
3	23° 2' 5.656" N	87° 40' 45.599" E	28	23° 3' 19.127" N	87° 39' 51.723" E
4	23° 2' 7.055" N	87° 40' 37.039" E	29	23° 3' 15.761" N	87° 39' 53.372" E
5	23° 2' 7.835" N	87° 40' 28.520" E	30	23° 3' 13.061" N	87° 39' 53.894" E
6	23° 2' 7.414" N	87° 40' 20.709" E	31	23° 3' 8.711" N	87° 39' 53.873" E
7	23° 2' 6.687" N	87° 40' 16.734" E	32	23° 3' 6.232" N	87° 39' 54.158" E
8	23° 2' 6.823" N	87° 40' 13.878" E	33	23° 3' 3.640" N	87° 39' 54.979" E
9	23° 2' 8.165" N	87° 40' 9.021" E	34	23° 3' 1.106" N	87° 39' 55.204" E
10	23° 2' 9.918" N	87° 40' 4.791" E	35	23° 2' 57.420" N	87° 39' 54.472" E
11	23° 2' 12.710" N	87° 39' 58.870" E	36	23° 2' 55.491" N	87° 39' 54.820" E
12	23° 2' 18.244" N	87° 39' 49.124" E	37	23° 2' 51.853" N	87° 39' 55.694" E
13	23° 2' 20.813" N	87° 39' 46.995" E	38	23° 2' 46.450" N	87° 39' 57.334" E
14	23° 2' 24.409" N	87° 39' 46.254" E	39	23° 2' 40.225" N	87° 39' 57.958" E
15	23° 2' 29.408" N	87° 39' 45.877" E	40	23° 2' 36.199" N	87° 39' 59.485" E
16	23° 2' 35.516" N	87° 39' 46.933" E	41	23° 2' 29.638" N	87° 40' 1.416" E
17	23° 2' 43.153" N	87° 39' 47.640" E	42	23° 2' 23.847" N	87° 40' 3.411" E
18	23° 2' 48.564" N	87° 39' 47.488" E	43	23° 2' 19.484" N	87° 40' 6.543" E
19	23° 2' 52.489" N	87° 39' 47.016" E	44	23° 2' 15.608" N	87° 40' 11.521" E
20	23° 2' 59.474" N	87° 39' 45.622" E	45	23° 2' 13.548" N	87° 40' 16.925" E
21	23° 3' 7.698" N	87° 39' 44.324" E	46	23° 2' 12.693" N	87° 40' 23.704" E
22	23° 3' 15.843" N	87° 39' 42.132" E	47	23° 2' 13.213" N	87° 40' 30.965" E
23	23° 3' 21.184" N	87° 39' 39.034" E	48	23° 2' 14.174" N	87° 40' 37.931" E
24	23° 3' 23.888" N	87° 39' 36.445" E	49	23° 2' 14.577" N	87° 40' 46.739" E
25	23° 3' 29.024" N	87° 39' 43.785" E	50	23° 2' 14.553" N	87° 40' 52.331" E
			51	23° 2' 14.595" N	87° 40' 55.366" E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	KP	KOTULPUR
RIVER	DW	DWARAKESWAR

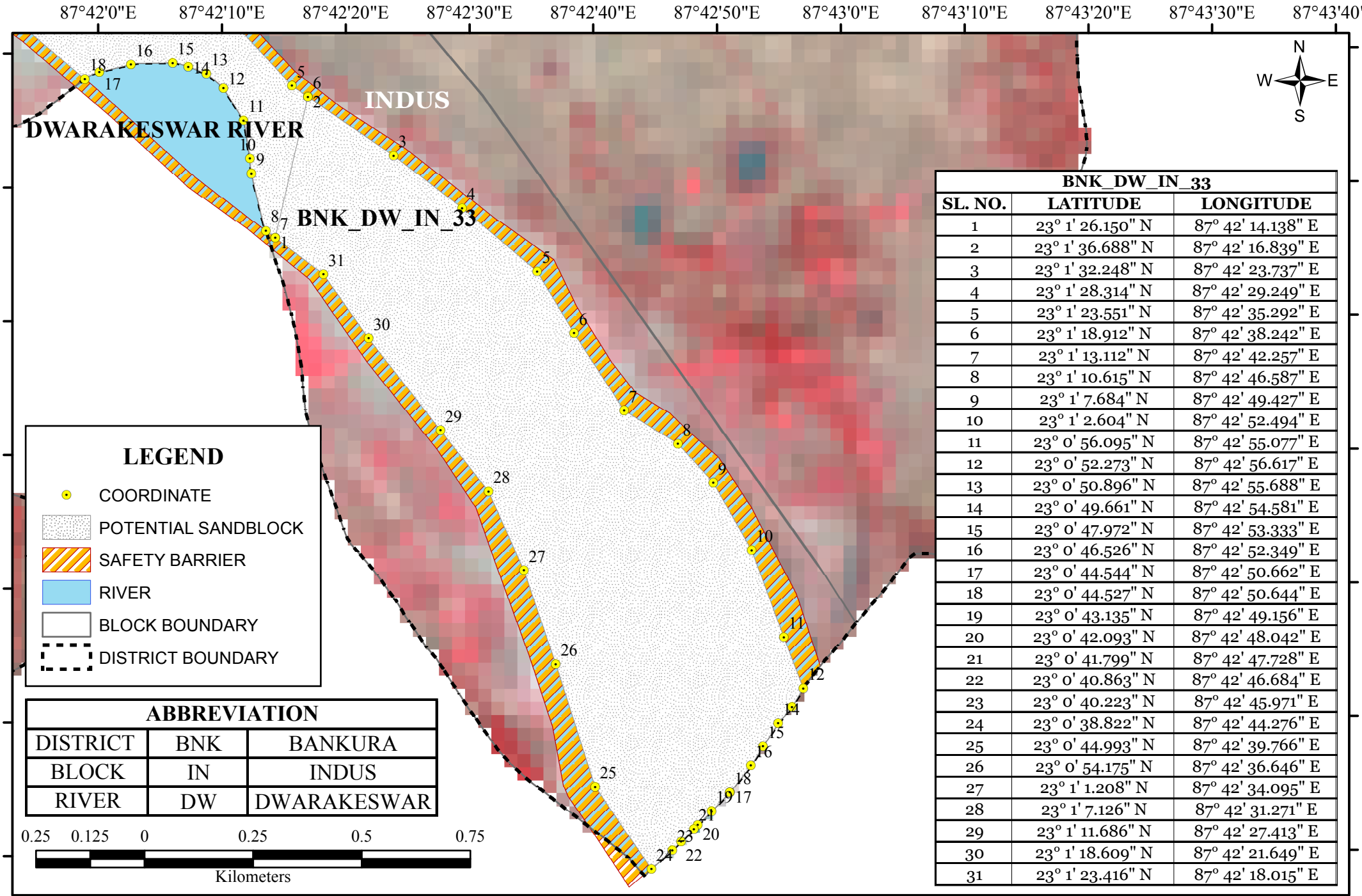
POTENTIAL BLOCK BNK_DW_KP_31_32 OF DWARAKESWAR RIVER



BNK_DW_KP_31_32					
SL. NO.	LATITUDE	LONGITUDE	SL. NO.	LATITUDE	LONGITUDE
1	23° 1' 56.505" N	87° 41' 52.390" E	24	23° 1' 52.375" N	87° 41' 29.083" E
2	23° 1' 52.563" N	87° 41' 59.747" E	25	23° 1' 53.014" N	87° 41' 24.802" E
3	23° 1' 49.407" N	87° 42' 3.658" E	26	23° 1' 53.897" N	87° 41' 21.103" E
4	23° 1' 43.931" N	87° 42' 9.162" E	27	23° 1' 55.485" N	87° 41' 16.783" E
5	23° 1' 37.516" N	87° 42' 15.554" E	28	23° 1' 56.950" N	87° 41' 12.284" E
6	23° 1' 36.688" N	87° 42' 16.839" E	29	23° 1' 57.960" N	87° 41' 8.005" E
7	23° 1' 26.150" N	87° 42' 14.138" E	30	23° 1' 59.168" N	87° 41' 5.512" E
8	23° 1' 26.685" N	87° 42' 13.379" E	31	23° 2' 1.713" N	87° 40' 59.724" E
9	23° 1' 30.969" N	87° 42' 12.236" E	32	23° 2' 4.009" N	87° 40' 53.891" E
10	23° 1' 32.107" N	87° 42' 12.131" E	33	23° 2' 5.581" N	87° 40' 45.974" E
11	23° 1' 34.951" N	87° 42' 11.623" E	34	23° 2' 14.482" N	87° 40' 55.757" E
12	23° 1' 37.390" N	87° 42' 10.009" E	35	23° 2' 13.030" N	87° 41' 0.772" E
13	23° 1' 38.447" N	87° 42' 8.640" E	36	23° 2' 11.028" N	87° 41' 5.403" E
14	23° 1' 39.001" N	87° 42' 7.183" E	37	23° 2' 9.133" N	87° 41' 10.689" E
15	23° 1' 39.278" N	87° 42' 5.918" E	38	23° 2' 7.003" N	87° 41' 19.245" E
16	23° 1' 39.166" N	87° 42' 2.547" E	39	23° 2' 5.333" N	87° 41' 23.342" E
17	23° 1' 38.614" N	87° 41' 59.983" E	40	23° 2' 4.432" N	87° 41' 27.978" E
18	23° 1' 38.096" N	87° 41' 58.815" E	41	23° 2' 2.985" N	87° 41' 31.540" E
19	23° 1' 42.191" N	87° 41' 53.616" E	42	23° 2' 1.593" N	87° 41' 35.044" E
20	23° 1' 45.973" N	87° 41' 48.148" E	43	23° 2' 0.587" N	87° 41' 38.311" E
21	23° 1' 49.928" N	87° 41' 40.984" E	44	23° 1' 59.690" N	87° 41' 42.054" E
22	23° 1' 52.386" N	87° 41' 36.177" E	45	23° 1' 58.793" N	87° 41' 45.679" E
23	23° 1' 52.685" N	87° 41' 33.859" E	46	23° 1' 58.009" N	87° 41' 48.471" E

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	KP	KOTULPUR
RIVER	DW	DWARAKESWAR

POTENTIAL BLOCK BNK_DW_IN_33 OF DWARAKESWAR RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	IN	INDUS
RIVER	DW	DWARAKESWAR

BNK_DW_IN_33		
SL. NO.	LATITUDE	LONGITUDE
1	23° 1' 26.150" N	87° 42' 14.138" E
2	23° 1' 36.688" N	87° 42' 16.839" E
3	23° 1' 32.248" N	87° 42' 23.737" E
4	23° 1' 28.314" N	87° 42' 29.249" E
5	23° 1' 23.551" N	87° 42' 35.292" E
6	23° 1' 18.912" N	87° 42' 38.242" E
7	23° 1' 13.112" N	87° 42' 42.257" E
8	23° 1' 10.615" N	87° 42' 46.587" E
9	23° 1' 7.684" N	87° 42' 49.427" E
10	23° 1' 2.604" N	87° 42' 52.494" E
11	23° 0' 56.095" N	87° 42' 55.077" E
12	23° 0' 52.273" N	87° 42' 56.617" E
13	23° 0' 50.896" N	87° 42' 55.688" E
14	23° 0' 49.661" N	87° 42' 54.581" E
15	23° 0' 47.972" N	87° 42' 53.333" E
16	23° 0' 46.526" N	87° 42' 52.349" E
17	23° 0' 44.544" N	87° 42' 50.662" E
18	23° 0' 44.527" N	87° 42' 50.644" E
19	23° 0' 43.135" N	87° 42' 49.156" E
20	23° 0' 42.093" N	87° 42' 48.042" E
21	23° 0' 41.799" N	87° 42' 47.728" E
22	23° 0' 40.863" N	87° 42' 46.684" E
23	23° 0' 40.223" N	87° 42' 45.971" E
24	23° 0' 38.822" N	87° 42' 44.276" E
25	23° 0' 44.993" N	87° 42' 39.766" E
26	23° 0' 54.175" N	87° 42' 36.646" E
27	23° 1' 1.208" N	87° 42' 34.095" E
28	23° 1' 7.126" N	87° 42' 31.271" E
29	23° 1' 11.686" N	87° 42' 27.413" E
30	23° 1' 18.609" N	87° 42' 21.649" E
31	23° 1' 23.416" N	87° 42' 18.015" E

POTENTIAL BLOCK BNK_KN_RB_01 OF KANGSABATI RIVER

86°51'30"E 86°52'0"E

22°54'30"N

KANGSABATI RIVER

BNK_KN_RB_01

RANIBANDH

N W E S

BNK_KN_RB_01		
POINT NO	LATITUDE	LONGITUDE
1	22° 54' 55.453" N	86° 51' 40.907" E
2	22° 54' 54.558" N	86° 51' 42.044" E
3	22° 54' 54.849" N	86° 51' 43.604" E
4	22° 54' 54.313" N	86° 51' 45.566" E
5	22° 54' 52.253" N	86° 51' 51.364" E
6	22° 54' 45.815" N	86° 51' 57.345" E
7	22° 54' 40.821" N	86° 52' 0.694" E
8	22° 54' 36.609" N	86° 52' 1.946" E
9	22° 54' 32.894" N	86° 52' 4.179" E
10	22° 54' 27.891" N	86° 52' 9.588" E
11	22° 54' 27.568" N	86° 52' 6.007" E
12	22° 54' 28.424" N	86° 52' 0.805" E
13	22° 54' 28.014" N	86° 51' 59.547" E
14	22° 54' 29.892" N	86° 51' 55.275" E
15	22° 54' 33.520" N	86° 51' 47.841" E
16	22° 54' 35.611" N	86° 51' 45.966" E
17	22° 54' 40.868" N	86° 51' 43.464" E
18	22° 54' 43.009" N	86° 51' 42.777" E
19	22° 54' 42.436" N	86° 51' 44.815" E
20	22° 54' 39.857" N	86° 51' 47.047" E
21	22° 54' 38.051" N	86° 51' 48.999" E
22	22° 54' 37.967" N	86° 51' 50.671" E
23	22° 54' 39.945" N	86° 51' 49.369" E
24	22° 54' 42.353" N	86° 51' 47.788" E
25	22° 54' 45.190" N	86° 51' 45.370" E
26	22° 54' 47.856" N	86° 51' 43.417" E
27	22° 54' 49.490" N	86° 51' 42.486" E
28	22° 54' 51.727" N	86° 51' 42.391" E
29	22° 54' 53.447" N	86° 51' 41.553" E

0.2 0.1 0 0.2 0.4 0.6

Kilometers

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RB	RANIBANDH
RIVER	KN	KANGSABATI

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_KN_RB_01A OF KANGSABATI RIVER

86°50'0"E 86°50'30"E 86°51'0"E

22°55'30"N 22°55'0"N

N W E S

BNK_KN_RB_01A		
POINT NO	LATITUDE	LONGITUDE
1	22° 55' 20.016" N	86° 51' 20.997" E
2	22° 55' 18.808" N	86° 51' 16.819" E
3	22° 55' 18.633" N	86° 51' 13.661" E
4	22° 55' 17.942" N	86° 51' 10.596" E
5	22° 55' 15.014" N	86° 51' 8.370" E
6	22° 55' 13.548" N	86° 51' 4.656" E
7	22° 55' 12.253" N	86° 51' 0.384" E
8	22° 55' 11.600" N	86° 50' 59.604" E
9	22° 55' 11.452" N	86° 50' 58.319" E
10	22° 55' 11.450" N	86° 50' 56.275" E
11	22° 55' 11.929" N	86° 50' 53.525" E
12	22° 55' 12.819" N	86° 50' 48.434" E
13	22° 55' 12.796" N	86° 50' 45.766" E
14	22° 55' 12.794" N	86° 50' 43.827" E
15	22° 55' 13.494" N	86° 50' 41.151" E
16	22° 55' 13.904" N	86° 50' 38.743" E
17	22° 55' 13.782" N	86° 50' 34.184" E
18	22° 55' 15.326" N	86° 50' 34.929" E
19	22° 55' 16.361" N	86° 50' 37.250" E
20	22° 55' 16.707" N	86° 50' 39.293" E
21	22° 55' 17.827" N	86° 50' 40.871" E
22	22° 55' 18.915" N	86° 50' 41.675" E
23	22° 55' 19.326" N	86° 50' 43.342" E
24	22° 55' 20.035" N	86° 50' 50.252" E
25	22° 55' 20.205" N	86° 50' 55.914" E
26	22° 55' 19.758" N	86° 51' 3.183" E
27	22° 55' 19.844" N	86° 51' 6.571" E
28	22° 55' 20.346" N	86° 51' 13.170" E
29	22° 55' 19.978" N	86° 51' 17.852" E
30	22° 55' 21.964" N	86° 51' 21.996" E
31	22° 55' 22.179" N	86° 51' 23.376" E
32	22° 55' 21.654" N	86° 51' 23.597" E

KANGSABATI RIVER

BNK_KN_RB_01A

RANIBANDH

0.3 0.15 0 0.3 0.6 0.9

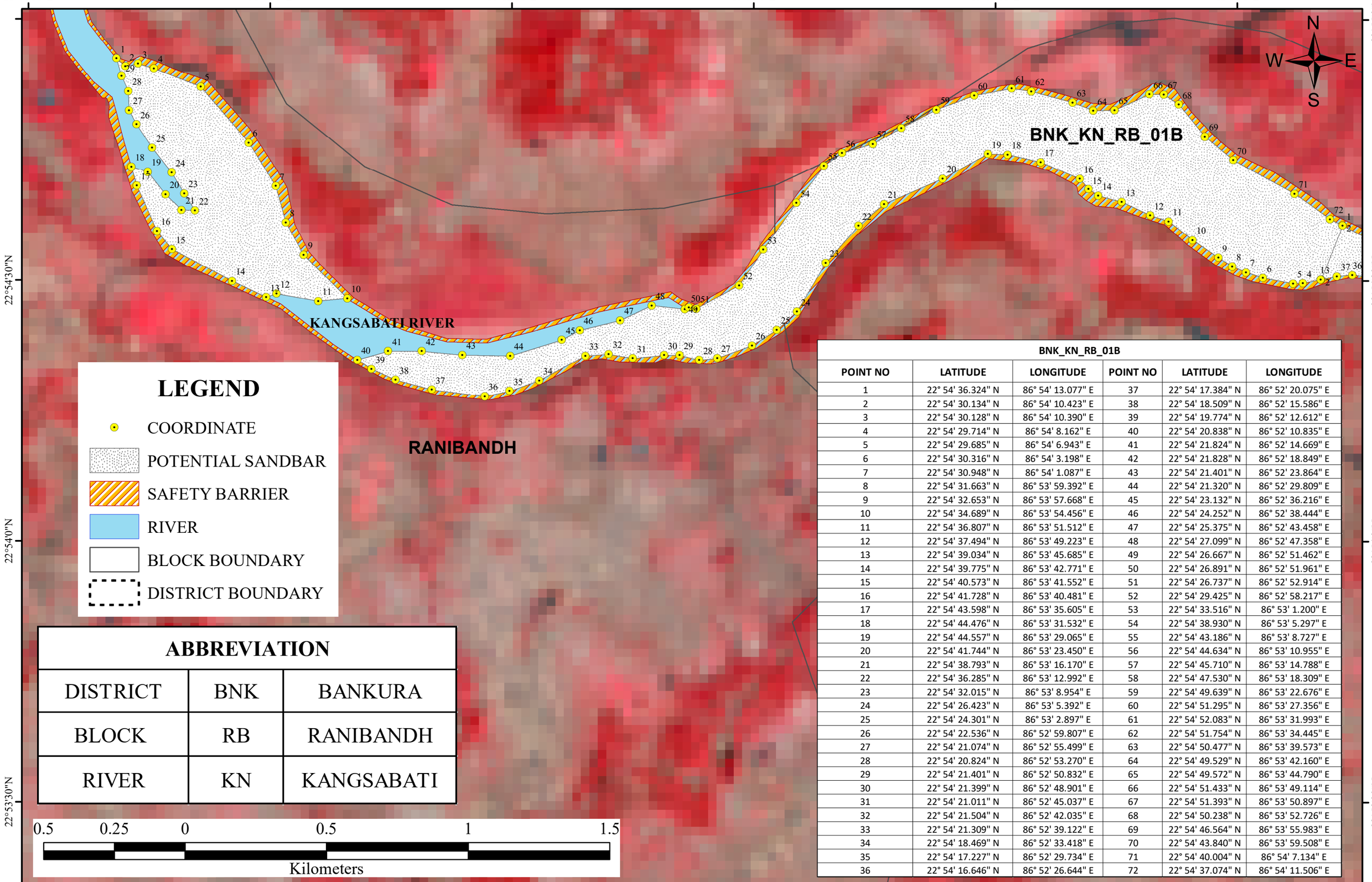
Kilometers

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RB	RANIBANDH
RIVER	KN	KANGSABATI

LEGEND

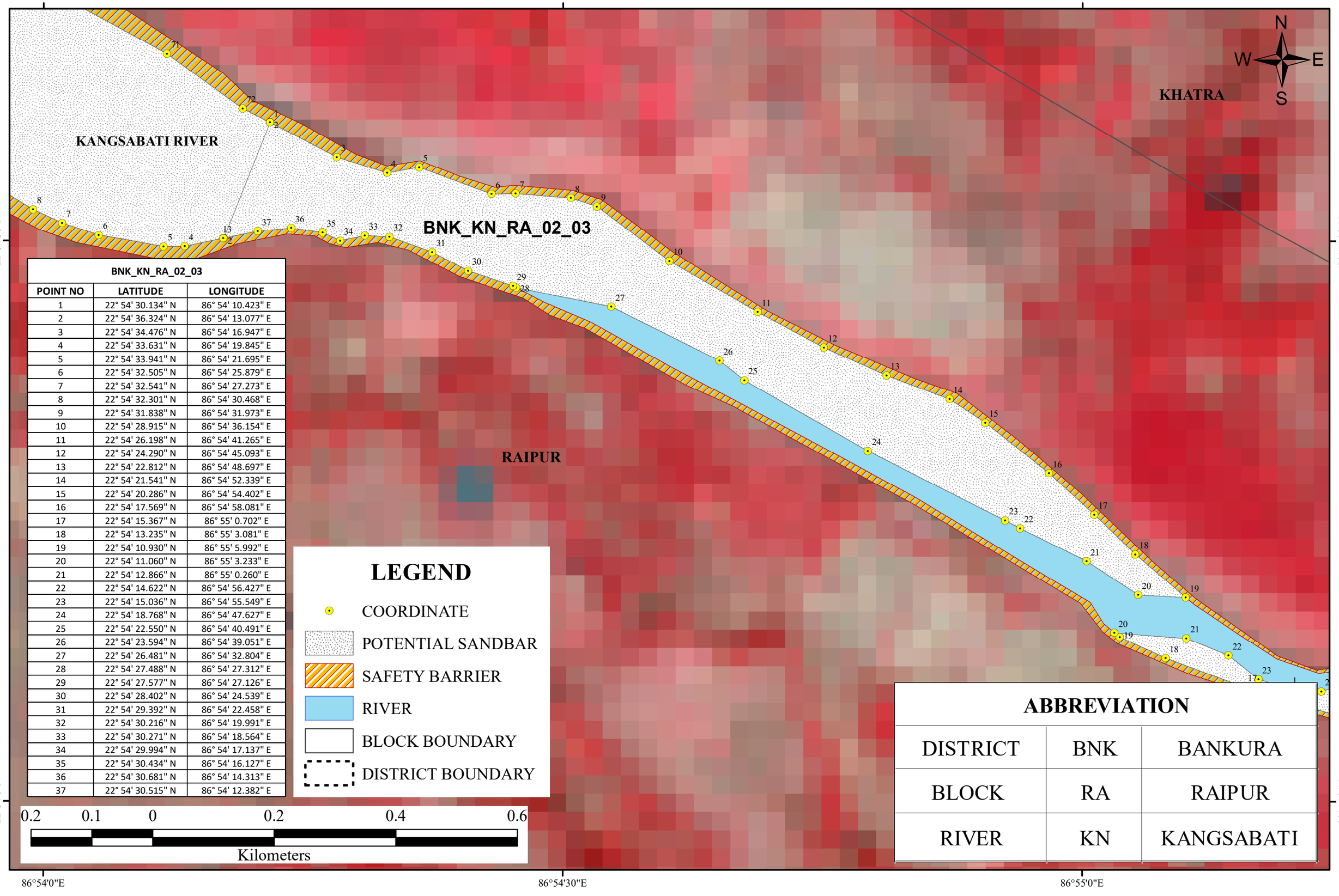
- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

POTENTIAL BLOCK BNK_KN_RB_01B OF KANGSABATI RIVER



BNK_KN_RB_01B					
POINT NO	LATITUDE	LONGITUDE	POINT NO	LATITUDE	LONGITUDE
1	22° 54' 36.324" N	86° 54' 13.077" E	37	22° 54' 17.384" N	86° 52' 20.075" E
2	22° 54' 30.134" N	86° 54' 10.423" E	38	22° 54' 18.509" N	86° 52' 15.586" E
3	22° 54' 30.128" N	86° 54' 10.390" E	39	22° 54' 19.774" N	86° 52' 12.612" E
4	22° 54' 29.714" N	86° 54' 8.162" E	40	22° 54' 20.838" N	86° 52' 10.835" E
5	22° 54' 29.685" N	86° 54' 6.943" E	41	22° 54' 21.824" N	86° 52' 14.669" E
6	22° 54' 30.316" N	86° 54' 3.198" E	42	22° 54' 21.828" N	86° 52' 18.849" E
7	22° 54' 30.948" N	86° 54' 1.087" E	43	22° 54' 21.401" N	86° 52' 23.864" E
8	22° 54' 31.663" N	86° 53' 59.392" E	44	22° 54' 21.320" N	86° 52' 29.809" E
9	22° 54' 32.653" N	86° 53' 57.668" E	45	22° 54' 23.132" N	86° 52' 36.216" E
10	22° 54' 34.689" N	86° 53' 54.456" E	46	22° 54' 24.252" N	86° 52' 38.444" E
11	22° 54' 36.807" N	86° 53' 51.512" E	47	22° 54' 25.375" N	86° 52' 43.458" E
12	22° 54' 37.494" N	86° 53' 49.223" E	48	22° 54' 27.099" N	86° 52' 47.358" E
13	22° 54' 39.034" N	86° 53' 45.685" E	49	22° 54' 26.667" N	86° 52' 51.462" E
14	22° 54' 39.775" N	86° 53' 42.771" E	50	22° 54' 26.891" N	86° 52' 51.961" E
15	22° 54' 40.573" N	86° 53' 41.552" E	51	22° 54' 26.737" N	86° 52' 52.914" E
16	22° 54' 41.728" N	86° 53' 40.481" E	52	22° 54' 29.425" N	86° 52' 58.217" E
17	22° 54' 43.598" N	86° 53' 35.605" E	53	22° 54' 33.516" N	86° 53' 1.200" E
18	22° 54' 44.476" N	86° 53' 31.532" E	54	22° 54' 38.930" N	86° 53' 5.297" E
19	22° 54' 44.557" N	86° 53' 29.065" E	55	22° 54' 43.186" N	86° 53' 8.727" E
20	22° 54' 41.744" N	86° 53' 23.450" E	56	22° 54' 44.634" N	86° 53' 10.955" E
21	22° 54' 38.793" N	86° 53' 16.170" E	57	22° 54' 45.710" N	86° 53' 14.788" E
22	22° 54' 36.285" N	86° 53' 12.992" E	58	22° 54' 47.530" N	86° 53' 18.309" E
23	22° 54' 32.015" N	86° 53' 8.954" E	59	22° 54' 49.639" N	86° 53' 22.676" E
24	22° 54' 26.423" N	86° 53' 5.392" E	60	22° 54' 51.295" N	86° 53' 27.356" E
25	22° 54' 24.301" N	86° 53' 2.897" E	61	22° 54' 52.083" N	86° 53' 31.993" E
26	22° 54' 22.536" N	86° 52' 59.807" E	62	22° 54' 51.754" N	86° 53' 34.445" E
27	22° 54' 21.074" N	86° 52' 55.499" E	63	22° 54' 50.477" N	86° 53' 39.573" E
28	22° 54' 20.824" N	86° 52' 53.270" E	64	22° 54' 49.529" N	86° 53' 42.160" E
29	22° 54' 21.401" N	86° 52' 50.832" E	65	22° 54' 49.572" N	86° 53' 44.790" E
30	22° 54' 21.399" N	86° 52' 48.901" E	66	22° 54' 51.433" N	86° 53' 49.114" E
31	22° 54' 21.011" N	86° 52' 45.037" E	67	22° 54' 51.393" N	86° 53' 50.897" E
32	22° 54' 21.504" N	86° 52' 42.035" E	68	22° 54' 50.238" N	86° 53' 52.726" E
33	22° 54' 21.309" N	86° 52' 39.122" E	69	22° 54' 46.564" N	86° 53' 55.983" E
34	22° 54' 18.469" N	86° 52' 33.418" E	70	22° 54' 43.840" N	86° 53' 59.508" E
35	22° 54' 17.227" N	86° 52' 29.734" E	71	22° 54' 40.004" N	86° 54' 7.134" E
36	22° 54' 16.646" N	86° 52' 26.644" E	72	22° 54' 37.074" N	86° 54' 11.506" E

POTENTIAL BLOCK BNK_KN_RA_02_03 OF KANGSABATI RIVER



BNK_KN_RA_02_03		
POINT NO	LATITUDE	LONGITUDE
1	22° 54' 30.134" N	86° 54' 10.423" E
2	22° 54' 36.324" N	86° 54' 13.077" E
3	22° 54' 34.476" N	86° 54' 16.947" E
4	22° 54' 33.631" N	86° 54' 19.845" E
5	22° 54' 33.941" N	86° 54' 21.695" E
6	22° 54' 32.505" N	86° 54' 25.879" E
7	22° 54' 32.541" N	86° 54' 27.273" E
8	22° 54' 32.301" N	86° 54' 30.468" E
9	22° 54' 31.838" N	86° 54' 31.973" E
10	22° 54' 28.915" N	86° 54' 36.154" E
11	22° 54' 26.198" N	86° 54' 41.265" E
12	22° 54' 24.290" N	86° 54' 45.093" E
13	22° 54' 22.812" N	86° 54' 48.697" E
14	22° 54' 21.541" N	86° 54' 52.339" E
15	22° 54' 20.286" N	86° 54' 54.402" E
16	22° 54' 17.569" N	86° 54' 58.081" E
17	22° 54' 15.367" N	86° 55' 0.702" E
18	22° 54' 13.235" N	86° 55' 3.081" E
19	22° 54' 10.930" N	86° 55' 5.992" E
20	22° 54' 11.060" N	86° 55' 3.233" E
21	22° 54' 12.866" N	86° 55' 0.260" E
22	22° 54' 14.622" N	86° 54' 56.427" E
23	22° 54' 15.036" N	86° 54' 55.549" E
24	22° 54' 18.768" N	86° 54' 47.627" E
25	22° 54' 22.550" N	86° 54' 40.491" E
26	22° 54' 23.594" N	86° 54' 39.051" E
27	22° 54' 26.481" N	86° 54' 32.804" E
28	22° 54' 27.488" N	86° 54' 27.312" E
29	22° 54' 27.577" N	86° 54' 27.126" E
30	22° 54' 28.402" N	86° 54' 24.539" E
31	22° 54' 29.392" N	86° 54' 22.458" E
32	22° 54' 30.216" N	86° 54' 19.991" E
33	22° 54' 30.271" N	86° 54' 18.564" E
34	22° 54' 29.994" N	86° 54' 17.137" E
35	22° 54' 30.434" N	86° 54' 16.127" E
36	22° 54' 30.681" N	86° 54' 14.313" E
37	22° 54' 30.515" N	86° 54' 12.382" E

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

POTENTIAL BLOCK BNK_KN_RA_03A OF KANGSABATI RIVER

86°55'0"E

86°55'30"E

22°54'0"N

KANGSABATI RIVER

BNK_KN_RA_03A

RAIPUR

N

W

E

S

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

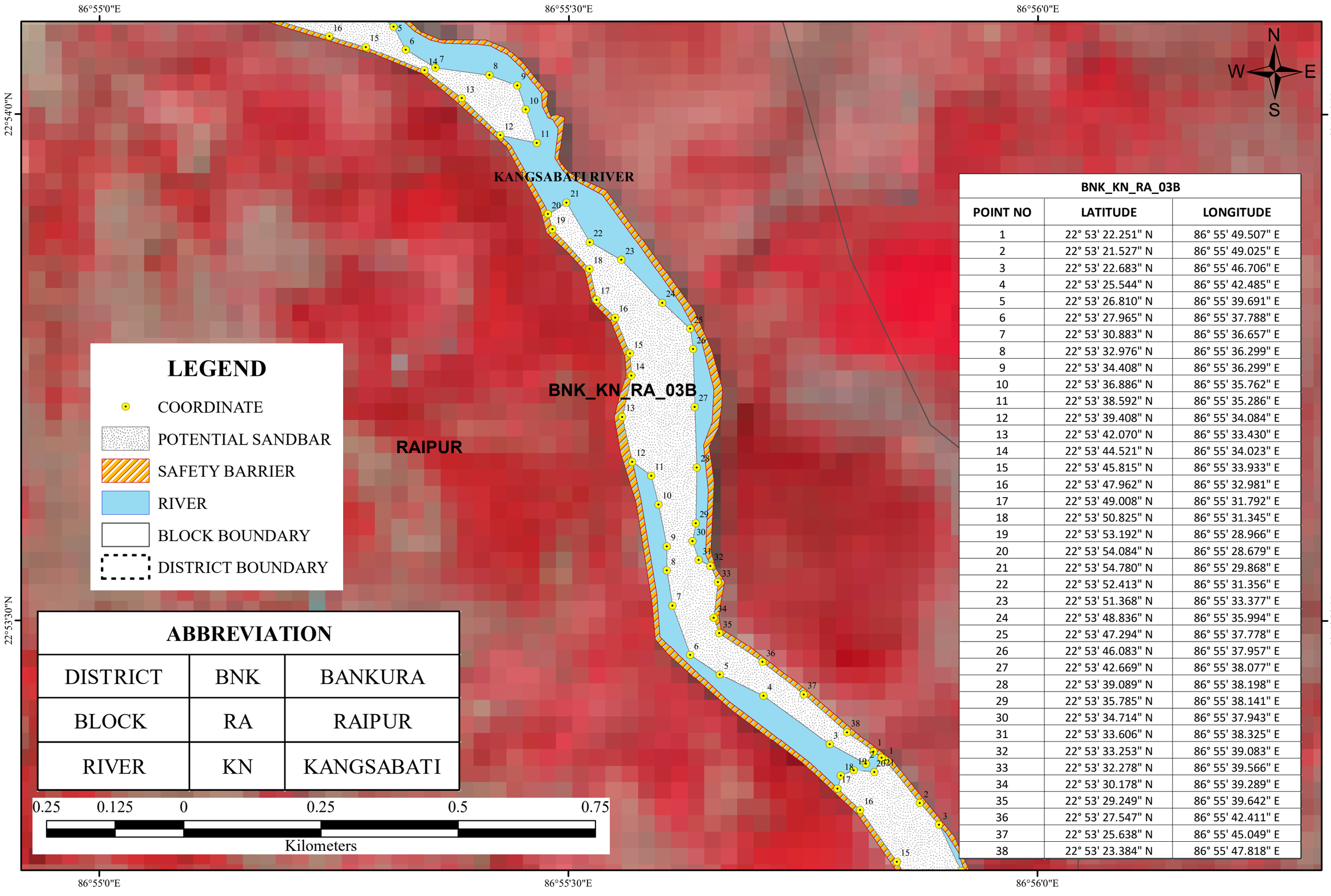
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

0.15 0.075 0 0.15 0.3 0.45

Kilometers

BNK_KN_RA_03A		
POINT NO	LATITUDE	LONGITUDE
1	22° 54' 6.005" N	86° 55' 11.911" E
2	22° 54' 5.896" N	86° 55' 13.813" E
3	22° 54' 6.282" N	86° 55' 15.239" E
4	22° 54' 6.394" N	86° 55' 17.201" E
5	22° 54' 5.183" N	86° 55' 18.807" E
6	22° 54' 3.806" N	86° 55' 19.580" E
7	22° 54' 2.761" N	86° 55' 21.483" E
8	22° 54' 2.322" N	86° 55' 24.931" E
9	22° 54' 1.717" N	86° 55' 26.714" E
10	22° 54' 0.286" N	86° 55' 27.250" E
11	22° 53' 58.304" N	86° 55' 27.964" E
12	22° 53' 58.751" N	86° 55' 25.642" E
13	22° 54' 0.954" N	86° 55' 23.166" E
14	22° 54' 2.605" N	86° 55' 20.788" E
15	22° 54' 3.980" N	86° 55' 17.042" E
16	22° 54' 4.612" N	86° 55' 14.694" E
17	22° 54' 6.124" N	86° 55' 9.343" E
18	22° 54' 7.691" N	86° 55' 4.825" E
19	22° 54' 8.791" N	86° 55' 2.179" E
20	22° 54' 9.031" N	86° 55' 1.871" E
21	22° 54' 8.739" N	86° 55' 6.021" E
22	22° 54' 7.821" N	86° 55' 8.462" E
23	22° 54' 6.555" N	86° 55' 10.187" E

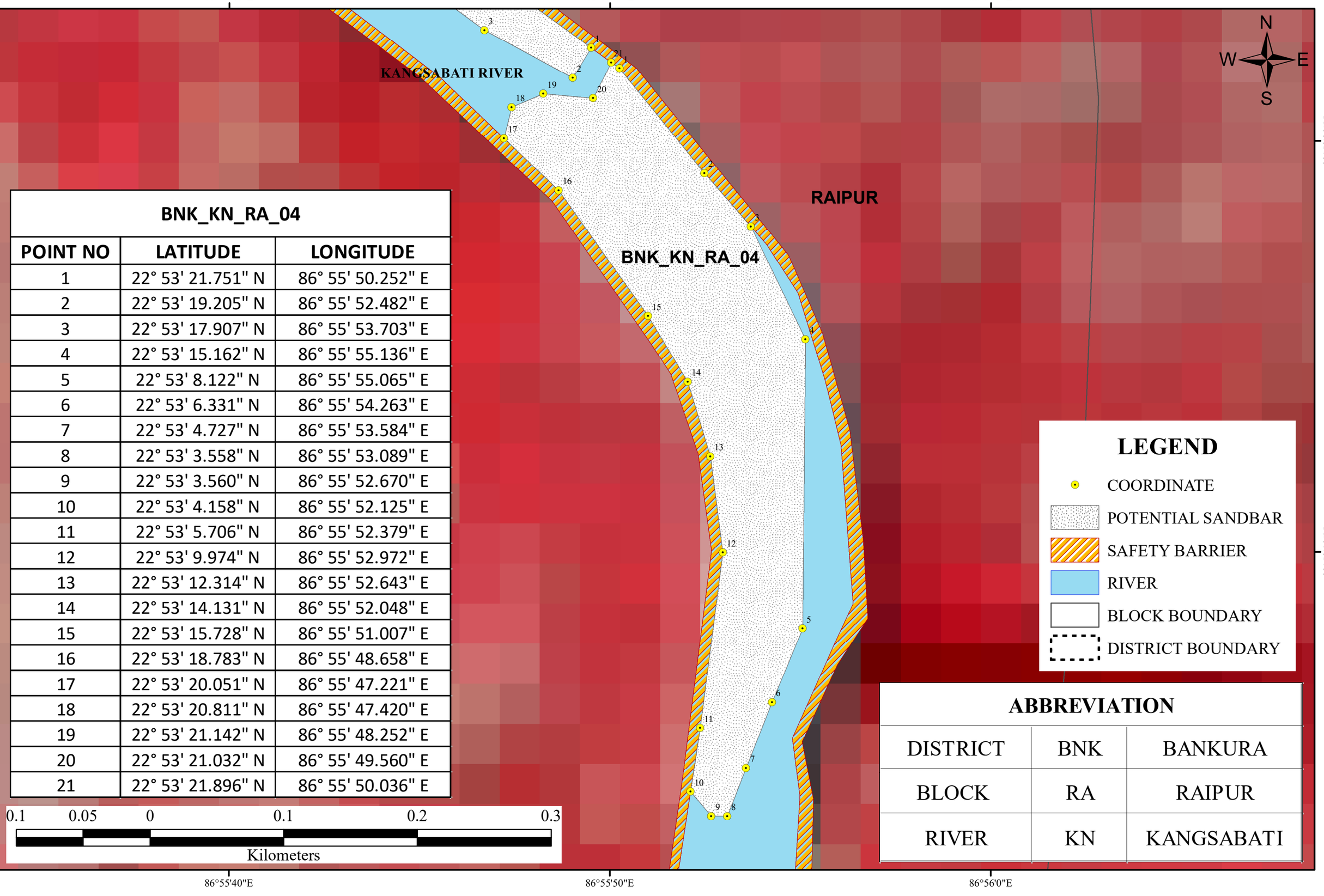
POTENTIAL BLOCK BNK_KN_RA_03B OF KANGSABATI RIVER



BNK_KN_RA_03B		
POINT NO	LATITUDE	LONGITUDE
1	22° 53' 22.251" N	86° 55' 49.507" E
2	22° 53' 21.527" N	86° 55' 49.025" E
3	22° 53' 22.683" N	86° 55' 46.706" E
4	22° 53' 25.544" N	86° 55' 42.485" E
5	22° 53' 26.810" N	86° 55' 39.691" E
6	22° 53' 27.965" N	86° 55' 37.788" E
7	22° 53' 30.883" N	86° 55' 36.657" E
8	22° 53' 32.976" N	86° 55' 36.299" E
9	22° 53' 34.408" N	86° 55' 36.299" E
10	22° 53' 36.886" N	86° 55' 35.762" E
11	22° 53' 38.592" N	86° 55' 35.286" E
12	22° 53' 39.408" N	86° 55' 34.084" E
13	22° 53' 42.070" N	86° 55' 33.430" E
14	22° 53' 44.521" N	86° 55' 34.023" E
15	22° 53' 45.815" N	86° 55' 33.933" E
16	22° 53' 47.962" N	86° 55' 32.981" E
17	22° 53' 49.008" N	86° 55' 31.792" E
18	22° 53' 50.825" N	86° 55' 31.345" E
19	22° 53' 53.192" N	86° 55' 28.966" E
20	22° 53' 54.084" N	86° 55' 28.679" E
21	22° 53' 54.780" N	86° 55' 29.868" E
22	22° 53' 52.413" N	86° 55' 31.356" E
23	22° 53' 51.368" N	86° 55' 33.377" E
24	22° 53' 48.836" N	86° 55' 35.994" E
25	22° 53' 47.294" N	86° 55' 37.778" E
26	22° 53' 46.083" N	86° 55' 37.957" E
27	22° 53' 42.669" N	86° 55' 38.077" E
28	22° 53' 39.089" N	86° 55' 38.198" E
29	22° 53' 35.785" N	86° 55' 38.141" E
30	22° 53' 34.714" N	86° 55' 37.943" E
31	22° 53' 33.606" N	86° 55' 38.325" E
32	22° 53' 33.253" N	86° 55' 39.083" E
33	22° 53' 32.278" N	86° 55' 39.566" E
34	22° 53' 30.178" N	86° 55' 39.289" E
35	22° 53' 29.249" N	86° 55' 39.642" E
36	22° 53' 27.547" N	86° 55' 42.411" E
37	22° 53' 25.638" N	86° 55' 45.049" E
38	22° 53' 23.384" N	86° 55' 47.818" E

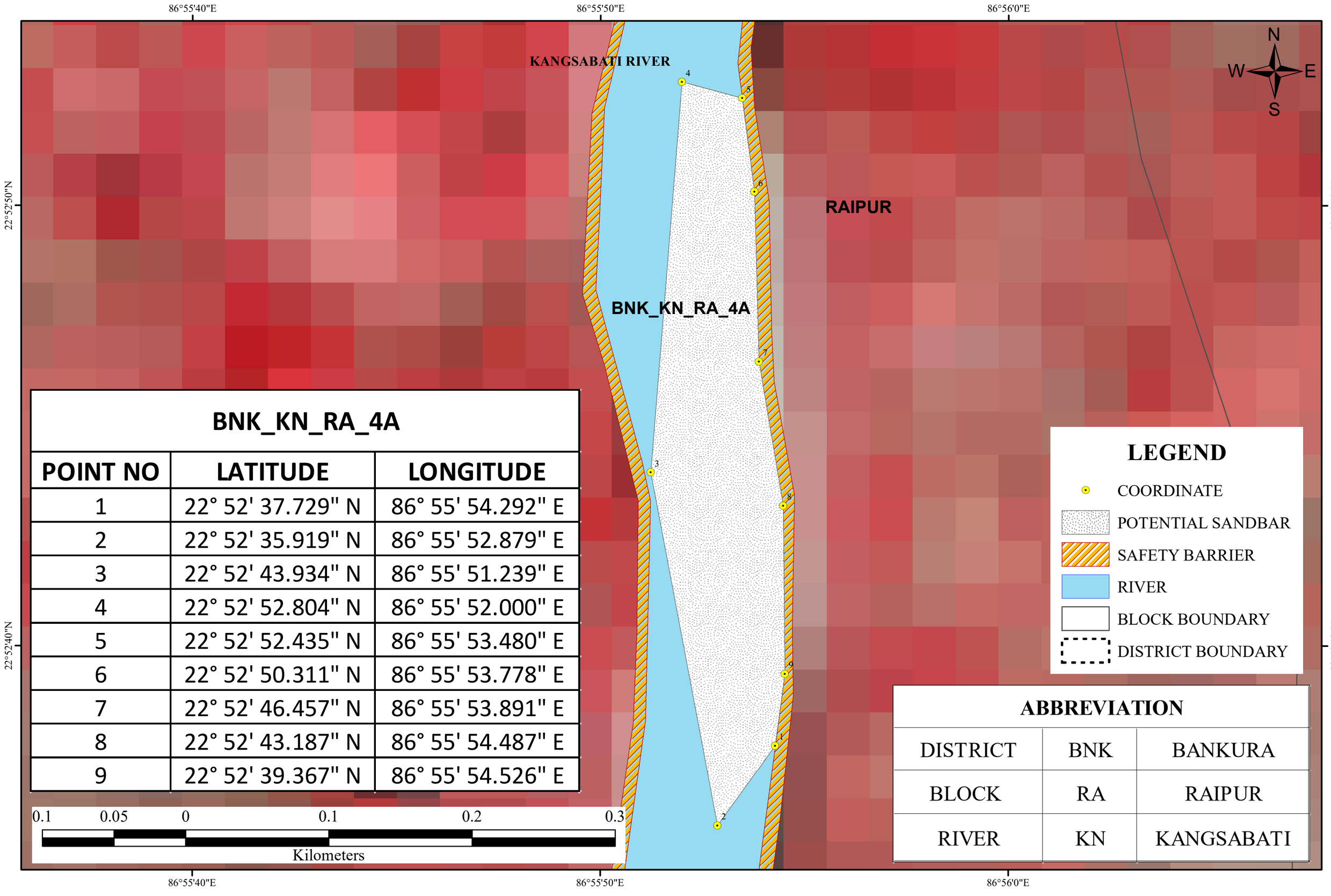
POTENTIAL BLOCK BNK_KN_RA_04 OF KANGSABATI RIVER

BNK_KN_RA_04		
POINT NO	LATITUDE	LONGITUDE
1	22° 53' 21.751" N	86° 55' 50.252" E
2	22° 53' 19.205" N	86° 55' 52.482" E
3	22° 53' 17.907" N	86° 55' 53.703" E
4	22° 53' 15.162" N	86° 55' 55.136" E
5	22° 53' 8.122" N	86° 55' 55.065" E
6	22° 53' 6.331" N	86° 55' 54.263" E
7	22° 53' 4.727" N	86° 55' 53.584" E
8	22° 53' 3.558" N	86° 55' 53.089" E
9	22° 53' 3.560" N	86° 55' 52.670" E
10	22° 53' 4.158" N	86° 55' 52.125" E
11	22° 53' 5.706" N	86° 55' 52.379" E
12	22° 53' 9.974" N	86° 55' 52.972" E
13	22° 53' 12.314" N	86° 55' 52.643" E
14	22° 53' 14.131" N	86° 55' 52.048" E
15	22° 53' 15.728" N	86° 55' 51.007" E
16	22° 53' 18.783" N	86° 55' 48.658" E
17	22° 53' 20.051" N	86° 55' 47.221" E
18	22° 53' 20.811" N	86° 55' 47.420" E
19	22° 53' 21.142" N	86° 55' 48.252" E
20	22° 53' 21.032" N	86° 55' 49.560" E
21	22° 53' 21.896" N	86° 55' 50.036" E



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

POTENTIAL BLOCK BNK_KN_RA_4A OF KANGSABATI RIVER



BNK_KN_RA_4A		
POINT NO	**LATITUDE**	**LONGITUDE**
1	22° 52' 37.729" N	86° 55' 54.292" E
2	22° 52' 35.919" N	86° 55' 52.879" E
3	22° 52' 43.934" N	86° 55' 51.239" E
4	22° 52' 52.804" N	86° 55' 52.000" E
5	22° 52' 52.435" N	86° 55' 53.480" E
6	22° 52' 50.311" N	86° 55' 53.778" E
7	22° 52' 46.457" N	86° 55' 53.891" E
8	22° 52' 43.187" N	86° 55' 54.487" E
9	22° 52' 39.367" N	86° 55' 54.526" E

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

POTENTIAL BLOCK BNK_KN_RA_4B OF KANGSABATI RIVER

86°55'30"E

86°56'0"E

22°52'0"N

BNK_KN_RA_4B		
POINT NO	LATITUDE	LONGITUDE
1	22° 51' 57.410" N	86° 55' 51.056" E
2	22° 51' 57.336" N	86° 55' 50.964" E
3	22° 51' 58.745" N	86° 55' 50.340" E
4	22° 52' 2.118" N	86° 55' 50.339" E
5	22° 52' 5.776" N	86° 55' 51.237" E
6	22° 52' 6.860" N	86° 55' 49.841" E
7	22° 52' 8.488" N	86° 55' 49.942" E
8	22° 52' 11.710" N	86° 55' 49.911" E
9	22° 52' 13.802" N	86° 55' 49.880" E
10	22° 52' 14.877" N	86° 55' 50.503" E
11	22° 52' 15.510" N	86° 55' 51.662" E
12	22° 52' 16.117" N	86° 55' 52.969" E
13	22° 52' 18.623" N	86° 55' 54.513" E
14	22° 52' 20.138" N	86° 55' 55.463" E
15	22° 52' 21.212" N	86° 55' 55.938" E
16	22° 52' 23.731" N	86° 55' 55.439" E
17	22° 52' 23.749" N	86° 55' 56.003" E
18	22° 52' 23.283" N	86° 55' 56.615" E
19	22° 52' 22.925" N	86° 55' 57.086" E
20	22° 52' 21.875" N	86° 55' 57.063" E
21	22° 52' 19.193" N	86° 55' 57.907" E
22	22° 52' 17.220" N	86° 55' 56.963" E
23	22° 52' 16.971" N	86° 55' 59.389" E
24	22° 52' 14.725" N	86° 55' 58.439" E
25	22° 52' 9.424" N	86° 55' 55.693" E
26	22° 52' 4.673" N	86° 55' 54.432" E
27	22° 52' 1.816" N	86° 55' 52.911" E

KANGSABATI RIVER

BNK_KN_RA_4B

RAIPUR

N

W E

S

0.15 0.075 0 0.15 0.3 0.45

Kilometers

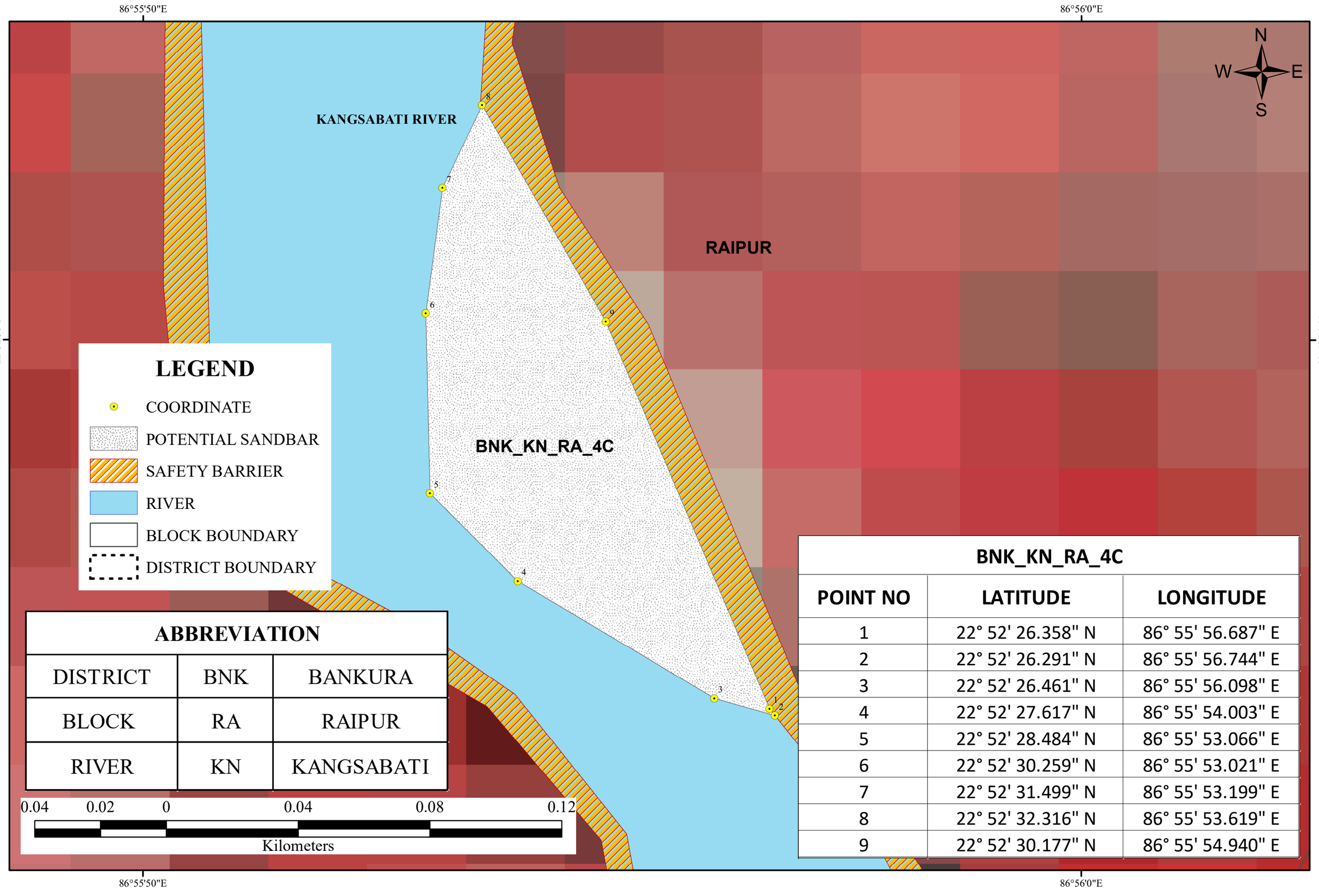
LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

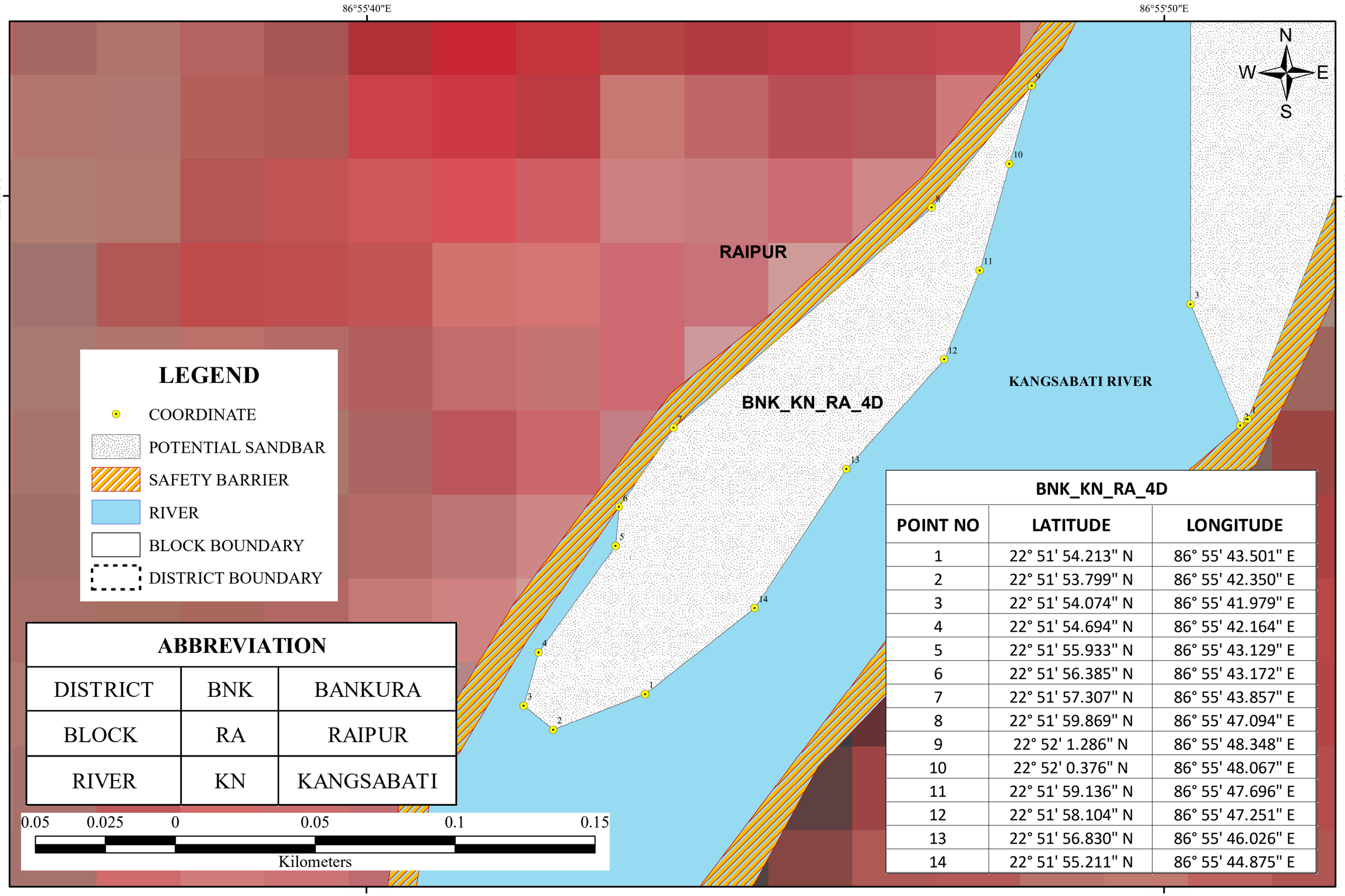
POTENTIAL BLOCK BNK_KN_RA_4C OF KANGSABATI RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

BNK_KN_RA_4C		
POINT NO	LATITUDE	LONGITUDE
1	22° 52' 26.358" N	86° 55' 56.687" E
2	22° 52' 26.291" N	86° 55' 56.744" E
3	22° 52' 26.461" N	86° 55' 56.098" E
4	22° 52' 27.617" N	86° 55' 54.003" E
5	22° 52' 28.484" N	86° 55' 53.066" E
6	22° 52' 30.259" N	86° 55' 53.021" E
7	22° 52' 31.499" N	86° 55' 53.199" E
8	22° 52' 32.316" N	86° 55' 53.619" E
9	22° 52' 30.177" N	86° 55' 54.940" E

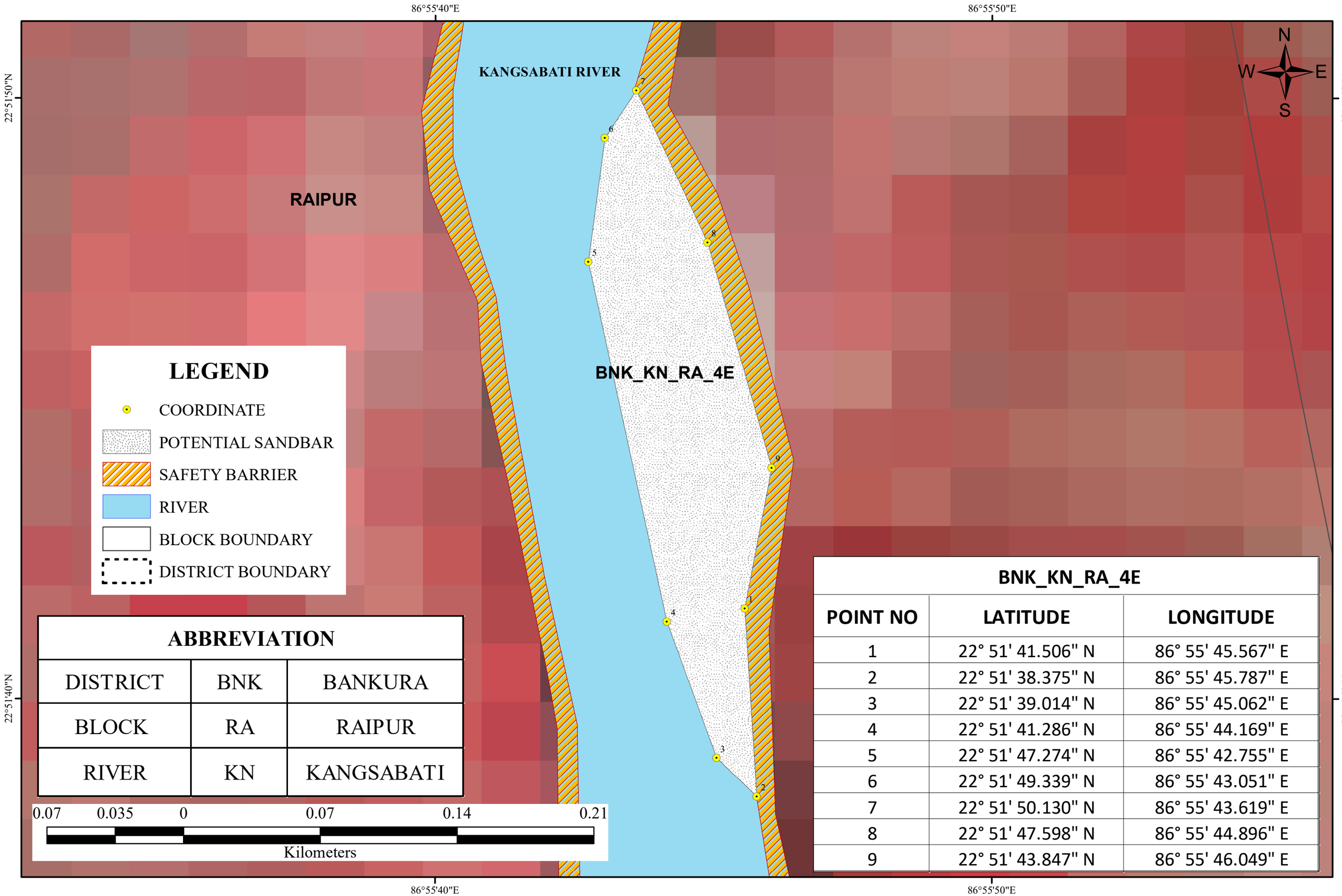
POTENTIAL BLOCK BNK_KN_RA_4D OF KANGSABATI RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

BNK_KN_RA_4D		
POINT NO	LATITUDE	LONGITUDE
1	22° 51' 54.213" N	86° 55' 43.501" E
2	22° 51' 53.799" N	86° 55' 42.350" E
3	22° 51' 54.074" N	86° 55' 41.979" E
4	22° 51' 54.694" N	86° 55' 42.164" E
5	22° 51' 55.933" N	86° 55' 43.129" E
6	22° 51' 56.385" N	86° 55' 43.172" E
7	22° 51' 57.307" N	86° 55' 43.857" E
8	22° 51' 59.869" N	86° 55' 47.094" E
9	22° 52' 1.286" N	86° 55' 48.348" E
10	22° 52' 0.376" N	86° 55' 48.067" E
11	22° 51' 59.136" N	86° 55' 47.696" E
12	22° 51' 58.104" N	86° 55' 47.251" E
13	22° 51' 56.830" N	86° 55' 46.026" E
14	22° 51' 55.211" N	86° 55' 44.875" E

POTENTIAL BLOCK BNK_KN_RA_4E OF KANGSABATI RIVER



LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

0.07 0.035 0 0.07 0.14 0.21

Kilometers

BNK_KN_RA_4E		
POINT NO	LATITUDE	LONGITUDE
1	22° 51' 41.506" N	86° 55' 45.567" E
2	22° 51' 38.375" N	86° 55' 45.787" E
3	22° 51' 39.014" N	86° 55' 45.062" E
4	22° 51' 41.286" N	86° 55' 44.169" E
5	22° 51' 47.274" N	86° 55' 42.755" E
6	22° 51' 49.339" N	86° 55' 43.051" E
7	22° 51' 50.130" N	86° 55' 43.619" E
8	22° 51' 47.598" N	86° 55' 44.896" E
9	22° 51' 43.847" N	86° 55' 46.049" E

POTENTIAL BLOCK BNK_KN_RA_05 OF KANGSABATI RIVER

BNK_KN_RA_05		
POINT NO	LATITUDE	LONGITUDE
1	22° 50' 36.633" N	86° 55' 56.092" E
2	22° 50' 36.017" N	86° 55' 57.898" E
3	22° 50' 36.266" N	86° 55' 58.231" E
4	22° 50' 41.177" N	86° 55' 58.541" E
5	22° 50' 43.741" N	86° 55' 59.981" E
6	22° 50' 44.242" N	86° 56' 0.262" E
7	22° 50' 41.939" N	86° 56' 1.091" E
8	22° 50' 34.023" N	86° 56' 1.559" E
9	22° 50' 30.839" N	86° 56' 1.097" E
10	22° 50' 27.226" N	86° 56' 2.305" E
11	22° 50' 19.224" N	86° 56' 2.031" E
12	22° 50' 14.577" N	86° 56' 2.311" E
13	22° 50' 11.308" N	86° 56' 3.427" E
14	22° 50' 0.984" N	86° 56' 6.124" E
15	22° 49' 53.412" N	86° 56' 7.706" E
16	22° 49' 48.509" N	86° 56' 9.657" E
17	22° 49' 41.110" N	86° 56' 12.817" E
18	22° 49' 33.883" N	86° 56' 14.770" E
19	22° 49' 24.333" N	86° 56' 16.816" E
20	22° 49' 21.752" N	86° 56' 18.767" E
21	22° 49' 19.429" N	86° 56' 19.417" E
22	22° 49' 15.901" N	86° 56' 18.862" E
23	22° 49' 9.018" N	86° 56' 21.186" E
24	22° 49' 2.480" N	86° 56' 23.787" E
25	22° 48' 57.318" N	86° 56' 26.853" E
26	22° 48' 54.651" N	86° 56' 27.968" E
27	22° 48' 51.382" N	86° 56' 30.846" E
28	22° 48' 48.630" N	86° 56' 32.704" E
29	22° 48' 45.619" N	86° 56' 34.469" E
30	22° 48' 42.608" N	86° 56' 37.254" E
31	22° 48' 37.275" N	86° 56' 42.269" E
32	22° 48' 35.927" N	86° 56' 43.146" E
33	22° 48' 35.082" N	86° 56' 42.579" E
34	22° 48' 34.617" N	86° 56' 42.300" E
35	22° 48' 26.486" N	86° 56' 37.617" E
36	22° 48' 26.496" N	86° 56' 37.604" E
37	22° 48' 31.120" N	86° 56' 32.286" E
38	22° 48' 32.414" N	86° 56' 30.622" E
39	22° 48' 33.156" N	86° 56' 28.276" E
40	22° 48' 34.642" N	86° 56' 26.463" E
41	22° 48' 38.854" N	86° 56' 23.313" E
42	22° 48' 42.625" N	86° 56' 20.223" E
43	22° 48' 49.590" N	86° 56' 17.754" E
44	22° 48' 54.023" N	86° 56' 16.059" E
45	22° 48' 59.722" N	86° 56' 14.126" E
46	22° 49' 4.539" N	86° 56' 11.956" E
47	22° 49' 13.928" N	86° 56' 9.248" E
48	22° 49' 20.866" N	86° 56' 7.879" E
49	22° 49' 25.739" N	86° 56' 6.807" E
50	22° 49' 32.154" N	86° 56' 5.081" E
51	22° 49' 36.807" N	86° 56' 4.485" E
52	22° 49' 42.588" N	86° 56' 2.284" E
53	22° 49' 49.031" N	86° 56' 0.409" E
54	22° 49' 53.242" N	86° 55' 58.447" E
55	22° 49' 57.702" N	86° 55' 56.662" E
56	22° 50' 3.126" N	86° 55' 54.788" E
57	22° 50' 7.421" N	86° 55' 54.133" E
58	22° 50' 13.065" N	86° 55' 53.090" E
59	22° 50' 20.940" N	86° 55' 52.135" E
60	22° 50' 24.711" N	86° 55' 50.708" E
61	22° 50' 29.144" N	86° 55' 49.339" E
62	22° 50' 35.807" N	86° 55' 48.741" E
63	22° 50' 40.680" N	86° 55' 48.293" E
64	22° 50' 44.782" N	86° 55' 47.103" E
65	22° 50' 47.315" N	86° 55' 45.141" E
66	22° 50' 50.122" N	86° 55' 43.654" E
67	22° 50' 53.509" N	86° 55' 43.147" E
68	22° 50' 56.263" N	86° 55' 43.621" E
69	22° 51' 1.412" N	86° 55' 44.272" E
70	22° 51' 8.240" N	86° 55' 44.268" E
71	22° 51' 13.527" N	86° 55' 44.058" E
72	22° 51' 17.382" N	86° 55' 43.937" E
73	22° 51' 19.825" N	86° 55' 43.542" E
74	22° 51' 24.345" N	86° 55' 43.914" E
75	22° 51' 23.705" N	86° 55' 46.578" E
76	22° 51' 19.390" N	86° 55' 47.530" E
77	22° 51' 9.982" N	86° 55' 52.176" E
78	22° 51' 0.691" N	86° 55' 55.523" E
79	22° 50' 54.703" N	86° 55' 56.974" E
80	22° 50' 47.579" N	86° 55' 57.646" E

KANGSABATI RIVER

BNK_KN_RA_05

RAIPUR

N
W
E
S

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION

DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

1 0.5 0 1 2 3
Kilometers

86°53'30"E 86°54'0"E 86°54'30"E 86°55'0"E 86°55'30"E 86°56'0"E 86°56'30"E 86°57'0"E 86°57'30"E 86°58'0"E 86°58'30"E

22°51'30"N 22°51'0"N 22°50'30"N 22°50'0"N 22°49'30"N 22°49'0"N 22°48'30"N

POTENTIAL BLOCK BNK_KN_RA_06 OF KANGSABATI RIVER

BNK_KN_RA_06		
POINT NO	LATITUDE	LONGITUDE
1	22° 46' 46.624" N	86° 58' 44.542" E
2	22° 46' 49.434" N	86° 58' 31.248" E
3	22° 46' 51.351" N	86° 58' 32.176" E
4	22° 46' 55.911" N	86° 58' 32.268" E
5	22° 47' 1.762" N	86° 58' 33.380" E
6	22° 47' 4.688" N	86° 58' 34.586" E
7	22° 47' 9.163" N	86° 58' 35.235" E
8	22° 47' 20.004" N	86° 58' 34.769" E
9	22° 47' 24.306" N	86° 58' 33.376" E
10	22° 47' 28.522" N	86° 58' 31.798" E
11	22° 47' 31.619" N	86° 58' 27.528" E
12	22° 47' 36.522" N	86° 58' 17.134" E
13	22° 47' 38.587" N	86° 58' 14.627" E
14	22° 47' 41.597" N	86° 58' 8.131" E
15	22° 47' 42.199" N	86° 58' 3.954" E
16	22° 47' 44.865" N	86° 57' 59.313" E
17	22° 47' 46.929" N	86° 57' 52.352" E
18	22° 47' 47.186" N	86° 57' 47.155" E
19	22° 47' 46.668" N	86° 57' 42.422" E
20	22° 47' 53.205" N	86° 57' 29.428" E
21	22° 47' 53.882" N	86° 57' 28.531" E
22	22° 47' 55.917" N	86° 57' 27.471" E
23	22° 47' 59.386" N	86° 57' 23.193" E
24	22° 48' 4.010" N	86° 57' 16.421" E
25	22° 48' 8.304" N	86° 57' 11.430" E
26	22° 48' 9.330" N	86° 57' 7.501" E
27	22° 48' 19.012" N	86° 57' 13.079" E
28	22° 48' 18.785" N	86° 57' 13.739" E
29	22° 48' 13.626" N	86° 57' 28.498" E
30	22° 48' 11.221" N	86° 57' 42.234" E
31	22° 48' 8.812" N	86° 57' 46.133" E
32	22° 48' 5.544" N	86° 57' 54.486" E
33	22° 48' 1.417" N	86° 58' 5.903" E
34	22° 47' 59.266" N	86° 58' 11.008" E
35	22° 47' 55.137" N	86° 58' 18.155" E
36	22° 47' 51.525" N	86° 58' 27.343" E
37	22° 47' 46.449" N	86° 58' 34.119" E
38	22° 47' 43.610" N	86° 58' 35.140" E
39	22° 47' 38.534" N	86° 58' 42.380" E
40	22° 47' 32.856" N	86° 58' 48.970" E
41	22° 47' 17.110" N	86° 58' 50.828" E
42	22° 47' 10.226" N	86° 58' 50.922" E
43	22° 46' 55.254" N	86° 58' 46.655" E

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

0.6 0.3 0 0.6 1.2 1.8

Kilometers

86°56'0"E 86°56'30"E 86°57'0"E 86°57'30"E 86°58'0"E 86°58'30"E 86°59'0"E

22°48'0"N 22°47'30"N 22°47'0"N 22°46'30"N

POTENTIAL BLOCK BNK_KN_RA_07 OF KANGSABATI RIVER

BNK_KN_RA_07		
POINT NO	LATITUDE	LONGITUDE
1	22° 46' 46.624" N	86° 58' 44.542" E
2	22° 46' 45.788" N	86° 58' 44.337" E
3	22° 46' 34.000" N	86° 58' 40.813" E
4	22° 46' 25.825" N	86° 58' 39.886" E
5	22° 46' 11.455" N	86° 58' 36.270" E
6	22° 46' 4.657" N	86° 58' 32.188" E
7	22° 45' 56.073" N	86° 58' 27.519" E
8	22° 45' 59.384" N	86° 58' 19.235" E
9	22° 45' 55.334" N	86° 58' 16.884" E
10	22° 45' 51.338" N	86° 58' 14.565" E
11	22° 45' 36.193" N	86° 58' 9.373" E
12	22° 45' 20.361" N	86° 58' 10.861" E
13	22° 45' 8.315" N	86° 58' 15.317" E
14	22° 45' 7.167" N	86° 58' 16.893" E
15	22° 45' 2.735" N	86° 58' 22.977" E
16	22° 45' 0.745" N	86° 58' 25.709" E
17	22° 44' 53.864" N	86° 58' 49.089" E
18	22° 44' 49.048" N	86° 59' 13.581" E
19	22° 44' 45.621" N	86° 59' 22.484" E
20	22° 44' 43.766" N	86° 59' 27.304" E
21	22° 44' 32.414" N	86° 59' 41.811" E
22	22° 44' 21.967" N	86° 59' 46.638" E
23	22° 44' 20.368" N	86° 59' 47.377" E
24	22° 44' 18.614" N	86° 59' 44.573" E
25	22° 44' 17.359" N	86° 59' 42.566" E
26	22° 44' 16.944" N	86° 59' 40.591" E
27	22° 44' 16.990" N	86° 59' 40.571" E
28	22° 44' 21.980" N	86° 59' 36.582" E
29	22° 44' 25.336" N	86° 59' 33.799" E
30	22° 44' 30.068" N	86° 59' 28.975" E
31	22° 44' 32.908" N	86° 59' 24.522" E
32	22° 44' 34.628" N	86° 59' 19.605" E
33	22° 44' 36.349" N	86° 59' 16.543" E
34	22° 44' 39.704" N	86° 59' 8.287" E
35	22° 44' 42.027" N	86° 59' 0.215" E
36	22° 44' 43.919" N	86° 58' 50.660" E
37	22° 44' 47.617" N	86° 58' 41.104" E
38	22° 44' 48.304" N	86° 58' 31.548" E
39	22° 44' 48.303" N	86° 58' 23.941" E
40	22° 44' 50.195" N	86° 58' 20.044" E
41	22° 44' 53.035" N	86° 58' 19.023" E
42	22° 44' 56.046" N	86° 58' 16.703" E
43	22° 45' 2.498" N	86° 58' 9.465" E
44	22° 45' 10.241" N	86° 58' 4.268" E
45	22° 45' 15.833" N	86° 57' 59.350" E
46	22° 45' 19.533" N	86° 57' 57.864" E
47	22° 45' 23.835" N	86° 57' 57.585" E
48	22° 45' 29.343" N	86° 57' 59.068" E
49	22° 45' 37.861" N	86° 58' 0.736" E
50	22° 45' 45.004" N	86° 58' 2.683" E
51	22° 45' 51.716" N	86° 58' 5.557" E
52	22° 45' 54.384" N	86° 58' 8.433" E
53	22° 46' 2.042" N	86° 58' 10.194" E
54	22° 46' 6.173" N	86° 58' 12.513" E
55	22° 46' 13.229" N	86° 58' 14.367" E
56	22° 46' 19.683" N	86° 58' 15.572" E
57	22° 46' 27.772" N	86° 58' 19.004" E
58	22° 46' 38.701" N	86° 58' 26.054" E
59	22° 46' 49.434" N	86° 58' 31.248" E

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

0.9 0.45 0 0.9 1.8 2.7

Kilometers

POTENTIAL BLOCK BNK_KN_RA_07A OF KANGSABATI RIVER

BNK_KN_RA_07A		
POINT NO	LATITUDE	LONGITUDE
1	22° 45' 56.073" N	86° 58' 27.519" E
2	22° 45' 55.449" N	86° 58' 27.180" E
3	22° 45' 44.090" N	86° 58' 24.584" E
4	22° 45' 33.506" N	86° 58' 22.452" E
5	22° 45' 24.127" N	86° 58' 22.361" E
6	22° 45' 17.502" N	86° 58' 22.919" E
7	22° 45' 13.544" N	86° 58' 25.054" E
8	22° 45' 8.124" N	86° 58' 32.291" E
9	22° 45' 1.930" N	86° 58' 43.703" E
10	22° 44' 58.748" N	86° 58' 52.888" E
11	22° 44' 55.135" N	86° 59' 6.712" E
12	22° 44' 53.673" N	86° 59' 14.876" E
13	22° 44' 50.232" N	86° 59' 28.792" E
14	22° 44' 48.426" N	86° 59' 37.513" E
15	22° 44' 44.640" N	86° 59' 42.616" E
16	22° 44' 39.477" N	86° 59' 46.976" E
17	22° 44' 33.368" N	86° 59' 47.997" E
18	22° 44' 23.109" N	86° 59' 55.616" E
19	22° 44' 23.094" N	86° 59' 55.571" E
20	22° 44' 22.859" N	86° 59' 54.866" E
21	22° 44' 21.509" N	86° 59' 50.808" E
22	22° 44' 20.368" N	86° 59' 47.377" E
23	22° 44' 21.967" N	86° 59' 46.638" E
24	22° 44' 32.414" N	86° 59' 41.811" E
25	22° 44' 43.766" N	86° 59' 27.304" E
26	22° 44' 45.621" N	86° 59' 22.484" E
27	22° 44' 49.048" N	86° 59' 13.581" E
28	22° 44' 53.864" N	86° 58' 49.089" E
29	22° 45' 0.745" N	86° 58' 25.709" E
30	22° 45' 2.735" N	86° 58' 22.977" E
31	22° 45' 7.167" N	86° 58' 16.893" E
32	22° 45' 8.315" N	86° 58' 15.317" E
33	22° 45' 20.361" N	86° 58' 10.861" E
34	22° 45' 36.193" N	86° 58' 9.373" E
35	22° 45' 51.338" N	86° 58' 14.565" E
36	22° 45' 55.334" N	86° 58' 16.884" E
37	22° 45' 59.384" N	86° 58' 19.235" E

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

RAIPUR

BNK_KN_RA_07A

KANGSABATI RIVER

0.6 0.3 0 0.6 1.2 1.8

Kilometers

86°57'0"E 86°57'30"E 86°58'0"E 86°58'30"E 86°59'0"E 86°59'30"E

22°46'0"N 22°45'30"N 22°45'0"N 22°44'30"N

POTENTIAL BLOCK BNK_KN_RA_08 OF KANGSABATI RIVER

BNK_KN_RA_08		
POINT NO	LATITUDE	LONGITUDE
1	22° 44' 16.944" N	86° 59' 40.591" E
2	22° 44' 17.359" N	86° 59' 42.566" E
3	22° 44' 18.614" N	86° 59' 44.573" E
4	22° 44' 20.368" N	86° 59' 47.377" E
5	22° 44' 21.509" N	86° 59' 50.808" E
6	22° 44' 15.377" N	86° 59' 52.387" E
7	22° 44' 4.191" N	86° 59' 56.468" E
8	22° 43' 54.898" N	86° 59' 58.509" E
9	22° 43' 49.735" N	86° 59' 59.251" E
10	22° 43' 42.335" N	87° 0' 1.478" E
11	22° 43' 39.065" N	87° 0' 3.704" E
12	22° 43' 36.312" N	87° 0' 7.043" E
13	22° 43' 35.276" N	87° 0' 8.004" E
14	22° 43' 27.628" N	87° 0' 9.518" E
15	22° 43' 23.842" N	87° 0' 7.384" E
16	22° 43' 20.487" N	87° 0' 6.271" E
17	22° 43' 12.484" N	87° 0' 8.219" E
18	22° 43' 6.289" N	87° 0' 10.259" E
19	22° 42' 54.845" N	87° 0' 9.239" E
20	22° 42' 38.065" N	87° 0' 9.795" E
21	22° 42' 32.903" N	87° 0' 9.146" E
22	22° 42' 27.051" N	87° 0' 4.508" E
23	22° 42' 24.470" N	86° 59' 59.778" E
24	22° 42' 23.610" N	86° 59' 55.234" E
25	22° 42' 21.286" N	86° 59' 51.246" E
26	22° 42' 5.712" N	86° 59' 43.363" E
27	22° 41' 55.816" N	86° 59' 38.448" E
28	22° 41' 51.083" N	86° 59' 34.646" E
29	22° 41' 47.383" N	86° 59' 31.493" E
30	22° 41' 46.103" N	86° 59' 31.481" E
31	22° 41' 44.311" N	86° 59' 28.920" E
32	22° 41' 38.255" N	86° 59' 26.979" E
33	22° 41' 26.380" N	86° 59' 26.609" E
34	22° 41' 20.201" N	86° 59' 26.687" E
35	22° 41' 21.970" N	86° 59' 25.463" E
36	22° 41' 26.702" N	86° 59' 21.289" E
37	22° 41' 37.544" N	86° 59' 15.725" E
38	22° 41' 41.072" N	86° 59' 14.704" E
39	22° 41' 47.869" N	86° 59' 14.703" E
40	22° 41' 53.548" N	86° 59' 15.538" E
41	22° 41' 58.281" N	86° 59' 18.412" E
42	22° 42' 4.821" N	86° 59' 21.936" E
43	22° 42' 11.533" N	86° 59' 25.552" E
44	22° 42' 16.954" N	86° 59' 30.282" E
45	22° 42' 20.826" N	86° 59' 33.806" E
46	22° 42' 29.173" N	86° 59' 38.721" E
47	22° 42' 41.048" N	86° 59' 44.471" E
48	22° 42' 46.555" N	86° 59' 45.305" E
49	22° 42' 51.201" N	86° 59' 42.708" E
50	22° 42' 54.643" N	86° 59' 42.708" E
51	22° 43' 2.301" N	86° 59' 44.099" E
52	22° 43' 17.962" N	86° 59' 46.232" E
53	22° 43' 23.727" N	86° 59' 46.695" E
54	22° 43' 29.062" N	86° 59' 48.458" E
55	22° 43' 34.311" N	86° 59' 52.353" E
56	22° 43' 38.613" N	86° 59' 54.208" E
57	22° 43' 45.669" N	86° 59' 52.168" E
58	22° 43' 51.262" N	86° 59' 51.889" E
59	22° 43' 57.285" N	86° 59' 48.735" E
60	22° 44' 8.471" N	86° 59' 44.190" E

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

1 0.5 0 1 2 3

Kilometers

RAIPUR

BNK_KN_RA_08

KANGSABATI RIVER

N W E S

86°56'30"E 86°57'0"E 86°57'30"E 86°58'0"E 86°58'30"E 86°59'0"E 86°59'30"E 87°0'0"E 87°0'30"E 87°1'0"E 87°1'30"E

22°44'30"N 22°44'0"N 22°43'30"N 22°43'0"N 22°42'30"N 22°42'0"N 22°41'30"N

POTENTIAL BLOCK BNK_KN_RA_09_10 OF KANGSABATI RIVER

BNK_KN_RA_09_10		
POINT NO	LATITUDE	LONGITUDE
1	22° 39' 48.022" N	86° 59' 43.687" E
2	22° 39' 37.894" N	86° 59' 41.364" E
3	22° 39' 38.627" N	86° 59' 39.543" E
4	22° 39' 40.860" N	86° 59' 36.826" E
5	22° 39' 41.829" N	86° 59' 35.648" E
6	22° 39' 44.335" N	86° 59' 32.599" E
7	22° 39' 45.964" N	86° 59' 30.617" E
8	22° 39' 47.445" N	86° 59' 29.160" E
9	22° 39' 47.671" N	86° 59' 28.937" E
10	22° 39' 48.738" N	86° 59' 27.888" E
11	22° 39' 50.846" N	86° 59' 29.085" E
12	22° 40' 1.860" N	86° 59' 37.614" E
13	22° 40' 6.335" N	86° 59' 39.932" E
14	22° 40' 19.328" N	86° 59' 39.932" E
15	22° 40' 27.933" N	86° 59' 42.806" E
16	22° 40' 37.570" N	86° 59' 43.455" E
17	22° 40' 48.928" N	86° 59' 42.249" E
18	22° 40' 58.394" N	86° 59' 38.632" E
19	22° 41' 10.104" N	86° 59' 33.583" E
20	22° 41' 10.892" N	86° 59' 33.366" E
21	22° 41' 21.527" N	86° 59' 29.693" E
22	22° 41' 29.994" N	86° 59' 28.691" E
23	22° 41' 35.673" N	86° 59' 28.914" E
24	22° 41' 39.533" N	86° 59' 31.420" E
25	22° 41' 37.488" N	86° 59' 31.401" E
26	22° 41' 22.344" N	86° 59' 42.530" E
27	22° 41' 14.858" N	86° 59' 46.796" E
28	22° 40' 57.132" N	86° 59' 55.513" E
29	22° 40' 52.228" N	86° 59' 58.758" E
30	22° 40' 48.700" N	87° 0' 3.209" E
31	22° 40' 41.730" N	87° 0' 7.475" E
32	22° 40' 35.276" N	87° 0' 9.607" E
33	22° 40' 25.295" N	87° 0' 8.309" E
34	22° 40' 20.390" N	87° 0' 4.322" E
35	22° 40' 18.067" N	86° 59' 58.944" E
36	22° 40' 11.269" N	86° 59' 54.679" E
37	22° 39' 58.389" N	86° 59' 48.582" E

LEGEND

- COORDINATE
- POTENTIAL SANDBAR
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	RA	RAIPUR
RIVER	KN	KANGSABATI

KANGSABATI RIVER

RAIPUR

BNK_KN_RA_09_10

N W E S

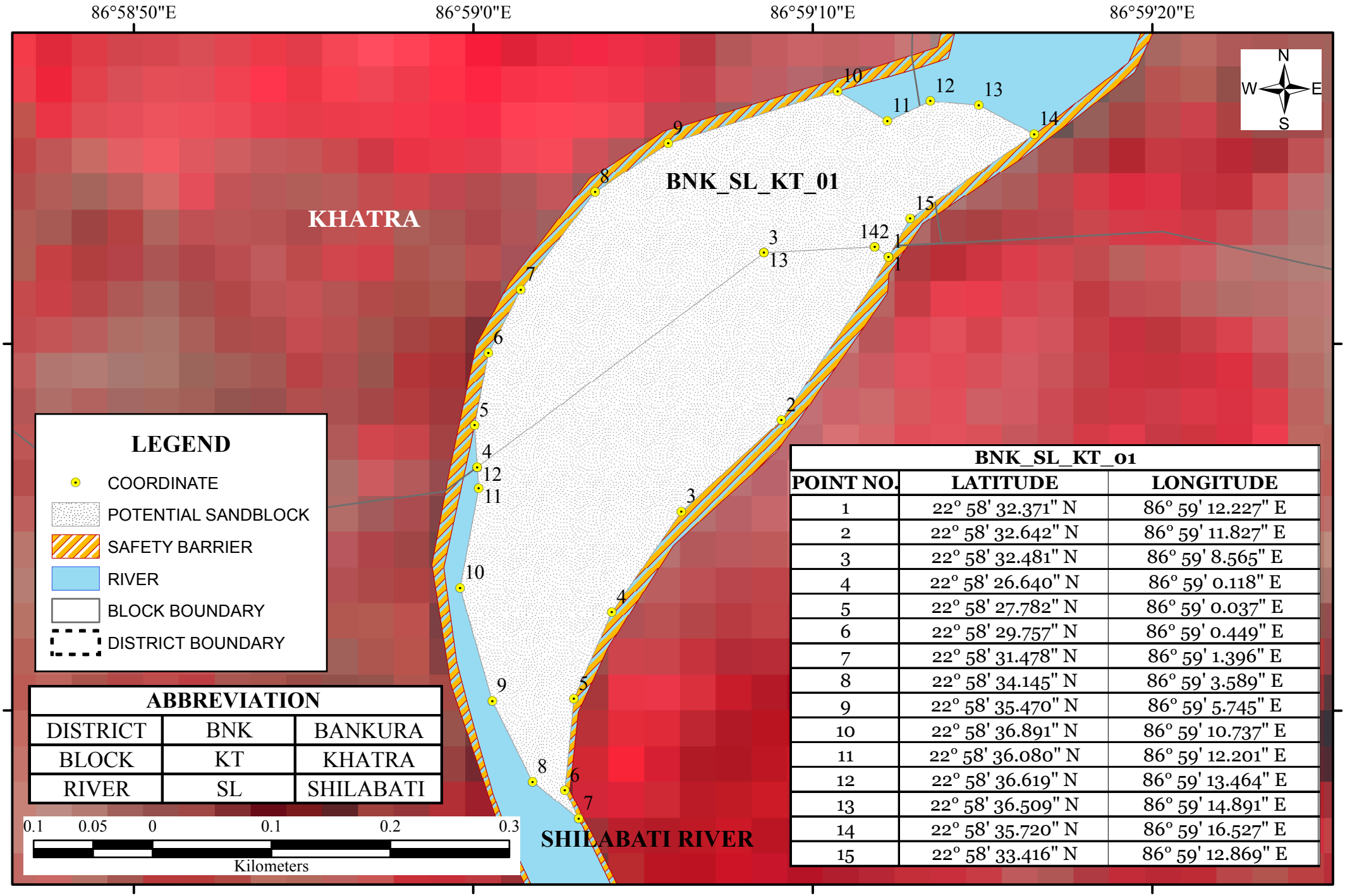
1 0.5 0 1 2 3

Kilometers

86°56'30"E 86°57'0"E 86°57'30"E 86°58'0"E 86°58'30"E 86°59'0"E 86°59'30"E 87°0'0"E 87°0'30"E 87°1'0"E 87°1'30"E

22°42'30"N 22°42'0"N 22°41'30"N 22°41'0"N 22°40'30"N 22°40'0"N 22°39'30"N

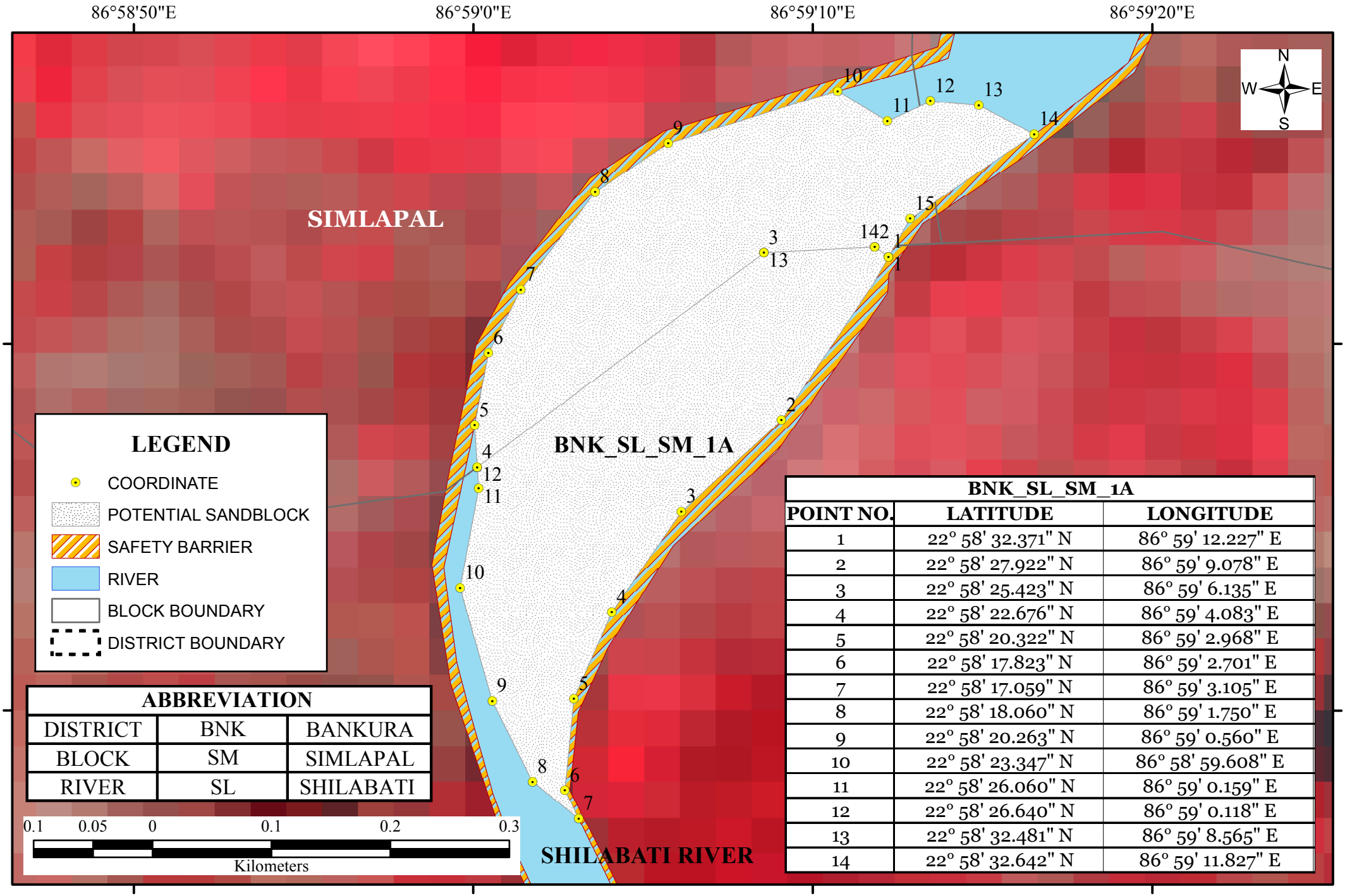
POTENTIAL BLOCK BNK_SL_KT_01 OF SHILABATI RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	KT	KHATRA
RIVER	SL	SHILABATI

BNK_SL_KT_01		
POINT NO.	LATITUDE	LONGITUDE
1	22° 58' 32.371" N	86° 59' 12.227" E
2	22° 58' 32.642" N	86° 59' 11.827" E
3	22° 58' 32.481" N	86° 59' 8.565" E
4	22° 58' 26.640" N	86° 59' 0.118" E
5	22° 58' 27.782" N	86° 59' 0.037" E
6	22° 58' 29.757" N	86° 59' 0.449" E
7	22° 58' 31.478" N	86° 59' 1.396" E
8	22° 58' 34.145" N	86° 59' 3.589" E
9	22° 58' 35.470" N	86° 59' 5.745" E
10	22° 58' 36.891" N	86° 59' 10.737" E
11	22° 58' 36.080" N	86° 59' 12.201" E
12	22° 58' 36.619" N	86° 59' 13.464" E
13	22° 58' 36.509" N	86° 59' 14.891" E
14	22° 58' 35.720" N	86° 59' 16.527" E
15	22° 58' 33.416" N	86° 59' 12.869" E

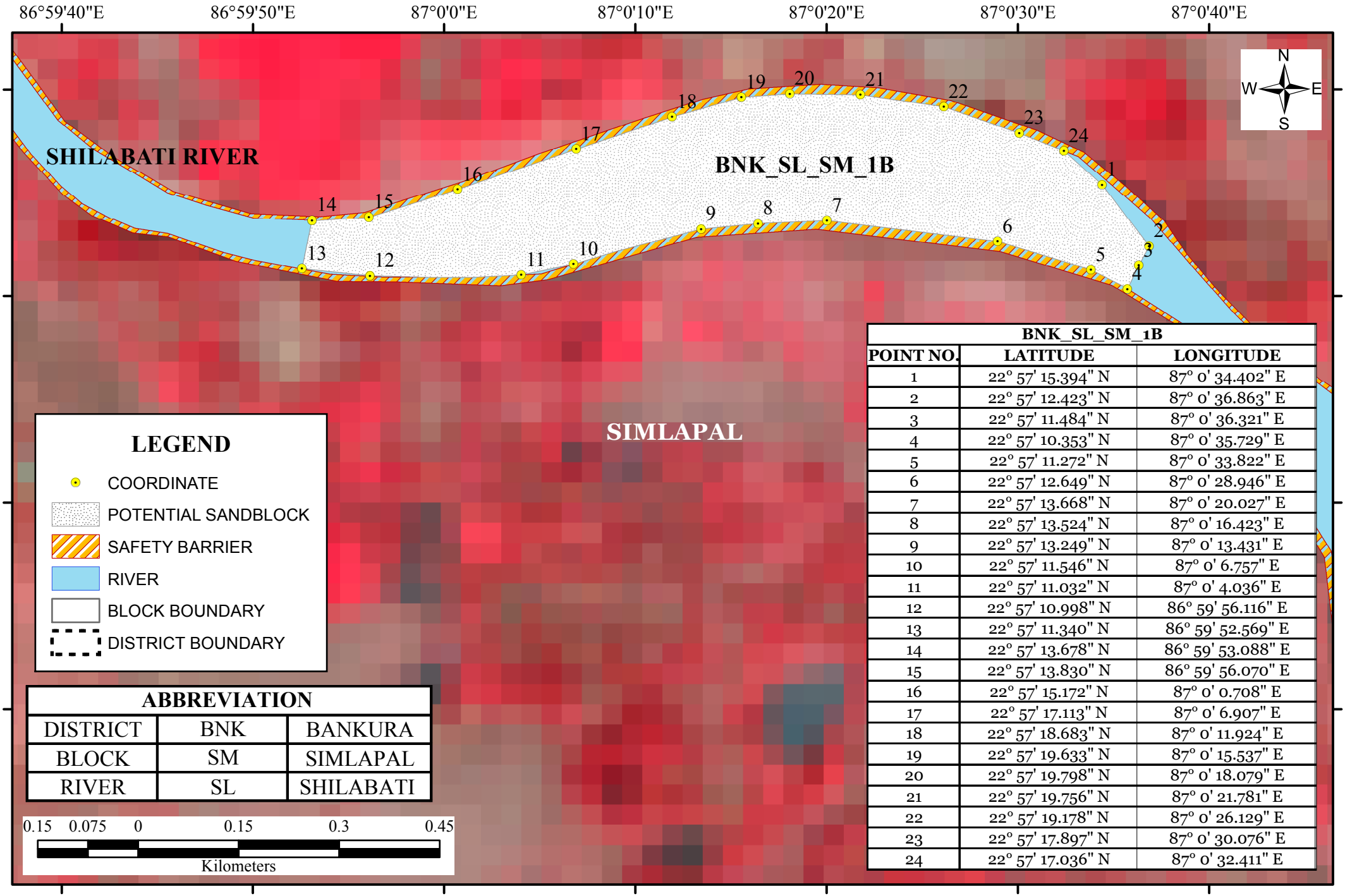
POTENTIAL BLOCK BNK_SL_SM_1A OF SHILABATI RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

BNK_SL_SM_1A		
POINT NO.	LATITUDE	LONGITUDE
1	22° 58' 32.371" N	86° 59' 12.227" E
2	22° 58' 27.922" N	86° 59' 9.078" E
3	22° 58' 25.423" N	86° 59' 6.135" E
4	22° 58' 22.676" N	86° 59' 4.083" E
5	22° 58' 20.322" N	86° 59' 2.968" E
6	22° 58' 17.823" N	86° 59' 2.701" E
7	22° 58' 17.059" N	86° 59' 3.105" E
8	22° 58' 18.060" N	86° 59' 1.750" E
9	22° 58' 20.263" N	86° 59' 0.560" E
10	22° 58' 23.347" N	86° 58' 59.608" E
11	22° 58' 26.060" N	86° 59' 0.159" E
12	22° 58' 26.640" N	86° 59' 0.118" E
13	22° 58' 32.481" N	86° 59' 8.565" E
14	22° 58' 32.642" N	86° 59' 11.827" E

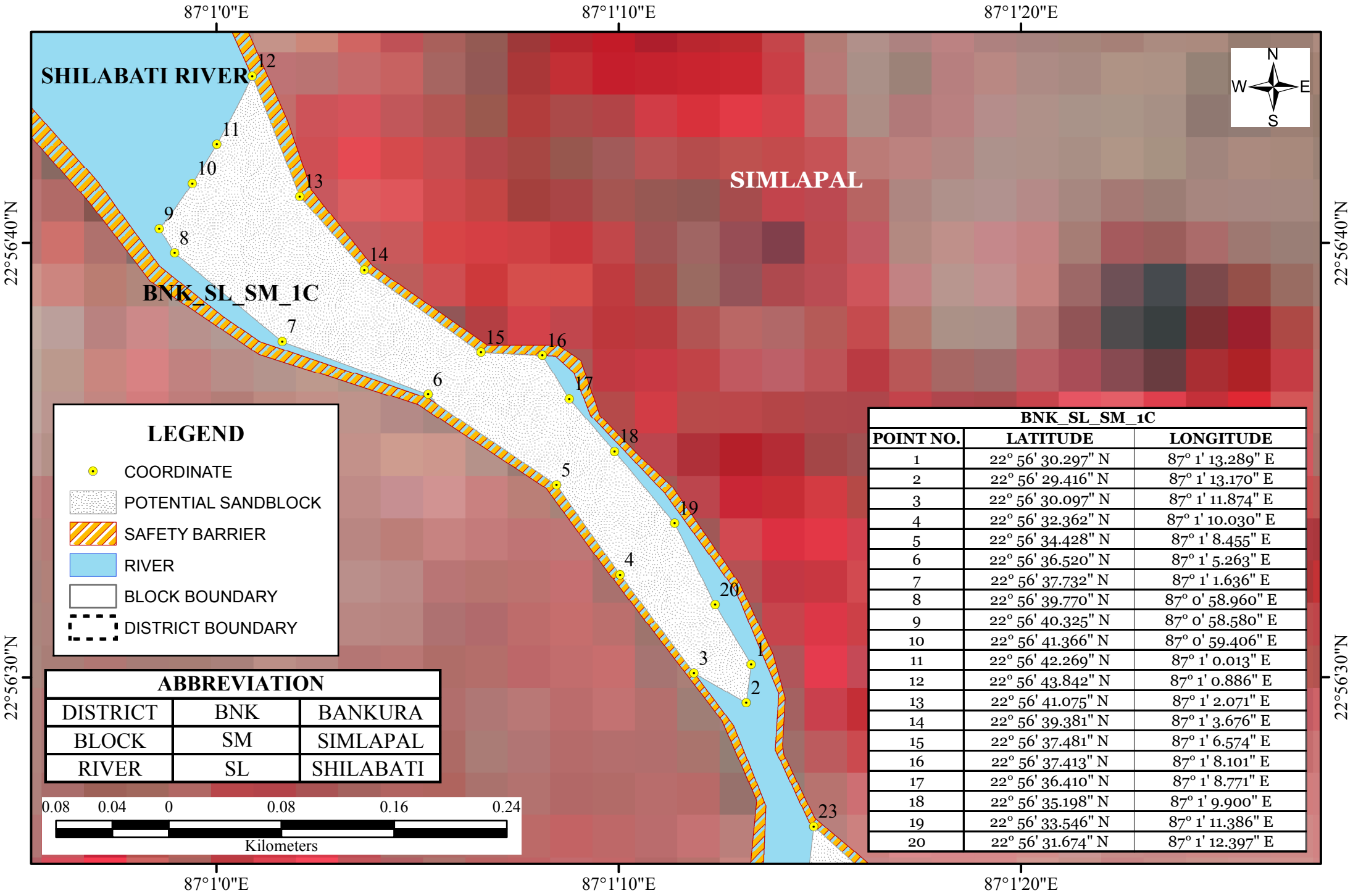
POTENTIAL BLOCK BNK_SL_SM_1B OF SHILABATI RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

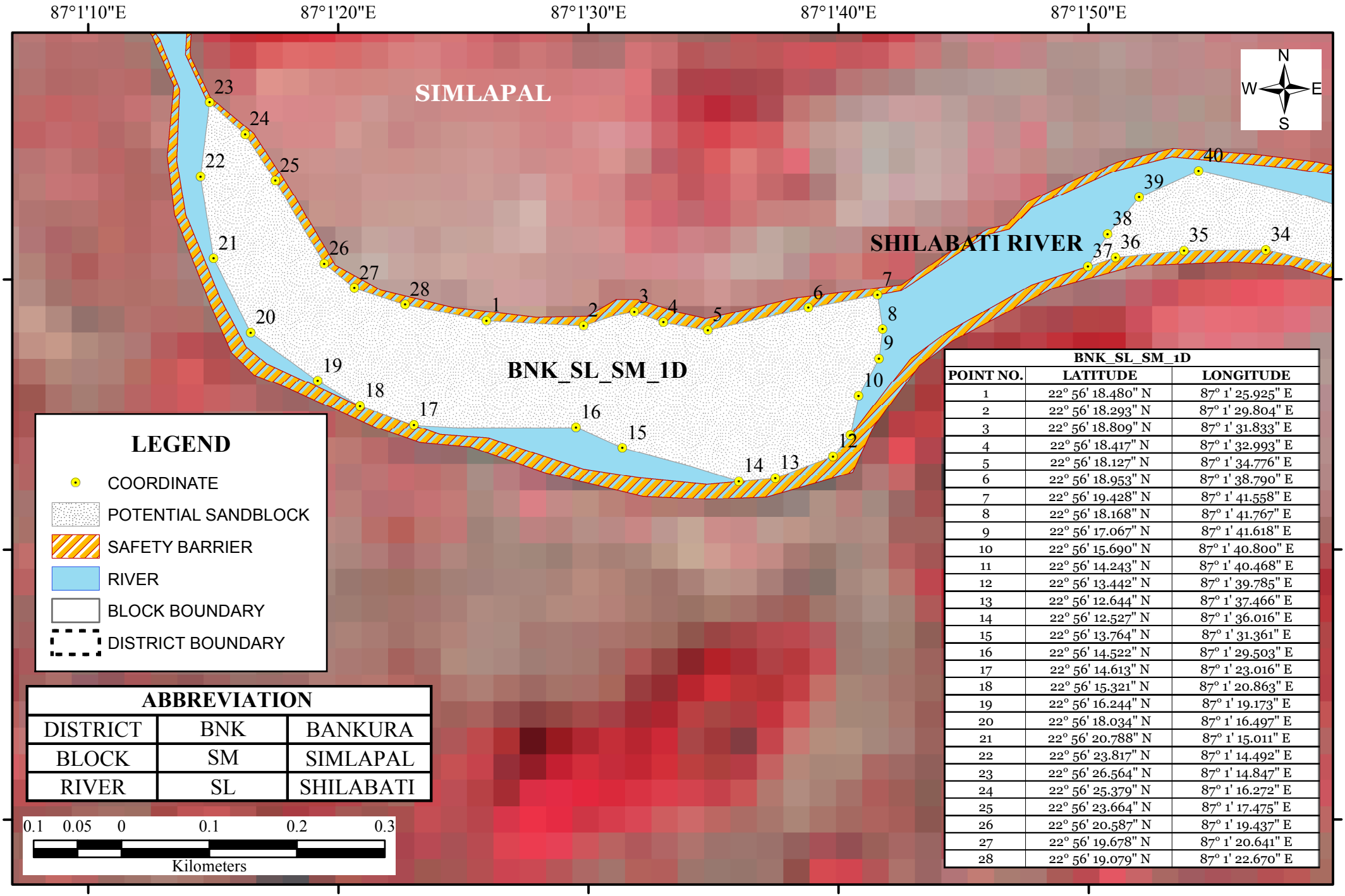
BNK_SL_SM_1B		
POINT NO.	LATITUDE	LONGITUDE
1	22° 57' 15.394" N	87° 0' 34.402" E
2	22° 57' 12.423" N	87° 0' 36.863" E
3	22° 57' 11.484" N	87° 0' 36.321" E
4	22° 57' 10.353" N	87° 0' 35.729" E
5	22° 57' 11.272" N	87° 0' 33.822" E
6	22° 57' 12.649" N	87° 0' 28.946" E
7	22° 57' 13.668" N	87° 0' 20.027" E
8	22° 57' 13.524" N	87° 0' 16.423" E
9	22° 57' 13.249" N	87° 0' 13.431" E
10	22° 57' 11.546" N	87° 0' 6.757" E
11	22° 57' 11.032" N	87° 0' 4.036" E
12	22° 57' 10.998" N	86° 59' 56.116" E
13	22° 57' 11.340" N	86° 59' 52.569" E
14	22° 57' 13.678" N	86° 59' 53.088" E
15	22° 57' 13.830" N	86° 59' 56.070" E
16	22° 57' 15.172" N	87° 0' 0.708" E
17	22° 57' 17.113" N	87° 0' 6.907" E
18	22° 57' 18.683" N	87° 0' 11.924" E
19	22° 57' 19.633" N	87° 0' 15.537" E
20	22° 57' 19.798" N	87° 0' 18.079" E
21	22° 57' 19.756" N	87° 0' 21.781" E
22	22° 57' 19.178" N	87° 0' 26.129" E
23	22° 57' 17.897" N	87° 0' 30.076" E
24	22° 57' 17.036" N	87° 0' 32.411" E

POTENTIAL BLOCK BNK_SL_SM_1C OF SHILABATI RIVER



BNK_SL_SM_1C		
POINT NO.	LATITUDE	LONGITUDE
1	22° 56' 30.297" N	87° 1' 13.289" E
2	22° 56' 29.416" N	87° 1' 13.170" E
3	22° 56' 30.097" N	87° 1' 11.874" E
4	22° 56' 32.362" N	87° 1' 10.030" E
5	22° 56' 34.428" N	87° 1' 8.455" E
6	22° 56' 36.520" N	87° 1' 5.263" E
7	22° 56' 37.732" N	87° 1' 1.636" E
8	22° 56' 39.770" N	87° 0' 58.960" E
9	22° 56' 40.325" N	87° 0' 58.580" E
10	22° 56' 41.366" N	87° 0' 59.406" E
11	22° 56' 42.269" N	87° 1' 0.013" E
12	22° 56' 43.842" N	87° 1' 0.886" E
13	22° 56' 41.075" N	87° 1' 2.071" E
14	22° 56' 39.381" N	87° 1' 3.676" E
15	22° 56' 37.481" N	87° 1' 6.574" E
16	22° 56' 37.413" N	87° 1' 8.101" E
17	22° 56' 36.410" N	87° 1' 8.771" E
18	22° 56' 35.198" N	87° 1' 9.900" E
19	22° 56' 33.546" N	87° 1' 11.386" E
20	22° 56' 31.674" N	87° 1' 12.397" E

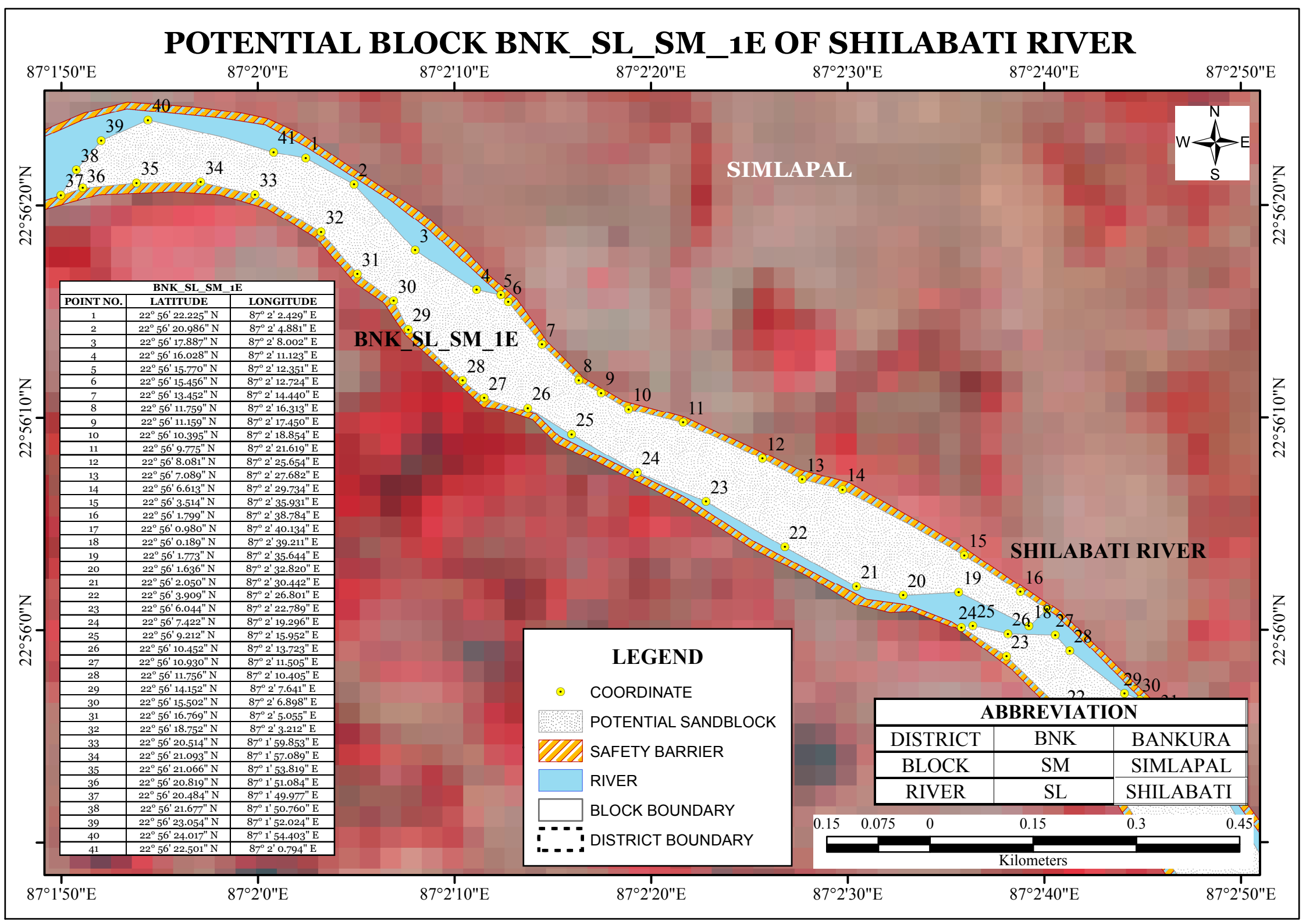
POTENTIAL BLOCK BNK_SL_SM_1D OF SHILABATI RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

BNK_SL_SM_1D		
POINT NO.	LATITUDE	LONGITUDE
1	22° 56' 18.480" N	87° 1' 25.925" E
2	22° 56' 18.293" N	87° 1' 29.804" E
3	22° 56' 18.809" N	87° 1' 31.833" E
4	22° 56' 18.417" N	87° 1' 32.993" E
5	22° 56' 18.127" N	87° 1' 34.776" E
6	22° 56' 18.953" N	87° 1' 38.790" E
7	22° 56' 19.428" N	87° 1' 41.558" E
8	22° 56' 18.168" N	87° 1' 41.767" E
9	22° 56' 17.067" N	87° 1' 41.618" E
10	22° 56' 15.690" N	87° 1' 40.800" E
11	22° 56' 14.243" N	87° 1' 40.468" E
12	22° 56' 13.442" N	87° 1' 39.785" E
13	22° 56' 12.644" N	87° 1' 37.466" E
14	22° 56' 12.527" N	87° 1' 36.016" E
15	22° 56' 13.764" N	87° 1' 31.361" E
16	22° 56' 14.522" N	87° 1' 29.503" E
17	22° 56' 14.613" N	87° 1' 23.016" E
18	22° 56' 15.321" N	87° 1' 20.863" E
19	22° 56' 16.244" N	87° 1' 19.173" E
20	22° 56' 18.034" N	87° 1' 16.497" E
21	22° 56' 20.788" N	87° 1' 15.011" E
22	22° 56' 23.817" N	87° 1' 14.492" E
23	22° 56' 26.564" N	87° 1' 14.847" E
24	22° 56' 25.379" N	87° 1' 16.272" E
25	22° 56' 23.664" N	87° 1' 17.475" E
26	22° 56' 20.587" N	87° 1' 19.437" E
27	22° 56' 19.678" N	87° 1' 20.641" E
28	22° 56' 19.079" N	87° 1' 22.670" E

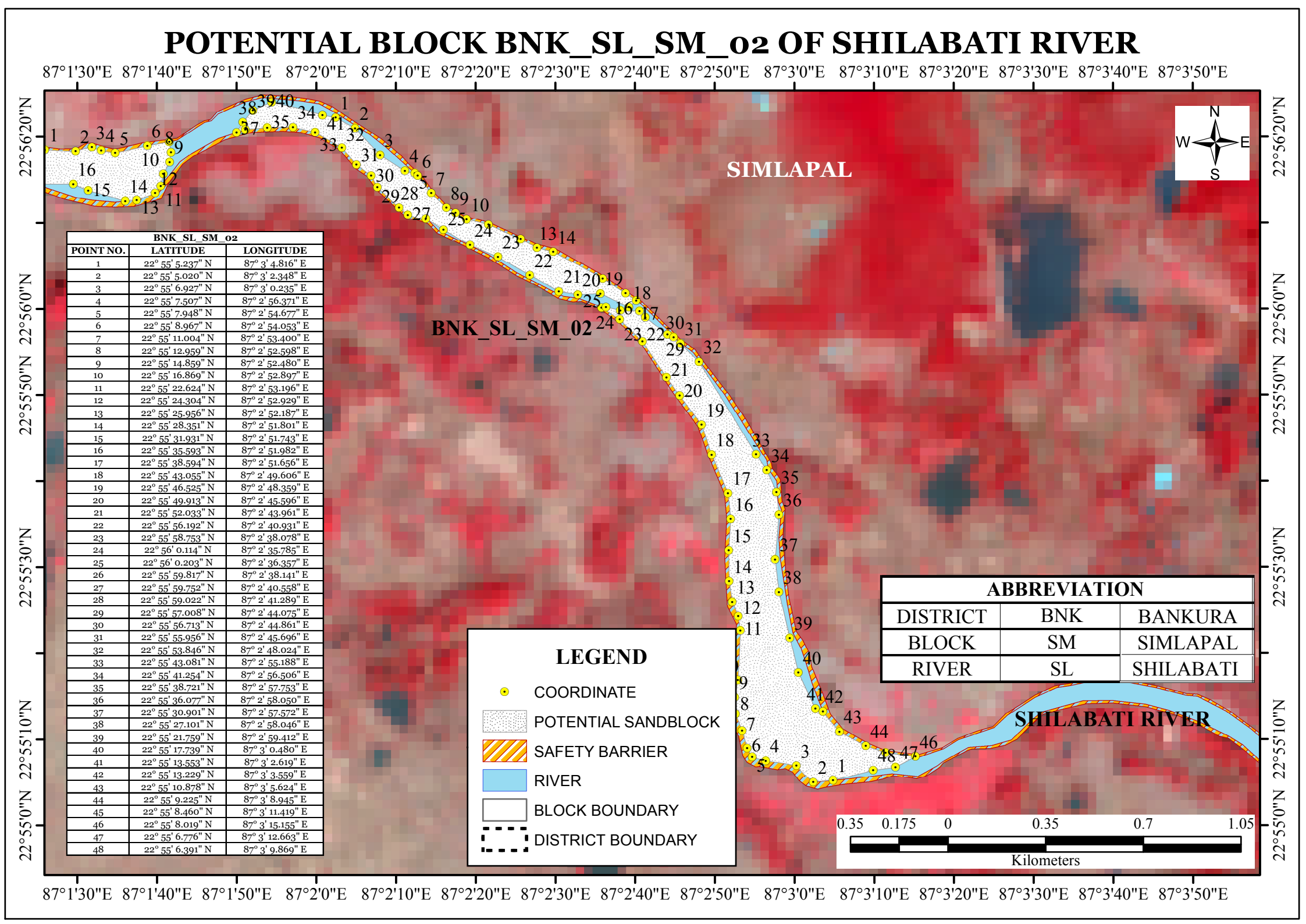
POTENTIAL BLOCK BNK_SL_SM_1E OF SHILABATI RIVER



BNK_SL_SM_1E		
POINT NO.	LATITUDE	LONGITUDE
1	22° 56' 22.225" N	87° 2' 2.429" E
2	22° 56' 20.986" N	87° 2' 4.881" E
3	22° 56' 17.887" N	87° 2' 8.002" E
4	22° 56' 16.028" N	87° 2' 11.123" E
5	22° 56' 15.770" N	87° 2' 12.351" E
6	22° 56' 15.456" N	87° 2' 12.724" E
7	22° 56' 13.452" N	87° 2' 14.440" E
8	22° 56' 11.759" N	87° 2' 16.313" E
9	22° 56' 11.159" N	87° 2' 17.450" E
10	22° 56' 10.395" N	87° 2' 18.854" E
11	22° 56' 9.775" N	87° 2' 21.619" E
12	22° 56' 8.081" N	87° 2' 25.654" E
13	22° 56' 7.089" N	87° 2' 27.682" E
14	22° 56' 6.613" N	87° 2' 29.734" E
15	22° 56' 3.514" N	87° 2' 35.931" E
16	22° 56' 1.799" N	87° 2' 38.784" E
17	22° 56' 0.980" N	87° 2' 40.134" E
18	22° 56' 0.189" N	87° 2' 39.211" E
19	22° 56' 1.773" N	87° 2' 35.644" E
20	22° 56' 1.636" N	87° 2' 32.820" E
21	22° 56' 2.050" N	87° 2' 30.442" E
22	22° 56' 3.909" N	87° 2' 26.801" E
23	22° 56' 6.044" N	87° 2' 22.789" E
24	22° 56' 7.422" N	87° 2' 19.296" E
25	22° 56' 9.212" N	87° 2' 15.952" E
26	22° 56' 10.452" N	87° 2' 13.723" E
27	22° 56' 10.930" N	87° 2' 11.505" E
28	22° 56' 11.756" N	87° 2' 10.405" E
29	22° 56' 14.152" N	87° 2' 7.641" E
30	22° 56' 15.502" N	87° 2' 6.898" E
31	22° 56' 16.769" N	87° 2' 5.055" E
32	22° 56' 18.752" N	87° 2' 3.212" E
33	22° 56' 20.514" N	87° 1' 59.853" E
34	22° 56' 21.093" N	87° 1' 57.089" E
35	22° 56' 21.066" N	87° 1' 53.819" E
36	22° 56' 20.819" N	87° 1' 51.084" E
37	22° 56' 20.484" N	87° 1' 49.977" E
38	22° 56' 21.677" N	87° 1' 50.760" E
39	22° 56' 23.054" N	87° 1' 52.024" E
40	22° 56' 24.017" N	87° 1' 54.403" E
41	22° 56' 22.501" N	87° 2' 0.794" E

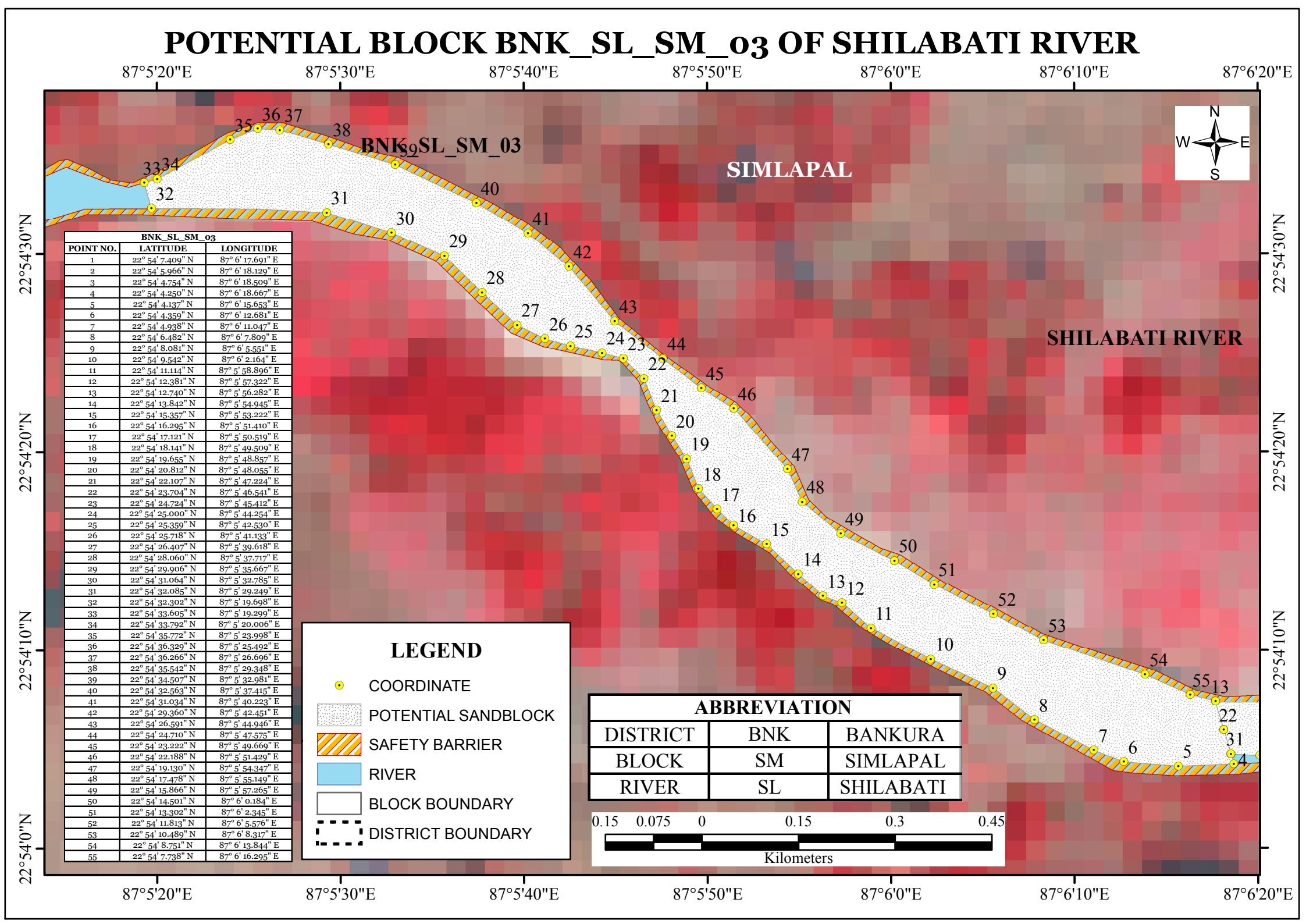
ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

POTENTIAL BLOCK BNK_SL_SM_02 OF SHILABATI RIVER



BNK_SL_SM_02		
POINT NO.	LATITUDE	LONGITUDE
1	22° 55' 5.237" N	87° 3' 4.816" E
2	22° 55' 5.020" N	87° 3' 2.348" E
3	22° 55' 6.927" N	87° 3' 0.235" E
4	22° 55' 7.507" N	87° 2' 56.371" E
5	22° 55' 7.948" N	87° 2' 54.677" E
6	22° 55' 8.967" N	87° 2' 54.053" E
7	22° 55' 11.004" N	87° 2' 53.400" E
8	22° 55' 12.959" N	87° 2' 52.598" E
9	22° 55' 14.859" N	87° 2' 52.480" E
10	22° 55' 16.869" N	87° 2' 52.897" E
11	22° 55' 22.624" N	87° 2' 53.196" E
12	22° 55' 24.304" N	87° 2' 52.929" E
13	22° 55' 25.956" N	87° 2' 52.187" E
14	22° 55' 28.351" N	87° 2' 51.801" E
15	22° 55' 31.931" N	87° 2' 51.743" E
16	22° 55' 35.593" N	87° 2' 51.982" E
17	22° 55' 38.594" N	87° 2' 51.656" E
18	22° 55' 43.055" N	87° 2' 49.606" E
19	22° 55' 46.525" N	87° 2' 48.359" E
20	22° 55' 49.913" N	87° 2' 45.596" E
21	22° 55' 52.033" N	87° 2' 43.961" E
22	22° 55' 56.192" N	87° 2' 40.931" E
23	22° 55' 58.753" N	87° 2' 38.078" E
24	22° 56' 0.114" N	87° 2' 35.785" E
25	22° 56' 0.203" N	87° 2' 36.357" E
26	22° 55' 59.817" N	87° 2' 38.141" E
27	22° 55' 59.752" N	87° 2' 40.558" E
28	22° 55' 59.022" N	87° 2' 41.289" E
29	22° 55' 57.008" N	87° 2' 44.075" E
30	22° 55' 56.713" N	87° 2' 44.861" E
31	22° 55' 55.956" N	87° 2' 45.696" E
32	22° 55' 53.846" N	87° 2' 48.024" E
33	22° 55' 43.081" N	87° 2' 55.188" E
34	22° 55' 41.254" N	87° 2' 56.506" E
35	22° 55' 38.721" N	87° 2' 57.753" E
36	22° 55' 36.077" N	87° 2' 58.050" E
37	22° 55' 30.901" N	87° 2' 57.572" E
38	22° 55' 27.101" N	87° 2' 58.046" E
39	22° 55' 21.759" N	87° 2' 59.412" E
40	22° 55' 17.739" N	87° 3' 0.480" E
41	22° 55' 13.553" N	87° 3' 2.619" E
42	22° 55' 13.229" N	87° 3' 3.559" E
43	22° 55' 10.878" N	87° 3' 5.624" E
44	22° 55' 9.225" N	87° 3' 8.945" E
45	22° 55' 8.460" N	87° 3' 11.419" E
46	22° 55' 8.019" N	87° 3' 15.155" E
47	22° 55' 6.776" N	87° 3' 12.663" E
48	22° 55' 6.391" N	87° 3' 9.869" E

POTENTIAL BLOCK BNK_SL_SM_03 OF SHILABATI RIVER



BNK_SL_SM_03		
POINT NO.	LATITUDE	LONGITUDE
1	22° 54' 7.409" N	87° 6' 17.691" E
2	22° 54' 5.966" N	87° 6' 18.129" E
3	22° 54' 4.754" N	87° 6' 18.509" E
4	22° 54' 4.250" N	87° 6' 18.667" E
5	22° 54' 4.137" N	87° 6' 15.653" E
6	22° 54' 4.359" N	87° 6' 12.681" E
7	22° 54' 4.938" N	87° 6' 11.047" E
8	22° 54' 6.482" N	87° 6' 7.809" E
9	22° 54' 8.081" N	87° 6' 5.551" E
10	22° 54' 9.542" N	87° 6' 2.164" E
11	22° 54' 11.114" N	87° 5' 58.896" E
12	22° 54' 12.381" N	87° 5' 57.322" E
13	22° 54' 12.740" N	87° 5' 56.282" E
14	22° 54' 13.842" N	87° 5' 54.945" E
15	22° 54' 15.357" N	87° 5' 53.222" E
16	22° 54' 16.295" N	87° 5' 51.410" E
17	22° 54' 17.121" N	87° 5' 50.519" E
18	22° 54' 18.141" N	87° 5' 49.509" E
19	22° 54' 19.655" N	87° 5' 48.857" E
20	22° 54' 20.812" N	87° 5' 48.055" E
21	22° 54' 22.107" N	87° 5' 47.224" E
22	22° 54' 23.704" N	87° 5' 46.541" E
23	22° 54' 24.724" N	87° 5' 45.412" E
24	22° 54' 25.000" N	87° 5' 44.254" E
25	22° 54' 25.359" N	87° 5' 42.530" E
26	22° 54' 25.718" N	87° 5' 41.133" E
27	22° 54' 26.407" N	87° 5' 39.618" E
28	22° 54' 28.060" N	87° 5' 37.717" E
29	22° 54' 29.906" N	87° 5' 35.667" E
30	22° 54' 31.064" N	87° 5' 32.785" E
31	22° 54' 32.085" N	87° 5' 29.249" E
32	22° 54' 32.302" N	87° 5' 19.698" E
33	22° 54' 33.605" N	87° 5' 19.299" E
34	22° 54' 33.792" N	87° 5' 20.006" E
35	22° 54' 35.772" N	87° 5' 23.998" E
36	22° 54' 36.329" N	87° 5' 25.492" E
37	22° 54' 36.266" N	87° 5' 26.696" E
38	22° 54' 35.542" N	87° 5' 29.348" E
39	22° 54' 34.507" N	87° 5' 32.981" E
40	22° 54' 32.563" N	87° 5' 37.415" E
41	22° 54' 31.034" N	87° 5' 40.223" E
42	22° 54' 29.360" N	87° 5' 42.451" E
43	22° 54' 26.591" N	87° 5' 44.946" E
44	22° 54' 24.710" N	87° 5' 47.575" E
45	22° 54' 23.222" N	87° 5' 49.669" E
46	22° 54' 22.188" N	87° 5' 51.429" E
47	22° 54' 19.130" N	87° 5' 54.347" E
48	22° 54' 17.478" N	87° 5' 55.149" E
49	22° 54' 15.866" N	87° 5' 57.265" E
50	22° 54' 14.501" N	87° 6' 0.184" E
51	22° 54' 13.302" N	87° 6' 2.345" E
52	22° 54' 11.813" N	87° 6' 5.576" E
53	22° 54' 10.489" N	87° 6' 8.317" E
54	22° 54' 8.751" N	87° 6' 13.844" E
55	22° 54' 7.738" N	87° 6' 16.295" E

LEGEND

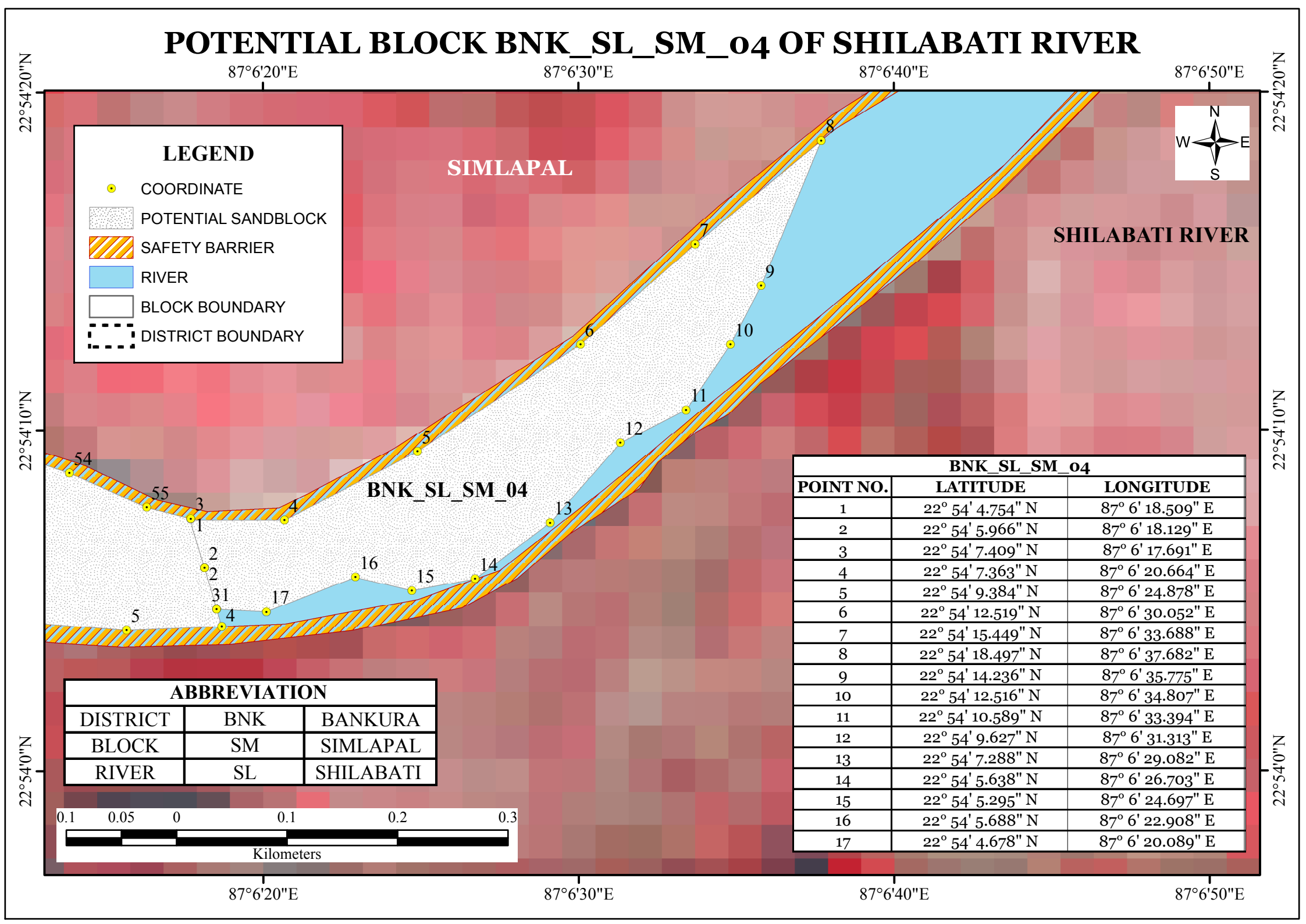
- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

0.15 0.075 0 0.15 0.3 0.45

Kilometers

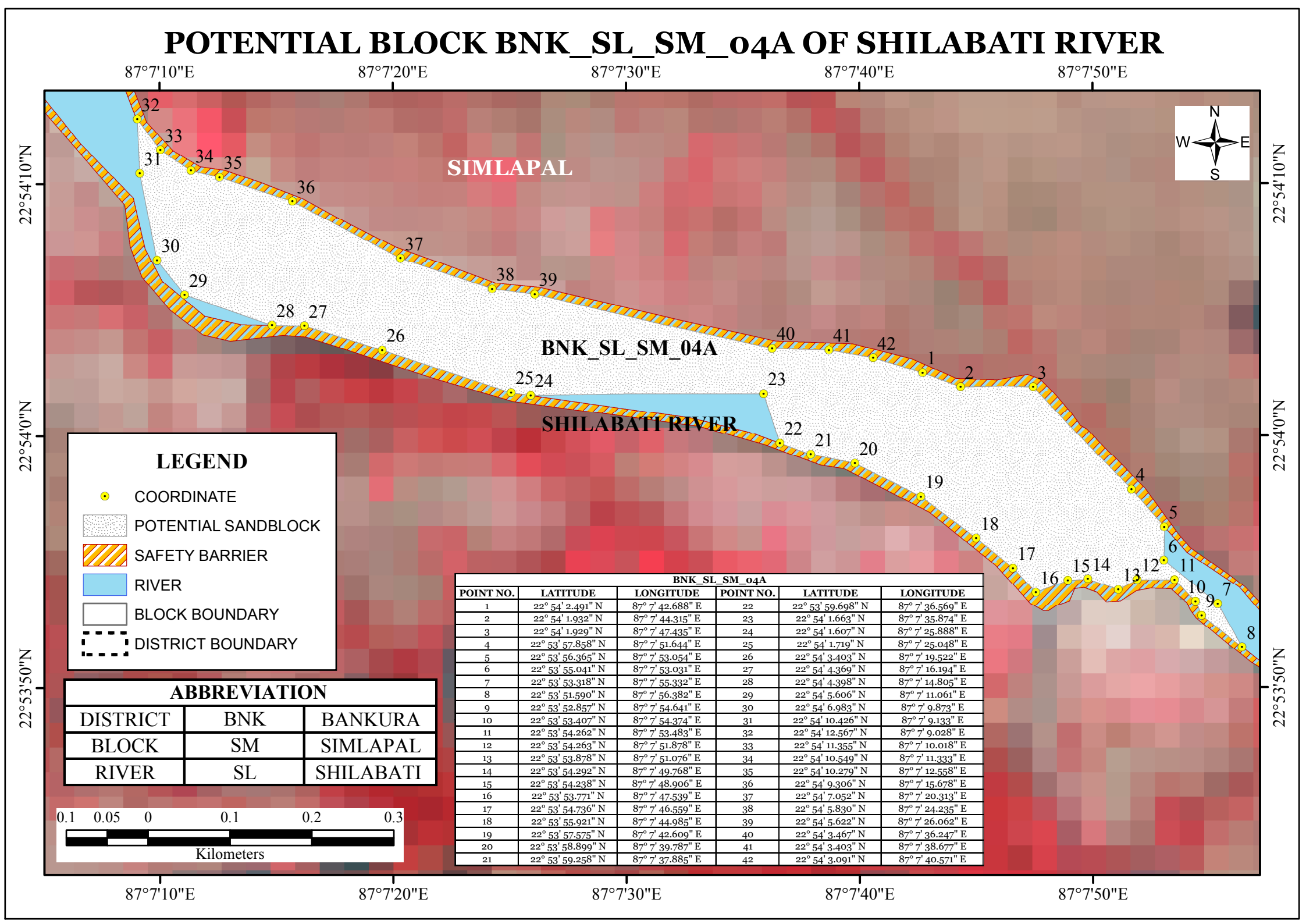
POTENTIAL BLOCK BNK_SL_SM_04 OF SHILABATI RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

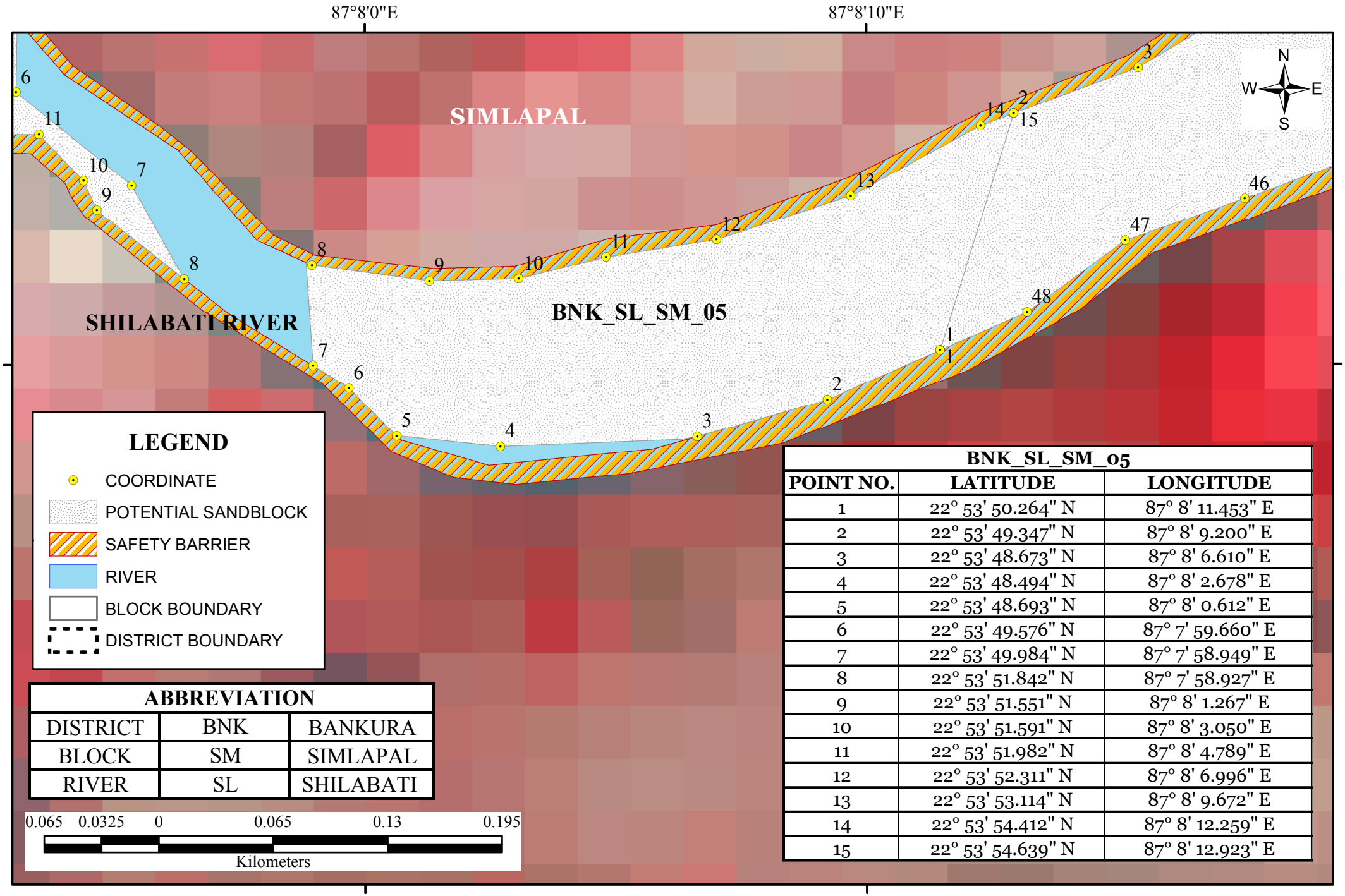
BNK_SL_SM_04		
POINT NO.	LATITUDE	LONGITUDE
1	22° 54' 4.754" N	87° 6' 18.509" E
2	22° 54' 5.966" N	87° 6' 18.129" E
3	22° 54' 7.409" N	87° 6' 17.691" E
4	22° 54' 7.363" N	87° 6' 20.664" E
5	22° 54' 9.384" N	87° 6' 24.878" E
6	22° 54' 12.519" N	87° 6' 30.052" E
7	22° 54' 15.449" N	87° 6' 33.688" E
8	22° 54' 18.497" N	87° 6' 37.682" E
9	22° 54' 14.236" N	87° 6' 35.775" E
10	22° 54' 12.516" N	87° 6' 34.807" E
11	22° 54' 10.589" N	87° 6' 33.394" E
12	22° 54' 9.627" N	87° 6' 31.313" E
13	22° 54' 7.288" N	87° 6' 29.082" E
14	22° 54' 5.638" N	87° 6' 26.703" E
15	22° 54' 5.295" N	87° 6' 24.697" E
16	22° 54' 5.688" N	87° 6' 22.908" E
17	22° 54' 4.678" N	87° 6' 20.089" E

POTENTIAL BLOCK BNK_SL_SM_04A OF SHILABATI RIVER



BNK_SL_SM_04A					
POINT NO.	LATITUDE	LONGITUDE	POINT NO.	LATITUDE	LONGITUDE
1	22° 54' 2.491" N	87° 7' 42.688" E	22	22° 53' 59.698" N	87° 7' 36.569" E
2	22° 54' 1.932" N	87° 7' 44.315" E	23	22° 54' 1.663" N	87° 7' 35.874" E
3	22° 54' 1.929" N	87° 7' 47.435" E	24	22° 54' 1.607" N	87° 7' 25.888" E
4	22° 53' 57.858" N	87° 7' 51.644" E	25	22° 54' 1.719" N	87° 7' 25.048" E
5	22° 53' 56.365" N	87° 7' 53.054" E	26	22° 54' 3.403" N	87° 7' 19.522" E
6	22° 53' 55.041" N	87° 7' 53.031" E	27	22° 54' 4.369" N	87° 7' 16.194" E
7	22° 53' 53.318" N	87° 7' 55.332" E	28	22° 54' 4.398" N	87° 7' 14.805" E
8	22° 53' 51.590" N	87° 7' 56.382" E	29	22° 54' 5.606" N	87° 7' 11.061" E
9	22° 53' 52.857" N	87° 7' 54.641" E	30	22° 54' 6.983" N	87° 7' 9.873" E
10	22° 53' 53.407" N	87° 7' 54.374" E	31	22° 54' 10.426" N	87° 7' 9.133" E
11	22° 53' 54.262" N	87° 7' 53.483" E	32	22° 54' 12.567" N	87° 7' 9.028" E
12	22° 53' 54.263" N	87° 7' 51.878" E	33	22° 54' 11.355" N	87° 7' 10.018" E
13	22° 53' 53.878" N	87° 7' 51.076" E	34	22° 54' 10.549" N	87° 7' 11.333" E
14	22° 53' 54.292" N	87° 7' 49.768" E	35	22° 54' 10.279" N	87° 7' 12.558" E
15	22° 53' 54.238" N	87° 7' 48.906" E	36	22° 54' 9.306" N	87° 7' 15.678" E
16	22° 53' 53.771" N	87° 7' 47.539" E	37	22° 54' 7.052" N	87° 7' 20.313" E
17	22° 53' 54.736" N	87° 7' 46.559" E	38	22° 54' 5.830" N	87° 7' 24.235" E
18	22° 53' 55.921" N	87° 7' 44.985" E	39	22° 54' 5.622" N	87° 7' 26.062" E
19	22° 53' 57.575" N	87° 7' 42.609" E	40	22° 54' 3.467" N	87° 7' 36.247" E
20	22° 53' 58.899" N	87° 7' 39.787" E	41	22° 54' 3.403" N	87° 7' 38.677" E
21	22° 53' 59.258" N	87° 7' 37.885" E	42	22° 54' 3.091" N	87° 7' 40.571" E

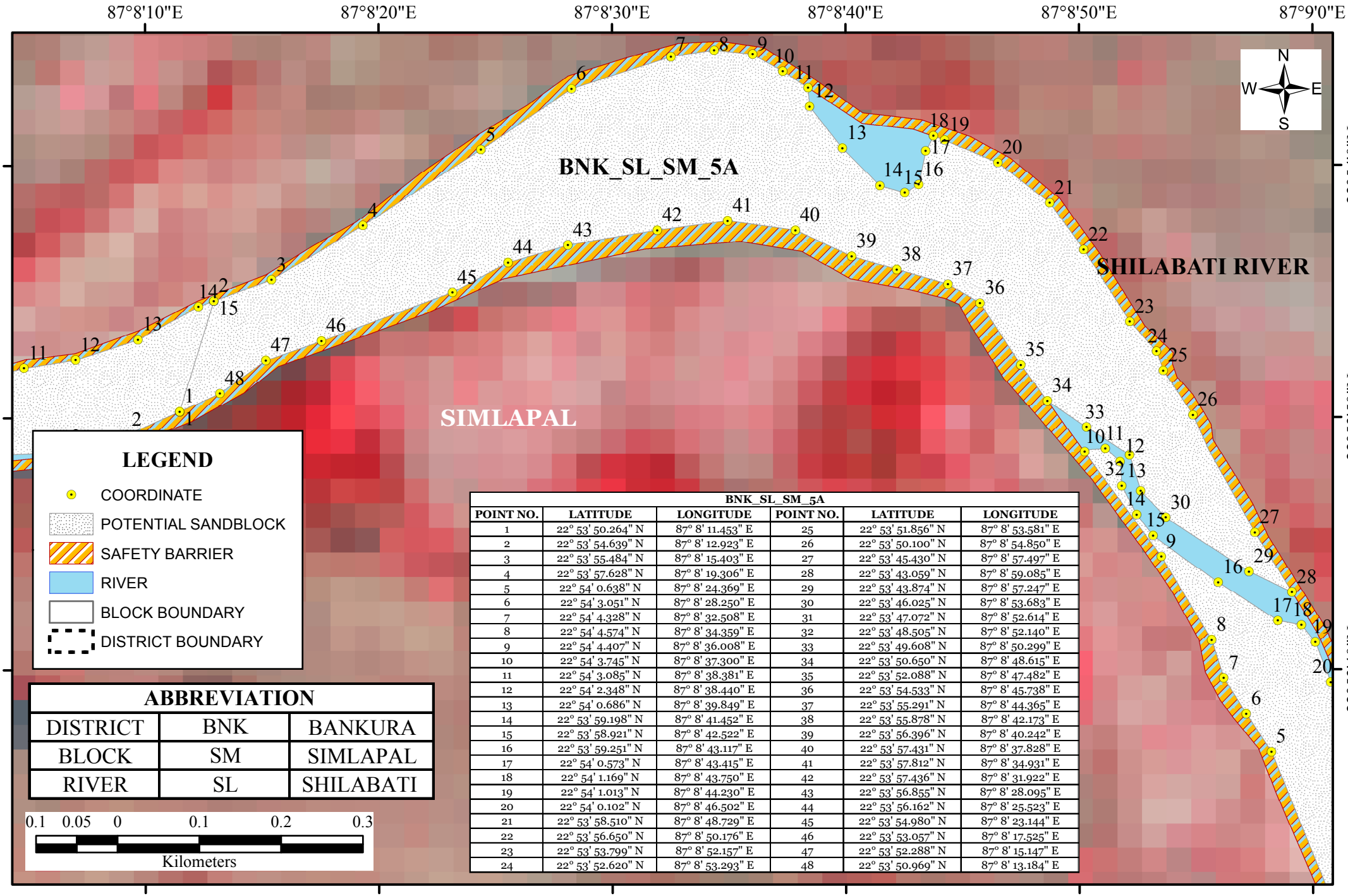
POTENTIAL BLOCK BNK_SL_SM_05 OF SHILABATI RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

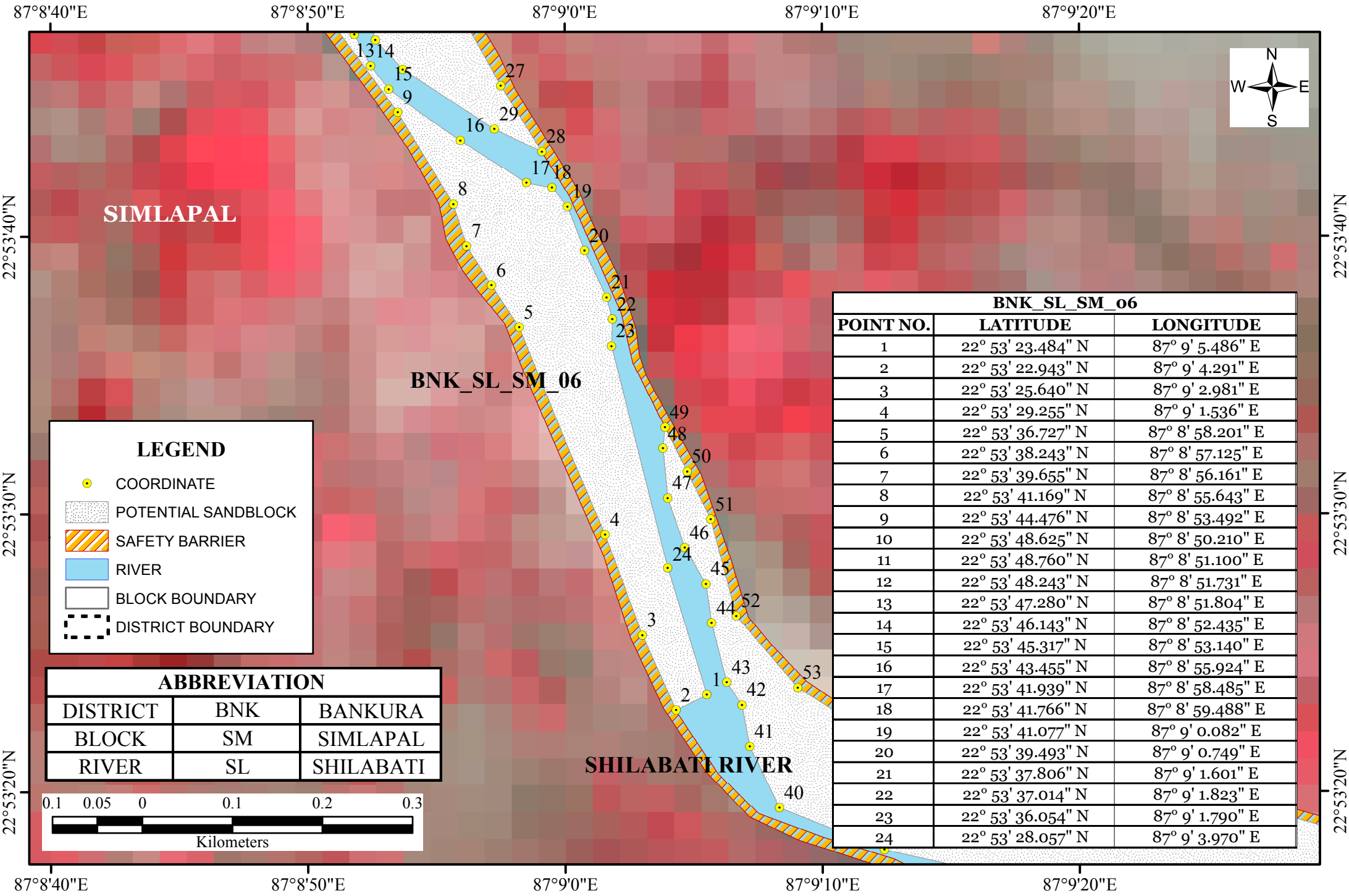
BNK_SL_SM_05		
POINT NO.	LATITUDE	LONGITUDE
1	22° 53' 50.264" N	87° 8' 11.453" E
2	22° 53' 49.347" N	87° 8' 9.200" E
3	22° 53' 48.673" N	87° 8' 6.610" E
4	22° 53' 48.494" N	87° 8' 2.678" E
5	22° 53' 48.693" N	87° 8' 0.612" E
6	22° 53' 49.576" N	87° 7' 59.660" E
7	22° 53' 49.984" N	87° 7' 58.949" E
8	22° 53' 51.842" N	87° 7' 58.927" E
9	22° 53' 51.551" N	87° 8' 1.267" E
10	22° 53' 51.591" N	87° 8' 3.050" E
11	22° 53' 51.982" N	87° 8' 4.789" E
12	22° 53' 52.311" N	87° 8' 6.996" E
13	22° 53' 53.114" N	87° 8' 9.672" E
14	22° 53' 54.412" N	87° 8' 12.259" E
15	22° 53' 54.639" N	87° 8' 12.923" E

POTENTIAL BLOCK BNK_SL_SM_5A OF SHILABATI RIVER



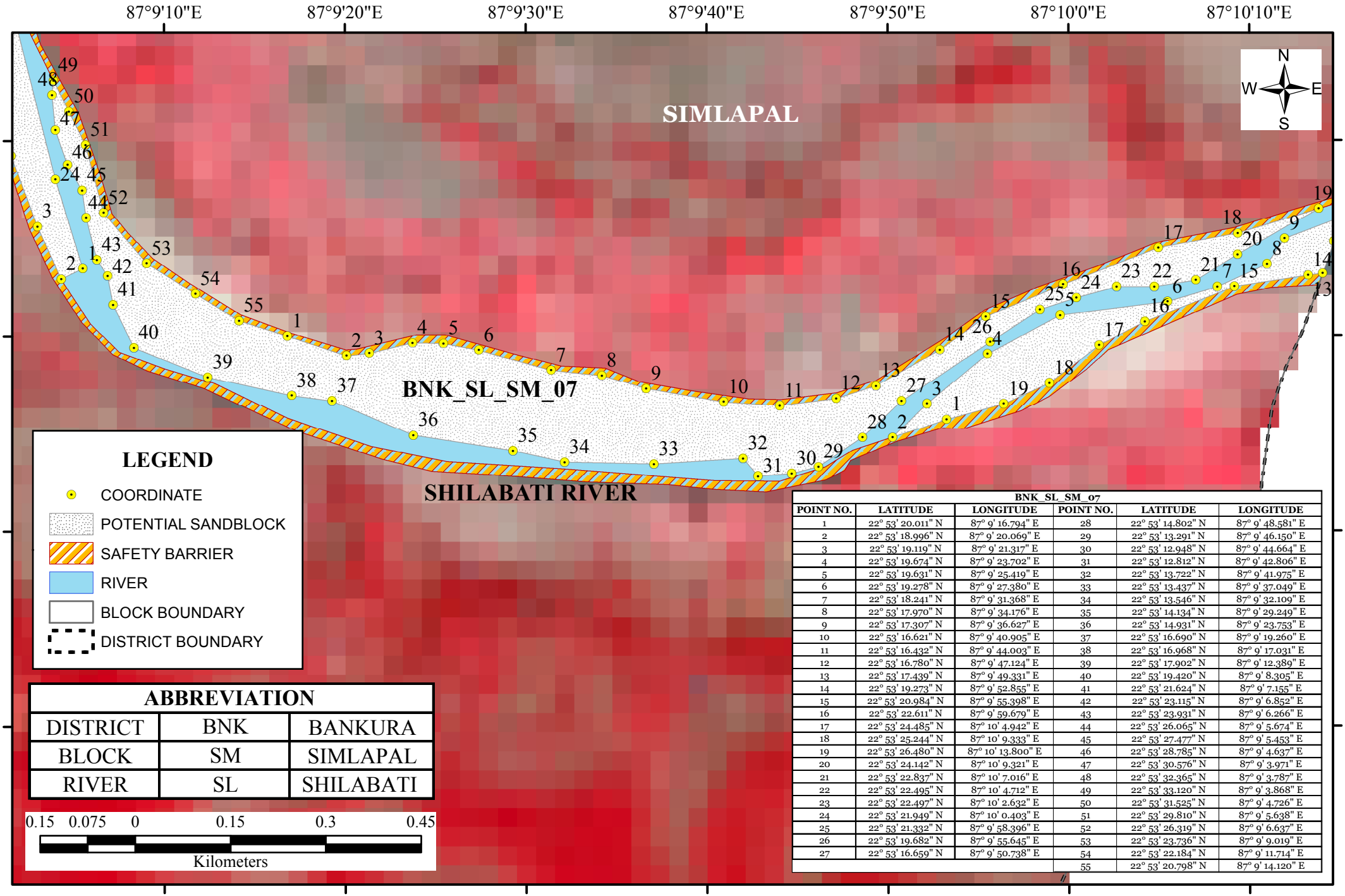
BNK_SL_SM_5A					
POINT NO.	LATITUDE	LONGITUDE	POINT NO.	LATITUDE	LONGITUDE
1	22° 53' 50.264" N	87° 8' 11.453" E	25	22° 53' 51.856" N	87° 8' 53.581" E
2	22° 53' 54.639" N	87° 8' 12.923" E	26	22° 53' 50.100" N	87° 8' 54.850" E
3	22° 53' 55.484" N	87° 8' 15.403" E	27	22° 53' 45.430" N	87° 8' 57.497" E
4	22° 53' 57.628" N	87° 8' 19.306" E	28	22° 53' 43.059" N	87° 8' 59.085" E
5	22° 54' 0.638" N	87° 8' 24.369" E	29	22° 53' 43.874" N	87° 8' 57.247" E
6	22° 54' 3.051" N	87° 8' 28.250" E	30	22° 53' 46.025" N	87° 8' 53.683" E
7	22° 54' 4.328" N	87° 8' 32.508" E	31	22° 53' 47.072" N	87° 8' 52.614" E
8	22° 54' 4.574" N	87° 8' 34.359" E	32	22° 53' 48.505" N	87° 8' 52.140" E
9	22° 54' 4.407" N	87° 8' 36.008" E	33	22° 53' 49.608" N	87° 8' 50.299" E
10	22° 54' 3.745" N	87° 8' 37.300" E	34	22° 53' 50.650" N	87° 8' 48.615" E
11	22° 54' 3.085" N	87° 8' 38.381" E	35	22° 53' 52.088" N	87° 8' 47.482" E
12	22° 54' 2.348" N	87° 8' 38.440" E	36	22° 53' 54.533" N	87° 8' 45.738" E
13	22° 54' 0.686" N	87° 8' 39.849" E	37	22° 53' 55.291" N	87° 8' 44.365" E
14	22° 53' 59.198" N	87° 8' 41.452" E	38	22° 53' 55.878" N	87° 8' 42.173" E
15	22° 53' 58.921" N	87° 8' 42.522" E	39	22° 53' 56.396" N	87° 8' 40.242" E
16	22° 53' 59.251" N	87° 8' 43.117" E	40	22° 53' 57.431" N	87° 8' 37.828" E
17	22° 54' 0.573" N	87° 8' 43.415" E	41	22° 53' 57.812" N	87° 8' 34.931" E
18	22° 54' 1.169" N	87° 8' 43.750" E	42	22° 53' 57.436" N	87° 8' 31.922" E
19	22° 54' 1.013" N	87° 8' 44.230" E	43	22° 53' 56.855" N	87° 8' 28.095" E
20	22° 54' 0.102" N	87° 8' 46.502" E	44	22° 53' 56.162" N	87° 8' 25.523" E
21	22° 53' 58.510" N	87° 8' 48.729" E	45	22° 53' 54.980" N	87° 8' 23.144" E
22	22° 53' 56.650" N	87° 8' 50.176" E	46	22° 53' 53.057" N	87° 8' 17.525" E
23	22° 53' 53.799" N	87° 8' 52.157" E	47	22° 53' 52.288" N	87° 8' 15.147" E
24	22° 53' 52.620" N	87° 8' 53.293" E	48	22° 53' 50.969" N	87° 8' 13.184" E

POTENTIAL BLOCK BNK_SL_SM_06 OF SHILABATI RIVER



BNK_SL_SM_06		
POINT NO.	LATITUDE	LONGITUDE
1	22° 53' 23.484" N	87° 9' 5.486" E
2	22° 53' 22.943" N	87° 9' 4.291" E
3	22° 53' 25.640" N	87° 9' 2.981" E
4	22° 53' 29.255" N	87° 9' 1.536" E
5	22° 53' 36.727" N	87° 8' 58.201" E
6	22° 53' 38.243" N	87° 8' 57.125" E
7	22° 53' 39.655" N	87° 8' 56.161" E
8	22° 53' 41.169" N	87° 8' 55.643" E
9	22° 53' 44.476" N	87° 8' 53.492" E
10	22° 53' 48.625" N	87° 8' 50.210" E
11	22° 53' 48.760" N	87° 8' 51.100" E
12	22° 53' 48.243" N	87° 8' 51.731" E
13	22° 53' 47.280" N	87° 8' 51.804" E
14	22° 53' 46.143" N	87° 8' 52.435" E
15	22° 53' 45.317" N	87° 8' 53.140" E
16	22° 53' 43.455" N	87° 8' 55.924" E
17	22° 53' 41.939" N	87° 8' 58.485" E
18	22° 53' 41.766" N	87° 8' 59.488" E
19	22° 53' 41.077" N	87° 9' 0.082" E
20	22° 53' 39.493" N	87° 9' 0.749" E
21	22° 53' 37.806" N	87° 9' 1.601" E
22	22° 53' 37.014" N	87° 9' 1.823" E
23	22° 53' 36.054" N	87° 9' 1.790" E
24	22° 53' 28.057" N	87° 9' 3.970" E

POTENTIAL BLOCK BNK_SL_SM_07 OF SHILABATI RIVER



LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

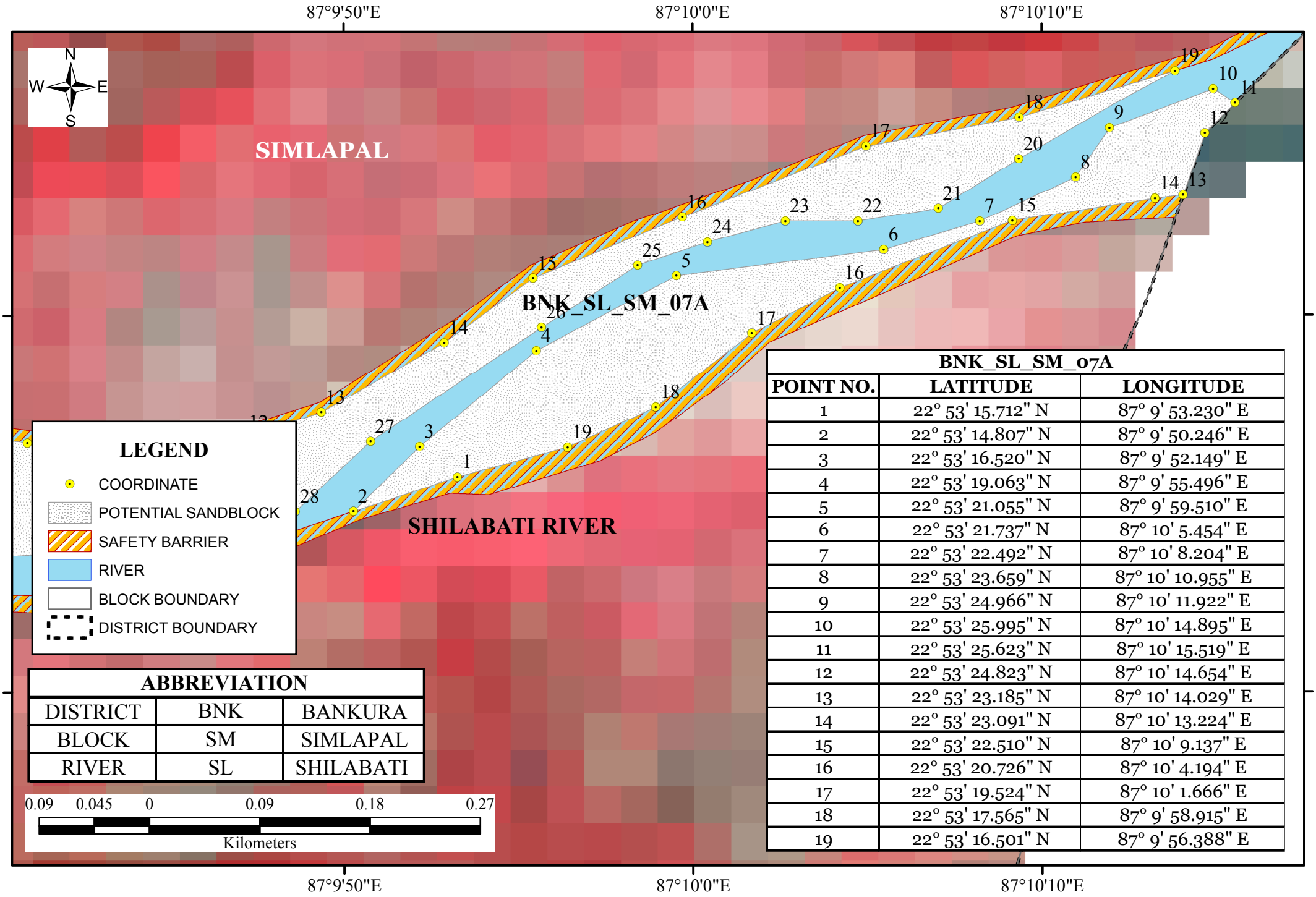
0.15 0.075 0 0.15 0.3 0.45

Kilometers

BNK_SL_SM_07

POINT NO.	LATITUDE	LONGITUDE	POINT NO.	LATITUDE	LONGITUDE
1	22° 53' 20.011" N	87° 9' 16.794" E	28	22° 53' 14.802" N	87° 9' 48.581" E
2	22° 53' 18.996" N	87° 9' 20.069" E	29	22° 53' 13.291" N	87° 9' 46.150" E
3	22° 53' 19.119" N	87° 9' 21.317" E	30	22° 53' 12.948" N	87° 9' 44.664" E
4	22° 53' 19.674" N	87° 9' 23.702" E	31	22° 53' 12.812" N	87° 9' 42.806" E
5	22° 53' 19.631" N	87° 9' 25.419" E	32	22° 53' 13.722" N	87° 9' 41.975" E
6	22° 53' 19.278" N	87° 9' 27.380" E	33	22° 53' 13.437" N	87° 9' 37.049" E
7	22° 53' 18.241" N	87° 9' 31.368" E	34	22° 53' 13.546" N	87° 9' 32.109" E
8	22° 53' 17.970" N	87° 9' 34.176" E	35	22° 53' 14.134" N	87° 9' 29.249" E
9	22° 53' 17.307" N	87° 9' 36.627" E	36	22° 53' 14.931" N	87° 9' 23.753" E
10	22° 53' 16.621" N	87° 9' 40.905" E	37	22° 53' 16.690" N	87° 9' 19.260" E
11	22° 53' 16.432" N	87° 9' 44.003" E	38	22° 53' 16.968" N	87° 9' 17.031" E
12	22° 53' 16.780" N	87° 9' 47.124" E	39	22° 53' 17.902" N	87° 9' 12.389" E
13	22° 53' 17.439" N	87° 9' 49.331" E	40	22° 53' 19.420" N	87° 9' 8.305" E
14	22° 53' 19.273" N	87° 9' 52.855" E	41	22° 53' 21.624" N	87° 9' 7.155" E
15	22° 53' 20.984" N	87° 9' 55.398" E	42	22° 53' 23.115" N	87° 9' 6.852" E
16	22° 53' 22.611" N	87° 9' 59.679" E	43	22° 53' 23.931" N	87° 9' 6.266" E
17	22° 53' 24.485" N	87° 10' 4.942" E	44	22° 53' 26.065" N	87° 9' 5.674" E
18	22° 53' 25.244" N	87° 10' 9.333" E	45	22° 53' 27.477" N	87° 9' 5.453" E
19	22° 53' 26.480" N	87° 10' 13.800" E	46	22° 53' 28.785" N	87° 9' 4.637" E
20	22° 53' 24.142" N	87° 10' 9.321" E	47	22° 53' 30.576" N	87° 9' 3.971" E
21	22° 53' 22.837" N	87° 10' 7.016" E	48	22° 53' 32.365" N	87° 9' 3.787" E
22	22° 53' 22.495" N	87° 10' 4.712" E	49	22° 53' 33.120" N	87° 9' 3.868" E
23	22° 53' 22.497" N	87° 10' 2.632" E	50	22° 53' 31.525" N	87° 9' 4.726" E
24	22° 53' 21.949" N	87° 10' 0.403" E	51	22° 53' 29.810" N	87° 9' 5.638" E
25	22° 53' 21.332" N	87° 9' 58.396" E	52	22° 53' 26.319" N	87° 9' 6.637" E
26	22° 53' 19.682" N	87° 9' 55.645" E	53	22° 53' 23.736" N	87° 9' 9.019" E
27	22° 53' 16.659" N	87° 9' 50.738" E	54	22° 53' 22.184" N	87° 9' 11.714" E
			55	22° 53' 20.798" N	87° 9' 14.120" E

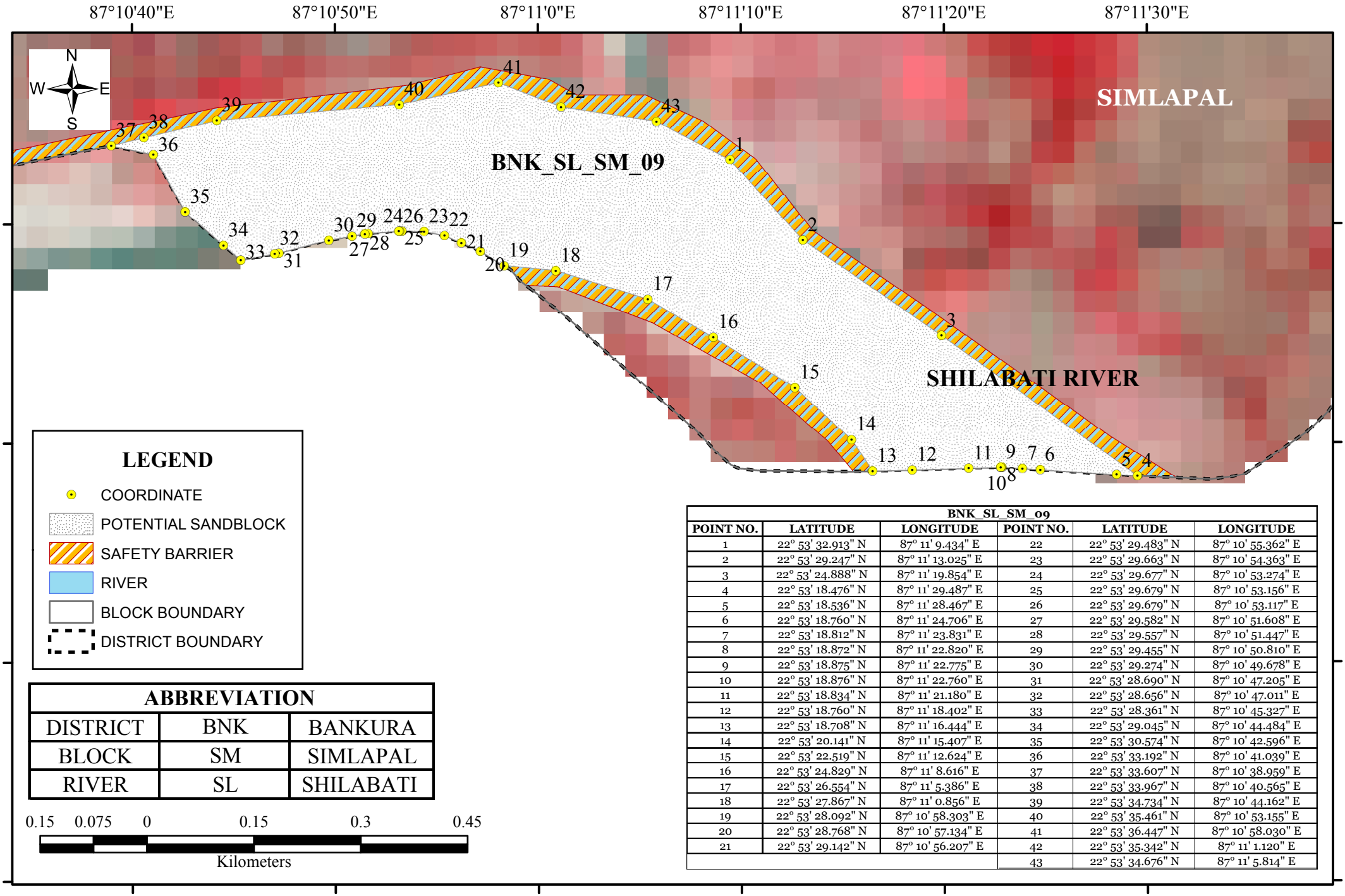
POTENTIAL BLOCK BNK_SL_SM_07A OF SHILABATI RIVER



ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

BNK_SL_SM_07A		
POINT NO.	LATITUDE	LONGITUDE
1	22° 53' 15.712" N	87° 9' 53.230" E
2	22° 53' 14.807" N	87° 9' 50.246" E
3	22° 53' 16.520" N	87° 9' 52.149" E
4	22° 53' 19.063" N	87° 9' 55.496" E
5	22° 53' 21.055" N	87° 9' 59.510" E
6	22° 53' 21.737" N	87° 10' 5.454" E
7	22° 53' 22.492" N	87° 10' 8.204" E
8	22° 53' 23.659" N	87° 10' 10.955" E
9	22° 53' 24.966" N	87° 10' 11.922" E
10	22° 53' 25.995" N	87° 10' 14.895" E
11	22° 53' 25.623" N	87° 10' 15.519" E
12	22° 53' 24.823" N	87° 10' 14.654" E
13	22° 53' 23.185" N	87° 10' 14.029" E
14	22° 53' 23.091" N	87° 10' 13.224" E
15	22° 53' 22.510" N	87° 10' 9.137" E
16	22° 53' 20.726" N	87° 10' 4.194" E
17	22° 53' 19.524" N	87° 10' 1.666" E
18	22° 53' 17.565" N	87° 9' 58.915" E
19	22° 53' 16.501" N	87° 9' 56.388" E

POTENTIAL BLOCK BNK_SL_SM_09 OF SHILABATI RIVER



LEGEND

- COORDINATE
- POTENTIAL SANDBLOCK
- SAFETY BARRIER
- RIVER
- BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	BNK	BANKURA
BLOCK	SM	SIMLAPAL
RIVER	SL	SHILABATI

0.15 0.075 0 0.15 0.3 0.45

Kilometers

BNK_SL_SM_09					
POINT NO.	LATITUDE	LONGITUDE	POINT NO.	LATITUDE	LONGITUDE
1	22° 53' 32.913" N	87° 11' 9.434" E	22	22° 53' 29.483" N	87° 10' 55.362" E
2	22° 53' 29.247" N	87° 11' 13.025" E	23	22° 53' 29.663" N	87° 10' 54.363" E
3	22° 53' 24.888" N	87° 11' 19.854" E	24	22° 53' 29.677" N	87° 10' 53.274" E
4	22° 53' 18.476" N	87° 11' 29.487" E	25	22° 53' 29.679" N	87° 10' 53.156" E
5	22° 53' 18.536" N	87° 11' 28.467" E	26	22° 53' 29.679" N	87° 10' 53.117" E
6	22° 53' 18.760" N	87° 11' 24.706" E	27	22° 53' 29.582" N	87° 10' 51.608" E
7	22° 53' 18.812" N	87° 11' 23.831" E	28	22° 53' 29.557" N	87° 10' 51.447" E
8	22° 53' 18.872" N	87° 11' 22.820" E	29	22° 53' 29.455" N	87° 10' 50.810" E
9	22° 53' 18.875" N	87° 11' 22.775" E	30	22° 53' 29.274" N	87° 10' 49.678" E
10	22° 53' 18.876" N	87° 11' 22.760" E	31	22° 53' 28.690" N	87° 10' 47.205" E
11	22° 53' 18.834" N	87° 11' 21.180" E	32	22° 53' 28.656" N	87° 10' 47.011" E
12	22° 53' 18.760" N	87° 11' 18.402" E	33	22° 53' 28.361" N	87° 10' 45.327" E
13	22° 53' 18.708" N	87° 11' 16.444" E	34	22° 53' 29.045" N	87° 10' 44.484" E
14	22° 53' 20.141" N	87° 11' 15.407" E	35	22° 53' 30.574" N	87° 10' 42.596" E
15	22° 53' 22.519" N	87° 11' 12.624" E	36	22° 53' 33.192" N	87° 10' 41.039" E
16	22° 53' 24.829" N	87° 11' 8.616" E	37	22° 53' 33.607" N	87° 10' 38.959" E
17	22° 53' 26.554" N	87° 11' 5.386" E	38	22° 53' 33.967" N	87° 10' 40.565" E
18	22° 53' 27.867" N	87° 11' 0.856" E	39	22° 53' 34.734" N	87° 10' 44.162" E
19	22° 53' 28.092" N	87° 10' 58.303" E	40	22° 53' 35.461" N	87° 10' 53.155" E
20	22° 53' 28.768" N	87° 10' 57.134" E	41	22° 53' 36.447" N	87° 10' 58.030" E
21	22° 53' 29.142" N	87° 10' 56.207" E	42	22° 53' 35.342" N	87° 11' 1.120" E
			43	22° 53' 34.676" N	87° 11' 5.814" E

Annexure 5
Map showing of Potential In-situ mineral Blocks of Bankura District

Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining / forest / agriculture)	Mineral reserve (approx..) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
1	Anorthosite (BNK_ANRT_ZONE1)	GRANITE GNEISS	12.21	30	2.93	Partially excavated	Agricultural land	Partially explored	Saltora	23° 33' 53.348" N	86° 57' 31.628" E	No	Road network available
										23° 33' 58.025" N	86° 57' 27.585" E		
										23° 34' 1.314" N	86° 57' 30.232" E		
										23° 33' 58.590" N	86° 57' 39.954" E		
										23° 33' 49.990" N	86° 57' 42.730" E		
										23° 33' 48.927" N	86° 57' 43.072" E		
										23° 33' 45.809" N	86° 57' 32.142" E		
2	Anorthosite (BNK_ANRT_ZONE2)	GRANITE GNEISS	609.36	30	146.2471	Partially excavated	Agricultural land	Partially explored	Saltora	23° 29' 6.382" N	86° 59' 4.082" E	No	Road network available
										23° 29' 20.430" N	86° 59' 52.224" E		
										23° 28' 23.380" N	87° 1' 36.901" E		
										23° 27' 57.168" N	87° 0' 49.445" E		
										23° 28' 18.926" N	86° 59' 22.756" E		
3	Anorthosite (BNK_ANRT_ZONE3)	GRANITE GNEISS	0.03	30	0.006082	Virgin	Agricultural land	Yet to explore	Gangajal Ghati	23° 25' 59.193" N	87° 5' 26.600" E	No	Road network available
										23° 25' 59.289" N	87° 5' 27.408" E		
										23° 25' 58.905" N	87° 5' 27.443" E		
										23° 25' 58.857" N	87° 5' 26.654" E		
4	Black stone (BNK_BS_ZONE_01)	GRANITE GNEISS	42826.75	35.00	11991.49	Partially excavated	Agricultural land/ forest land	Partially explored	GANGAJALGHATI, MEJHIA, SALTORA	23° 27' 35.905" N	87° 12' 6.389" E	No	Road network available
										23° 26' 5.232" N	87° 11' 10.579" E		
										23° 25' 17.461" N	87° 6' 45.217" E		
										23° 25' 17.808" N	87° 6' 9.056" E		
										23° 25' 49.155" N	87° 3' 55.609" E		
										23° 25' 28.597" N	87° 0' 11.179" E		
										23° 26' 24.105" N	86° 53' 33.714" E		
										23° 29' 33.991" N	86° 54' 30.351" E		
										23° 30' 13.853" N	86° 54' 16.884" E		
										23° 30' 21.231" N	86° 53' 51.516" E		
										23° 30' 53.946" N	86° 53' 53.702" E		
										23° 30' 59.051" N	86° 53' 39.246" E		
										23° 31' 0.310" N	86° 53' 39.515" E		
										23° 31' 46.747" N	86° 53' 49.425" E		
										23° 32' 6.591" N	86° 53' 45.473" E		
										23° 32' 20.670" N	86° 53' 34.046" E		
										23° 32' 18.989" N	86° 53' 17.408" E		
										23° 32' 48.321" N	86° 53' 9.427" E		
										23° 33' 0.789" N	86° 54' 13.719" E		
										23° 33' 13.124" N	86° 54' 12.520" E		
										23° 33' 19.111" N	86° 55' 5.301" E		
										23° 33' 43.073" N	86° 55' 49.578" E		
										23° 33' 41.769" N	86° 56' 55.347" E		
										23° 33' 33.436" N	86° 57' 48.432" E		
										23° 33' 4.385" N	86° 58' 4.325" E		

Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining / forest / agriculture)	Mineral reserve (approx..) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
										23° 33' 2.838" N	86° 58' 15.294" E		
										23° 32' 56.921" N	86° 58' 8.410" E		
										23° 32' 57.159" N	86° 57' 37.853" E		
										23° 32' 15.182" N	86° 56' 54.588" E		
										23° 31' 58.390" N	86° 56' 21.978" E		
										23° 32' 5.840" N	86° 58' 27.267" E		
										23° 32' 10.543" N	87° 0' 6.880" E		
										23° 32' 19.793" N	87° 1' 13.636" E		
										23° 32' 20.490" N	87° 1' 15.171" E		
										23° 32' 42.622" N	87° 2' 3.888" E		
										23° 32' 41.386" N	87° 2' 28.896" E		
										23° 32' 39.768" N	87° 3' 1.629" E		
										23° 33' 29.359" N	87° 4' 30.877" E		
										23° 33' 27.421" N	87° 4' 42.187" E		
										23° 33' 16.122" N	87° 5' 48.141" E		
										23° 32' 44.346" N	87° 11' 19.340" E		
										23° 30' 57.492" N	87° 13' 54.770" E		
										23° 30' 8.757" N	87° 14' 38.013" E		
										23° 27' 52.271" N	87° 13' 14.332" E		
5	Black stone (BNK_BS_ZONE_02)	GRANITE GNEISS	42.10	30	10.104	Partially excavated	Agricultural land	Partially explored	BANKURA-I	23° 14' 9.651" N	86° 56' 7.632" E	No	Road network available
										23° 14' 15.910" N	86° 56' 19.915" E		
										23° 13' 46.511" N	86° 56' 38.558" E		
										23° 13' 40.960" N	86° 56' 24.990" E		
6	Black stone (BNK_BS_ZONE_03)	GRANITE GNEISS	141.86	35	39.7207	Virgin	Agricultural land	Un-explored	INDPUR	23° 13' 2.714" N	86° 49' 27.385" E	No	Road network available
										23° 12' 53.806" N	86° 49' 42.118" E		
										23° 11' 42.536" N	86° 48' 53.463" E		
										23° 11' 50.760" N	86° 48' 34.960" E		
7	Black stone (BNK_BS_ZONE_04)	GRANITE GNEISS	91.73	35	25.69	Virgin	Agricultural land	Un-explored	INDPUR	23° 11' 27.563" N	86° 46' 30.620" E	No	Road network available
										23° 11' 41.697" N	86° 47' 5.312" E		
										23° 11' 13.943" N	86° 47' 28.698" E		
										23° 11' 4.435" N	86° 47' 7.368" E		
										23° 11' 17.798" N	86° 46' 59.402" E		
										23° 11' 14.714" N	86° 46' 40.899" E		
8	Black stone (BNK_BS_ZONE_05)	GRANITE GNEISS	138.88	40	44.44	Virgin	Agricultural land	Un-explored	INDPUR	23° 7' 58.429" N	86° 50' 26.125" E	No	Road network available
										23° 7' 59.457" N	86° 50' 36.405" E		
										23° 7' 54.831" N	86° 51' 21.976" E		
										23° 7' 48.150" N	86° 51' 27.630" E		
										23° 7' 39.584" N	86° 51' 24.203" E		
										23° 7' 33.759" N	86° 51' 30.542" E		
										23° 7' 20.738" N	86° 51' 25.060" E		
										23° 7' 30.503" N	86° 51' 13.924" E		
										23° 7' 29.647" N	86° 50' 42.744" E		
										23° 7' 28.105" N	86° 50' 36.062" E		

Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining / forest / agriculture)	Mineral reserve (approx..) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
9	Black stone (BNK_BS_ZONE_06)	Mica schist	110.13	35	30.83631	Virgin	Agricultural land/ forest land	Un-explored	KHATRA, HIRBANDH	23° 2' 35.661" N	86° 49' 30.313" E	No	Road network available
										23° 2' 52.365" N	86° 49' 34.167" E		
										23° 2' 30.735" N	86° 50' 52.761" E		
										23° 2' 17.244" N	86° 50' 51.048" E		
10	Black stone (BNK_BS_ZONE_07)	GRANITE GNEISS	371.70	35	104.08	Virgin	Agricultural Land	Un-explored	HIRBANDH, TALDANGRA	23° 1' 3.575" N	86° 58' 10.851" E	No	Road network available
										23° 1' 15.653" N	86° 58' 18.817" E		
										23° 1' 36.982" N	86° 58' 11.365" E		
										23° 1' 39.552" N	86° 58' 1.342" E		
										23° 1' 53.172" N	86° 57' 53.376" E		
										23° 2' 22.982" N	86° 57' 36.929" E		
										23° 2' 29.150" N	86° 57' 49.521" E		
										23° 1' 38.267" N	86° 58' 27.298" E		
										23° 1' 1.262" N	86° 58' 28.839" E		
										23° 0' 41.969" N	86° 58' 12.536" E		
										23° 0' 30.271" N	86° 57' 45.645" E		
										23° 0' 14.209" N	86° 56' 40.864" E		
										23° 0' 7.249" N	86° 55' 30.730" E		
										23° 0' 26.523" N	86° 55' 24.305" E		
										23° 0' 21.169" N	86° 56' 13.560" E		
										23° 0' 30.806" N	86° 56' 39.258" E		
										23° 0' 43.655" N	86° 57' 40.291" E		
11	Black stone (BNK_BS_ZONE_08)	GRANITE GNEISS	213.80	35	59.86299	Virgin	Agricultural land/ forest land	Un-explored	HIRBANDH, KHATRA	23° 0' 12.380" N	86° 46' 51.029" E	No	Road network available
										23° 0' 33.452" N	86° 48' 13.777" E		
										23° 0' 12.894" N	86° 48' 28.682" E		
										22° 59' 43.084" N	86° 47' 7.989" E		
12	Black stone (BNK_BS_ZONE_09)	Mica schist	102.24	35	28.62582	Virgin	Agricultural land	Un-explored	RAIPUR	22° 50' 29.987" N	86° 55' 6.733" E	No	Road network available
										22° 50' 31.272" N	86° 55' 35.857" E		
										22° 49' 51.439" N	86° 55' 42.496" E		
										22° 49' 48.655" N	86° 55' 14.871" E		
13	Black stone (BNK_BS_ZONE_10)	Hornblend Gneiss	204.72	35	57.32	Virgin	Agricultural land	Un-explored	RAIPUR	22° 47' 51.970" N	86° 53' 32.565" E	No	Road network available
										22° 47' 57.654" N	86° 53' 50.623" E		
										22° 47' 27.476" N	86° 54' 4.450" E		
										22° 47' 23.733" N	86° 54' 36.194" E		
										22° 46' 55.293" N	86° 54' 40.991" E		
										22° 46' 51.867" N	86° 53' 51.651" E		
14	Black stone (BNK_BS_ZONE_11)	Granite Gneiss	77.38	35	21.67	Virgin	Agricultural land	Un-explored	SALTORA	23° 34' 6.764" N	86° 52' 42.824" E	No	Road network available
										23° 34' 16.488" N	86° 53' 41.885" E		
										23° 34' 10.259" N	86° 53' 43.767" E		
										23° 34' 1.693" N	86° 53' 46.354" E		
										23° 33' 52.099" N	86° 52' 57.356" E		
15	Black stone (BNK_BS_ZONE_12)	Granite Gneiss	252.17	35	70.61	Virgin	Agricultural land	Un-explored	CHHATNA	23° 22' 19.478" N	86° 55' 46.967" E	No	Road network available
										23° 23' 14.986" N	86° 56' 19.860" E		
										23° 23' 0.595" N	86° 56' 35.279" E		

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										23° 22' 29.243" N	86° 58' 13.446" E		
										23° 22' 16.908" N	86° 58' 10.363" E		
										23° 22' 41.578" N	86° 56' 25.514" E		
										23° 22' 15.880" N	86° 55' 58.274" E		
16	Black stone (BNK_BS_ZONE_13)	GRANITE GNEISS	46.01	30	11.04334	Virgin	Agricultural land	Un-explored	CHHATNA	23° 17' 46.557" N	86° 47' 21.715" E	No	Road network available
										23° 17' 48.202" N	86° 47' 38.285" E		
										23° 17' 14.280" N	86° 47' 37.600" E		
										23° 17' 15.994" N	86° 47' 21.496" E		
17	Black stone (BNK_BS_ZONE_14)	GRANITE GNEISS	34.82	30	8.357941	Virgin	Agricultural land	Un-explored	CHHATNA	23° 21' 8.908" N	86° 49' 25.130" E	No	Road network available
										23° 21' 15.975" N	86° 49' 45.902" E		
										23° 21' 0.771" N	86° 49' 52.327" E		
										23° 20' 49.849" N	86° 49' 35.195" E		
18	Black stone (BNK_BS_ZONE_15)	Granite Gneiss	233.55	35	65.39	Virgin	Agricultural Land	Un-explored	KHATRA, TALDANGA, SIMLAPAL	23° 0' 8.915" N	86° 59' 50.251" E	No	Road network available
										22° 59' 46.192" N	87° 1' 7.384" E		
										22° 59' 53.158" N	87° 1' 34.706" E		
										22° 59' 36.917" N	87° 1' 45.396" E		
										22° 59' 29.310" N	87° 1' 19.492" E		
										22° 59' 28.976" N	87° 0' 10.667" E		
										23° 0' 2.747" N	86° 59' 40.743" E		
19	Black stone (BNK_BS_ZONE_16)	Sandstone/ Shale	292.80	35	81.98528	Virgin	Agricultural Land	Un-explored	SALTORA, MEJHIA	23° 36' 37.765" N	87° 0' 41.459" E	No	Road network available
										23° 36' 46.449" N	87° 1' 13.481" E		
										23° 35' 26.665" N	87° 2' 0.157" E		
										23° 35' 9.297" N	87° 1' 26.507" E		
20	Black stone (BNK_BS_ZONE_17)	Sandstone/ Shale	364.34	35	102.02	Virgin	Agricultural Land	Un-explored	MEJHIA	23° 35' 40.089" N	87° 2' 42.053" E	No	Road network available
										23° 36' 12.799" N	87° 2' 27.294" E		
										23° 35' 31.550" N	87° 3' 56.847" E		
										23° 33' 54.941" N	87° 4' 16.929" E		
										23° 33' 56.209" N	87° 3' 50.317" E		
										23° 35' 29.922" N	87° 3' 24.282" E		
21	Black stone (BNK_BS_ZONE_18)	GRANITE GNEISS	382.71	35	107.16	Virgin	Agricultural land	Yet to explore	Indpur	23° 6' 47.103" N	86° 57' 3.247" E	No	Road network available
										23° 8' 7.624" N	86° 58' 1.924" E		
										23° 7' 46.209" N	86° 58' 31.477" E		
										23° 6' 21.833" N	86° 57' 52.073" E		
22	China Clay/ Fire Clay (BNK_CC_FC_ZONE1)	GRANITE GNEISS	9.25	10	0.74039	Virgin	Agricultural land	Yet to explore	Indpur	23° 3' 15.918" N	86° 56' 52.620" E	No	Road network available
										23° 3' 23.731" N	86° 56' 52.620" E		
										23° 3' 25.581" N	86° 57' 4.544" E		
										23° 3' 17.152" N	86° 57' 6.394" E		
23	China Clay (BNK_CC_ZONE1)	GRANITE GNEISS	5.29	10	0.42321	Virgin	Agricultural land	Yet to explore	Raipur	22° 54' 1.945" N	86° 55' 2.114" E	No	Road network available
										22° 54' 1.121" N	86° 55' 7.714" E		
										22° 53' 56.634" N	86° 55' 6.675" E		
										22° 53' 57.694" N	86° 55' 0.786" E		
24	China Clay (BNK_CC_ZONE2)	GRANITE GNEISS	408.06	10	32.6445	Virgin	Agricultural land	Yet to explore	Taldanga	23° 5' 1.690" N	86° 59' 56.234" E	No	Road network
										23° 5' 2.228" N	87° 0' 6.897" E		

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										23° 4' 56.364" N	87° 0' 7.114" E		available
										23° 4' 56.319" N	86° 59' 56.259" E		
25	China Clay (BNK_CC_ZONE3)	GRANITE GNEISS	962.97	10	77.03786	Virgin	Agricultural land	Yet to explore	Indpur	23° 8' 39.996" N	86° 55' 32.679" E	No	Road network available
										23° 9' 13.190" N	86° 57' 42.776" E		
										23° 8' 37.319" N	86° 57' 54.019" E		
										23° 8' 9.480" N	86° 55' 40.175" E		
26	China Clay (BNK_CC_ZONE4)	GRANITE GNEISS	2.30	10	0.183741	Virgin	Agricultural land	Yet to explore	Onda, Bishnupur, Taldanga	23° 1' 15.439" N	87° 15' 21.563" E	No	Road network available
										23° 1' 23.031" N	87° 17' 18.996" E		
										22° 59' 48.420" N	87° 17' 21.511" E		
										22° 59' 42.926" N	87° 15' 24.132" E		
27	China Clay (BNK_CC_ZONE5)	GRANITE GNEISS	2.30	10	0.183688	Virgin	Agricultural land	Yet to explore	Simlapal	22° 55' 57.746" N	86° 59' 45.699" E	No	Road network available
										22° 55' 57.789" N	86° 59' 51.866" E		
										22° 55' 53.292" N	86° 59' 51.695" E		
										22° 55' 53.592" N	86° 59' 45.742" E		
28	Clay (BNK_CLY_ZONE1)	GRANITE GNEISS	6.73	10	0.538351	Virgin	Agricultural land	Yet to explore	Onda	23° 6' 40.089" N	87° 3' 10.148" E	No	Road network available
										23° 6' 43.965" N	87° 3' 24.261" E		
										23° 6' 39.083" N	87° 3' 26.595" E		
										23° 6' 35.356" N	87° 3' 12.054" E		
29	Clay (BNK_CLY_ZONE 2)	GRANITE GNEISS	34.57	10	2.765552	Partially excavated	Agricultural land	Partially explored	Indpur	23° 5' 30.345" N	87° 0' 15.349" E	No	Road network available
										23° 5' 30.727" N	87° 0' 35.162" E		
										23° 5' 10.443" N	87° 0' 35.162" E		
										23° 5' 10.321" N	87° 0' 15.766" E		
										22° 58' 39.971" N	86° 46' 46.452" E		
										22° 58' 40.562" N	86° 46' 52.285" E		
										22° 58' 38.815" N	86° 46' 56.268" E		
										22° 58' 37.247" N	86° 46' 56.423" E		
										22° 58' 33.701" N	86° 46' 49.484" E		
										22° 58' 31.696" N	86° 46' 45.475" E		
30	Dolerite (BNK_DL_ZONE1)	GRANITE GNEISS	222.69	20	35.63077	Virgin	Agricultural land	Yet to explore	Gangajal Ghat	23° 29' 19.574" N	87° 4' 46.112" E	No	Road network available
										23° 29' 20.430" N	87° 5' 29.284" E		
										23° 28' 20.982" N	87° 5' 27.571" E		
										23° 28' 20.468" N	87° 4' 44.570" E		
31	Dolerite (BNK_DL_ZONE2)	GRANITE GNEISS	87.23	20	13.95709	Virgin	Agricultural land	Yet to explore	Mejhia	23° 32' 0.787" N	87° 4' 15.788" E	No	Road network available
										23° 32' 8.154" N	87° 4' 47.139" E		
										23° 31' 41.768" N	87° 4' 58.038" E		
										23° 31' 29.435" N	87° 4' 27.951" E		
32	Dolerite (BNK_DL_ZONE3)	GRANITE GNEISS	123.78	20	19.80479	Virgin	Agricultural land	Yet to explore	Gangajal Ghat	23° 26' 9.890" N	87° 5' 26.911" E	No	Road network available
										23° 26' 14.515" N	87° 5' 25.198" E		
										23° 26' 19.141" N	87° 5' 46.956" E		
										23° 25' 17.808" N	87° 6' 9.056" E		
										23° 25' 12.497" N	87° 5' 48.498" E		
33	Fire Clay and Silica sand	Sandstone/ Clay	18.32	30	4.39752	Partially	Agricultural land	Partially explored	Malibona	22° 53' 1.590" N	87° 0' 10.869" E	No	Road network
										22° 52' 44.886" N	87° 0' 13.747" E		

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	(BNK_FC_SS_ZONE_01)					excavated				22° 52' 44.544" N	86° 59' 59.784" E		available
										22° 52' 45.941" N	86° 59' 59.790" E		
										22° 53' 1.260" N	86° 59' 59.856" E		
										22° 53' 1.555" N	87° 0' 9.684" E		
										22° 53' 1.590" N	87° 0' 10.869" E		
34	Fire Clay (BNK_FC_ZONE1)	GRANITE GNEISS	21.68	15	2.601392	Partially excavated	Agricultural land	Partially explored	Bankura-II	23° 16' 1.015" N	87° 8' 52.046" E	No	Road network available
										23° 16' 2.789" N	87° 9' 4.876" E		
										23° 15' 49.462" N	87° 9' 6.845" E		
										23° 15' 47.358" N	87° 8' 46.938" E		
										23° 15' 55.159" N	87° 8' 45.414" E		
35	Fire Clay (BNK_FC_ZONE2)	GRANITE GNEISS	24.21	15	2.90502	Partially excavated	Agricultural land	Partially explored	Barjora	23° 25' 5.081" N	87° 13' 45.646" E	No	Road network available
										23° 25' 4.533" N	87° 14' 0.448" E		
										23° 24' 46.510" N	87° 14' 2.230" E		
										23° 24' 47.195" N	87° 13' 46.057" E		
36	Feldspar (BNK_FLDS_ZONE_1)	GRANITE GNEISS	103.89	20	16.62255	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 18' 59.493" N	86° 55' 25.037" E	No	Road network available
										23° 18' 19.080" N	86° 54' 51.095" E		
										23° 18' 26.988" N	86° 54' 34.821" E		
										23° 19' 15.297" N	86° 55' 4.750" E		
37	Gravel (BNK_GL_ZONE_1)	Sand/ Clay	74.78	30	17.95	Virgin	Agricultural land	Yet to explore	TALDANGRA	23° 2' 10.541" N	87° 5' 17.628" E	No	Road network available
										23° 2' 5.659" N	87° 5' 37.416" E		
										23° 1' 28.541" N	87° 5' 25.030" E		
										23° 1' 36.270" N	87° 5' 1.904" E		
38	Gravel (BNK_GL_ZONE_2)	Sand/ Clay	83.37	30	20.01	Virgin	Agricultural land	Yet to explore	TALDANGRA	23° 1' 18.845" N	87° 6' 50.966" E	No	Road network available
										23° 1' 16.532" N	87° 7' 7.413" E		
										23° 0' 19.482" N	87° 6' 53.279" E		
										23° 0' 24.622" N	87° 6' 37.346" E		
39	Gravel (BNK_GL_ZONE_3)	Sand/ Clay	35.72	30	8.57	Virgin	Agricultural land	Yet to explore	ONDA	23° 4' 55.149" N	87° 11' 43.458" E	No	Road network available
										23° 5' 2.259" N	87° 12' 12.536" E		
										23° 4' 47.885" N	87° 12' 11.715" E		
										23° 4' 40.133" N	87° 11' 46.188" E		
40	Granite/ Anorthosite (BNK_GR_ANRT_ZONE1)	GRANITE GNEISS	859.25	30	206.2201	Virgin	Agricultural land	Yet to explore	Saltora	23° 32' 6.112" N	86° 56' 43.291" E	No	Road network available
										23° 32' 36.436" N	86° 57' 5.905" E		
										23° 33' 8.816" N	86° 57' 32.974" E		
										23° 33' 0.078" N	86° 58' 57.093" E		
										23° 32' 57.770" N	87° 0' 13.732" E		
										23° 32' 11.085" N	87° 0' 6.880" E		
41	Granite/ Anorthosite (BNK_GR_ANRT_ZONE2)	GRANITE GNEISS	144.44	30	34.6661	Partially excavated	Agricultural land	Partially explored	Saltora	23° 30' 2.824" N	86° 56' 54.869" E	No	Road network available
										23° 30' 3.166" N	86° 57' 49.691" E		
										23° 29' 30.753" N	86° 57' 47.498" E		
										23° 29' 33.014" N	86° 56' 55.897" E		
42	Granite/ Quartz/ Feldspar (BNK_GR_ZONE1)	GRANITE GNEISS	179.50	50	71.80167	Virgin	Agricultural land	Yet to explore	Saltora	23° 30' 31.106" N	86° 56' 41.434" E	No	Road network available
										23° 30' 57.447" N	86° 56' 46.787" E		
										23° 30' 50.171" N	86° 57' 55.610" E		

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										23° 30' 18.916" N	86° 57' 52.804" E		
43	Granite/ Quartz/ Feldspar (BNK_GR_ZONE2)	GRANITE GNEISS	57.99	50	23.19641	Virgin	Agricultural land	Yet to explore	Saltora, Gangajal Ghati	23° 28' 53.545" N	87° 1' 15.059" E	No	Road network available
										23° 28' 59.173" N	87° 1' 24.679" E		
										23° 29' 4.265" N	87° 1' 30.152" E		
										23° 29' 5.654" N	87° 1' 52.345" E		
										23° 28' 45.747" N	87° 1' 54.513" E		
										23° 28' 44.258" N	87° 1' 15.575" E		
44	Granite/ Quartz/ Feldspar (BNK_GR_ZONE3)	GRANITE GNEISS	11.18	50	4.470135	Partially excavated	Agricultural land	Partially explored	Saltora	23° 30' 9.380" N	87° 1' 41.252" E	No	Road network available
										23° 30' 9.534" N	87° 1' 48.011" E		
										23° 30' 1.465" N	87° 1' 53.176" E		
										23° 29' 56.299" N	87° 1' 46.315" E		
										23° 30' 1.413" N	87° 1' 37.834" E		
45	Granite/ Quartz/ Feldspar (BNK_GR_ZONE4)	GRANITE GNEISS	122.19	50	48.87471	Virgin	Agricultural land	Yet to explore	Mejhia	23° 30' 56.155" N	87° 8' 11.966" E	No	Road network available
										23° 30' 57.761" N	87° 8' 48.907" E		
										23° 30' 20.177" N	87° 8' 49.870" E		
										23° 30' 19.000" N	87° 8' 11.859" E		
46	Granite/ Quartz/ Feldspar (BNK_GR_ZONE5)	GRANITE GNEISS	18.07	25	3.614814	Virgin	Agricultural land	Yet to explore	Mejhia	23° 36' 34.447" N	87° 2' 10.116" E	No	Road network available
										23° 36' 25.572" N	87° 2' 10.938" E		
										23° 36' 24.019" N	87° 2' 4.103" E		
										23° 36' 23.516" N	87° 1' 57.481" E		
										23° 36' 18.501" N	87° 1' 58.603" E		
										23° 36' 18.608" N	87° 1' 56.333" E		
										23° 36' 25.761" N	87° 1' 52.200" E		
										23° 36' 30.258" N	87° 1' 52.800" E		
										23° 36' 35.372" N	87° 1' 53.498" E		
47	Granite/ Quartz/ Feldspar (BNK_GR_ZONE_6)	GRANITE GNEISS	23694.77	40	7582.33	Virgin	Agricultural land/ forest land	Yet to explore	CHHATNA, INDPUR, BANKURA-I	23° 9' 15.154" N	86° 46' 42.103" E	No	Road network available
										23° 10' 55.754" N	86° 45' 34.869" E		
										23° 11' 36.860" N	86° 45' 35.638" E		
										23° 12' 2.930" N	86° 46' 5.409" E		
										23° 11' 55.196" N	86° 46' 46.209" E		
										23° 12' 4.552" N	86° 47' 12.505" E		
										23° 12' 26.045" N	86° 47' 34.243" E		
										23° 12' 37.338" N	86° 48' 0.351" E		
										23° 12' 44.518" N	86° 48' 56.024" E		
										23° 13' 1.142" N	86° 50' 39.020" E		
										23° 14' 4.851" N	86° 52' 18.141" E		
										23° 14' 33.713" N	86° 54' 49.212" E		
										23° 14' 37.000" N	86° 55' 26.212" E		
										23° 13' 43.646" N	86° 58' 54.022" E		
										23° 13' 32.364" N	87° 0' 32.931" E		
										23° 13' 0.211" N	87° 1' 33.274" E		
										23° 12' 24.423" N	87° 0' 56.135" E		
										23° 12' 3.736" N	87° 0' 12.097" E		

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										23° 11' 44.667" N	87° 0' 2.607" E		
										23° 11' 30.775" N	86° 59' 53.585" E		
										23° 10' 59.746" N	87° 0' 1.500" E		
										23° 10' 18.832" N	86° 59' 42.505" E		
										23° 9' 3.385" N	87° 0' 5.249" E		
										23° 9' 13.457" N	86° 59' 35.838" E		
										23° 9' 14.061" N	86° 58' 47.276" E		
										23° 9' 59.455" N	86° 56' 57.757" E		
										23° 10' 12.757" N	86° 56' 11.219" E		
										23° 9' 50.444" N	86° 55' 7.948" E		
										23° 8' 38.045" N	86° 54' 47.447" E		
										23° 6' 25.383" N	86° 53' 21.485" E		
										23° 6' 29.942" N	86° 52' 12.866" E		
										23° 6' 31.225" N	86° 51' 30.012" E		
										23° 7' 6.189" N	86° 49' 46.575" E		
										23° 7' 39.735" N	86° 48' 29.439" E		
48	Granite/ Quartz/ Feldspar (BNK_GR_ZONE_7)	GRANITE GNEISS	11633.97	30	2792.15	Virgin	Agricultural land/ forest land	Yet to explore	CHHATNA, INDPUR	23° 19' 12.102" N	86° 47' 29.704" E	No	Road network available
										23° 20' 50.714" N	86° 49' 14.681" E		
										23° 20' 50.081" N	86° 49' 16.438" E		
										23° 19' 44.831" N	86° 52' 17.593" E		
										23° 17' 58.556" N	86° 53' 43.375" E		
										23° 17' 42.351" N	86° 53' 25.434" E		
										23° 15' 45.118" N	86° 54' 8.001" E		
										23° 15' 37.327" N	86° 53' 28.277" E		
										23° 15' 18.703" N	86° 51' 53.376" E		
										23° 16' 11.676" N	86° 51' 13.427" E		
										23° 13' 19.247" N	86° 49' 12.287" E		
										23° 12' 55.470" N	86° 47' 26.268" E		
										23° 15' 3.269" N	86° 46' 59.296" E		
										23° 15' 54.955" N	86° 47' 15.522" E		
										23° 17' 7.815" N	86° 47' 38.400" E		
										23° 17' 48.644" N	86° 47' 44.688" E		
										23° 18' 27.780" N	86° 47' 35.911" E		
49	Granite/ Quartz/ Feldspar (BNK_GR_ZONE_8)	GrANITE GNEISS	13743.54	40	4397.93	Virgin	Agricultural land/ forest land	Yet to explore	ONDA, INDPUR, TALDANGRA	23° 4' 57.562" N	86° 53' 23.160" E	No	Road network available
										23° 6' 14.528" N	86° 53' 59.776" E		
										23° 6' 36.571" N	86° 54' 24.972" E		
										23° 6' 42.152" N	86° 54' 40.292" E		
										23° 8' 5.309" N	86° 55' 20.105" E		
										23° 8' 41.104" N	86° 56' 16.733" E		
										23° 9' 7.626" N	86° 58' 5.929" E		
										23° 8' 37.717" N	86° 59' 17.294" E		
										23° 8' 17.173" N	87° 1' 30.564" E		
										23° 7' 3.886" N	87° 2' 48.823" E		

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										23° 6' 29.415" N	87° 3' 7.933" E		
										23° 4' 50.643" N	87° 2' 34.264" E		
										23° 4' 23.669" N	87° 2' 29.749" E		
										23° 3' 25.115" N	87° 2' 45.404" E		
										23° 3' 54.307" N	87° 1' 16.936" E		
										23° 3' 40.371" N	87° 0' 44.005" E		
										23° 3' 18.976" N	87° 0' 22.986" E		
										23° 3' 0.129" N	87° 0' 5.065" E		
										23° 2' 55.336" N	86° 59' 49.491" E		
										23° 2' 57.259" N	86° 59' 12.984" E		
										23° 2' 20.834" N	86° 58' 4.165" E		
										23° 3' 19.368" N	86° 56' 54.598" E		
										23° 3' 49.929" N	86° 54' 41.807" E		
50	Granite/ Quartz/ Feldspar/ Black stone dyke (BNK_GR_BS_ZONE_01)	GrANITE GNEISS	1986.55	35	556.23	Virgin	Agricultural land/ forest land	Yet to explore	RANIBANDH	22° 48' 1.741" N	86° 36' 44.629" E	No	Road network available
										22° 49' 25.688" N	86° 37' 20.264" E		
										22° 49' 7.871" N	86° 38' 33.590" E		
										22° 48' 34.784" N	86° 39' 37.221" E		
										22° 47' 16.514" N	86° 40' 59.294" E		
										22° 46' 29.174" N	86° 41' 55.166" E		
										22° 46' 1.729" N	86° 42' 12.989" E		
										22° 45' 35.081" N	86° 42' 11.384" E		
										22° 46' 11.059" N	86° 41' 43.630" E		
										22° 46' 17.226" N	86° 40' 22.263" E		
										22° 47' 22.971" N	86° 39' 26.847" E		
										22° 47' 57.342" N	86° 37' 49.680" E		
51	Laterite/ China clay (BNK_LT_CC_ZONE1)	Sandstone	2714.13	20	434.2609	Virgin	Agricultural land	Yet to explore	Simlapal	22° 55' 16.441" N	86° 54' 59.297" E	No	Road network available
										22° 57' 23.647" N	86° 55' 7.006" E		
										22° 57' 25.091" N	86° 57' 13.342" E		
										22° 57' 26.403" N	86° 59' 8.115" E		
										22° 55' 19.197" N	86° 59' 6.830" E		
										22° 55' 18.583" N	86° 57' 12.927" E		
										22° 55' 16.869" N	86° 55' 31.848" E		
52	Laterite/ China clay (BNK_LT_CC_ZONE2)	Sandstone/ Clay	254.28	20	40.68444	Virgin	Agricultural land	Yet to explore	Sarenga, Raipur	22° 52' 17.842" N	86° 55' 46.426" E	No	Road network available
										22° 53' 26.120" N	86° 55' 40.917" E		
										22° 53' 26.456" N	86° 56' 23.174" E		
										22° 52' 18.099" N	86° 56' 29.085" E		
53	Laterite Pyroxinite (BNK_LT_PYX_ZONE1)	Sandstone/ Clay	2101.79	20	336.2871	Virgin	Agricultural land	Yet to explore	Raipur	22° 45' 39.714" N	86° 51' 15.285" E	No	Road network available
										22° 45' 44.584" N	86° 53' 55.508" E		
										22° 43' 20.567" N	86° 54' 7.822" E		
										22° 43' 7.597" N	86° 51' 25.697" E		
54	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE1)	Sandstone/ Clay	1460.45	20	233.6717	Virgin	Agricultural land	Yet to explore	Onda	22° 59' 45.595" N	87° 9' 2.908" E	No	Road network available
										23° 1' 54.941" N	87° 9' 0.751" E		
										23° 2' 0.510" N	87° 11' 2.833" E		

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										22° 59' 41.847" N	87° 11' 9.793" E		
55	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE2)	Sandstone/ Clay	5691.28	20	910.6041	Virgin	Agricultural land	Yet to explore	Joypur	22° 55' 18.604" N	87° 25' 32.954" E	No	Road network available
										23° 1' 35.107" N	87° 25' 35.745" E		
										23° 1' 33.394" N	87° 28' 31.349" E		
										22° 54' 53.466" N	87° 28' 10.385" E		
										22° 54' 53.977" N	87° 27' 25.598" E		
										22° 55' 10.467" N	87° 26' 45.337" E		
56	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE3)	Sandstone/ Clay	19138.27	20	3062.123	Virgin	Agricultural land	Yet to explore	Bankura-I, Onda, Indpur	23° 5' 15.188" N	87° 11' 25.469" E	No	Road network available
										23° 4' 16.939" N	87° 11' 28.895" E		
										23° 4' 17.004" N	87° 13' 32.280" E		
										23° 4' 51.274" N	87° 13' 31.668" E		
										23° 4' 53.844" N	87° 16' 16.137" E		
										23° 3' 16.191" N	87° 16' 16.137" E		
										23° 3' 18.761" N	87° 9' 26.251" E		
										23° 4' 16.715" N	87° 9' 28.183" E		
										23° 4' 16.253" N	87° 5' 18.156" E		
										23° 2' 26.608" N	87° 5' 22.268" E		
										23° 2' 25.922" N	87° 2' 26.835" E		
										23° 6' 11.381" N	87° 2' 22.723" E		
										23° 6' 10.011" N	87° 3' 26.455" E		
										23° 6' 29.921" N	87° 3' 45.431" E		
										23° 7' 0.036" N	87° 3' 46.328" E		
										23° 6' 59.351" N	87° 2' 56.302" E		
										23° 11' 17.018" N	87° 2' 54.932" E		
										23° 11' 18.389" N	87° 3' 31.252" E		
										23° 11' 17.703" N	87° 7' 31.787" E		
										23° 7' 13.057" N	87° 7' 38.640" E		
										23° 7' 6.889" N	87° 12' 53.871" E		
										23° 5' 17.285" N	87° 12' 56.480" E		
57	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE4)	Sandstone/ Clay	417.37	20	66.7794	Virgin	Agricultural land	Yet to explore	Barjora	23° 21' 49.750" N	87° 14' 57.353" E	No	Road network available
										23° 21' 53.450" N	87° 16' 20.821" E		
										23° 20' 53.008" N	87° 16' 31.717" E		
										23° 21' 12.333" N	87° 14' 40.701" E		
58	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE5)	Sandstone/ Clay	30298.63	20	4847.781	Virgin	Agricultural land	Yet to explore	Bankura-II, Sonamukhi, Barjora, Bishnupur	23° 15' 9.373" N	87° 29' 31.424" E	No	Road network available
										23° 12' 58.740" N	87° 29' 34.636" E		
										23° 12' 44.257" N	87° 23' 26.103" E		
										23° 8' 59.349" N	87° 23' 35.553" E		
										23° 8' 34.807" N	87° 14' 38.141" E		
										23° 12' 12.536" N	87° 11' 41.144" E		
										23° 13' 55.671" N	87° 9' 51.331" E		
										23° 12' 10.807" N	87° 13' 52.283" E		
										23° 18' 21.681" N	87° 9' 51.021" E		
										23° 18' 46.308" N	87° 13' 26.243" E		

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										23° 17' 24.318" N	87° 17' 48.627" E		
										23° 18' 35.073" N	87° 23' 17.886" E		
										23° 16' 28.555" N	87° 23' 19.017" E		
										23° 16' 28.056" N	87° 27' 22.187" E		
59	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE6)	Sandstone/ Clay	7499.81	20	1199.97	Virgin	Agricultural land	Yet to explore	Barjora	23° 23' 44.928" N	87° 12' 5.328" E	No	Road network available
										23° 27' 29.251" N	87° 12' 12.288" E		
										23° 27' 26.939" N	87° 14' 56.392" E		
										23° 27' 29.298" N	87° 17' 30.034" E		
										23° 23' 1.182" N	87° 17' 26.778" E		
										23° 22' 58.468" N	87° 12' 3.301" E		
60	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE_7)	Sandstone/ Clay	23851.95	25	4770.39	Virgin	Agricultural land	Yet to explore	SONAMUKHI, PATRASAYAR, INDUS, BISHNUPUR	23° 9' 59.685" N	87° 16' 15.266" E	No	Road network available
										23° 11' 55.094" N	87° 16' 9.763" E		
										23° 13' 0.765" N	87° 38' 18.221" E		
										23° 8' 53.420" N	87° 39' 12.830" E		
										23° 9' 19.767" N	87° 16' 16.294" E		
61	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE_8)	Sandstone/ Clay	12125.25	25	2425.05	Virgin	Agricultural land	Yet to explore	BISHNUPUR, JOYPUR	23° 3' 11.962" N	87° 17' 42.061" E	No	Road network available
										23° 4' 20.491" N	87° 24' 55.504" E		
										22° 56' 32.716" N	87° 24' 36.068" E		
										22° 57' 5.875" N	87° 22' 18.601" E		
										22° 59' 27.407" N	87° 22' 35.169" E		
										23° 0' 25.781" N	87° 19' 59.118" E		
										22° 57' 35.139" N	87° 20' 20.993" E		
										22° 56' 51.629" N	87° 18' 36.884" E		
62	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE_9)	Sandstone/ Clay	4813.30	25	962.66	Virgin	Agricultural land	Yet to explore	SIMLAPAL, TALDANGRA	22° 58' 52.345" N	87° 10' 11.279" E	No	Road network available
										23° 0' 13.547" N	87° 12' 55.718" E		
										22° 55' 20.401" N	87° 14' 38.319" E		
										22° 54' 5.876" N	87° 12' 0.276" E		
63	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE_10)	Sandstone/ Clay	4143.47	25	828.69	Virgin	Agricultural land	Yet to explore	SIMLAPAL	22° 57' 11.931" N	87° 2' 31.832" E	No	Road network available
										22° 59' 25.561" N	87° 5' 3.451" E		
										22° 55' 31.708" N	87° 8' 57.305" E		
										22° 54' 40.312" N	87° 7' 36.355" E		
64	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE_11)	Sandstone/ Clay	3065.98	25	613.20	Virgin	Agricultural land	Yet to explore	SARENGA	22° 49' 49.256" N	87° 0' 41.171" E	No	Road network available
										22° 50' 42.839" N	87° 2' 43.225" E		
										22° 46' 35.471" N	87° 3' 55.794" E		
										22° 45' 43.252" N	87° 1' 43.134" E		
65	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE_12)	Sandstone/ Clay	3989.64	25	797.93	Virgin	Agricultural land	Yet to explore	RAIPUR	22° 44' 8.057" N	86° 55' 24.626" E	No	Road network available
										22° 42' 17.372" N	86° 57' 53.683" E		
										22° 39' 0.765" N	86° 56' 1.048" E		
										22° 39' 58.389" N	86° 53' 14.190" E		
66	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE_13)	Sandstone/ Clay	1774.48	25	354.90	Virgin	Agricultural land	Yet to explore	TALDANGRA	23° 1' 39.293" N	87° 0' 21.215" E	No	Road network available
										23° 1' 49.921" N	87° 0' 39.802" E		
										23° 2' 4.312" N	87° 0' 42.543" E		
										23° 2' 19.363" N	87° 0' 23.246" E		

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										23° 2' 39.947" N	87° 0' 4.853" E		
										23° 2' 56.087" N	87° 0' 5.612" E		
										23° 2' 35.150" N	87° 1' 53.128" E		
										23° 1' 10.860" N	87° 1' 48.331" E		
										23° 1' 3.321" N	87° 3' 53.052" E		
										22° 59' 55.478" N	87° 3' 40.032" E		
										23° 0' 4.387" N	87° 0' 58.990" E		
										23° 0' 54.413" N	87° 0' 48.711" E		
										23° 1' 11.697" N	87° 0' 23.265" E		
67	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE_14)	Sandstone/ Clay	1262.58	25	252.52	Virgin	Agricultural land	Yet to explore	SIMLAPAL	22° 54' 53.627" N	86° 58' 53.133" E	No	Road network available
										22° 56' 23.400" N	87° 0' 48.261" E		
										22° 55' 17.612" N	87° 1' 49.937" E		
										22° 54' 7.713" N	87° 1' 1.282" E		
										22° 54' 13.881" N	86° 59' 5.468" E		
68	Laterite/ China clay/ Fire Clay (BNK_LT_ZONE_15)	Sandstone/ Clay	779.74	25	155.9474	Virgin	Agricultural land	Yet to explore	RAIPUR	22° 48' 7.573" N	86° 54' 10.098" E	No	Road network available
										22° 49' 19.928" N	86° 54' 47.561" E		
										22° 48' 36.070" N	86° 56' 13.907" E		
										22° 47' 8.778" N	86° 55' 42.047" E		
69	Pyroxinite (BNK_PYX_ZONE 1)	GRANITE GNEISS	14.26	30	3.423142	Virgin	Agricultural land/ forest land	Yet to explore	Hirabandh	23° 2' 59.481" N	86° 49' 26.333" E	No	Road network available
										23° 3' 5.169" N	86° 49' 27.840" E		
										23° 3' 0.577" N	86° 49' 52.031" E		
										23° 2' 53.485" N	86° 49' 51.311" E		
70	Quartzo Feldspar (BNK_QRFS_ZONE1)	GRANITE GNEISS	158.31	15	18.99676	Virgin	Agricultural land	Yet to explore	Ranibadh	22° 51' 31.524" N	86° 44' 51.383" E	No	Road network available
										22° 51' 45.229" N	86° 46' 34.689" E		
										22° 51' 27.840" N	86° 46' 36.831" E		
										22° 51' 14.477" N	86° 44' 54.124" E		
71	Quartzo Feldspar (BNK_QRFS_ZONE2)	GRANITE GNEISS	4.15	15	0.49764	Virgin	Agricultural land	Yet to explore	Ranibadh	22° 53' 12.919" N	86° 49' 55.737" E	No	Road network available
										22° 53' 13.339" N	86° 49' 48.456" E		
										22° 53' 19.669" N	86° 49' 48.785" E		
										22° 53' 19.686" N	86° 49' 51.783" E		
										22° 53' 19.709" N	86° 49' 55.922" E		
72	Quartzo Feldspar (BNK_QRFS_ZONE3)	GRANITE GNEISS	490.19	15	58.82286	Virgin	Agricultural land	Yet to explore	Ranibadh	22° 45' 32.789" N	86° 44' 45.379" E	No	Road network available
										22° 46' 26.485" N	86° 44' 46.746" E		
										22° 46' 21.741" N	86° 46' 31.835" E		
										22° 45' 28.795" N	86° 46' 29.689" E		
73	Quartzo Feldspar (BNK_QRFS_ZONE4)	GRANITE GNEISS	198.63	15	23.83533	Virgin	Agricultural land	Yet to explore	Chhatna	23° 11' 2.732" N	86° 50' 14.255" E	No	Road network available
										23° 11' 5.627" N	86° 51' 28.959" E		
										23° 10' 33.695" N	86° 51' 30.091" E		
										23° 10' 34.790" N	86° 50' 15.082" E		
74	Quartzite (BNK_QRT_ZONE 1)	GRANITE GNEISS & PARAGNEIS	28.03	15	3.363188	Virgin	Agricultural land	Yet to explore	Indpur	23° 9' 0.542" N	86° 47' 10.978" E	No	Road network available
										23° 9' 10.205" N	86° 47' 11.543" E		
										23° 9' 7.532" N	86° 47' 43.255" E		
										23° 8' 56.945" N	86° 47' 42.021" E		

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75	Quartzite (BNK_QRT_ZONE 2)	GRANITE GNEISS & PARAGNEIS	61.09	15	7.330653	Virgin	Agricultural land/ forest land	Yet to explore	Ranibadh	22° 50' 34.065" N	86° 39' 19.017" E	No	Road network available
										22° 50' 29.984" N	86° 39' 49.428" E		
										22° 50' 8.462" N	86° 39' 44.503" E		
										22° 50' 14.250" N	86° 39' 10.641" E		
76	Quartz/ Pegmatite (BNK_QT_ZONE_ 1)	Granite Gneiss	157.82	25	31.56363	Virgin	Agricultural land/ forest land	Yet to explore	CHHATNA	23° 19' 18.193" N	86° 50' 12.467" E	No	Road network available
										23° 19' 53.828" N	86° 51' 25.107" E		
										23° 19' 15.452" N	86° 51' 31.960" E		
										23° 19' 23.675" N	86° 51' 9.346" E		
										23° 18' 59.005" N	86° 50' 27.543" E		
77	Quartz/ Pegmatite (BNK_QT_ZONE_ 2)	Granite Gneiss	482.51	25	96.50233	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 18' 34.335" N	86° 51' 36.757" E	No	Road network available
										23° 19' 29.843" N	86° 52' 21.301" E		
										23° 18' 28.852" N	86° 53' 20.920" E		
										23° 17' 42.938" N	86° 52' 37.062" E		
78	Quartz/ Pegmatite (BNK_QT_ZONE_ 3)	Granite Gneiss	214.47	25	42.895	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 16' 53.598" N	86° 52' 25.412" E	No	Road network available
										23° 17' 13.471" N	86° 52' 45.971" E		
										23° 16' 46.060" N	86° 53' 49.702" E		
										23° 16' 11.110" N	86° 53' 31.885" E		
79	Quartz/ Pegmatite (BNK_QT_ZONE_ 4)	Granite Gneiss	596.58	25	119.3155	Virgin	Agricultural land	Yet to explore	CHHATNA, BANKURA-I	23° 17' 46.416" N	86° 57' 28.856" E	No	Road network available
										23° 17' 42.990" N	86° 58' 8.603" E		
										23° 16' 18.014" N	86° 57' 59.009" E		
										23° 15' 7.430" N	86° 57' 18.577" E		
										23° 15' 14.968" N	86° 56' 50.480" E		
80	Quartz/ Pegmatite (BNK_QT_ZONE_ 5)	Mica schist	856.94	25	171.388	Virgin	Agricultural land/ forest land	Yet to explore	HIRABANDH	23° 3' 54.680" N	86° 44' 57.128" E	No	Road network available
										23° 4' 24.126" N	86° 45' 26.573" E		
										23° 3' 35.942" N	86° 47' 7.225" E		
										23° 3' 9.708" N	86° 47' 6.689" E		
										23° 2' 58.465" N	86° 46' 19.040" E		
										23° 2' 28.484" N	86° 45' 56.555" E		
										23° 2' 20.454" N	86° 46' 13.687" E		
										23° 1' 50.472" N	86° 46' 13.151" E		
										23° 2' 34.909" N	86° 44' 53.380" E		
										23° 3' 20.951" N	86° 45' 38.352" E		
81	Quartz/ Pegmatite (BNK_QT_ZONE_ 6)	Granite Gneiss	43.17	25	8.633978	Virgin	Agricultural land	Yet to explore	HIRABANDH	23° 7' 14.318" N	86° 43' 16.823" E	No	Road network available
										23° 7' 17.136" N	86° 43' 25.276" E		
										23° 6' 28.310" N	86° 43' 57.185" E		
										23° 6' 21.481" N	86° 43' 52.644" E		
82	Quartz/ Pegmatite (BNK_QT_ZONE_ 7)	Mica schist	52.65	25	10.52941	Virgin	Agricultural land	Yet to explore	HIRABANDH	23° 4' 47.367" N	86° 45' 51.962" E	No	Road network available
										23° 6' 13.028" N	86° 45' 56.245" E		
										23° 6' 3.879" N	86° 48' 43.846" E		
										23° 4' 46.850" N	86° 48' 45.168" E		
83	Quartz/ Pegmatite (BNK_QT_ZONE_ 8)	Anorthosite	47.55	25	9.509912	Virgin	Agricultural land	Yet to explore	MEJHIA, SALTORA	23° 30' 33.543" N	87° 4' 14.681" E	No	Road network available
										23° 30' 43.856" N	87° 5' 11.127" E		
										23° 30' 5.863" N	87° 5' 21.981" E		

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										23° 30' 0.048" N	87° 4' 26.621" E		
84	Quartz/ Pegmatite (BNK_QT_ZONE_9)	Mica schist	354.78	25	70.95518	Virgin	Agricultural land/ forest land	Yet to explore	KHATRA	22° 58' 44.686" N	86° 52' 27.726" E	No	Road network available
										22° 58' 59.077" N	86° 53' 23.919" E		
										22° 57' 58.772" N	86° 54' 30.392" E		
										22° 57' 38.899" N	86° 54' 11.204" E		
										22° 58' 23.442" N	86° 52' 54.452" E		
85	Quartz/ Pegmatite (BNK_QT_ZONE_10)	Mica schist	262.45	25	52.49099	Virgin	Agricultural land/ forest land	Yet to explore	KHATRA, RANIBANDH	22° 57' 45.185" N	86° 47' 8.141" E	No	Road network available
										22° 57' 56.911" N	86° 50' 31.845" E		
										22° 57' 8.918" N	86° 50' 36.179" E		
										22° 56' 49.922" N	86° 48' 9.638" E		
86	Quartz/ Pegmatite (BNK_QT_ZONE_11)	Mica schist	136.02	25	27.20452	Virgin	Agricultural land/ forest land	Yet to explore	RANIBANDH	22° 53' 2.052" N	86° 47' 0.760" E	No	Road network available
										22° 53' 21.325" N	86° 47' 30.570" E		
										22° 53' 38.800" N	86° 48' 27.620" E		
										22° 53' 29.549" N	86° 48' 36.101" E		
										22° 53' 7.962" N	86° 47' 50.872" E		
										22° 52' 50.745" N	86° 47' 5.900" E		
87	Quartz/ Pegmatite (BNK_QT_ZONE_12)	Granite Gneiss	85.25	25	17.04915	Virgin	Agricultural land	Yet to explore	INDPUR	23° 5' 9.298" N	86° 53' 53.110" E	No	Road network available
										23° 6' 19.968" N	86° 55' 39.115" E		
										23° 5' 27.501" N	86° 56' 44.431" E		
										23° 3' 53.274" N	86° 54' 52.002" E		
88	Quartz/ Pegmatite (BNK_QT_ZONE_13)	Granite Gneiss	57.31	25	11.462	Virgin	Agricultural land/ forest land	Yet to explore	HIRABANDH,KHATRA	23° 2' 49.029" N	86° 51' 47.831" E	No	Road network available
										23° 3' 12.585" N	86° 54' 5.959" E		
										23° 2' 15.835" N	86° 54' 25.233" E		
										23° 1' 55.993" N	86° 52' 54.020" E		
										23° 1' 49.340" N	86° 52' 23.435" E		
89	Quartz/ Pegmatite (BNK_QT_ZONE_14)	Granite Gneiss	242.09	25	48.4175	Virgin	Agricultural land	Yet to explore	CHHATNA,BANKURA-I,INDPUR	23° 14' 28.662" N	86° 50' 1.098" E	No	Road network available
										23° 15' 22.628" N	86° 53' 42.103" E		
										23° 10' 36.229" N	86° 54' 45.706" E		
										23° 10' 25.521" N	86° 52' 58.630" E		
										23° 13' 47.894" N	86° 50' 35.148" E		
90	Quartz/ Pegmatite (BNK_QT_ZONE_15)	Granite Gneiss	5.18	25	1.035528	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 22' 47.027" N	86° 56' 51.761" E	No	Road network available
										23° 22' 53.370" N	86° 56' 55.387" E		
										23° 22' 51.187" N	86° 57' 3.029" E		
										23° 22' 43.984" N	86° 56' 58.479" E		
91	Quartz/ Pegmatite (BNK_QT_ZONE_16)	Granite Gneiss	8.41	25	1.681394	Virgin	Agricultural land	Yet to explore	SALTORA	23° 33' 58.590" N	86° 57' 39.954" E	No	Road network available
										23° 34' 2.273" N	86° 57' 30.558" E		
										23° 34' 9.940" N	86° 57' 37.625" E		
										23° 34' 7.027" N	86° 57' 46.577" E		
92	Quartz/ Pegmatite (BNK_QT_ZONE_17)	Granite Gneiss	4.02	25	0.80434	Virgin	Agricultural land	Yet to explore	CHHATNA	23° 23' 5.644" N	86° 56' 51.594" E	No	Road network available
										23° 23' 9.284" N	86° 56' 55.020" E		
										23° 23' 5.601" N	86° 57' 1.573" E		
										23° 23' 0.033" N	86° 56' 59.175" E		
93	Quartz/ Pegmatite	Mica schist	29.91	25	5.98121	Virgin	Agricultu	Yet to	RANIBANDH	22° 46' 54.974" N	86° 42' 15.430" E	No	Road

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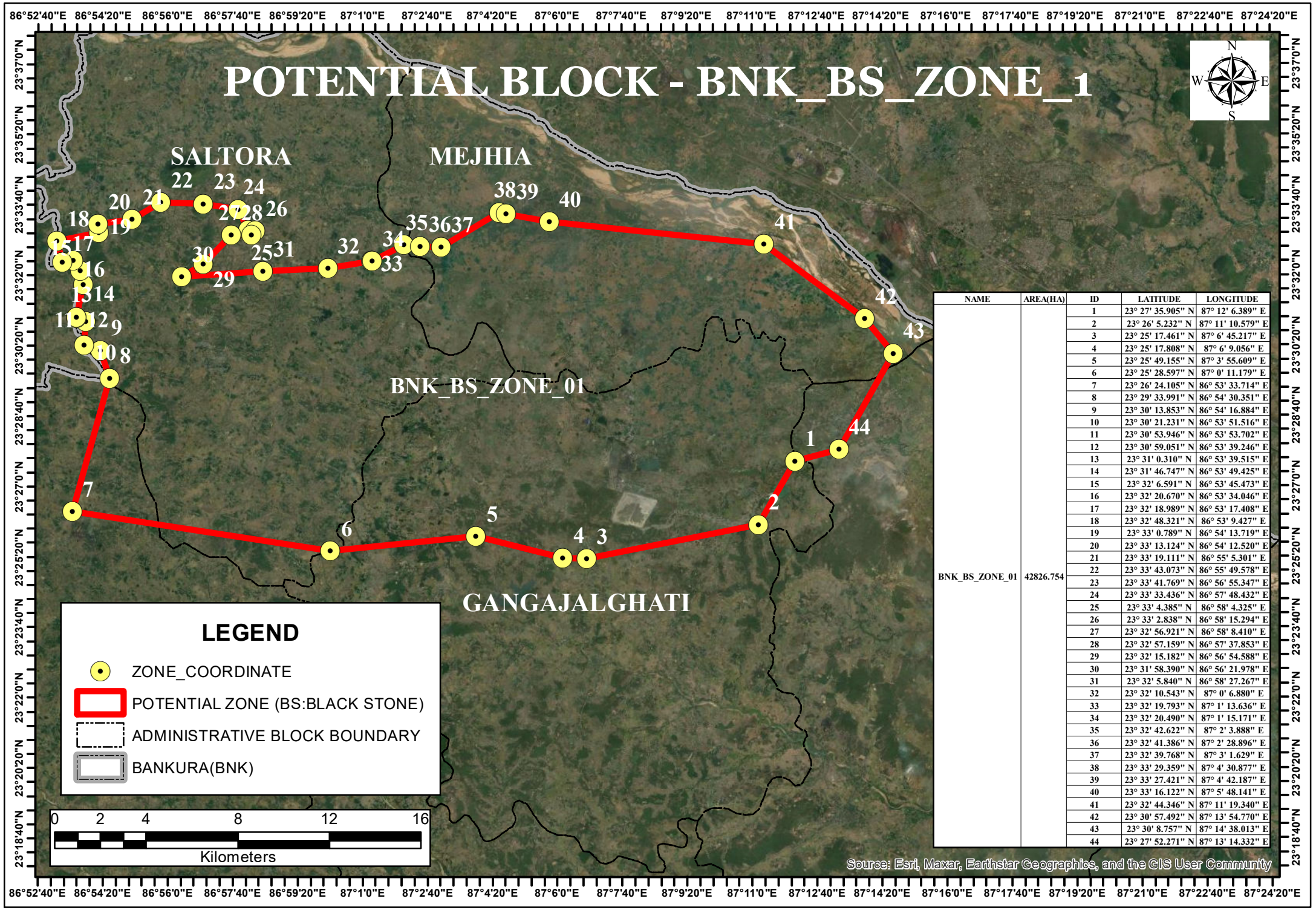
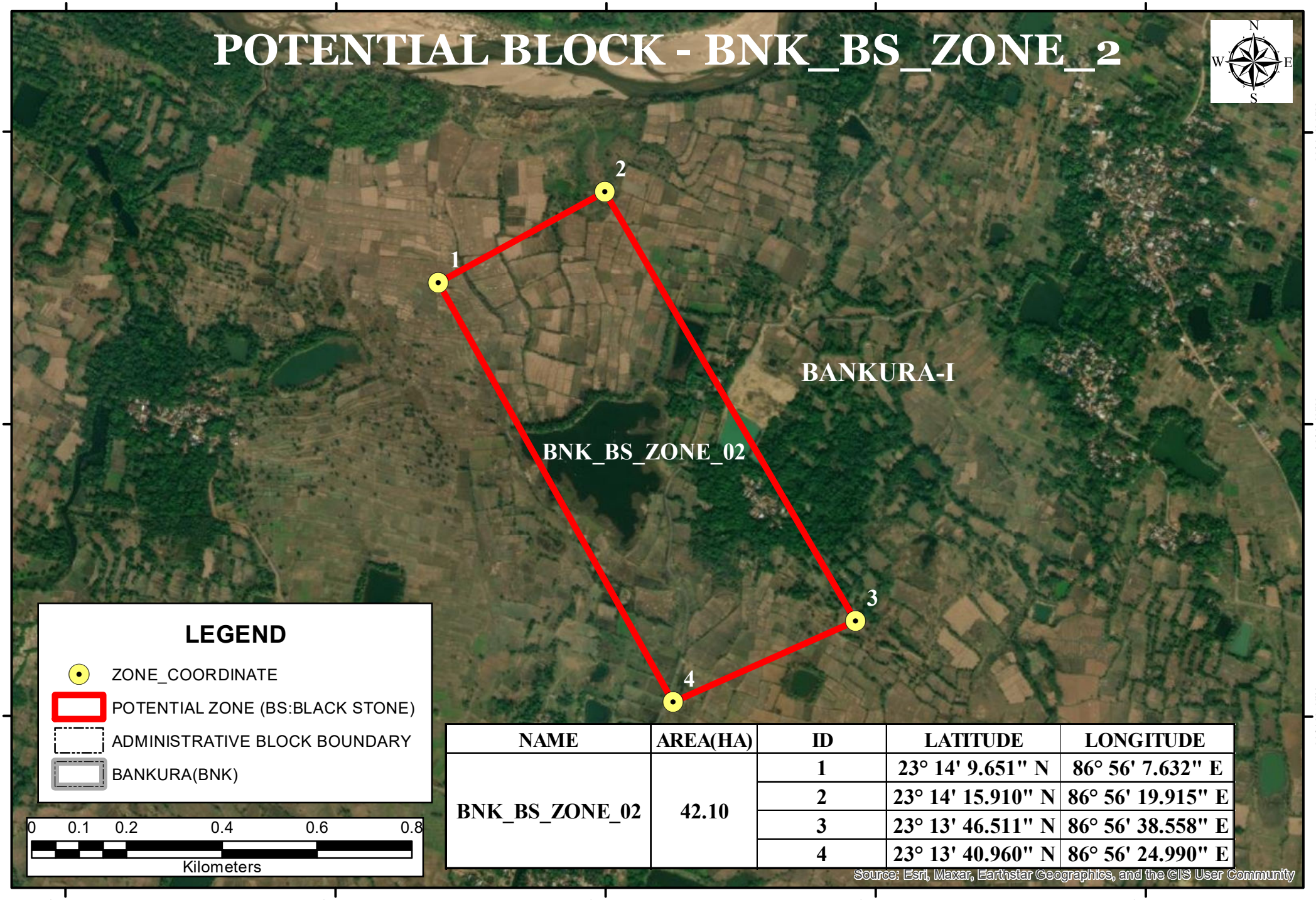
	(BNK_QT_ZONE_18)				7		ral land/ forest land	explore		22° 46' 47.504" N	86° 42' 6.110" E		network available
										22° 47' 3.591" N	86° 41' 49.226" E		
										22° 47' 15.379" N	86° 42' 0.514" E		
94	Quartz/ Pegmatite (BNK_QT_ZONE_19)	Mica schist	28.37	25	5.673968	Virgin	Agricultural land/ forest land	Yet to explore	RANIBANDH	22° 48' 54.693" N	86° 41' 5.302" E	No	Road network available
										22° 49' 9.906" N	86° 41' 16.609" E		
										22° 49' 4.698" N	86° 41' 30.041" E		
										22° 48' 46.401" N	86° 41' 23.188" E		
95	Quartz Quarzite (BNK_QTZ_QRT_ZONE_01)	Granite Gneiss	49.48	20	7.9168	Partially excavated	Agricultural land	Partially explored	Hirbandh	23° 6' 19.774" N	86° 44' 0.680" E	No	Road network available
										23° 6' 33.685" N	86° 44' 33.094" E		
										23° 6' 19.843" N	86° 44' 41.112" E		
										23° 6' 5.657" N	86° 44' 6.094" E		
96	Quartzite/ Quartz (BNK_QTZ_ZONE_1)	Granite Gneiss	875.37	25	175.0736	Virgin	Agricultural land/ forest land	Yet to explore	CHHATNA, GANGAJALGHATI	23° 24' 36.041" N	86° 58' 37.031" E	No	Road network available
										23° 24' 14.874" N	87° 0' 35.892" E		
										23° 22' 51.291" N	87° 0' 26.123" E		
										23° 23' 11.915" N	86° 58' 29.975" E		
97	Quartzite/ Quartz (BNK_QTZ_ZONE_2)	Granite Gneiss	178.99	25	35.79805	Virgin	Agricultural land/ forest land	Yet to explore	GANGAJALGHATI	23° 23' 33.150" N	87° 6' 48.952" E	No	Road network available
										23° 23' 39.575" N	87° 8' 1.764" E		
										23° 23' 7.452" N	87° 7' 52.127" E		
										23° 23' 2.098" N	87° 6' 54.306" E		
98	Quartzite/ Quartz (BNK_QTZ_ZONE_3)	Granite Gneiss	431.17	25	86.23373	Virgin	Agricultural land	Yet to explore	HIRABANDH	23° 6' 43.319" N	86° 50' 8.436" E	No	Road network available
										23° 6' 32.183" N	86° 51' 10.112" E		
										23° 5' 12.519" N	86° 51' 7.542" E		
										23° 5' 5.666" N	86° 50' 17.859" E		
99	Quartzite/ Quartz (BNK_QTZ_ZONE_4)	Mica schist	231.60	25	46.32	Virgin	Agricultural Land	Yet to explore	HIRABANDH, KHATRA	23° 2' 56.063" N	86° 47' 19.809" E	No	Road network available
										23° 2' 10.320" N	86° 51' 16.232" E		
										23° 1' 46.250" N	86° 52' 0.519" E		
										23° 1' 33.401" N	86° 51' 56.236" E		
										23° 1' 40.510" N	86° 47' 25.976" E		
100	Quartzite/ Quartz (BNK_QTZ_ZONE_5)	Mica schist	134.98	25	27.00	Virgin	Agricultural/ Forest land	Yet to explore	RANIBANDH	22° 51' 6.128" N	86° 43' 5.777" E	No	Road network available
										22° 51' 46.520" N	86° 43' 15.024" E		
										22° 52' 37.330" N	86° 46' 0.352" E		
										22° 52' 16.771" N	86° 46' 3.436" E		
										22° 51' 4.747" N	86° 43' 19.213" E		
101	Quartzite/ Quartz (BNK_QTZ_ZONE_6)	Mica schist	43.57	25	8.713289	Virgin	Agricultural land	Yet to explore	RANIBANDH	22° 50' 51.354" N	86° 39' 42.472" E	No	Road network available
										22° 50' 43.474" N	86° 40' 49.459" E		
										22° 50' 36.107" N	86° 40' 50.487" E		
										22° 50' 43.988" N	86° 39' 41.958" E		
102	Quartzite/ Quartz (BNK_QTZ_ZONE_7)	Granite Gneiss	23.40	25	4.680358	Virgin	Agricultural land	Yet to explore	BANKURA-I	23° 13' 34.052" N	86° 58' 35.762" E	No	Road network available
										23° 13' 38.164" N	86° 58' 47.583" E		
										23° 10' 50.852" N	86° 59' 24.520" E		
										23° 10' 40.572" N	86° 58' 40.833" E		
103	Quartzite/ Quartz (BNK_QTZ_ZONE	Granite Gneiss	31.34	25	6.267656	Virgin	Agricultural land	Yet to explore	HIRABANH, INDPUR	23° 7' 46.531" N	86° 47' 21.274" E	No	Road network
										23° 8' 55.059" N	86° 48' 37.341" E		

Sr. No	Name of the Mineral (Zone-Code)	Host rock of mineralization	Area of mineralized zone (Ha)	Depth of mineralization	Geological resource (mcum)	Whether virgin or partially excavated	Nature of land (whether free for mining / forest / agriculture)	Mineral reserve (approx..) mentioning grade	Administrative block	Co-ordinate		Area within prohibited zone as per Rule 3 of 7 WBMNC Rules 2016	Infrastructure available near the mineralized zone
	_8)									23° 8' 24.907" N	86° 49' 6.122" E		available
										23° 7' 13.637" N	86° 48' 1.706" E		
104	Quartzo Mica (BNK_QTZ_M_ZONE1)	GRANITE GNEISS & PARAGNEIS	0.47	15	0.056012	Virgin	Agricultural land	Yet to explore	Gangajal Ghati	23° 25' 59.661" N	87° 2' 46.790" E	No	Road network available
										23° 26' 0.407" N	87° 2' 49.437" E		
										23° 25' 58.813" N	87° 2' 50.208" E		
										23° 25' 57.940" N	87° 2' 46.764" E		
105	Silica Sand (BNK_SS_ZONE1)	Sandstone/ Clay	47.81	20	7.649485	Partially excavated	Agricultural land	Partially explored	Sonamukhi	23° 16' 22.433" N	87° 22' 25.721" E	No	Road network available
										23° 16' 24.146" N	87° 22' 59.771" E		
										23° 16' 7.866" N	87° 23' 0.643" E		
										23° 16' 6.828" N	87° 22' 26.158" E		
106	Silica Sand (BNK_SS_ZONE2)	Sandstone/ Clay	4.88	20	0.780075	Partially excavated	Agricultural land	Partially explored	Simlapal	22° 56' 5.137" N	87° 10' 2.465" E	No	Road network available
										22° 56' 4.537" N	87° 10' 12.701" E		
										22° 55' 57.235" N	87° 10' 10.345" E		
										22° 55' 58.220" N	87° 10' 6.298" E		
										22° 56' 2.589" N	87° 10' 2.293" E		

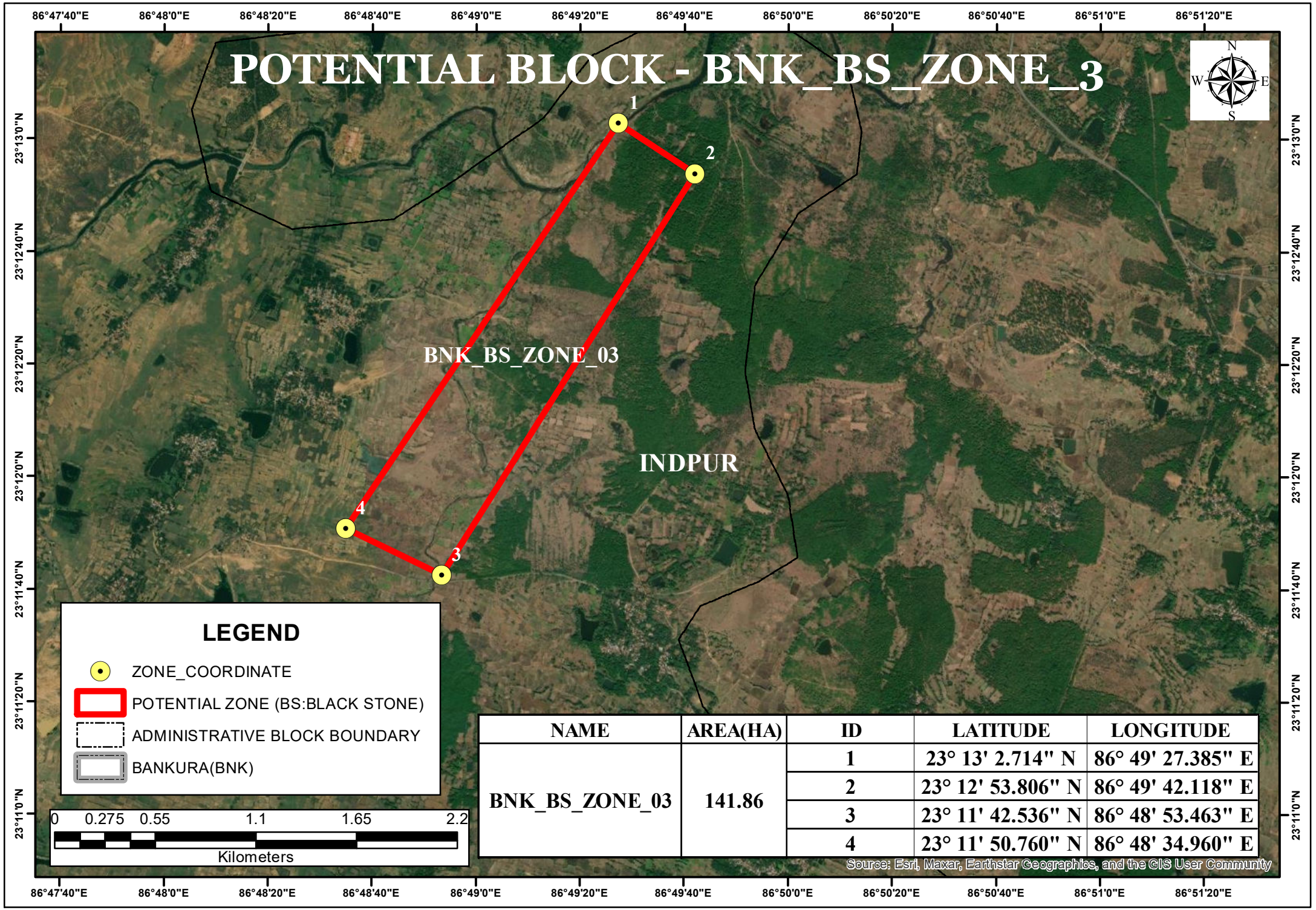


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_01	42826.754	1	23° 27' 35.905" N	87° 12' 6.389" E
		2	23° 26' 5.232" N	87° 11' 10.579" E
		3	23° 25' 17.461" N	87° 6' 45.217" E
		4	23° 25' 17.808" N	87° 6' 9.056" E
		5	23° 25' 49.155" N	87° 3' 55.609" E
		6	23° 25' 28.597" N	87° 0' 11.179" E
		7	23° 26' 24.105" N	86° 53' 33.714" E
		8	23° 29' 33.991" N	86° 54' 30.351" E
		9	23° 30' 13.853" N	86° 54' 16.884" E
		10	23° 30' 21.231" N	86° 53' 51.516" E
		11	23° 30' 53.946" N	86° 53' 53.702" E
		12	23° 30' 59.051" N	86° 53' 39.246" E
		13	23° 31' 0.310" N	86° 53' 39.515" E
		14	23° 31' 46.747" N	86° 53' 49.425" E
		15	23° 32' 6.591" N	86° 53' 45.473" E
		16	23° 32' 20.670" N	86° 53' 34.046" E
		17	23° 32' 18.989" N	86° 53' 17.408" E
		18	23° 32' 48.321" N	86° 53' 9.427" E
		19	23° 33' 0.789" N	86° 54' 13.719" E
		20	23° 33' 13.124" N	86° 54' 12.520" E
		21	23° 33' 19.111" N	86° 55' 5.301" E
		22	23° 33' 43.073" N	86° 55' 49.578" E
		23	23° 33' 41.769" N	86° 56' 55.347" E
		24	23° 33' 33.436" N	86° 57' 48.432" E
		25	23° 33' 4.385" N	86° 58' 4.325" E
		26	23° 33' 2.838" N	86° 58' 15.294" E
		27	23° 32' 56.921" N	86° 58' 8.410" E
		28	23° 32' 57.159" N	86° 57' 37.853" E
		29	23° 32' 15.182" N	86° 56' 54.588" E
		30	23° 31' 58.390" N	86° 56' 21.978" E
		31	23° 32' 5.840" N	86° 58' 27.267" E
		32	23° 32' 10.543" N	87° 0' 6.880" E
		33	23° 32' 19.793" N	87° 1' 13.636" E
		34	23° 32' 20.490" N	87° 1' 15.171" E
		35	23° 32' 42.622" N	87° 2' 3.888" E
		36	23° 32' 41.386" N	87° 2' 28.896" E
		37	23° 32' 39.768" N	87° 3' 1.629" E
		38	23° 33' 29.359" N	87° 4' 30.877" E
		39	23° 33' 27.421" N	87° 4' 42.187" E
		40	23° 33' 16.122" N	87° 5' 48.141" E
		41	23° 32' 44.346" N	87° 11' 19.340" E
		42	23° 30' 57.492" N	87° 13' 54.770" E
		43	23° 30' 8.757" N	87° 14' 38.013" E
		44	23° 27' 52.271" N	87° 13' 14.332" E

POTENTIAL BLOCK - BNK_BS_ZONE_2

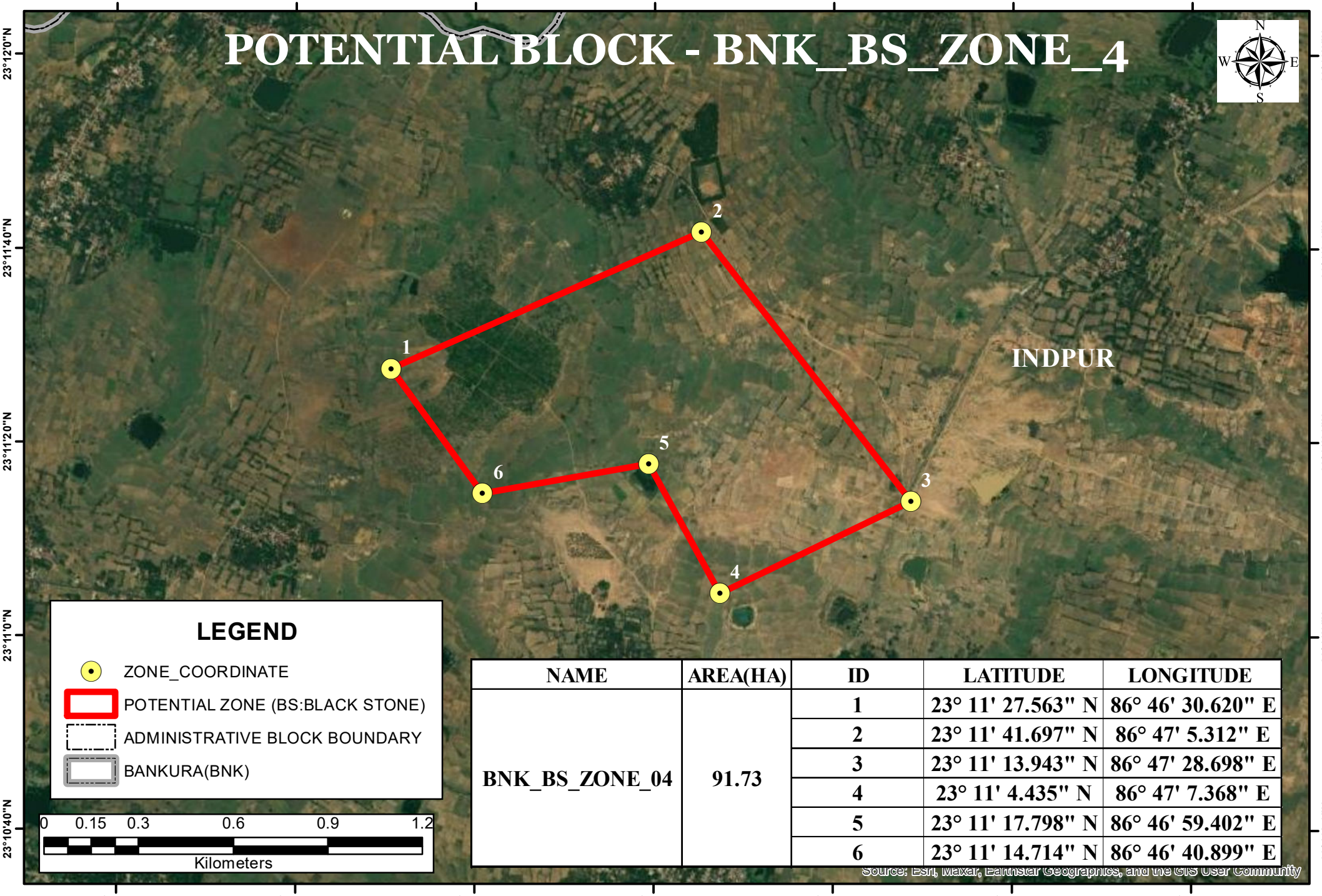


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_02	42.10	1	23° 14' 9.651" N	86° 56' 7.632" E
		2	23° 14' 15.910" N	86° 56' 19.915" E
		3	23° 13' 46.511" N	86° 56' 38.558" E
		4	23° 13' 40.960" N	86° 56' 24.990" E



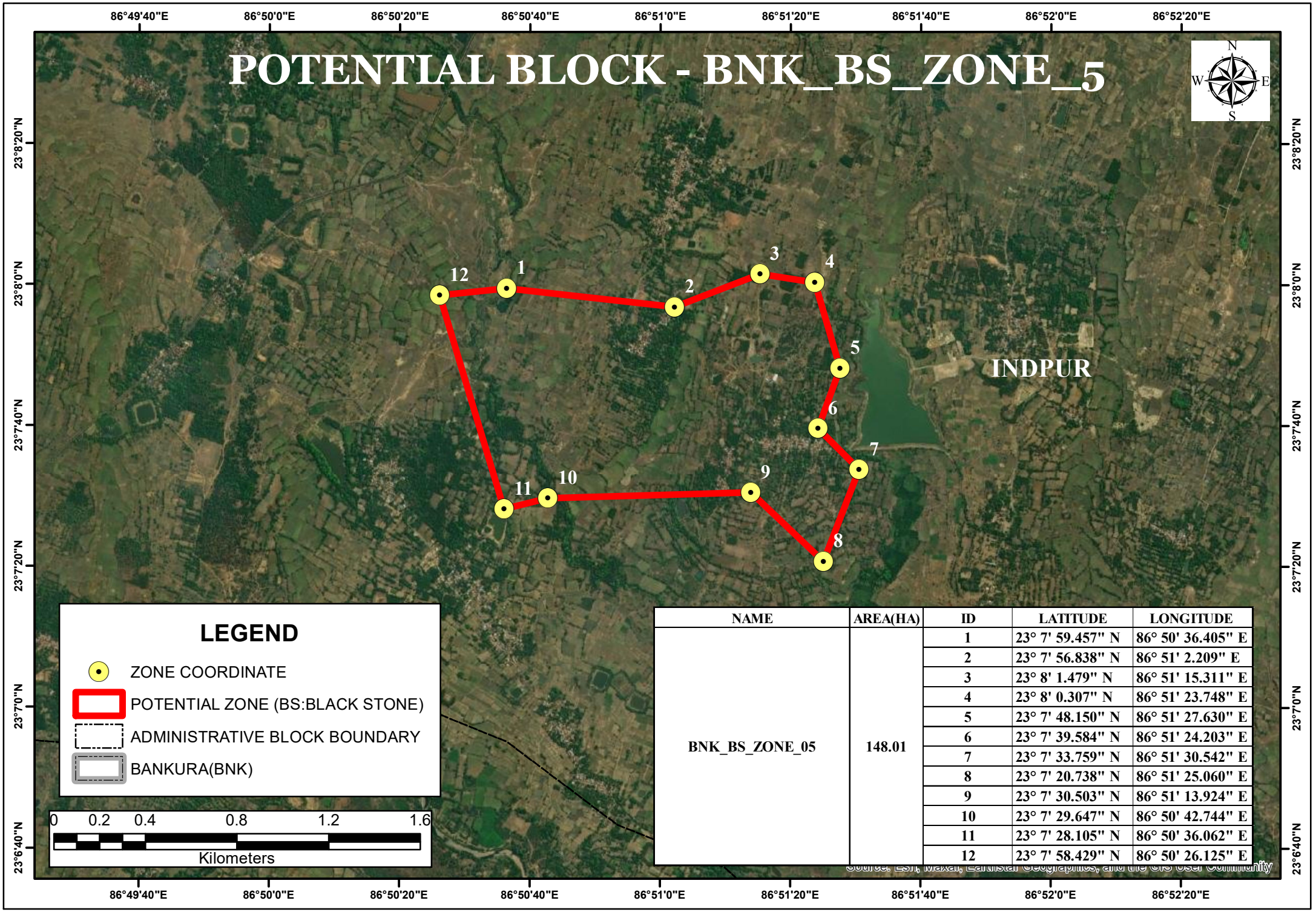
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_03	141.86	1	23° 13' 2.714" N	86° 49' 27.385" E
		2	23° 12' 53.806" N	86° 49' 42.118" E
		3	23° 11' 42.536" N	86° 48' 53.463" E
		4	23° 11' 50.760" N	86° 48' 34.960" E

POTENTIAL BLOCK - BNK_BS_ZONE_4



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_04	91.73	1	23° 11' 27.563" N	86° 46' 30.620" E
		2	23° 11' 41.697" N	86° 47' 5.312" E
		3	23° 11' 13.943" N	86° 47' 28.698" E
		4	23° 11' 4.435" N	86° 47' 7.368" E
		5	23° 11' 17.798" N	86° 46' 59.402" E
		6	23° 11' 14.714" N	86° 46' 40.899" E

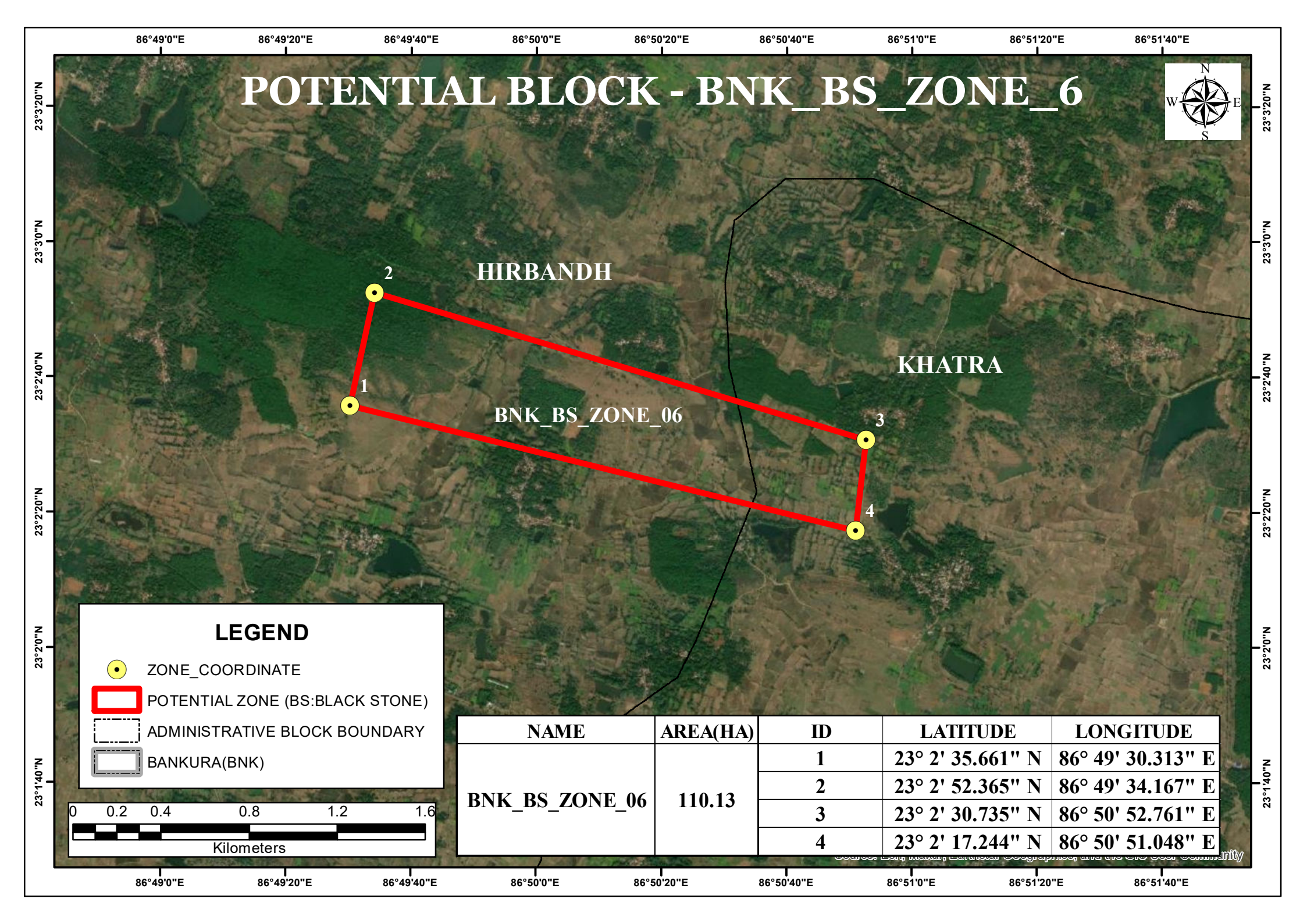
POTENTIAL BLOCK - BNK_BS_ZONE_5



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_05	148.01	1	23° 7' 59.457" N	86° 50' 36.405" E
		2	23° 7' 56.838" N	86° 51' 2.209" E
		3	23° 8' 1.479" N	86° 51' 15.311" E
		4	23° 8' 0.307" N	86° 51' 23.748" E
		5	23° 7' 48.150" N	86° 51' 27.630" E
		6	23° 7' 39.584" N	86° 51' 24.203" E
		7	23° 7' 33.759" N	86° 51' 30.542" E
		8	23° 7' 20.738" N	86° 51' 25.060" E
		9	23° 7' 30.503" N	86° 51' 13.924" E
		10	23° 7' 29.647" N	86° 50' 42.744" E
		11	23° 7' 28.105" N	86° 50' 36.062" E
		12	23° 7' 58.429" N	86° 50' 26.125" E

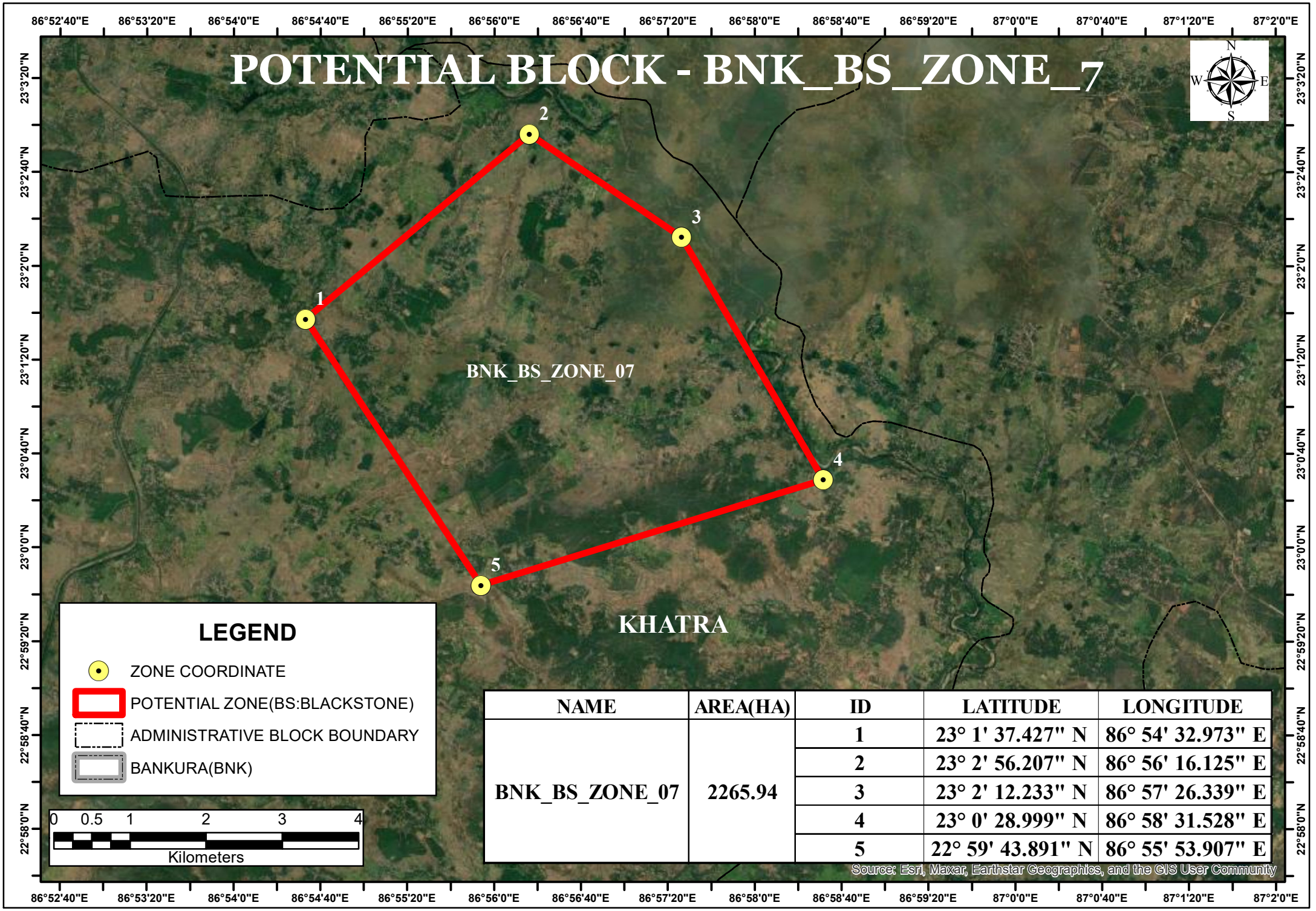
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_BS_ZONE_6



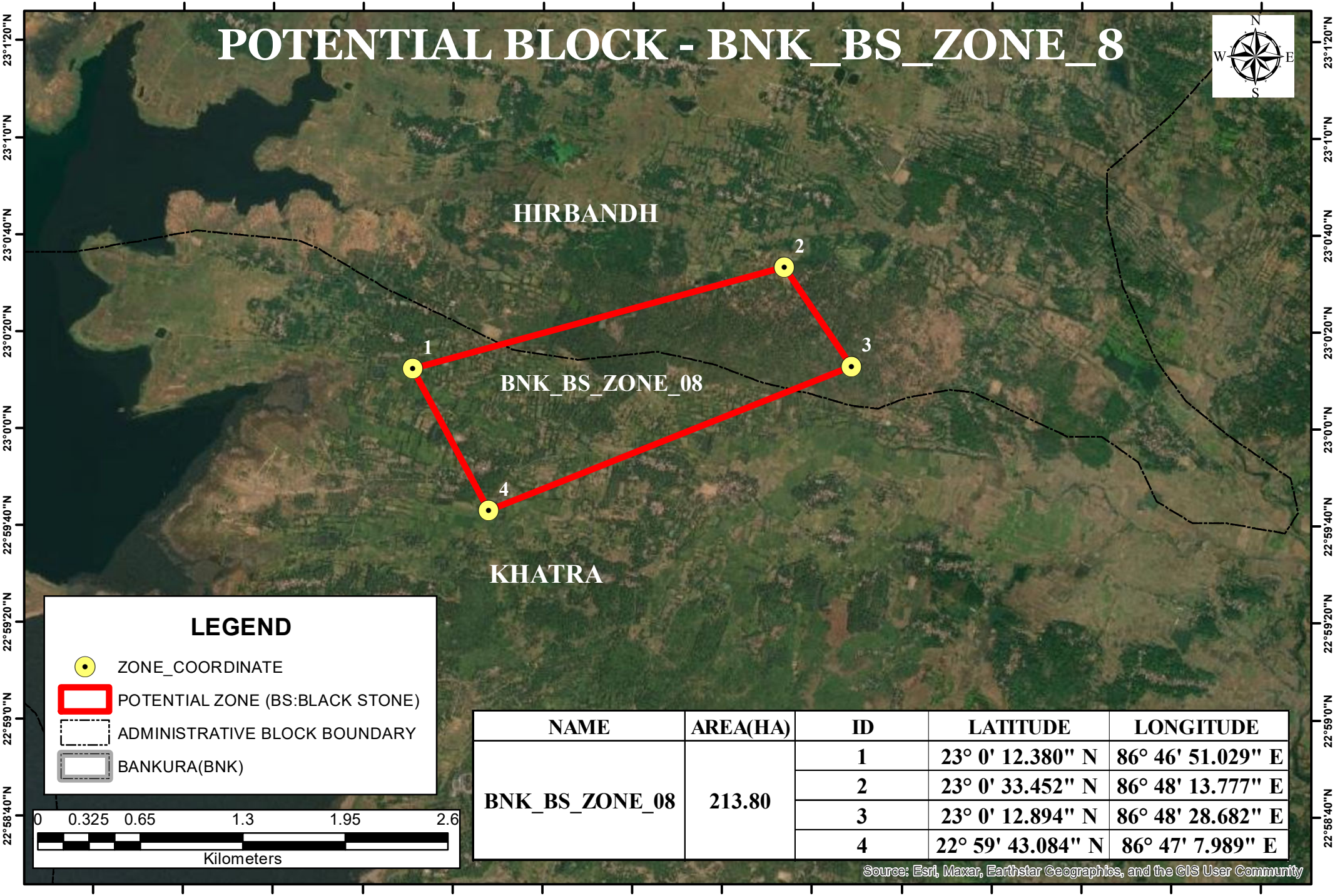
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_06	110.13	1	23° 2' 35.661" N	86° 49' 30.313" E
		2	23° 2' 52.365" N	86° 49' 34.167" E
		3	23° 2' 30.735" N	86° 50' 52.761" E
		4	23° 2' 17.244" N	86° 50' 51.048" E

POTENTIAL BLOCK - BNK_BS_ZONE_7



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_07	2265.94	1	23° 1' 37.427" N	86° 54' 32.973" E
		2	23° 2' 56.207" N	86° 56' 16.125" E
		3	23° 2' 12.233" N	86° 57' 26.339" E
		4	23° 0' 28.999" N	86° 58' 31.528" E
		5	22° 59' 43.891" N	86° 55' 53.907" E

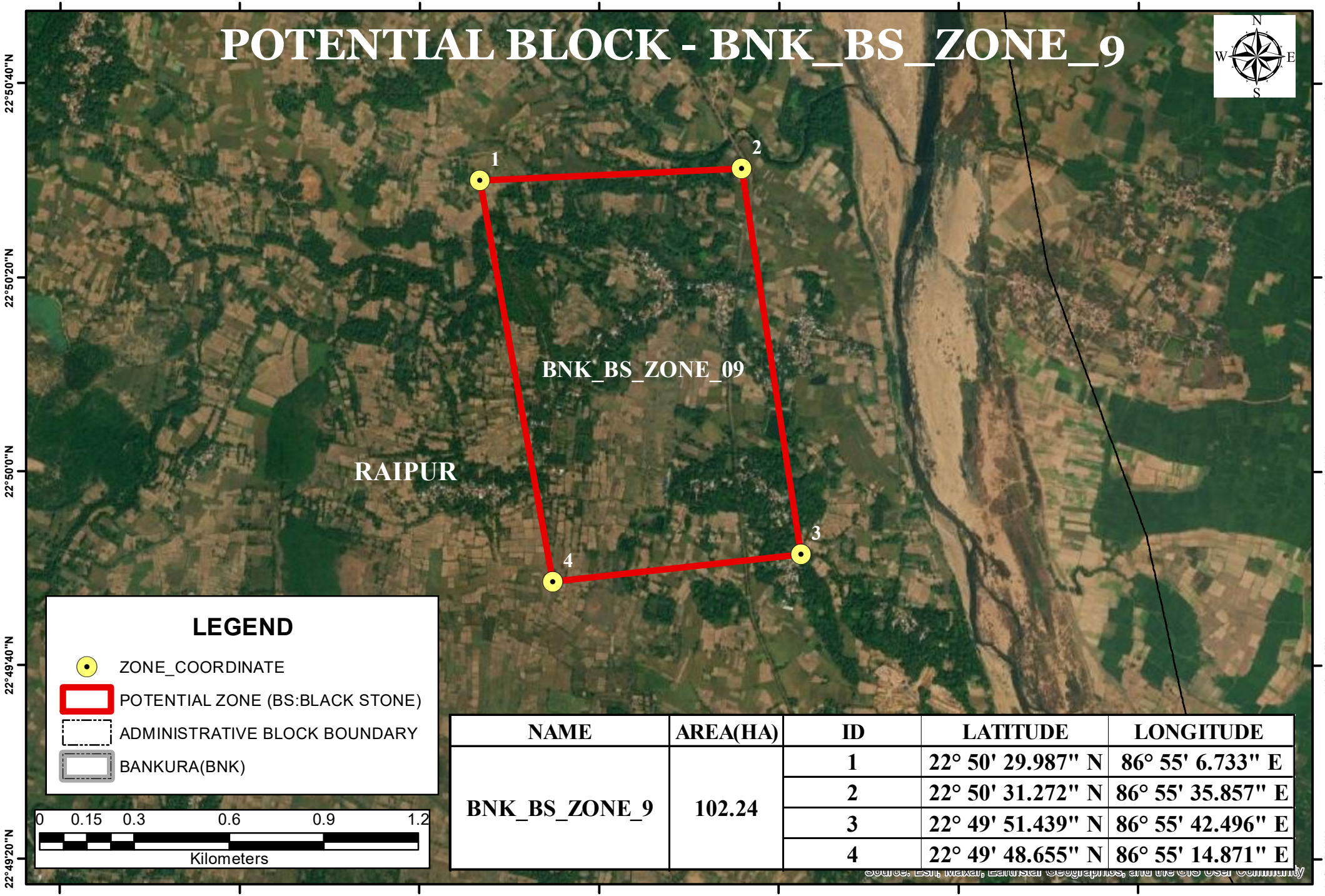
POTENTIAL BLOCK - BNK_BS_ZONE_8



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_08	213.80	1	23° 0' 12.380" N	86° 46' 51.029" E
		2	23° 0' 33.452" N	86° 48' 13.777" E
		3	23° 0' 12.894" N	86° 48' 28.682" E
		4	22° 59' 43.084" N	86° 47' 7.989" E

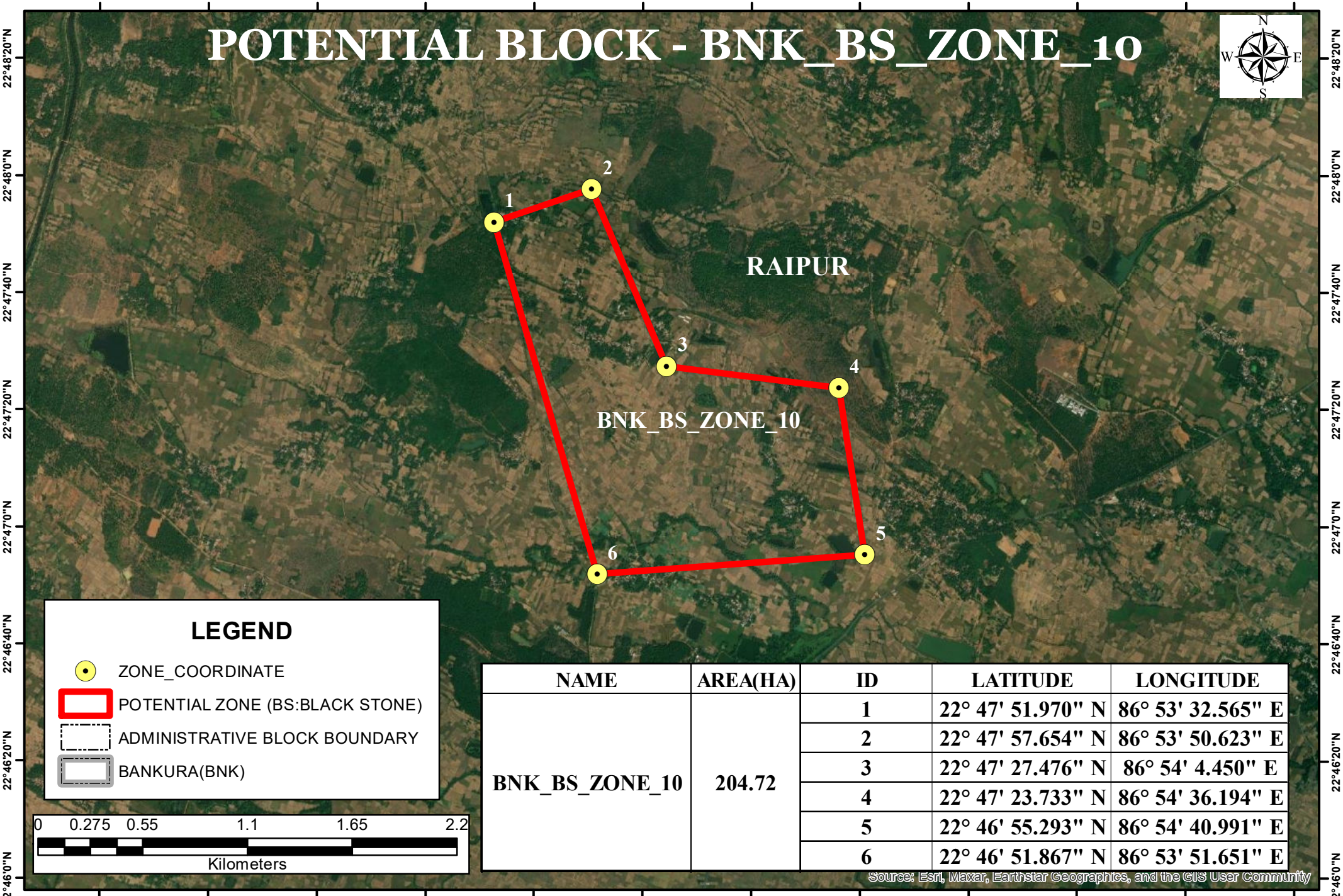
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_BS_ZONE_9



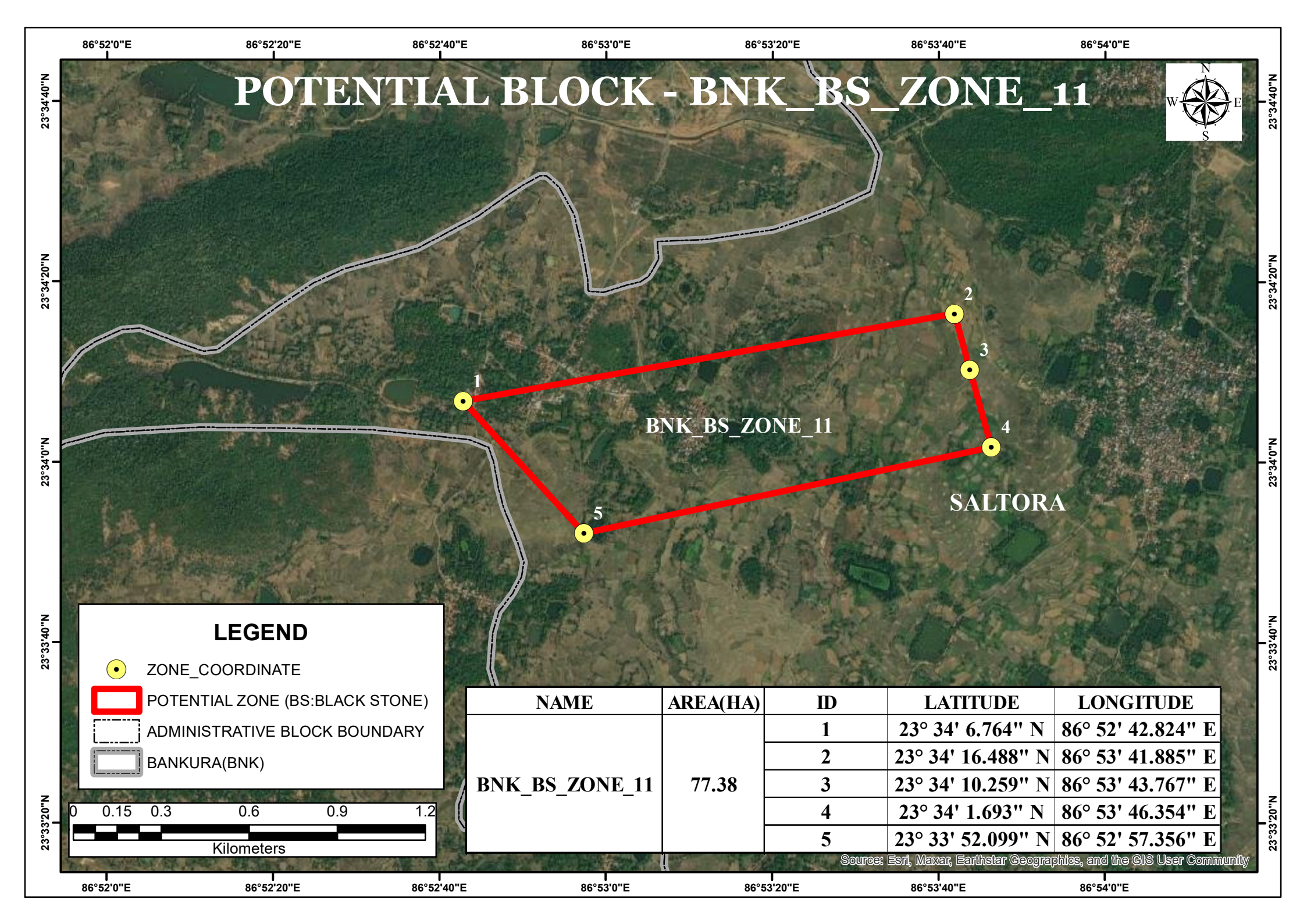
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_9	102.24	1	22° 50' 29.987" N	86° 55' 6.733" E
		2	22° 50' 31.272" N	86° 55' 35.857" E
		3	22° 49' 51.439" N	86° 55' 42.496" E
		4	22° 49' 48.655" N	86° 55' 14.871" E

POTENTIAL BLOCK - BNK_BS_ZONE_10



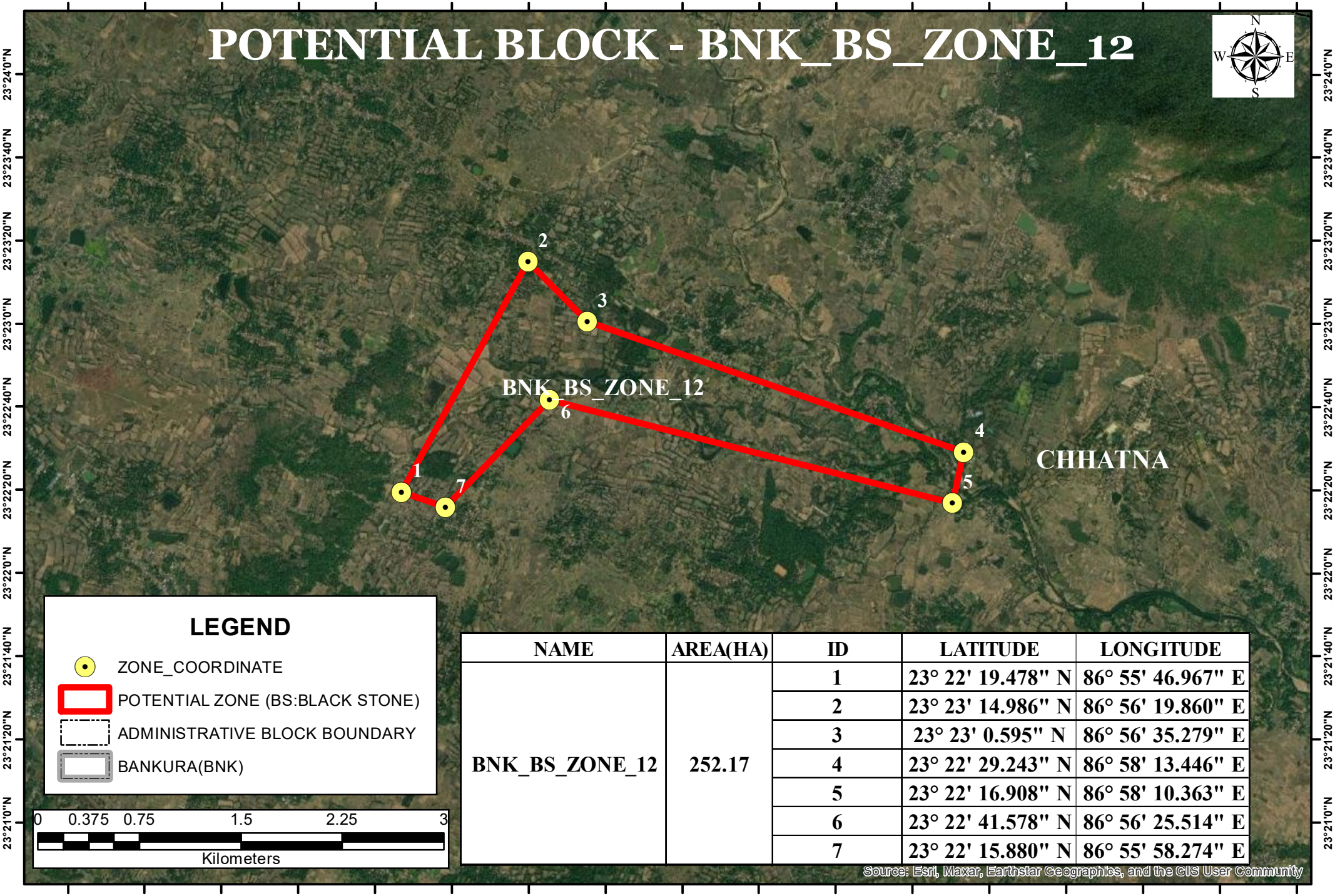
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_10	204.72	1	22° 47' 51.970" N	86° 53' 32.565" E
		2	22° 47' 57.654" N	86° 53' 50.623" E
		3	22° 47' 27.476" N	86° 54' 4.450" E
		4	22° 47' 23.733" N	86° 54' 36.194" E
		5	22° 46' 55.293" N	86° 54' 40.991" E
		6	22° 46' 51.867" N	86° 53' 51.651" E

POTENTIAL BLOCK - BNK_BS_ZONE_11



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_11	77.38	1	23° 34' 6.764" N	86° 52' 42.824" E
		2	23° 34' 16.488" N	86° 53' 41.885" E
		3	23° 34' 10.259" N	86° 53' 43.767" E
		4	23° 34' 1.693" N	86° 53' 46.354" E
		5	23° 33' 52.099" N	86° 52' 57.356" E

POTENTIAL BLOCK - BNK_BS_ZONE_12



LEGEND

- ZONE_COORDINATE
- POTENTIAL ZONE (BS:BLACK STONE)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

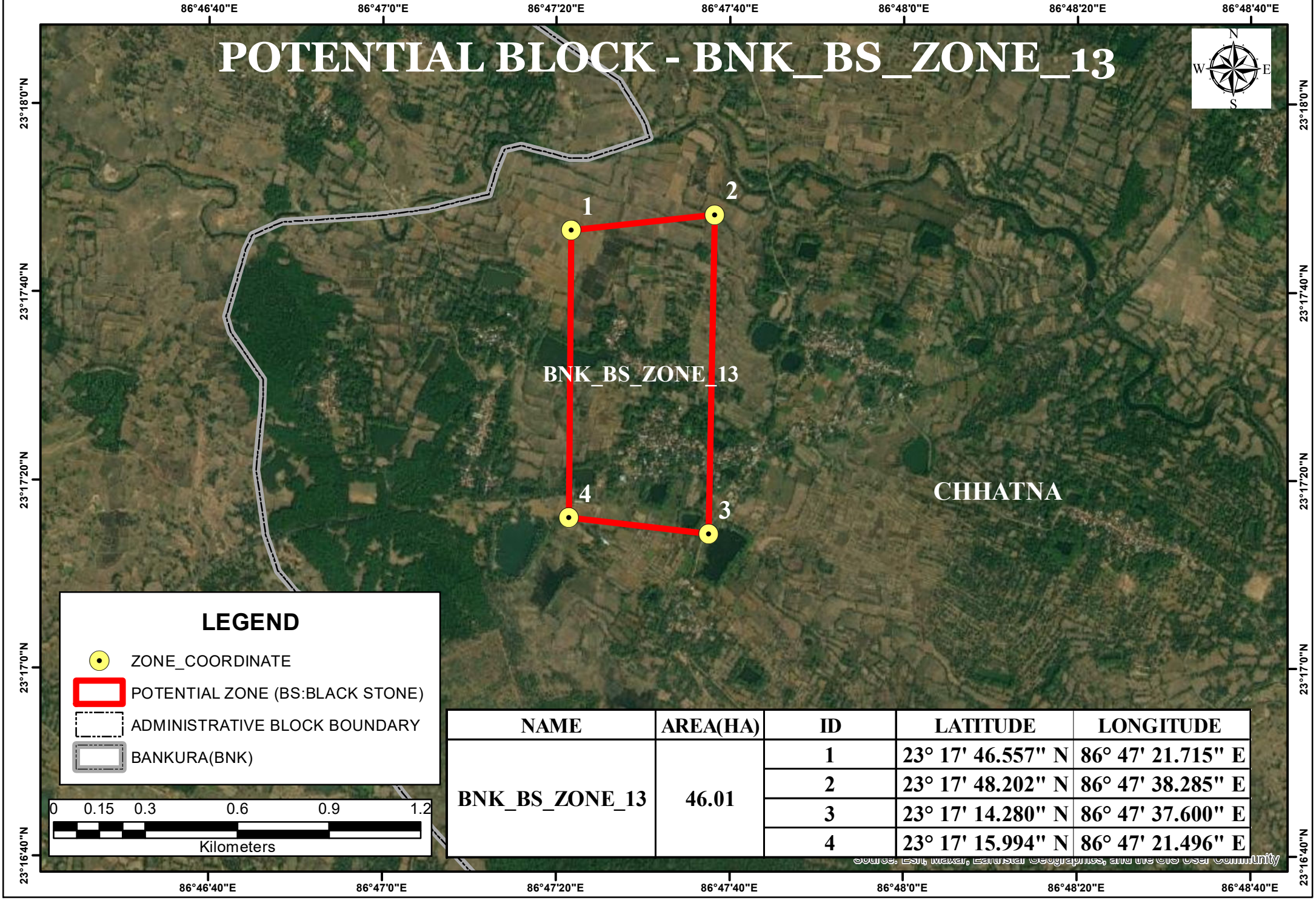
0 0.375 0.75 1.5 2.25 3

Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_12	252.17	1	23° 22' 19.478" N	86° 55' 46.967" E
		2	23° 23' 14.986" N	86° 56' 19.860" E
		3	23° 23' 0.595" N	86° 56' 35.279" E
		4	23° 22' 29.243" N	86° 58' 13.446" E
		5	23° 22' 16.908" N	86° 58' 10.363" E
		6	23° 22' 41.578" N	86° 56' 25.514" E
		7	23° 22' 15.880" N	86° 55' 58.274" E

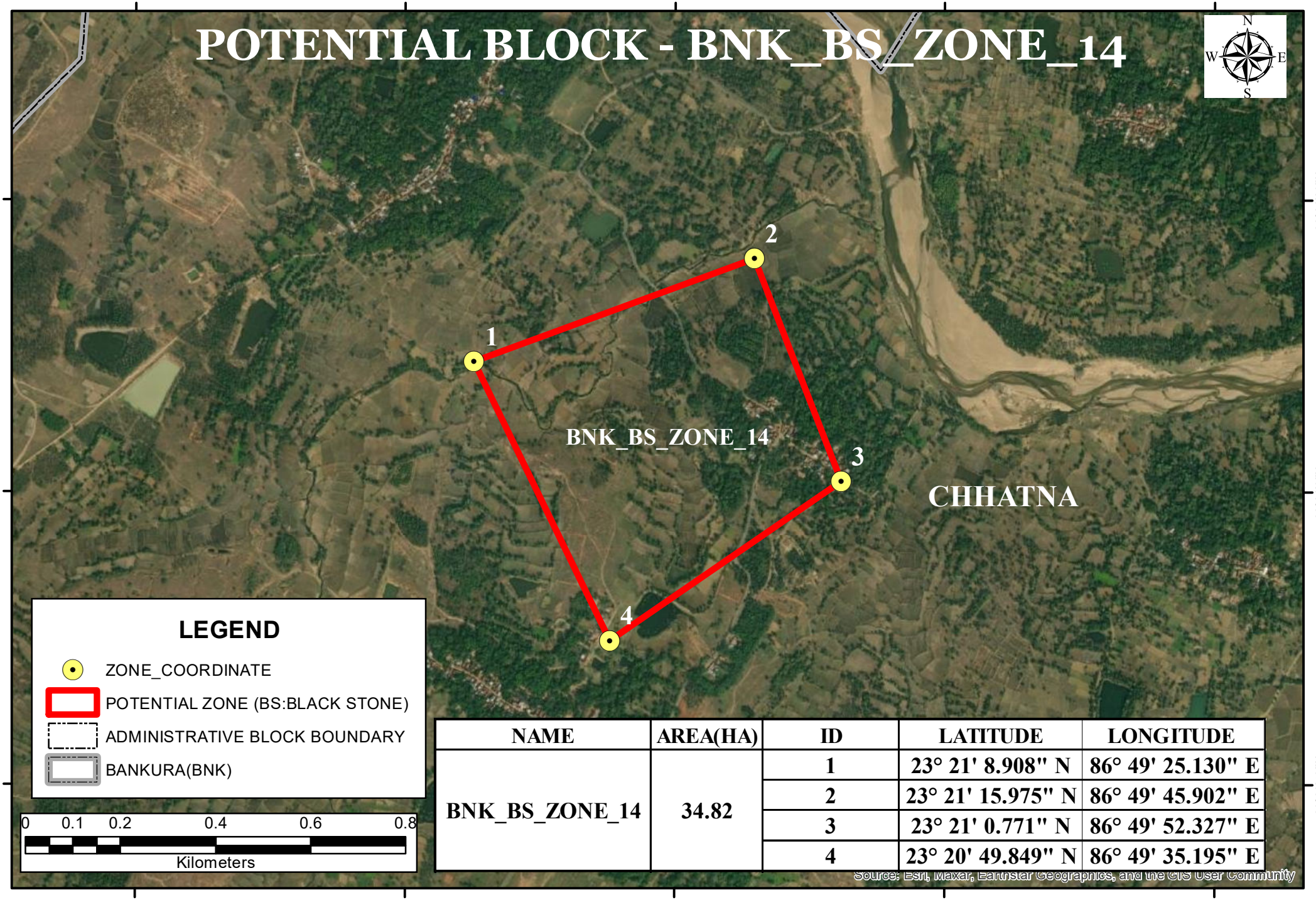
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_BS_ZONE_13

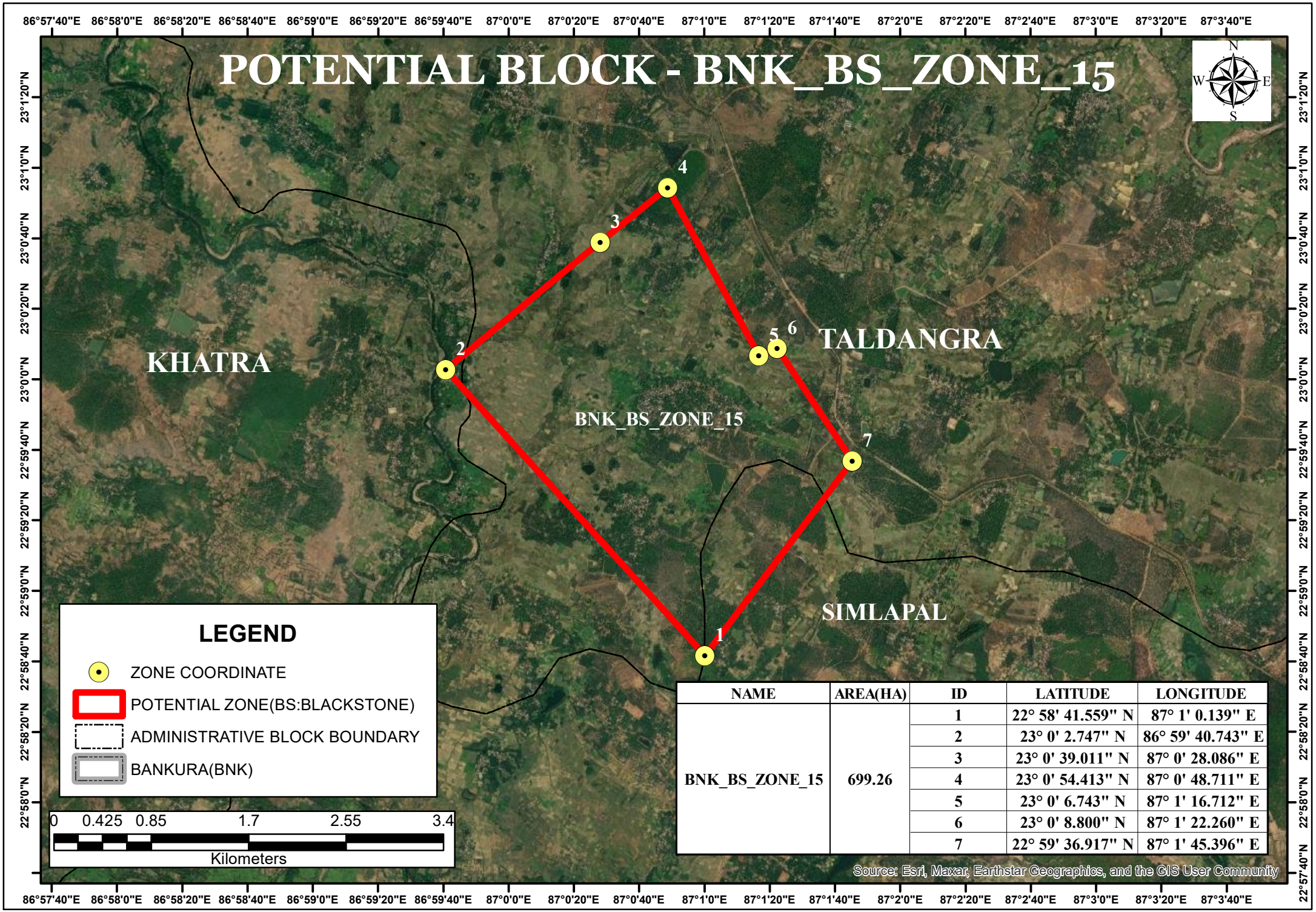


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_13	46.01	1	23° 17' 46.557" N	86° 47' 21.715" E
		2	23° 17' 48.202" N	86° 47' 38.285" E
		3	23° 17' 14.280" N	86° 47' 37.600" E
		4	23° 17' 15.994" N	86° 47' 21.496" E

POTENTIAL BLOCK - BNK_BS_ZONE_14

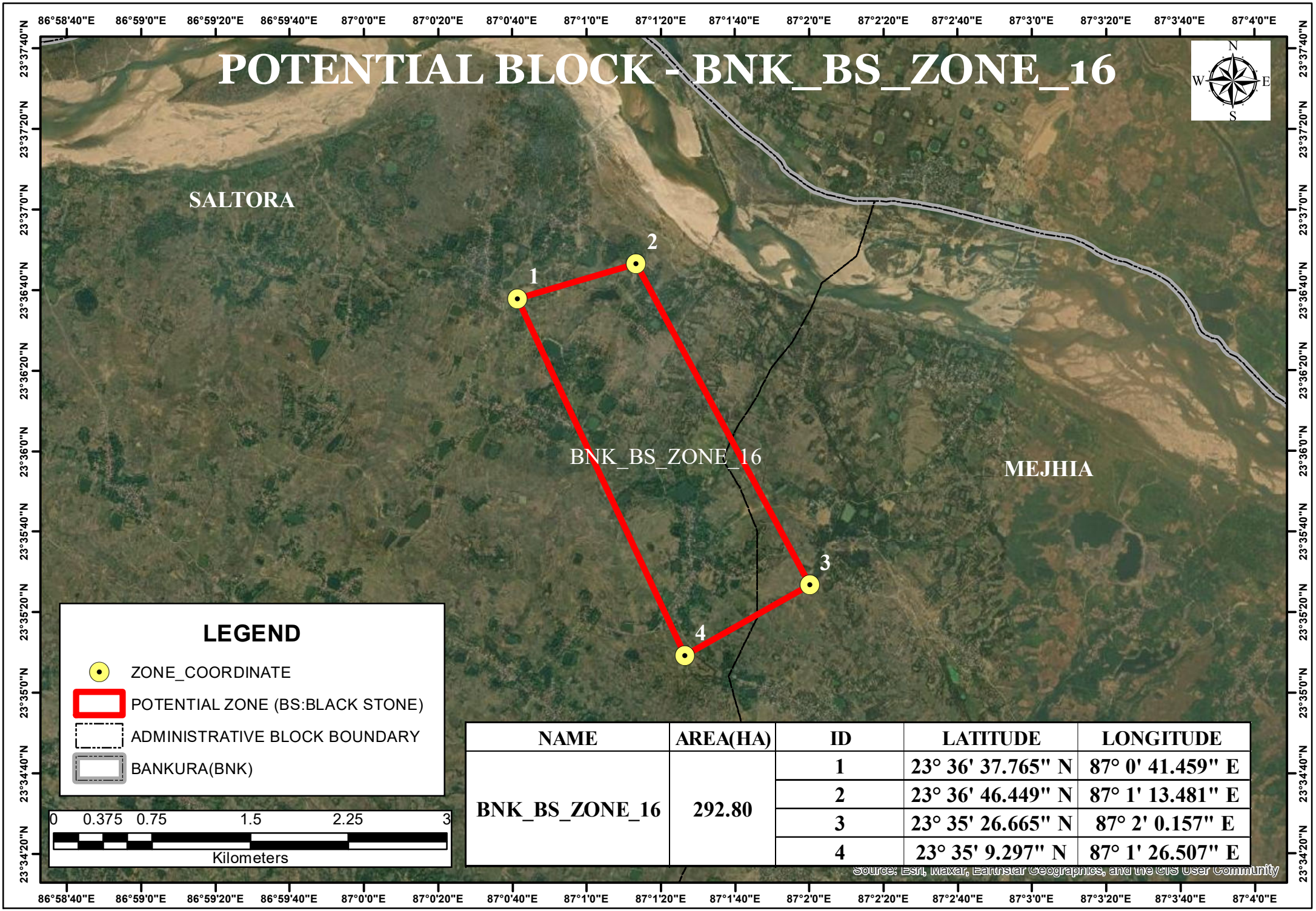


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_14	34.82	1	23° 21' 8.908" N	86° 49' 25.130" E
		2	23° 21' 15.975" N	86° 49' 45.902" E
		3	23° 21' 0.771" N	86° 49' 52.327" E
		4	23° 20' 49.849" N	86° 49' 35.195" E



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_15	699.26	1	22° 58' 41.559" N	87° 1' 0.139" E
		2	23° 0' 2.747" N	86° 59' 40.743" E
		3	23° 0' 39.011" N	87° 0' 28.086" E
		4	23° 0' 54.413" N	87° 0' 48.711" E
		5	23° 0' 6.743" N	87° 1' 16.712" E
		6	23° 0' 8.800" N	87° 1' 22.260" E
		7	22° 59' 36.917" N	87° 1' 45.396" E

POTENTIAL BLOCK - BNK_BS_ZONE_16



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_16	292.80	1	23° 36' 37.765" N	87° 0' 41.459" E
		2	23° 36' 46.449" N	87° 1' 13.481" E
		3	23° 35' 26.665" N	87° 2' 0.157" E
		4	23° 35' 9.297" N	87° 1' 26.507" E

POTENTIAL BLOCK - BNK_BS_ZONE_17



LEGEND

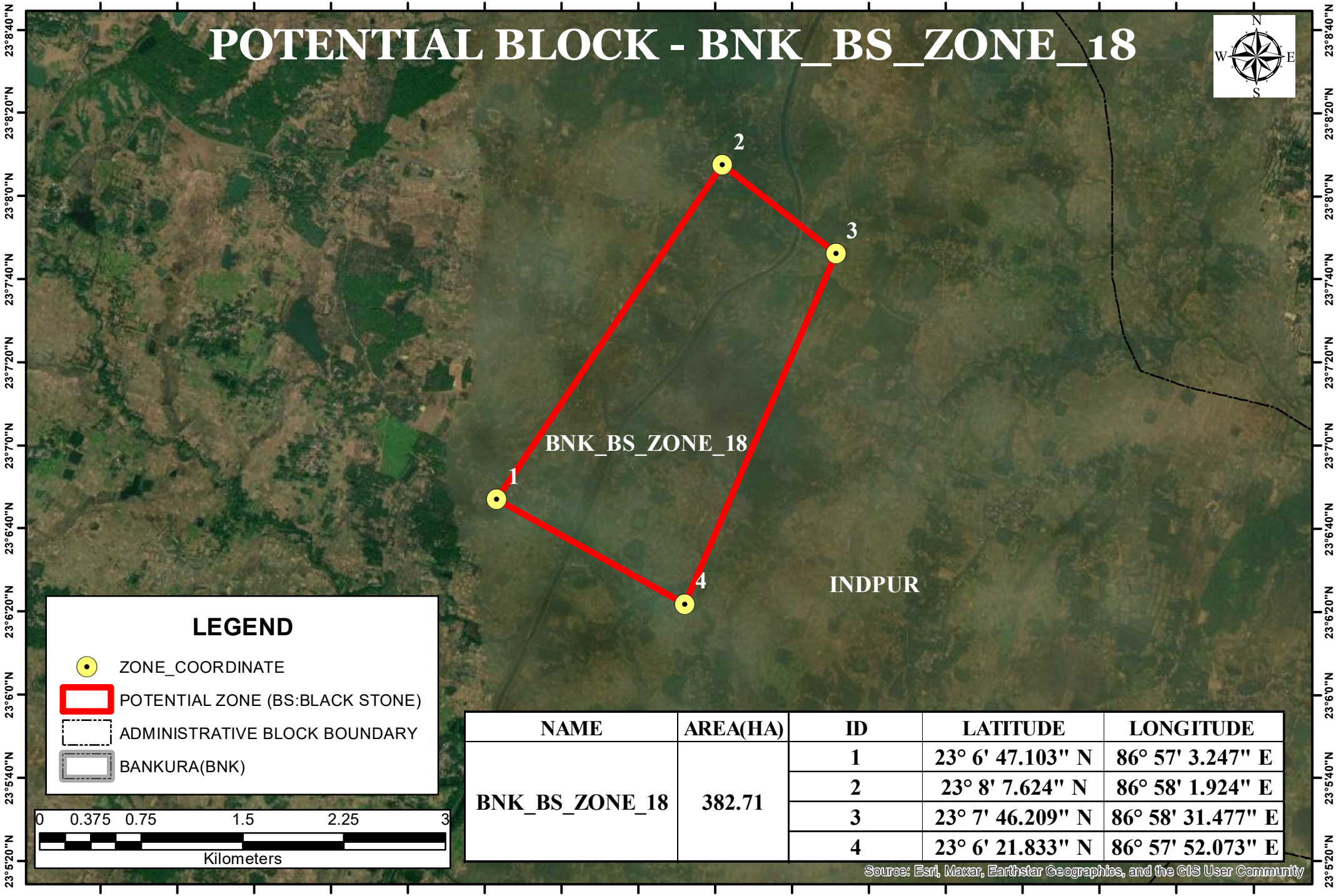
- ZONE_COORDINATE
- POTENTIAL ZONE (BS:BLACK STONE)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

0 0.5 1 2 3 4
Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_17	364.34	1	23° 35' 40.089" N	87° 2' 42.053" E
		2	23° 36' 12.799" N	87° 2' 27.294" E
		3	23° 35' 31.550" N	87° 3' 56.847" E
		4	23° 33' 54.941" N	87° 4' 16.929" E
		5	23° 33' 56.209" N	87° 3' 50.317" E
		6	23° 35' 29.922" N	87° 3' 24.282" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_BS_ZONE_18



LEGEND

- ZONE_COORDINATE
- POTENTIAL ZONE (BS:BLACK STONE)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

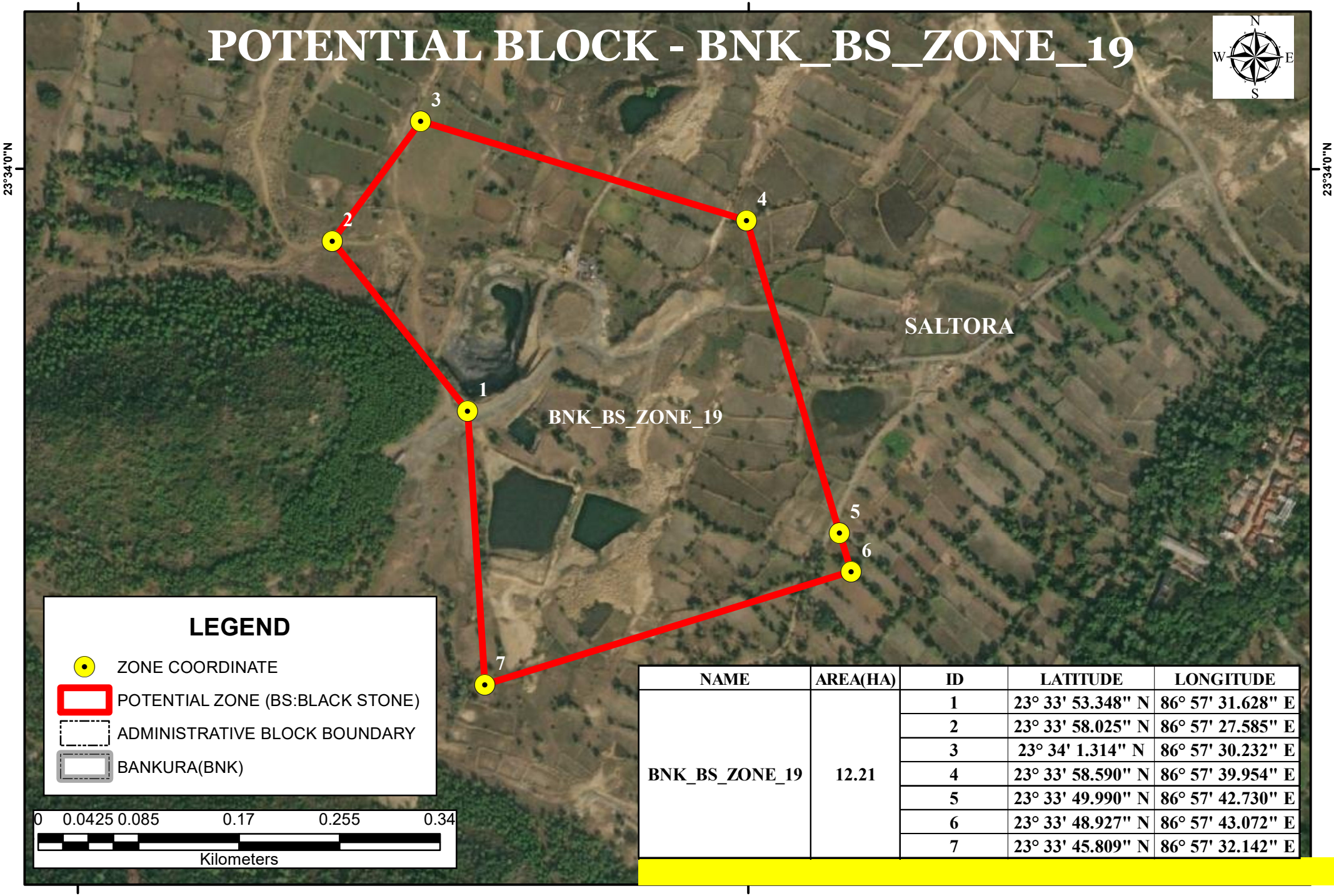
0 0.375 0.75 1.5 2.25 3

Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_18	382.71	1	23° 6' 47.103" N	86° 57' 3.247" E
		2	23° 8' 7.624" N	86° 58' 1.924" E
		3	23° 7' 46.209" N	86° 58' 31.477" E
		4	23° 6' 21.833" N	86° 57' 52.073" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_BS_ZONE_19



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_19	12.21	1	23° 33' 53.348" N	86° 57' 31.628" E
		2	23° 33' 58.025" N	86° 57' 27.585" E
		3	23° 34' 1.314" N	86° 57' 30.232" E
		4	23° 33' 58.590" N	86° 57' 39.954" E
		5	23° 33' 49.990" N	86° 57' 42.730" E
		6	23° 33' 48.927" N	86° 57' 43.072" E
		7	23° 33' 45.809" N	86° 57' 32.142" E

86°49'30"E

POTENTIAL BLOCK - BNK_BS_ZONE_20

N

W E

S

23°3'0"N

2

3

1

4

BNK_BS_ZONE_20

HIRBANDH

Legend

- ZONE COORDINATE
- POTENTIAL ZONE(BS:BLACKSTONE)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

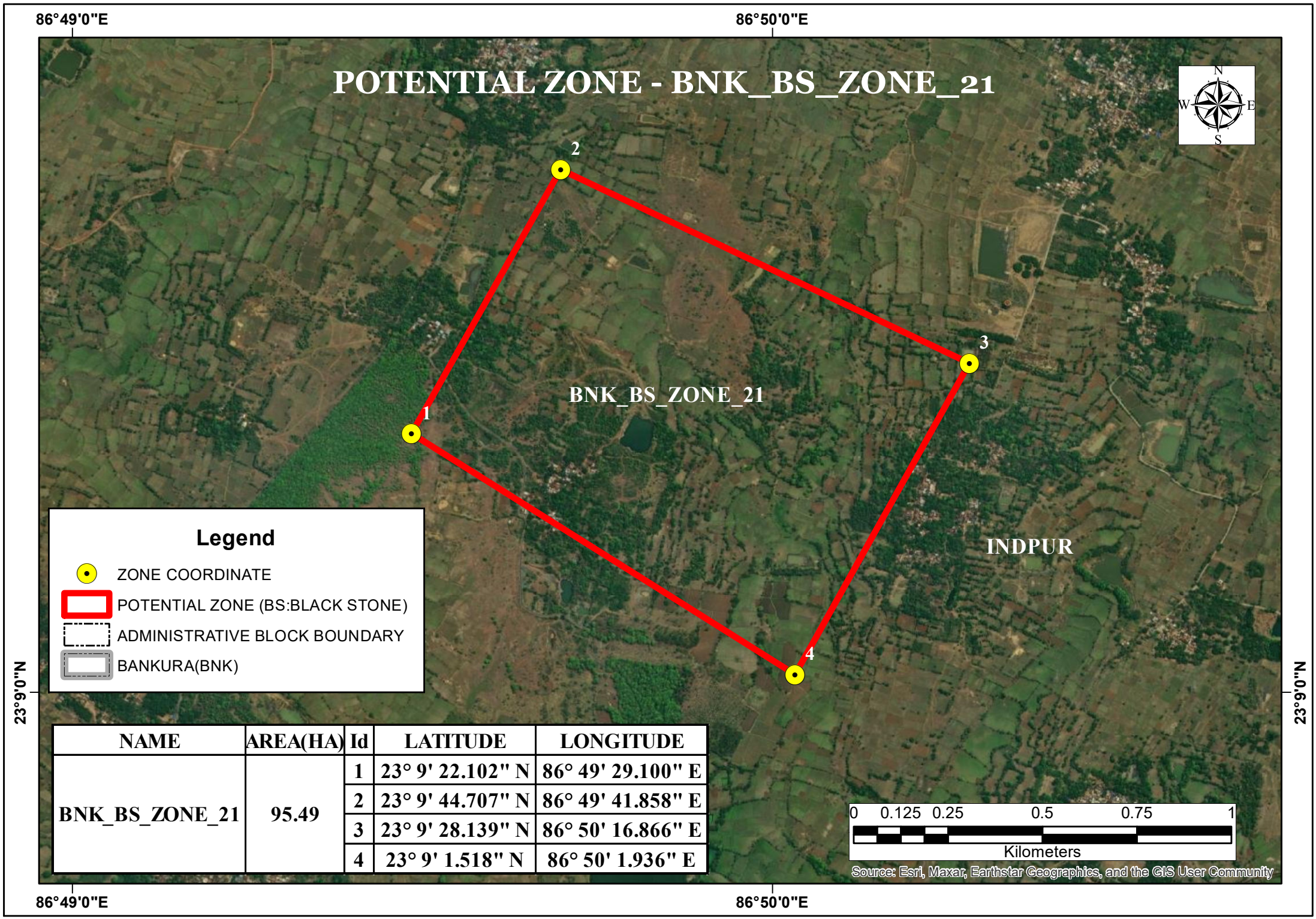
0 0.0325 0.065 0.13 0.195 0.26

Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_BS_ZONE_20	14.26	1	23° 2' 59.481" N	86° 49' 26.333" E
		2	23° 3' 5.169" N	86° 49' 27.840" E
		3	23° 3' 0.577" N	86° 49' 52.031" E
		4	23° 2' 53.485" N	86° 49' 51.311" E

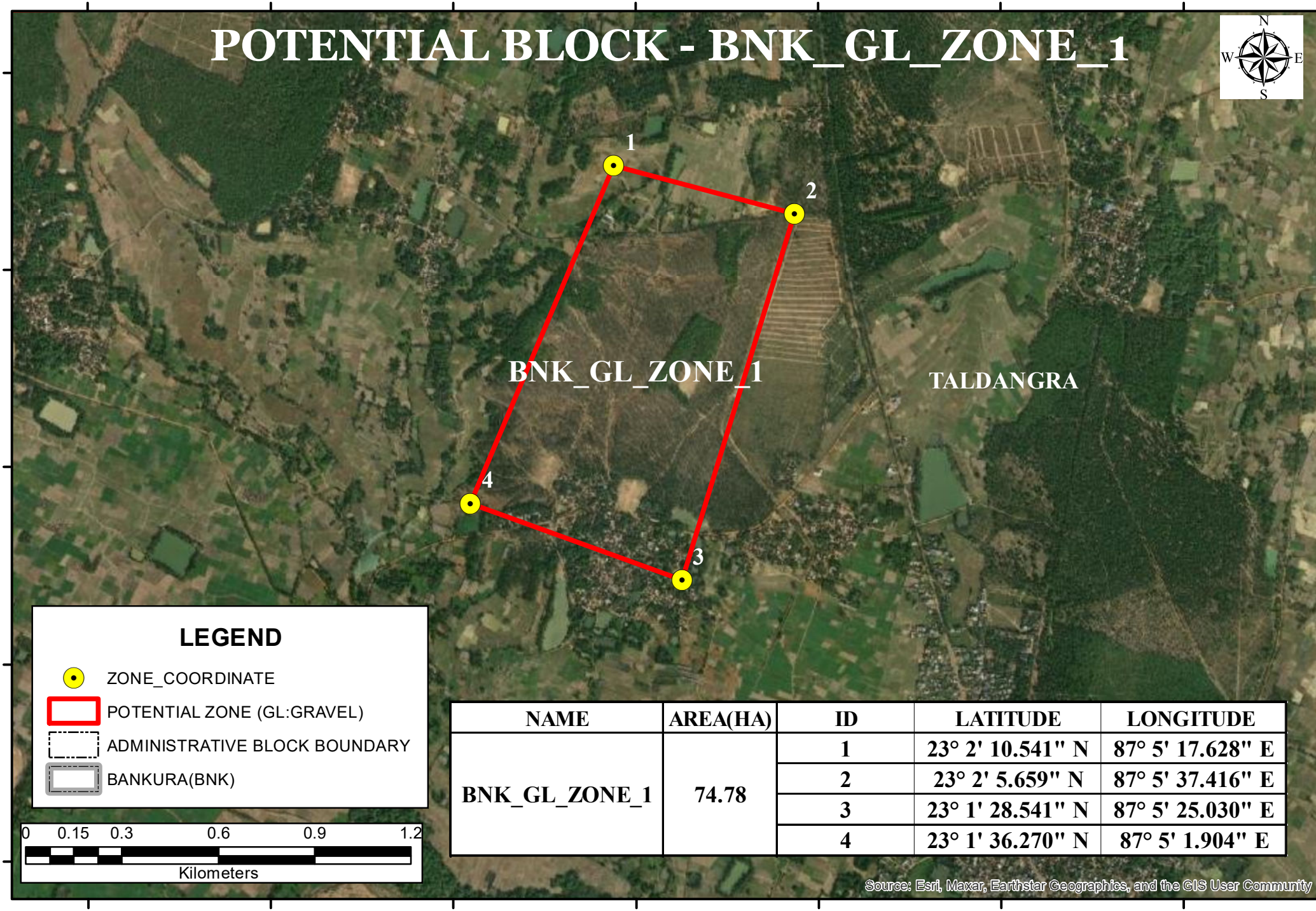
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

86°49'30"E



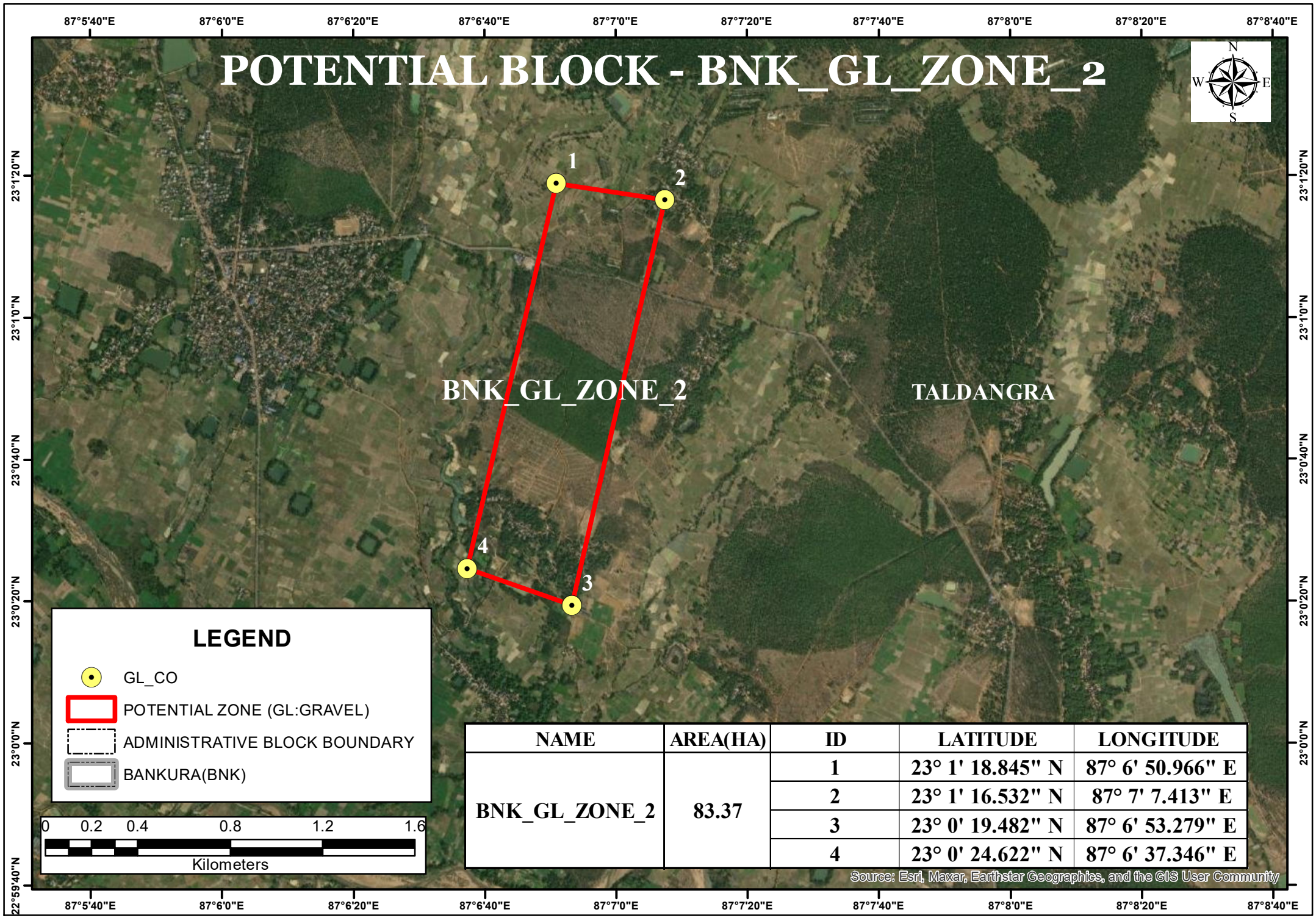
NAME	AREA(HA)	Id	LATITUDE	LONGITUDE
BNK_BS_ZONE_21	95.49	1	23° 9' 22.102" N	86° 49' 29.100" E
		2	23° 9' 44.707" N	86° 49' 41.858" E
		3	23° 9' 28.139" N	86° 50' 16.866" E
		4	23° 9' 1.518" N	86° 50' 1.936" E

POTENTIAL BLOCK - BNK_GL_ZONE_1



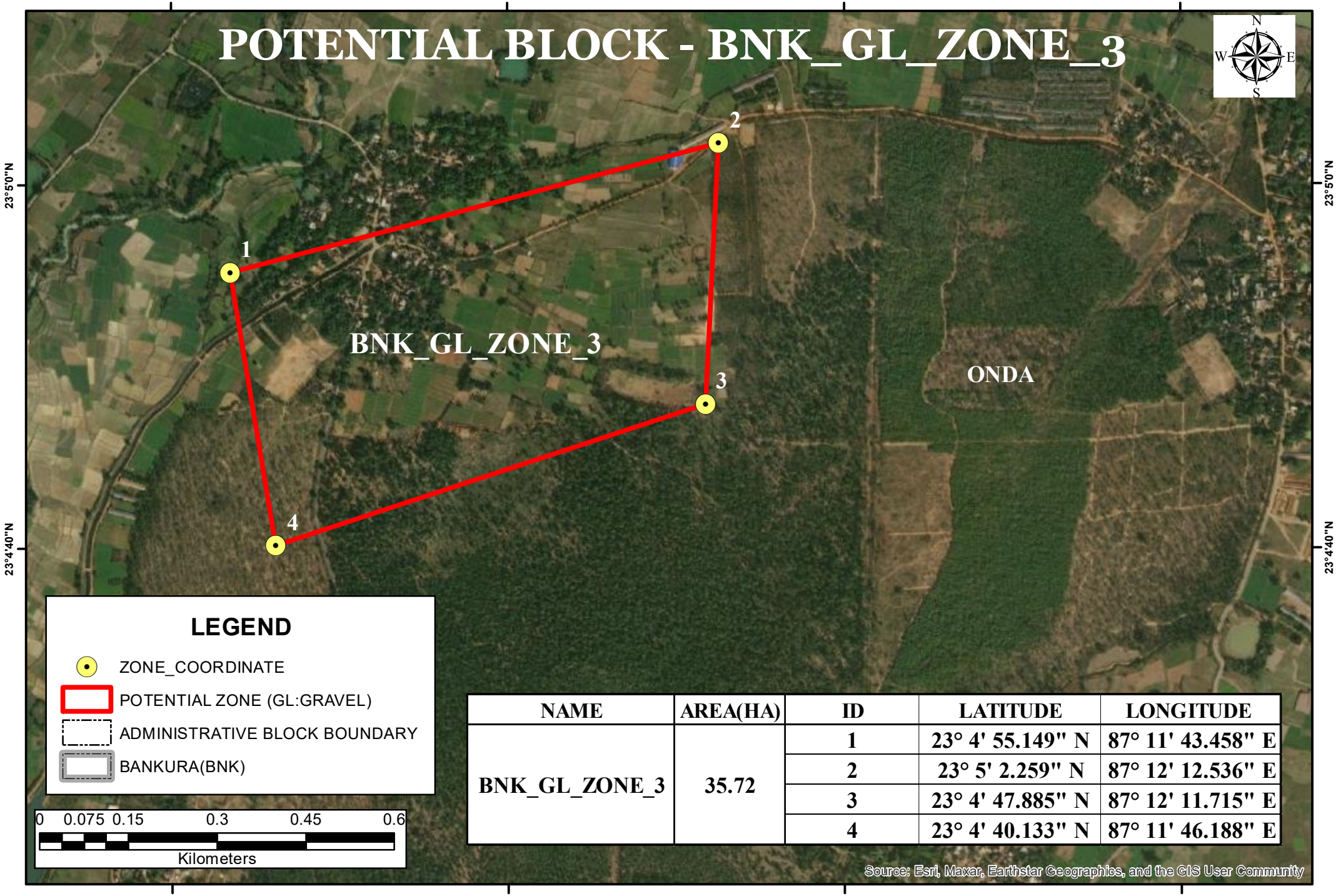
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GL_ZONE_1	74.78	1	23° 2' 10.541" N	87° 5' 17.628" E
		2	23° 2' 5.659" N	87° 5' 37.416" E
		3	23° 1' 28.541" N	87° 5' 25.030" E
		4	23° 1' 36.270" N	87° 5' 1.904" E

POTENTIAL BLOCK - BNK_GL_ZONE_2

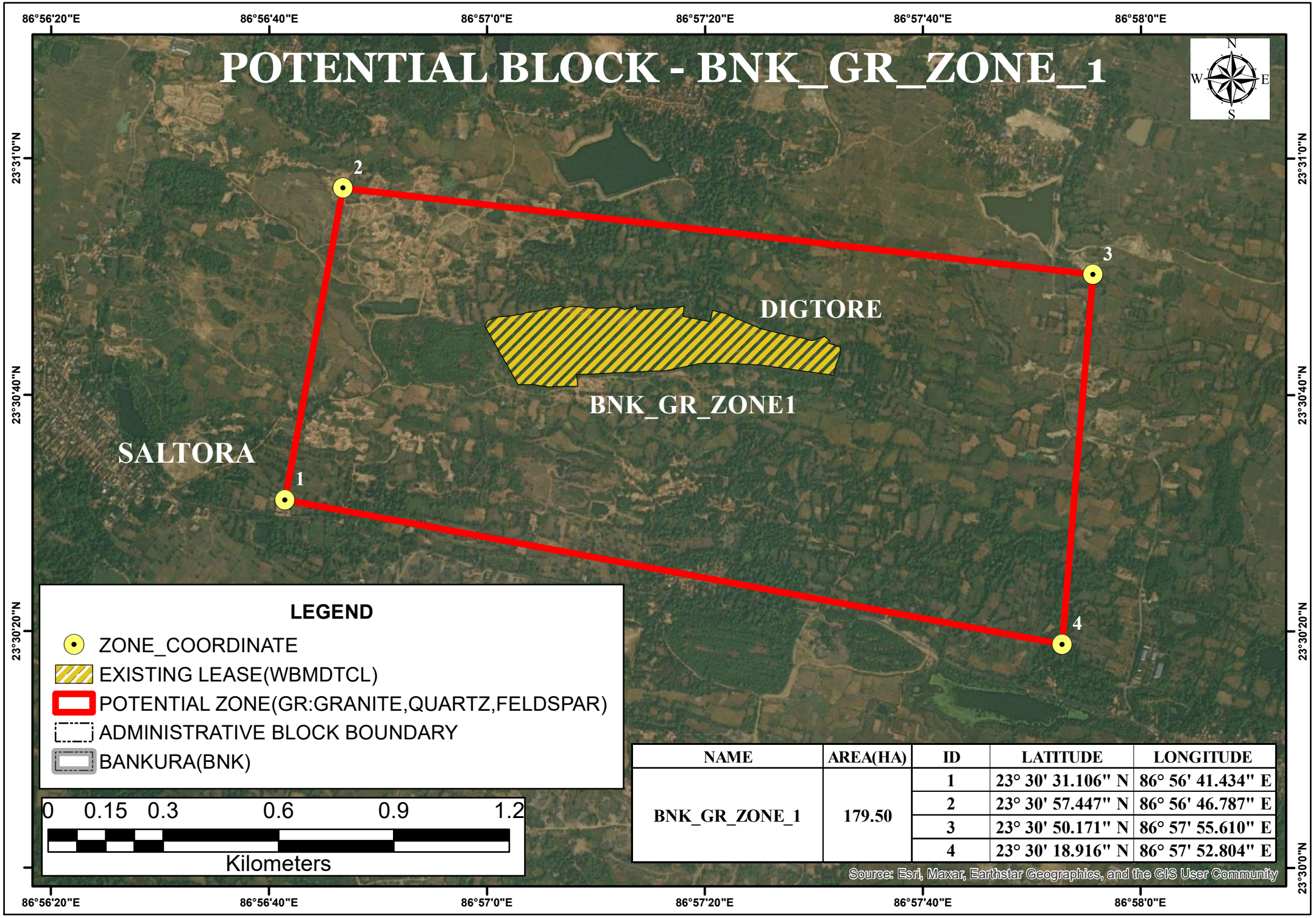


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GL_ZONE_2	83.37	1	23° 1' 18.845" N	87° 6' 50.966" E
		2	23° 1' 16.532" N	87° 7' 7.413" E
		3	23° 0' 19.482" N	87° 6' 53.279" E
		4	23° 0' 24.622" N	87° 6' 37.346" E

POTENTIAL BLOCK - BNK_GL_ZONE_3

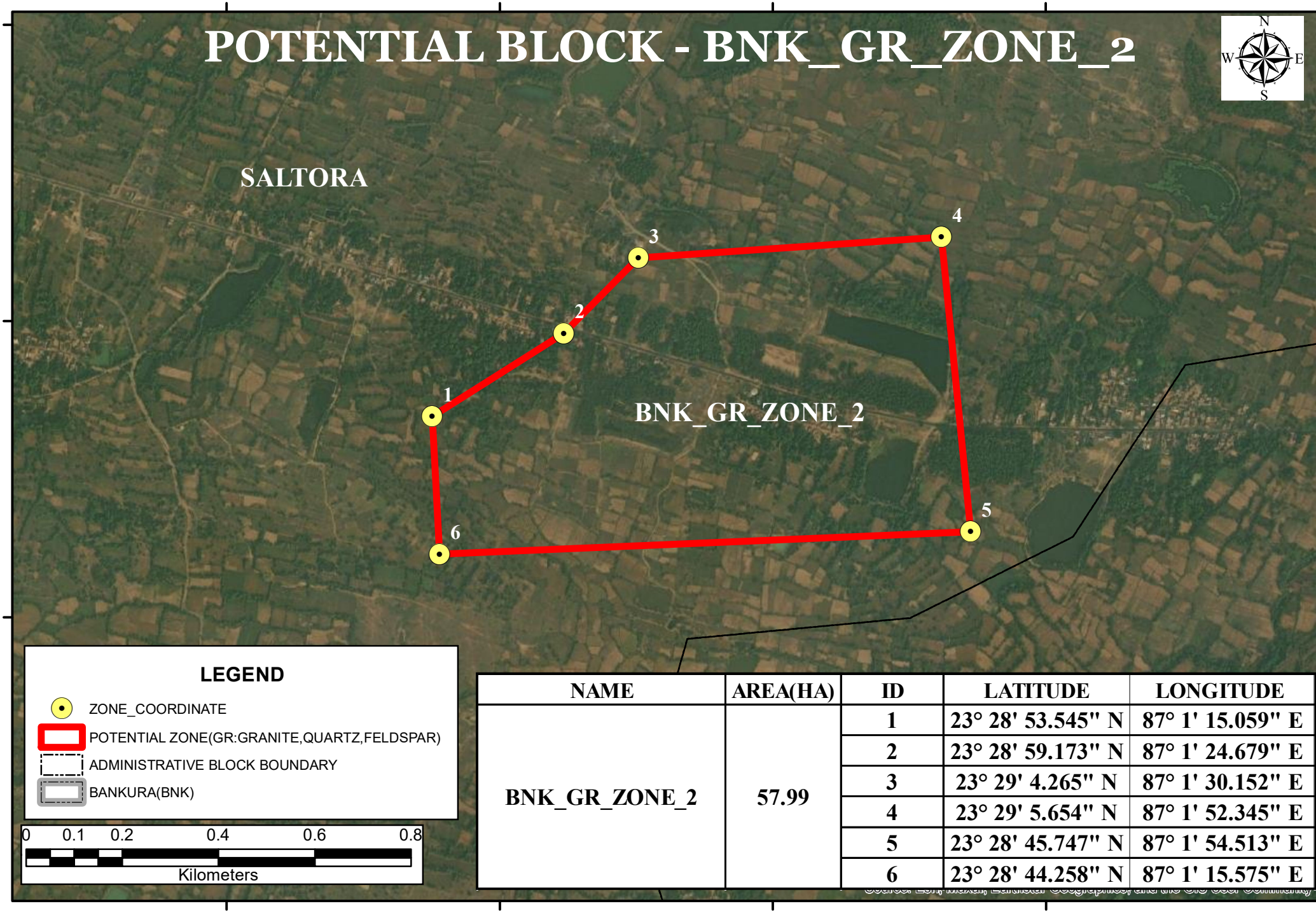


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GL_ZONE_3	35.72	1	23° 4' 55.149" N	87° 11' 43.458" E
		2	23° 5' 2.259" N	87° 12' 12.536" E
		3	23° 4' 47.885" N	87° 12' 11.715" E
		4	23° 4' 40.133" N	87° 11' 46.188" E



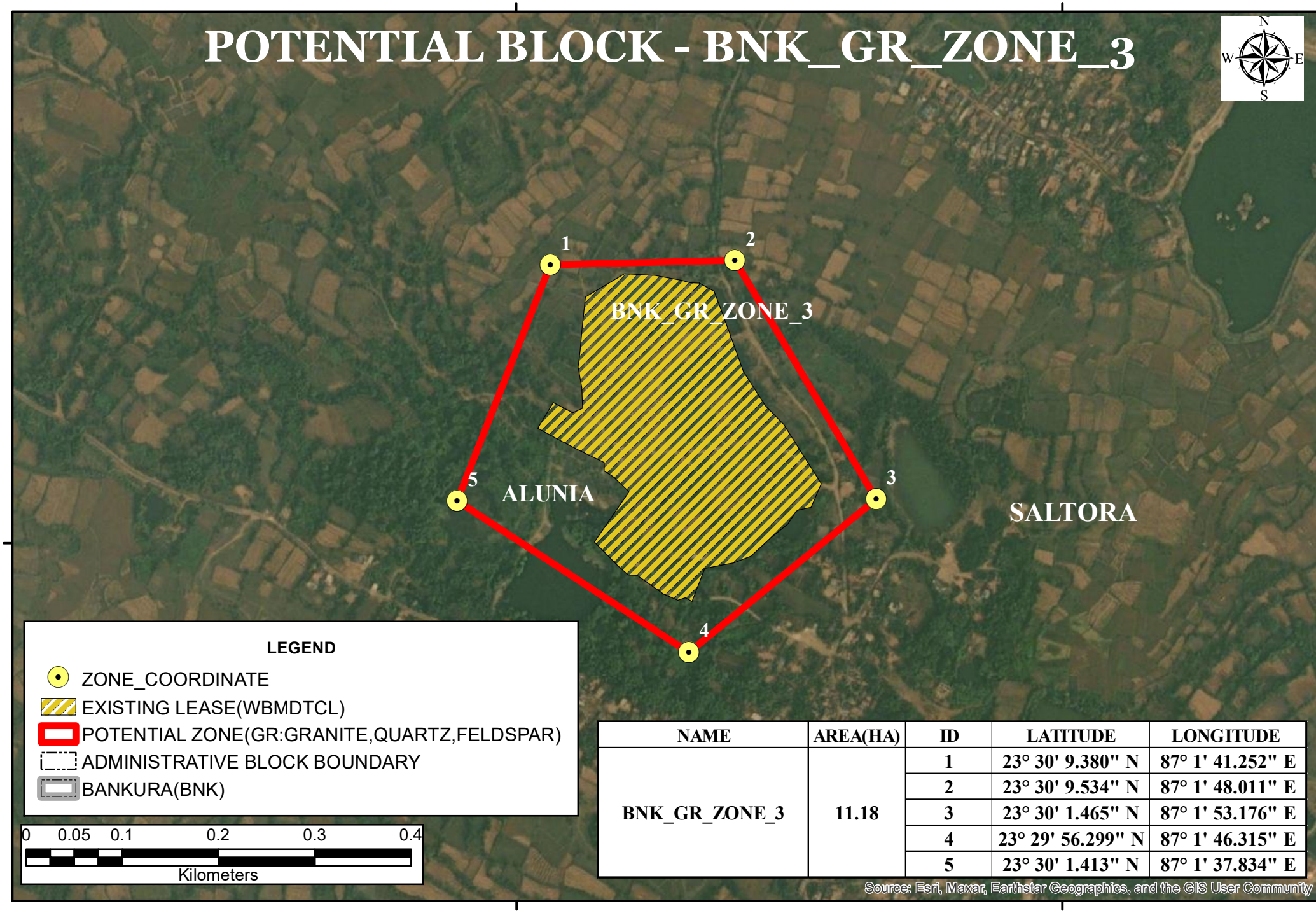
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GR_ZONE_1	179.50	1	23° 30' 31.106" N	86° 56' 41.434" E
		2	23° 30' 57.447" N	86° 56' 46.787" E
		3	23° 30' 50.171" N	86° 57' 55.610" E
		4	23° 30' 18.916" N	86° 57' 52.804" E

POTENTIAL BLOCK - BNK_GR_ZONE_2

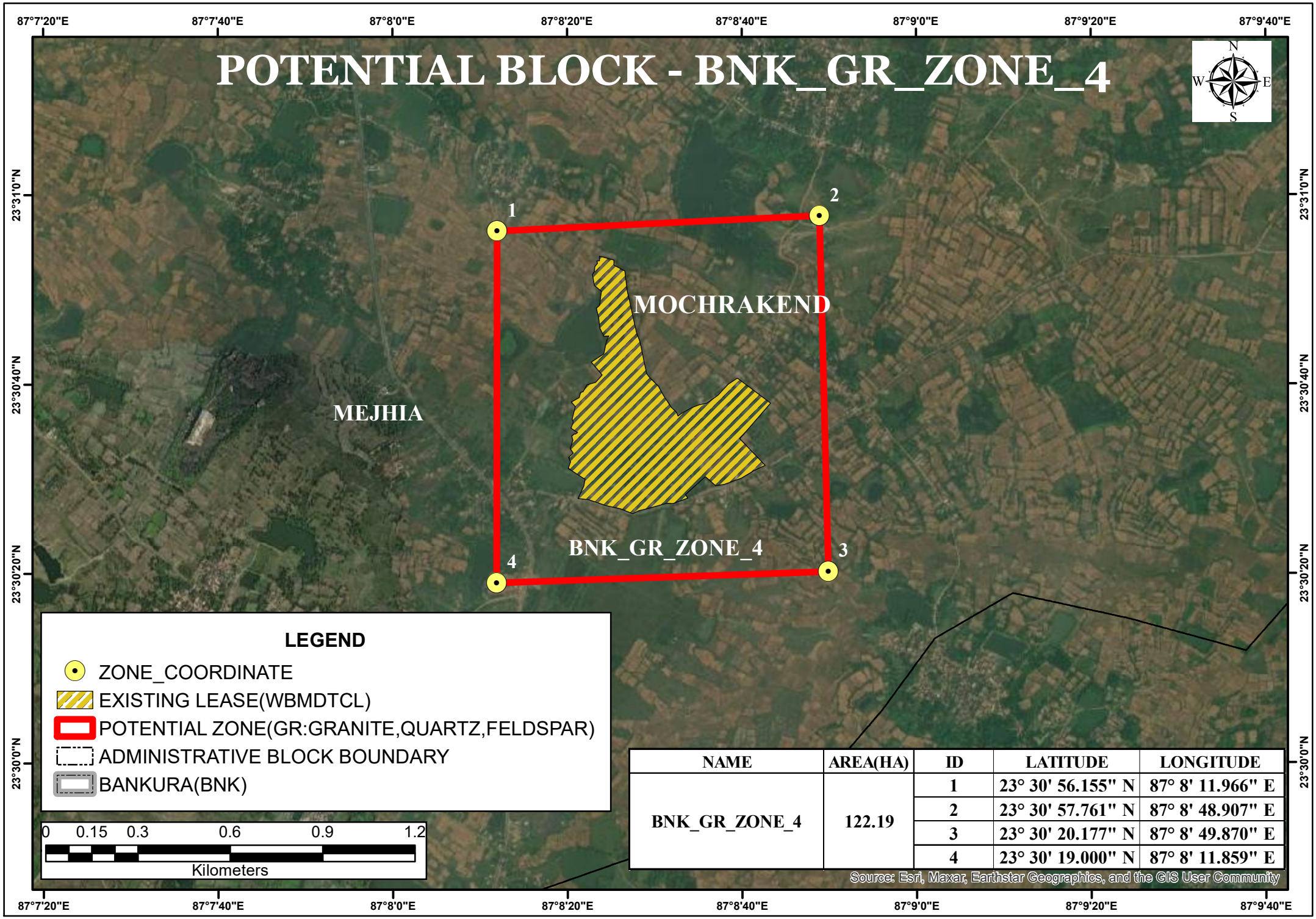


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GR_ZONE_2	57.99	1	23° 28' 53.545" N	87° 1' 15.059" E
		2	23° 28' 59.173" N	87° 1' 24.679" E
		3	23° 29' 4.265" N	87° 1' 30.152" E
		4	23° 29' 5.654" N	87° 1' 52.345" E
		5	23° 28' 45.747" N	87° 1' 54.513" E
		6	23° 28' 44.258" N	87° 1' 15.575" E

POTENTIAL BLOCK - BNK_GR_ZONE_3

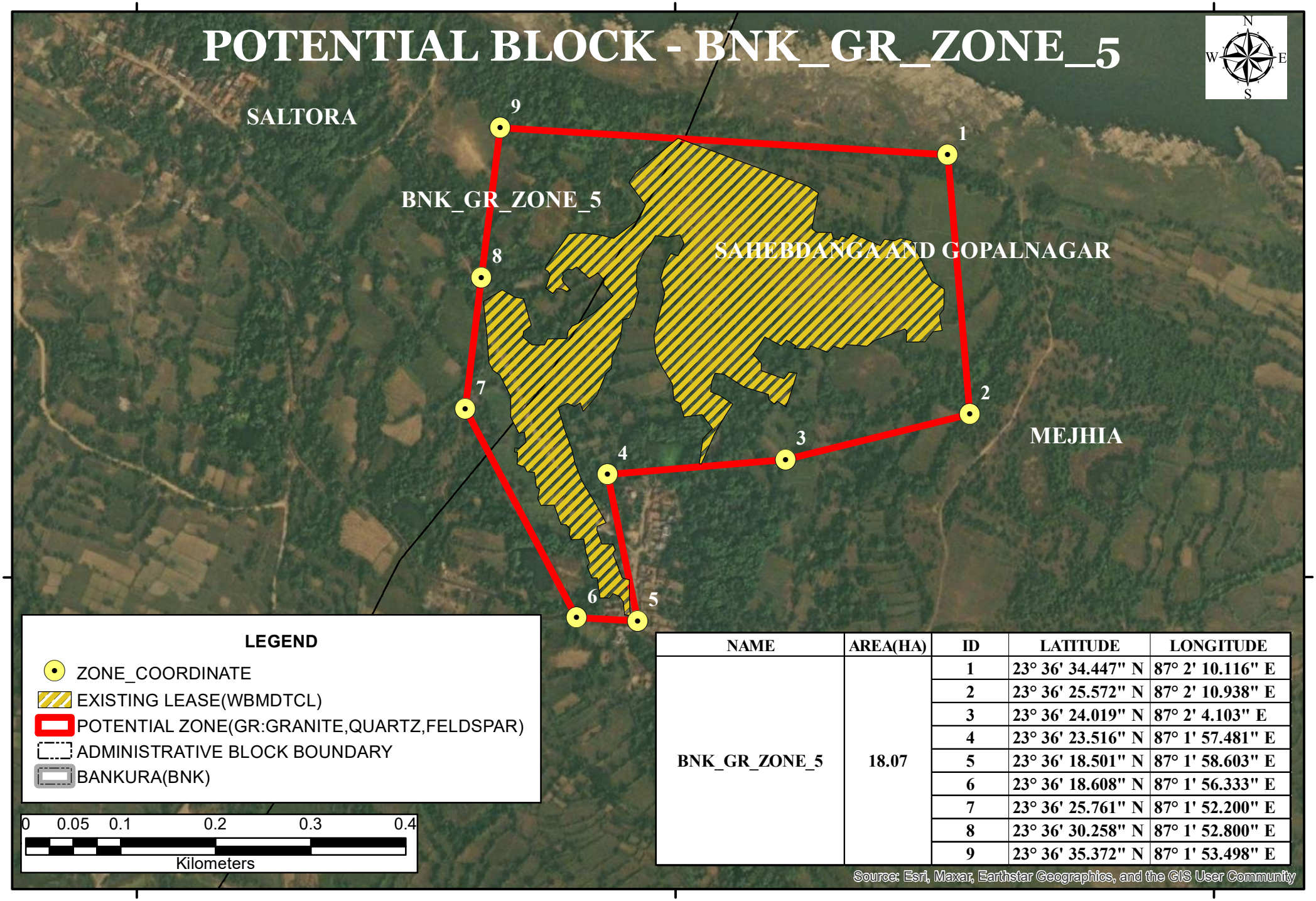


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GR_ZONE_3	11.18	1	23° 30' 9.380" N	87° 1' 41.252" E
		2	23° 30' 9.534" N	87° 1' 48.011" E
		3	23° 30' 1.465" N	87° 1' 53.176" E
		4	23° 29' 56.299" N	87° 1' 46.315" E
		5	23° 30' 1.413" N	87° 1' 37.834" E



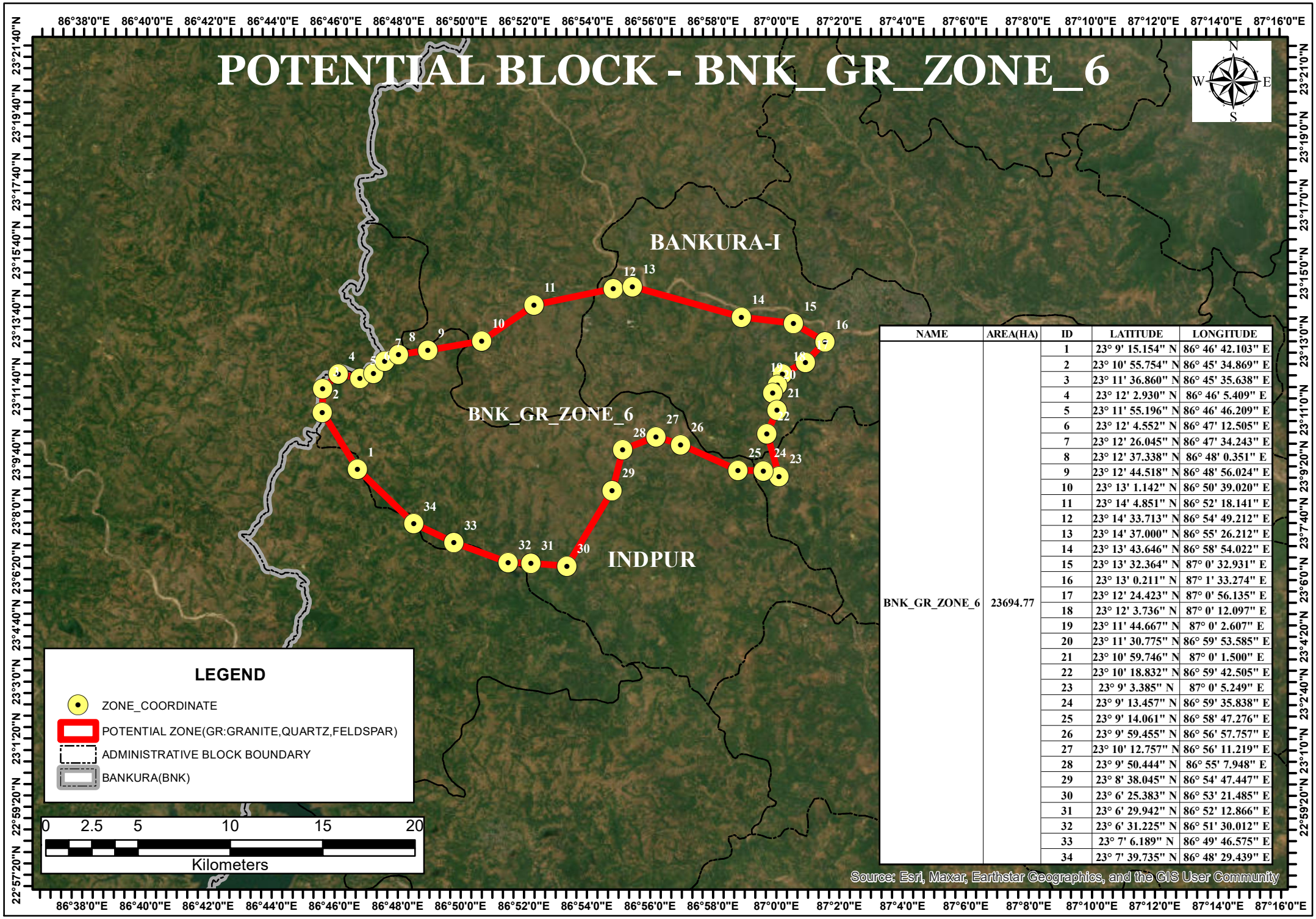
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GR_ZONE_4	122.19	1	23° 30' 56.155" N	87° 8' 11.966" E
		2	23° 30' 57.761" N	87° 8' 48.907" E
		3	23° 30' 20.177" N	87° 8' 49.870" E
		4	23° 30' 19.000" N	87° 8' 11.859" E

POTENTIAL BLOCK - BNK_GR_ZONE_5



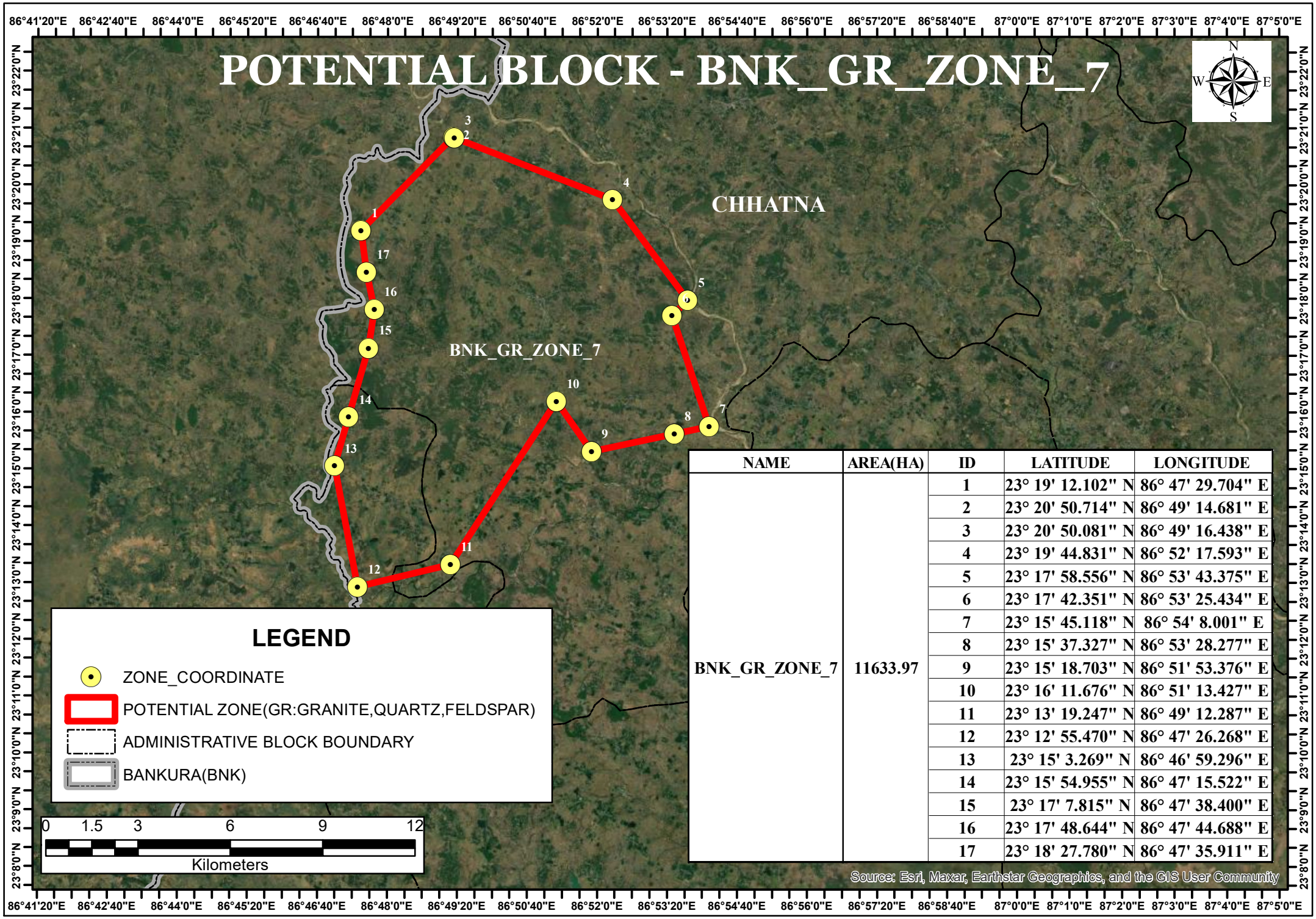
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GR_ZONE_5	18.07	1	23° 36' 34.447" N	87° 2' 10.116" E
		2	23° 36' 25.572" N	87° 2' 10.938" E
		3	23° 36' 24.019" N	87° 2' 4.103" E
		4	23° 36' 23.516" N	87° 1' 57.481" E
		5	23° 36' 18.501" N	87° 1' 58.603" E
		6	23° 36' 18.608" N	87° 1' 56.333" E
		7	23° 36' 25.761" N	87° 1' 52.200" E
		8	23° 36' 30.258" N	87° 1' 52.800" E
		9	23° 36' 35.372" N	87° 1' 53.498" E

POTENTIAL BLOCK - BNK_GR_ZONE_6



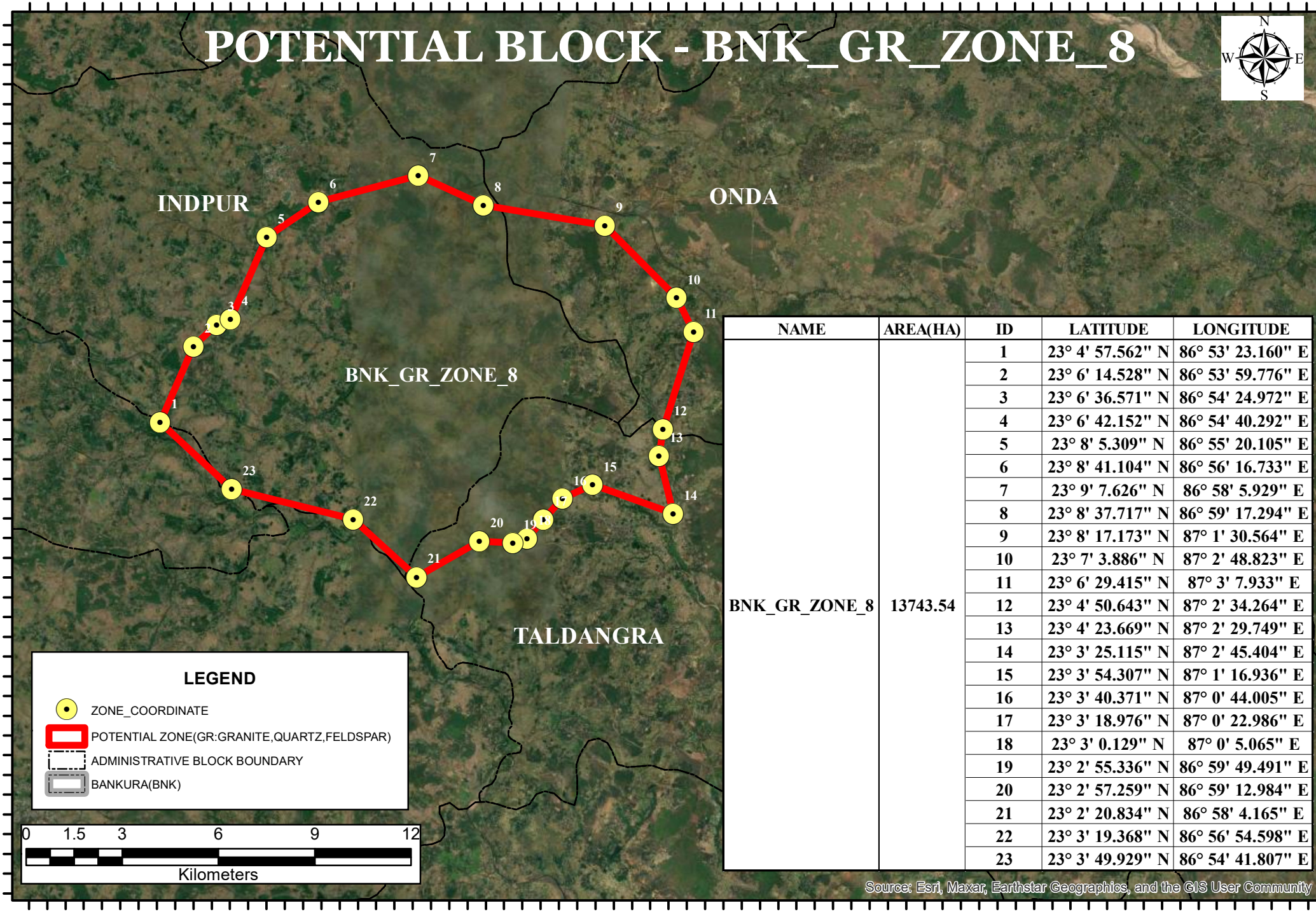
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GR_ZONE_6	23694.77	1	23° 9' 15.154" N	86° 46' 42.103" E
		2	23° 10' 55.754" N	86° 45' 34.869" E
		3	23° 11' 36.860" N	86° 45' 35.638" E
		4	23° 12' 2.930" N	86° 46' 5.409" E
		5	23° 11' 55.196" N	86° 46' 46.209" E
		6	23° 12' 4.552" N	86° 47' 12.505" E
		7	23° 12' 26.045" N	86° 47' 34.243" E
		8	23° 12' 37.338" N	86° 48' 0.351" E
		9	23° 12' 44.518" N	86° 48' 56.024" E
		10	23° 13' 1.142" N	86° 50' 39.020" E
		11	23° 14' 4.851" N	86° 52' 18.141" E
		12	23° 14' 33.713" N	86° 54' 49.212" E
		13	23° 14' 37.000" N	86° 55' 26.212" E
		14	23° 13' 43.646" N	86° 58' 54.022" E
		15	23° 13' 32.364" N	87° 0' 32.931" E
		16	23° 13' 0.211" N	87° 1' 33.274" E
		17	23° 12' 24.423" N	87° 0' 56.135" E
		18	23° 12' 3.736" N	87° 0' 12.097" E
		19	23° 11' 44.667" N	87° 0' 2.607" E
		20	23° 11' 30.775" N	86° 59' 53.585" E
		21	23° 10' 59.746" N	87° 0' 1.500" E
		22	23° 10' 18.832" N	86° 59' 42.505" E
		23	23° 9' 3.385" N	87° 0' 5.249" E
		24	23° 9' 13.457" N	86° 59' 35.838" E
		25	23° 9' 14.061" N	86° 58' 47.276" E
		26	23° 9' 59.455" N	86° 56' 57.757" E
		27	23° 10' 12.757" N	86° 56' 11.219" E
		28	23° 9' 50.444" N	86° 55' 7.948" E
		29	23° 8' 38.045" N	86° 54' 47.447" E
		30	23° 6' 25.383" N	86° 53' 21.485" E
		31	23° 6' 29.942" N	86° 52' 12.866" E
		32	23° 6' 31.225" N	86° 51' 30.012" E
		33	23° 7' 6.189" N	86° 49' 46.575" E
		34	23° 7' 39.735" N	86° 48' 29.439" E

POTENTIAL BLOCK - BNK_GR_ZONE_7



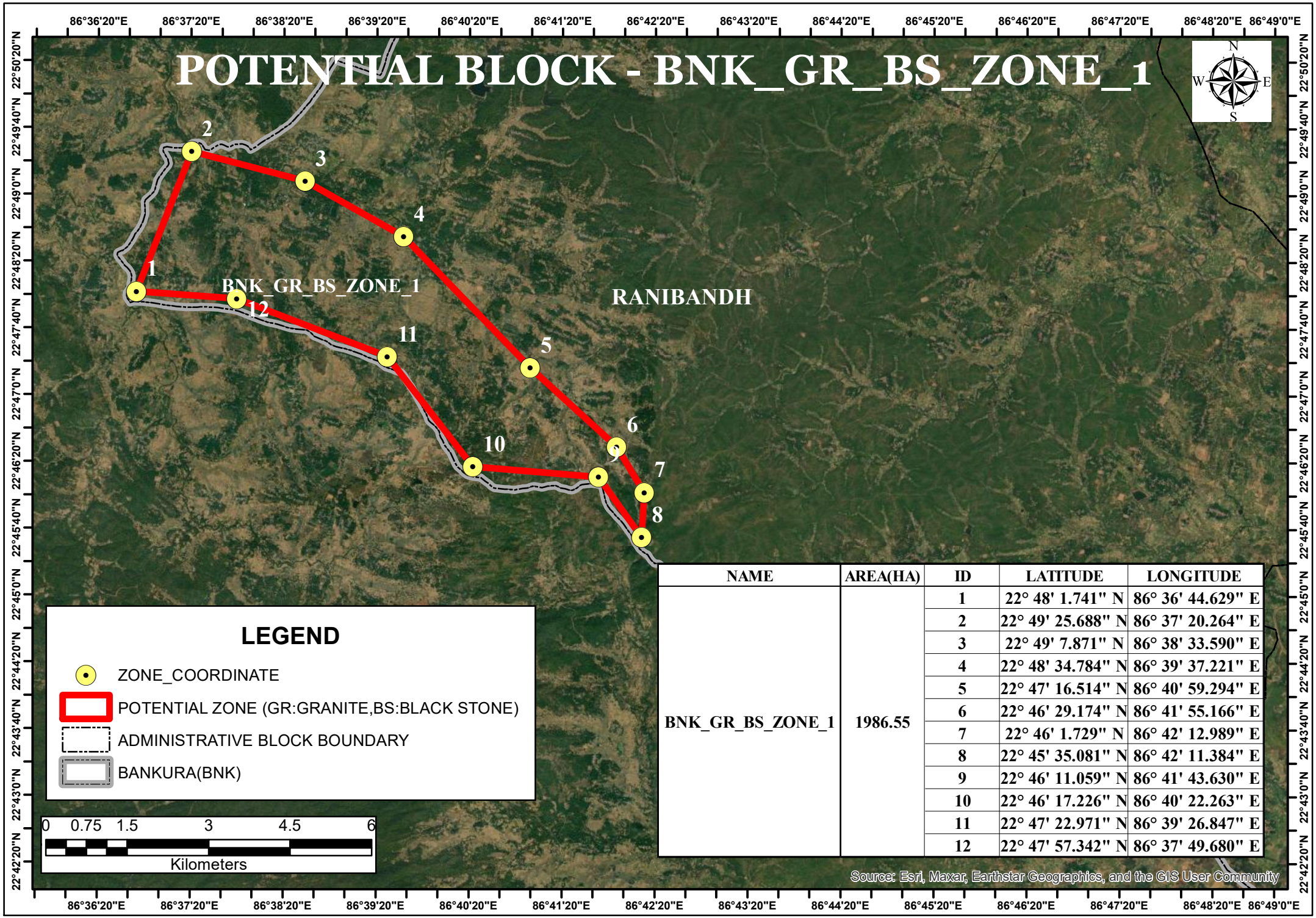
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GR_ZONE_7	11633.97	1	23° 19' 12.102" N	86° 47' 29.704" E
		2	23° 20' 50.714" N	86° 49' 14.681" E
		3	23° 20' 50.081" N	86° 49' 16.438" E
		4	23° 19' 44.831" N	86° 52' 17.593" E
		5	23° 17' 58.556" N	86° 53' 43.375" E
		6	23° 17' 42.351" N	86° 53' 25.434" E
		7	23° 15' 45.118" N	86° 54' 8.001" E
		8	23° 15' 37.327" N	86° 53' 28.277" E
		9	23° 15' 18.703" N	86° 51' 53.376" E
		10	23° 16' 11.676" N	86° 51' 13.427" E
		11	23° 13' 19.247" N	86° 49' 12.287" E
		12	23° 12' 55.470" N	86° 47' 26.268" E
		13	23° 15' 3.269" N	86° 46' 59.296" E
		14	23° 15' 54.955" N	86° 47' 15.522" E
		15	23° 17' 7.815" N	86° 47' 38.400" E
		16	23° 17' 48.644" N	86° 47' 44.688" E
		17	23° 18' 27.780" N	86° 47' 35.911" E

POTENTIAL BLOCK - BNK_GR_ZONE_8



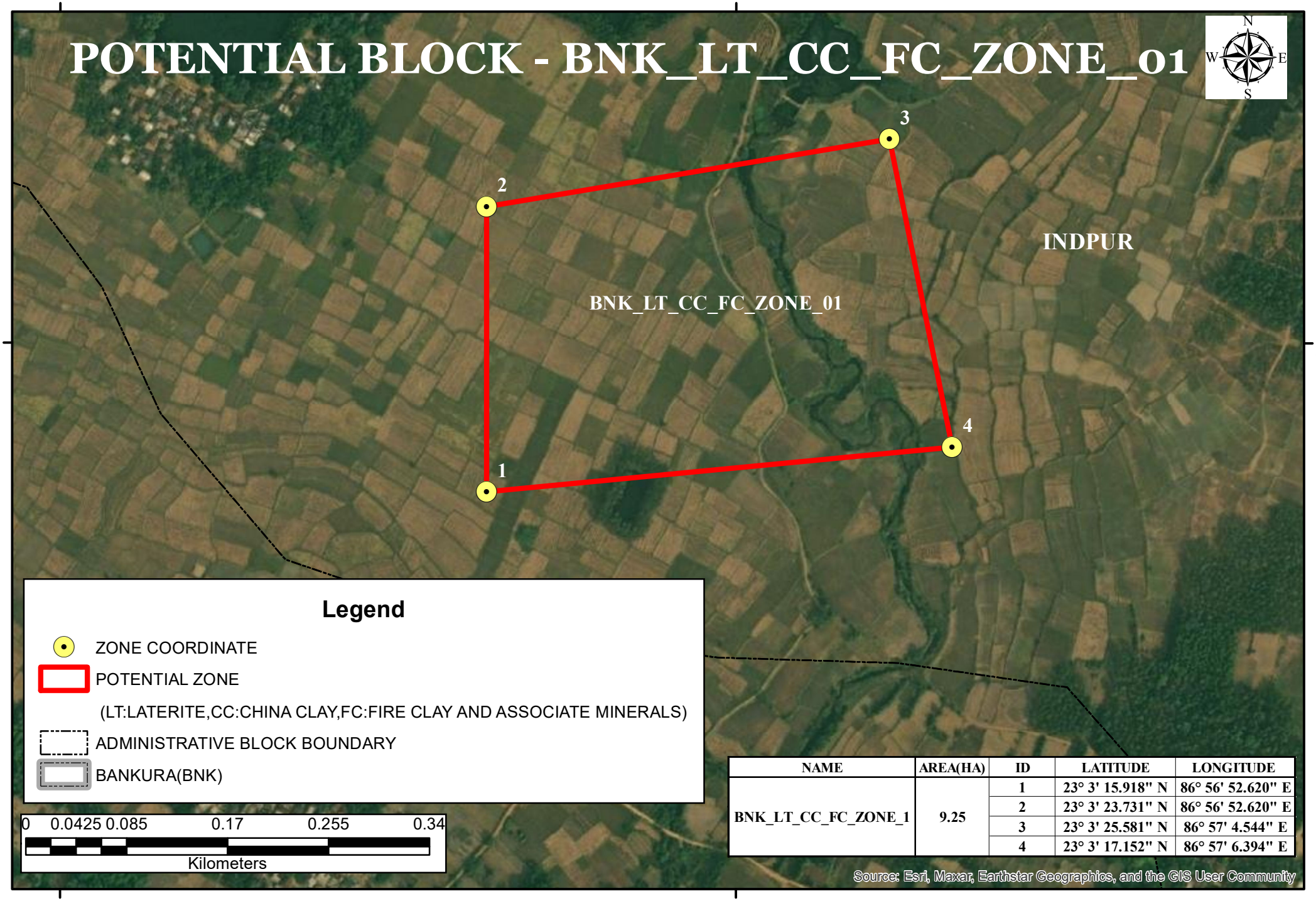
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GR_ZONE_8	13743.54	1	23° 4' 57.562" N	86° 53' 23.160" E
		2	23° 6' 14.528" N	86° 53' 59.776" E
		3	23° 6' 36.571" N	86° 54' 24.972" E
		4	23° 6' 42.152" N	86° 54' 40.292" E
		5	23° 8' 5.309" N	86° 55' 20.105" E
		6	23° 8' 41.104" N	86° 56' 16.733" E
		7	23° 9' 7.626" N	86° 58' 5.929" E
		8	23° 8' 37.717" N	86° 59' 17.294" E
		9	23° 8' 17.173" N	87° 1' 30.564" E
		10	23° 7' 3.886" N	87° 2' 48.823" E
		11	23° 6' 29.415" N	87° 3' 7.933" E
		12	23° 4' 50.643" N	87° 2' 34.264" E
		13	23° 4' 23.669" N	87° 2' 29.749" E
		14	23° 3' 25.115" N	87° 2' 45.404" E
		15	23° 3' 54.307" N	87° 1' 16.936" E
		16	23° 3' 40.371" N	87° 0' 44.005" E
		17	23° 3' 18.976" N	87° 0' 22.986" E
		18	23° 3' 0.129" N	87° 0' 5.065" E
		19	23° 2' 55.336" N	86° 59' 49.491" E
		20	23° 2' 57.259" N	86° 59' 12.984" E
		21	23° 2' 20.834" N	86° 58' 4.165" E
		22	23° 3' 19.368" N	86° 56' 54.598" E
		23	23° 3' 49.929" N	86° 54' 41.807" E

POTENTIAL BLOCK - BNK_GR_BS_ZONE_1



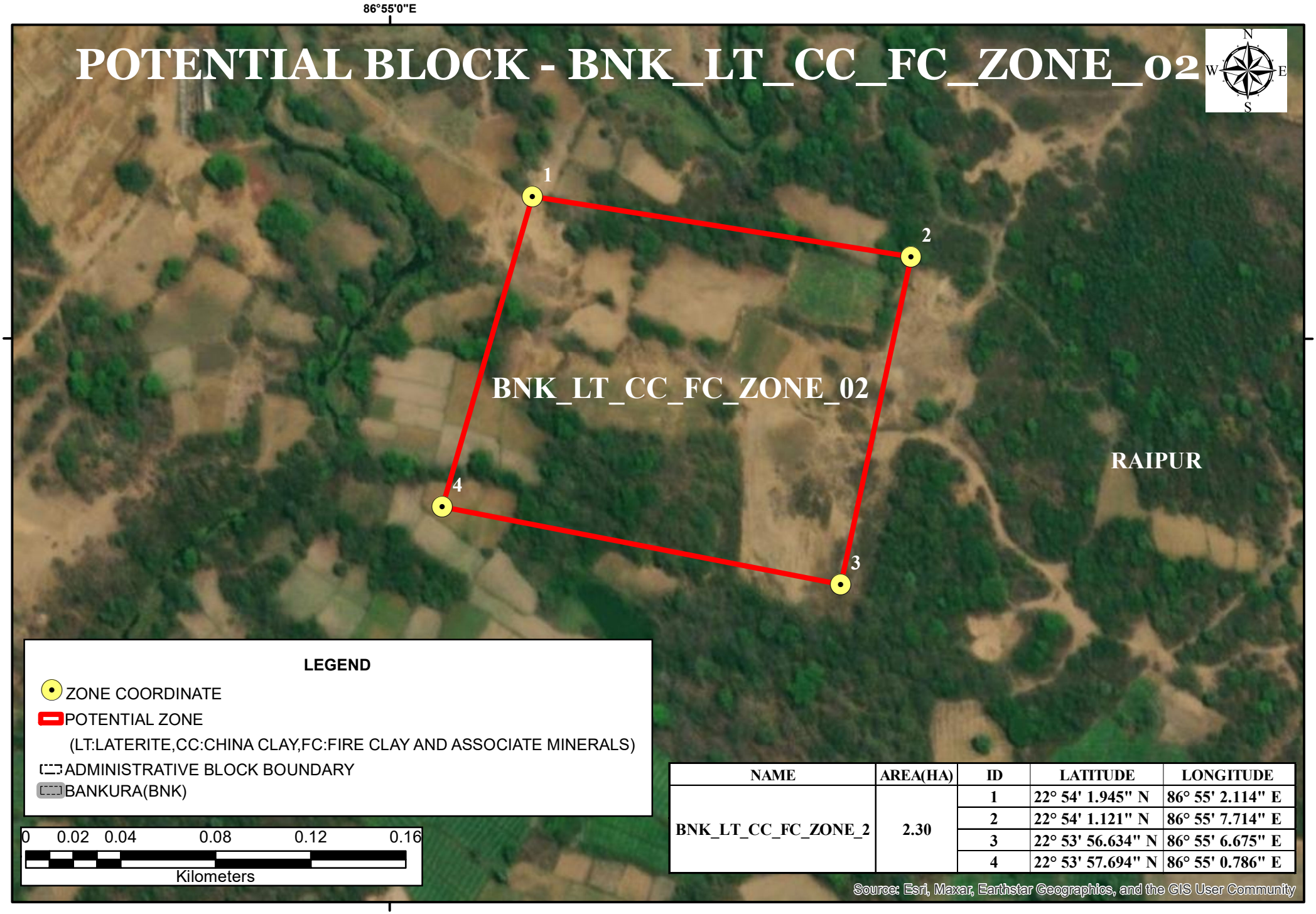
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_GR_BS_ZONE_1	1986.55	1	22° 48' 1.741" N	86° 36' 44.629" E
		2	22° 49' 25.688" N	86° 37' 20.264" E
		3	22° 49' 7.871" N	86° 38' 33.590" E
		4	22° 48' 34.784" N	86° 39' 37.221" E
		5	22° 47' 16.514" N	86° 40' 59.294" E
		6	22° 46' 29.174" N	86° 41' 55.166" E
		7	22° 46' 1.729" N	86° 42' 12.989" E
		8	22° 45' 35.081" N	86° 42' 11.384" E
		9	22° 46' 11.059" N	86° 41' 43.630" E
		10	22° 46' 17.226" N	86° 40' 22.263" E
		11	22° 47' 22.971" N	86° 39' 26.847" E
		12	22° 47' 57.342" N	86° 37' 49.680" E

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_01

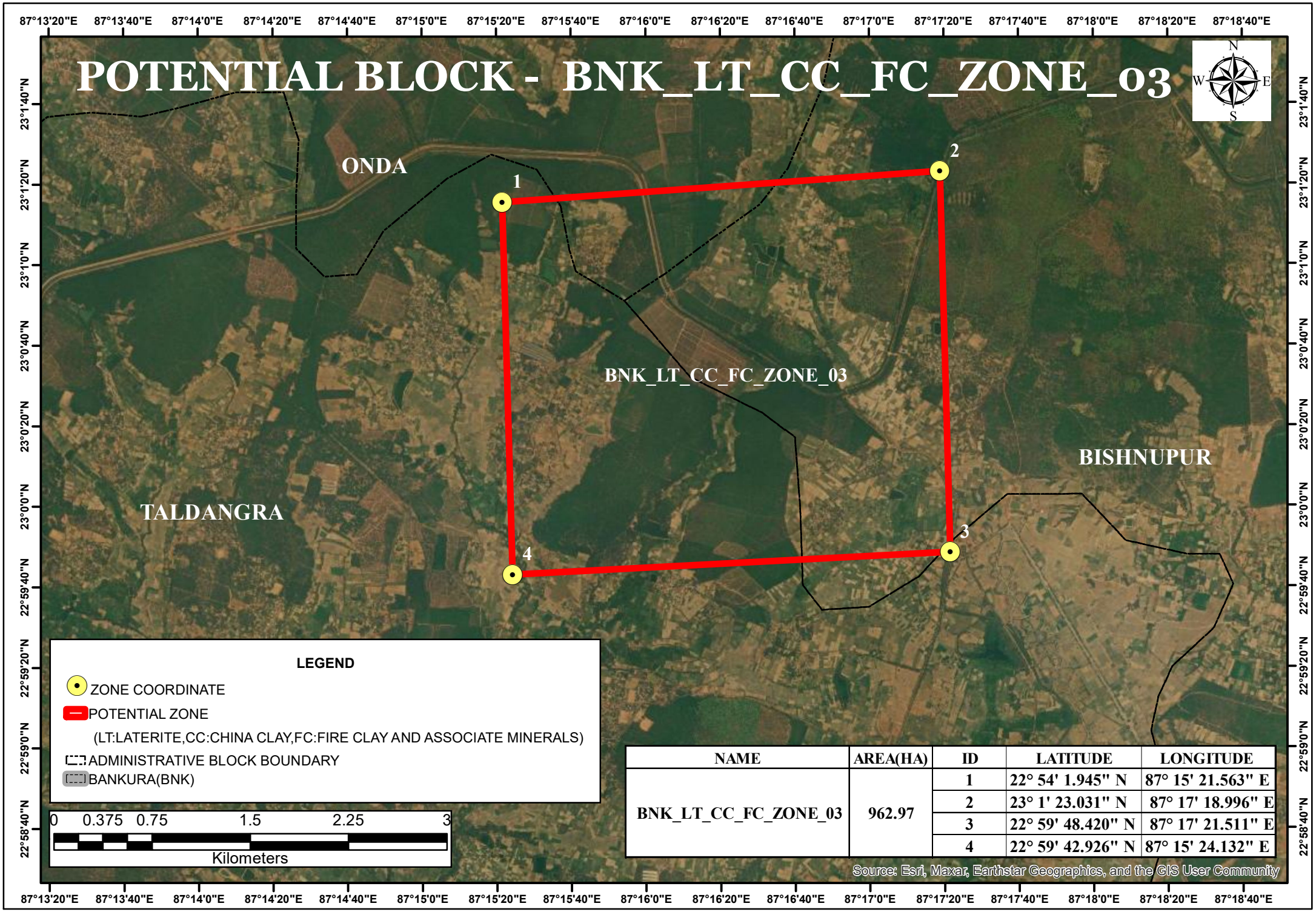


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_1	9.25	1	23° 3' 15.918" N	86° 56' 52.620" E
		2	23° 3' 23.731" N	86° 56' 52.620" E
		3	23° 3' 25.581" N	86° 57' 4.544" E
		4	23° 3' 17.152" N	86° 57' 6.394" E

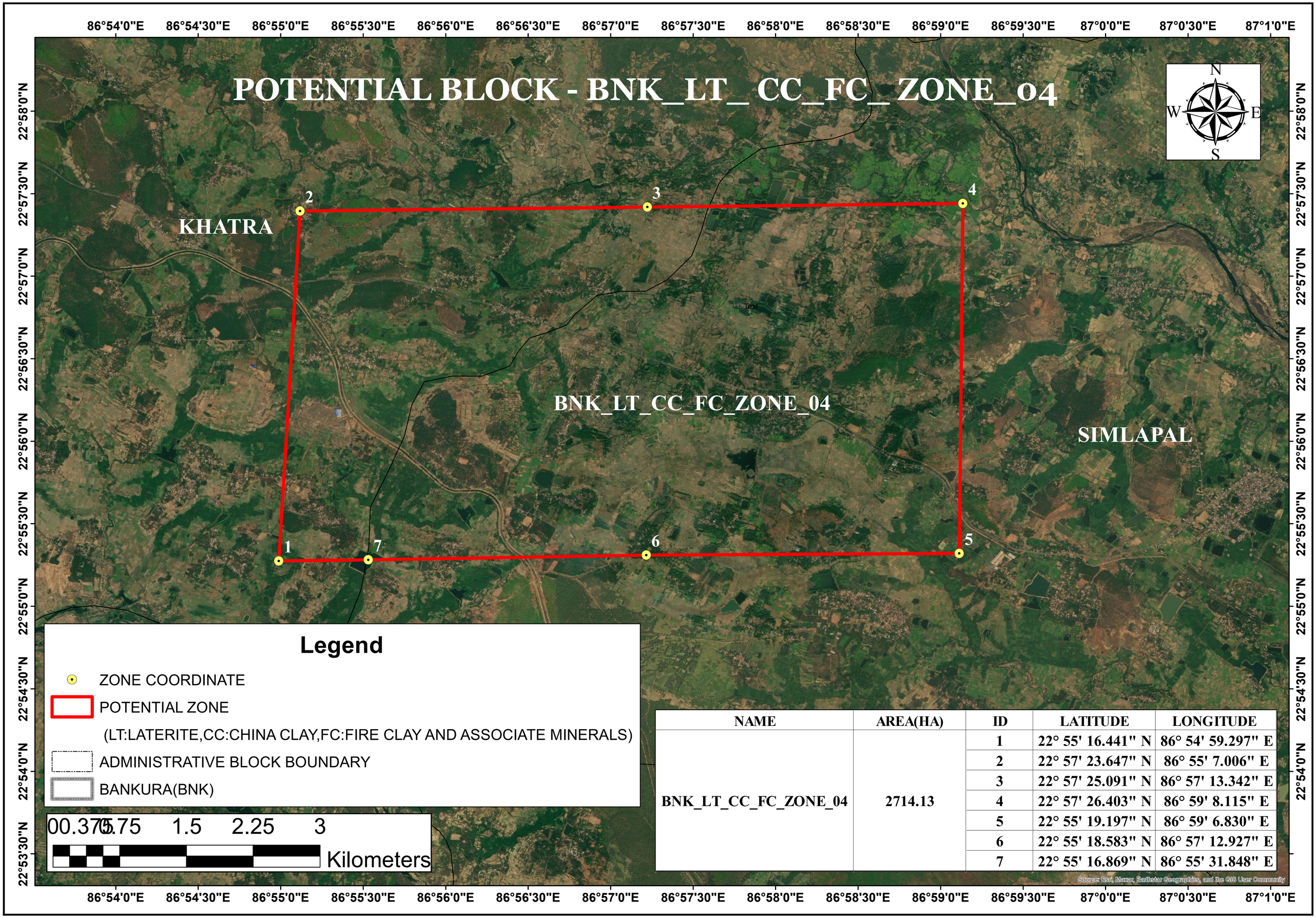
POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_02



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_2	2.30	1	22° 54' 1.945" N	86° 55' 2.114" E
		2	22° 54' 1.121" N	86° 55' 7.714" E
		3	22° 53' 56.634" N	86° 55' 6.675" E
		4	22° 53' 57.694" N	86° 55' 0.786" E

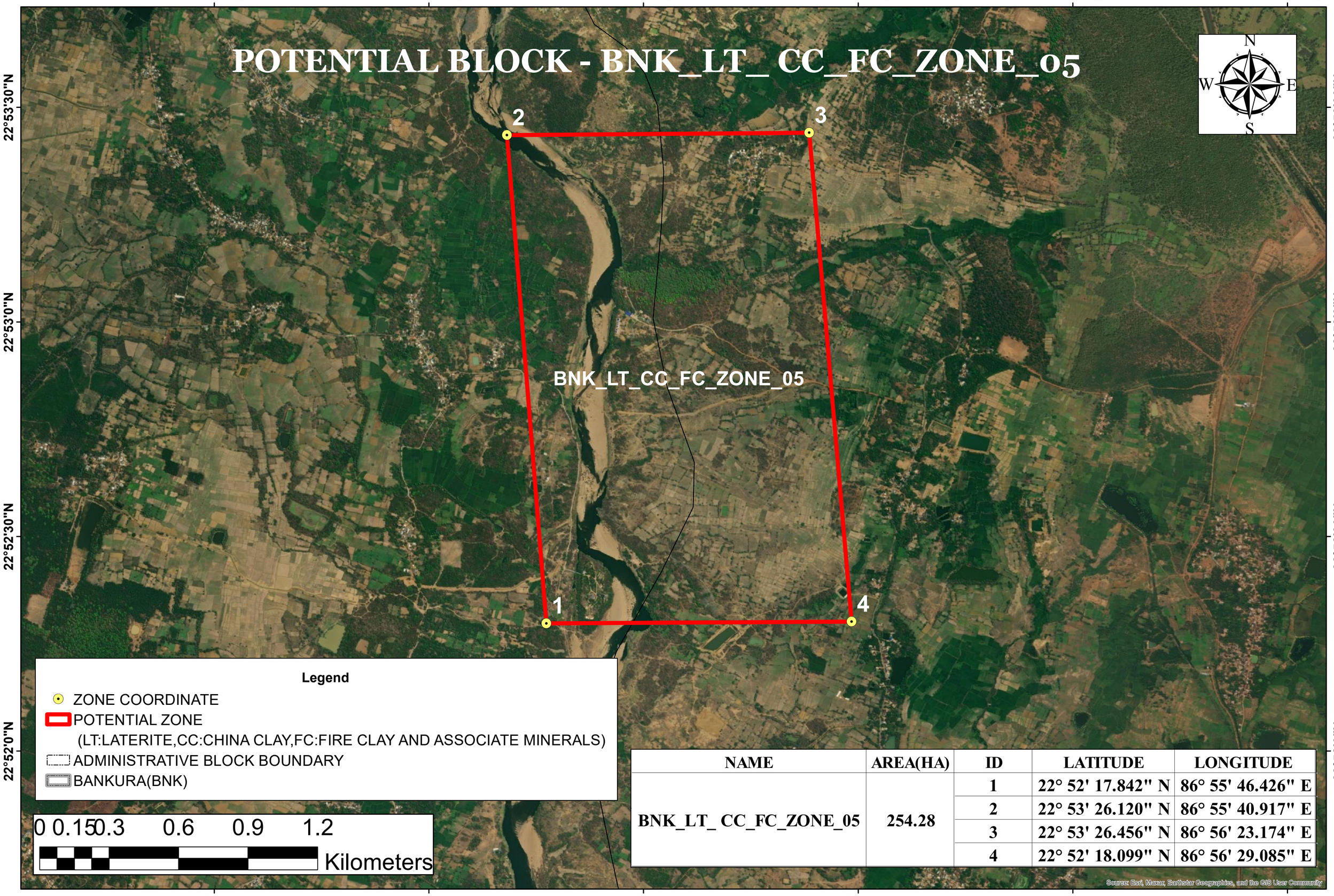


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_03	962.97	1	22° 54' 1.945" N	87° 15' 21.563" E
		2	23° 1' 23.031" N	87° 17' 18.996" E
		3	22° 59' 48.420" N	87° 17' 21.511" E
		4	22° 59' 42.926" N	87° 15' 24.132" E



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_04	2714.13	1	22° 55' 16.441" N	86° 54' 59.297" E
		2	22° 57' 23.647" N	86° 55' 7.006" E
		3	22° 57' 25.091" N	86° 57' 13.342" E
		4	22° 57' 26.403" N	86° 59' 8.115" E
		5	22° 55' 19.197" N	86° 59' 6.830" E
		6	22° 55' 18.583" N	86° 57' 12.927" E
		7	22° 55' 16.869" N	86° 55' 31.848" E

POTENTIAL BLOCK - BNK_LT_ CC_FC_ZONE_05



Legend

- ZONE COORDINATE
- POTENTIAL ZONE
  (LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

0 0.150.3 0.6 0.9 1.2

Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_ CC_FC_ZONE_05	254.28	1	22° 52' 17.842" N	86° 55' 46.426" E
		2	22° 53' 26.120" N	86° 55' 40.917" E
		3	22° 53' 26.456" N	86° 56' 23.174" E
		4	22° 52' 18.099" N	86° 56' 29.085" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_LT_CC_FC_ ZONE_06



BARJORA

SONAMUKHI

BANKURA-II

BNK_LT_CC_FC_ZONE_06

ONDA

BISHNUPUR

PATRASAYER

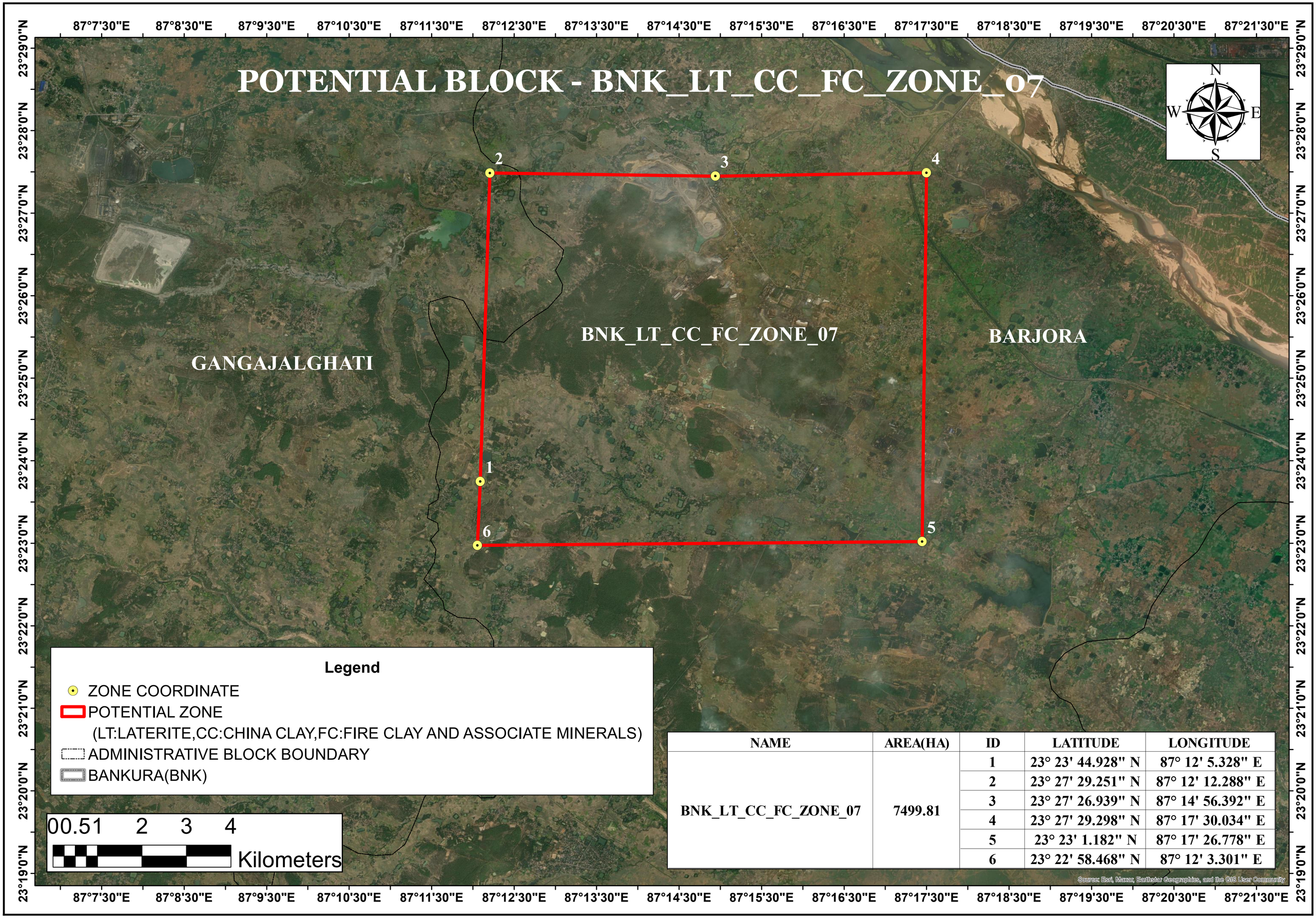
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ ZONE_06	41284.11	1	23° 15' 9.373" N	87° 29' 31.424" E
		2	23° 12' 58.740" N	87° 29' 34.636" E
		3	23° 12' 44.257" N	87° 23' 26.103" E
		4	23° 12' 12.536" N	87° 11' 41.144" E
		5	23° 13' 55.671" N	87° 9' 51.331" E
		6	23° 12' 10.807" N	87° 13' 52.283" E
		7	23° 18' 21.681" N	87° 9' 51.021" E
		8	23° 18' 46.308" N	87° 13' 26.243" E
		9	23° 17' 24.318" N	87° 17' 48.627" E
		10	23° 18' 35.073" N	87° 23' 17.886" E
		11	23° 16' 28.555" N	87° 23' 19.017" E
		12	23° 16' 28.056" N	87° 27' 22.187" E
		13	23° 15' 9.373" N	87° 27' 25.075" E

Legend

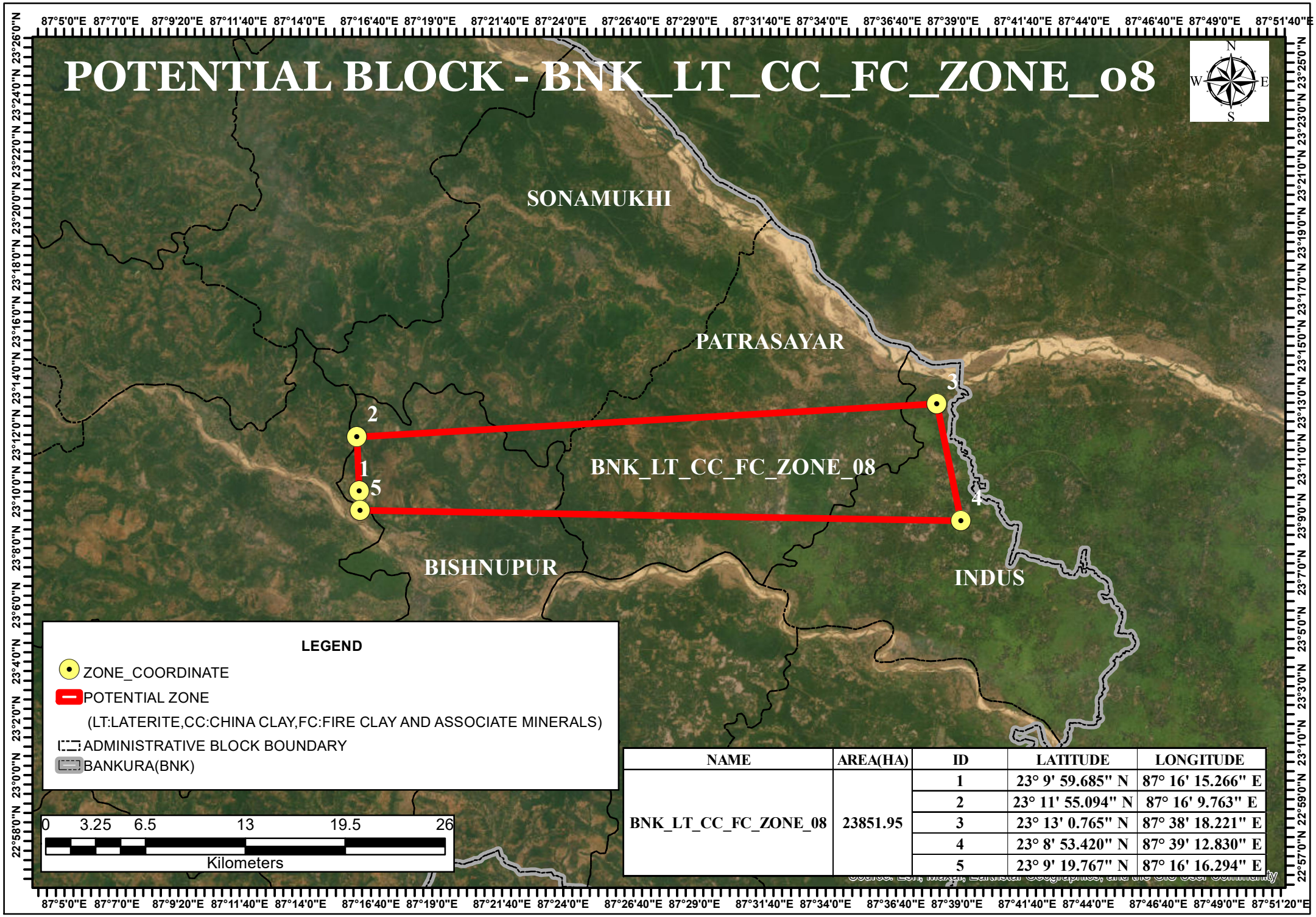
- ZONE COORDINATE
- POTENTIAL ZONE
  (LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

0 1 2 4 6 8 Kilometers

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

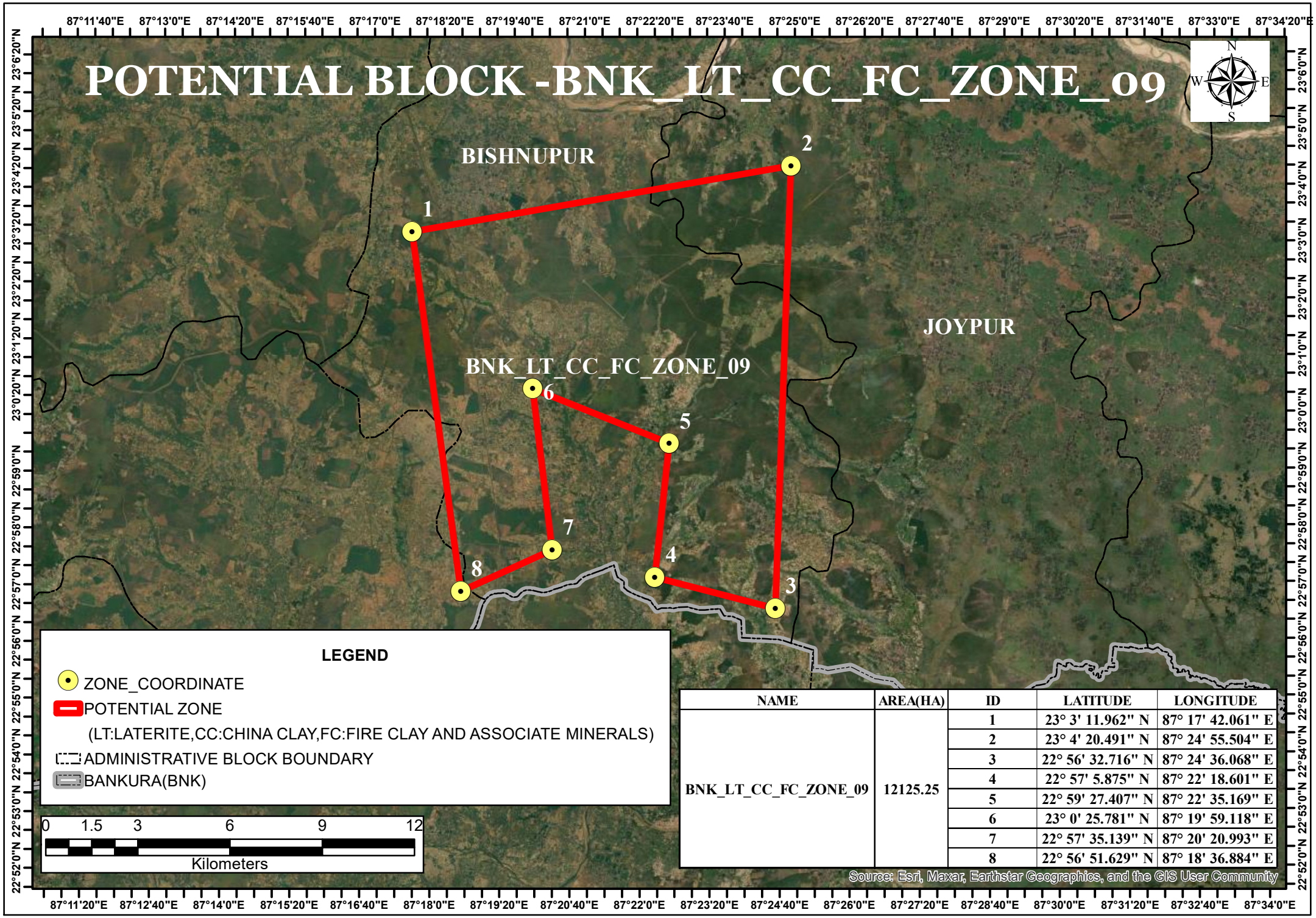


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_07	7499.81	1	23° 23' 44.928" N	87° 12' 5.328" E
		2	23° 27' 29.251" N	87° 12' 12.288" E
		3	23° 27' 26.939" N	87° 14' 56.392" E
		4	23° 27' 29.298" N	87° 17' 30.034" E
		5	23° 23' 1.182" N	87° 17' 26.778" E
		6	23° 22' 58.468" N	87° 12' 3.301" E



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_08	23851.95	1	23° 9' 59.685" N	87° 16' 15.266" E
		2	23° 11' 55.094" N	87° 16' 9.763" E
		3	23° 13' 0.765" N	87° 38' 18.221" E
		4	23° 8' 53.420" N	87° 39' 12.830" E
		5	23° 9' 19.767" N	87° 16' 16.294" E

POTENTIAL BLOCK -BNK_LT_CC_FC_ZONE_09



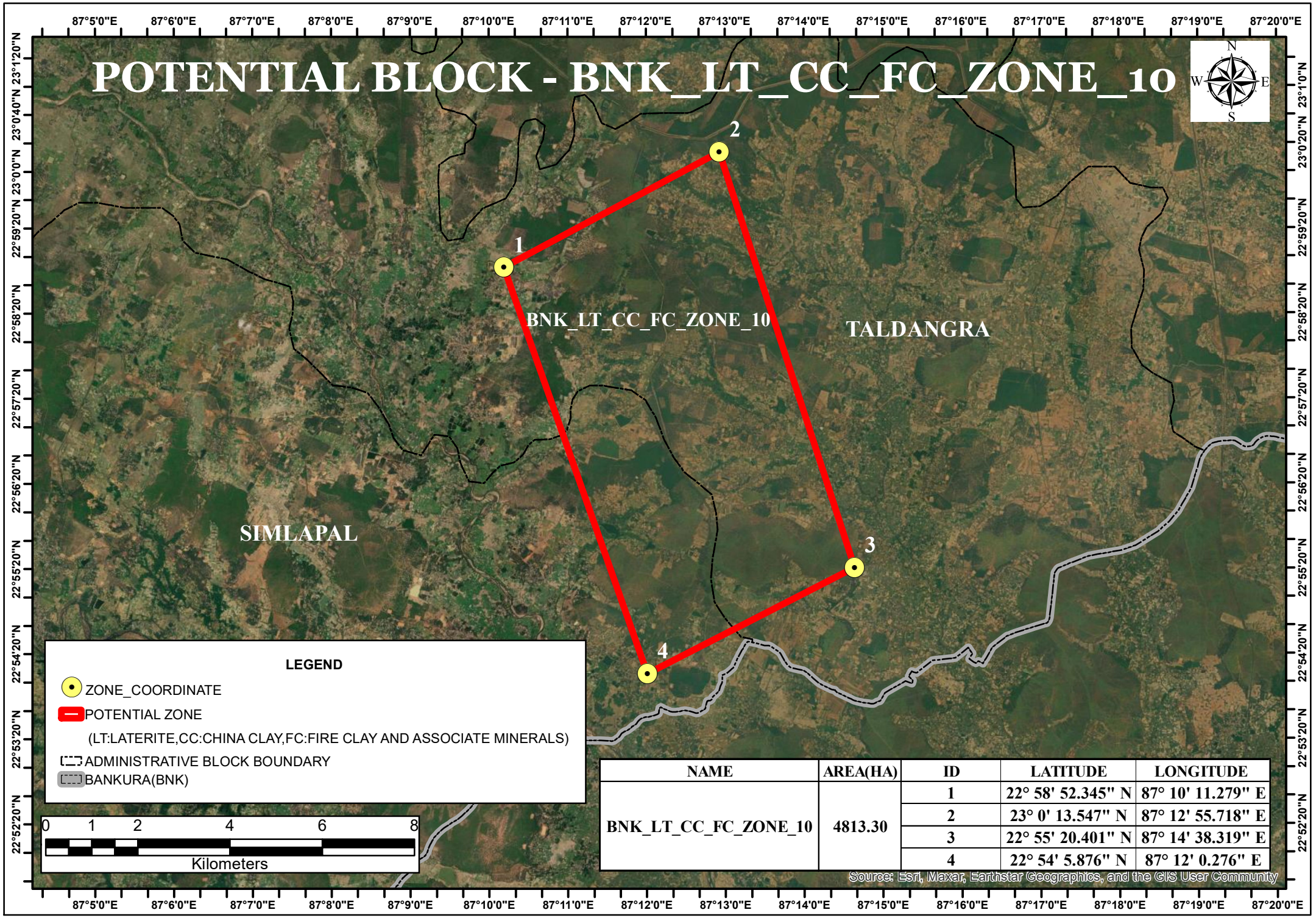
LEGEND

- ZONE_COORDINATE
- POTENTIAL ZONE
  (LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

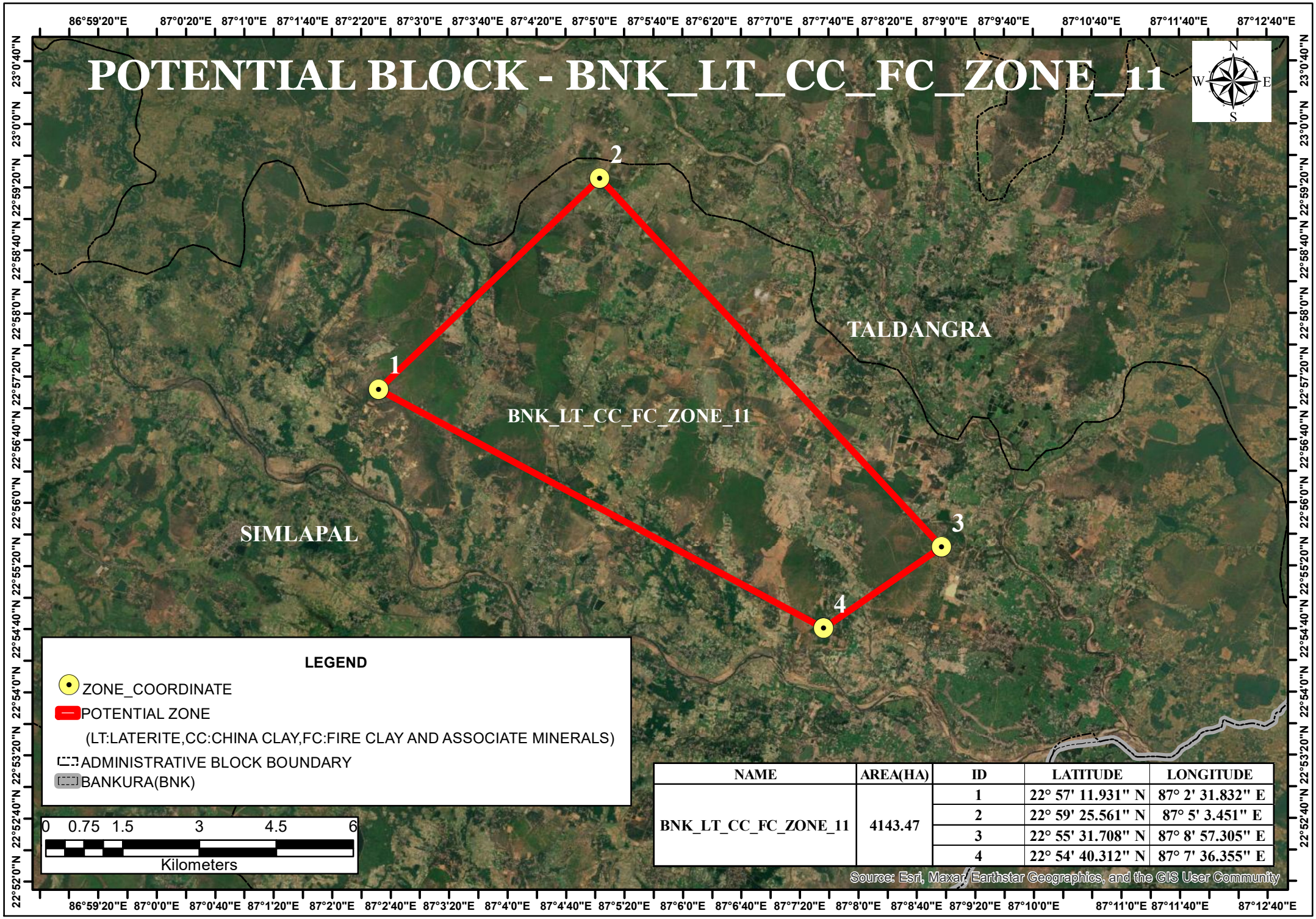
0 1.5 3 6 9 12
Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_09	12125.25	1	23° 3' 11.962" N	87° 17' 42.061" E
		2	23° 4' 20.491" N	87° 24' 55.504" E
		3	22° 56' 32.716" N	87° 24' 36.068" E
		4	22° 57' 5.875" N	87° 22' 18.601" E
		5	22° 59' 27.407" N	87° 22' 35.169" E
		6	23° 0' 25.781" N	87° 19' 59.118" E
		7	22° 57' 35.139" N	87° 20' 20.993" E
		8	22° 56' 51.629" N	87° 18' 36.884" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

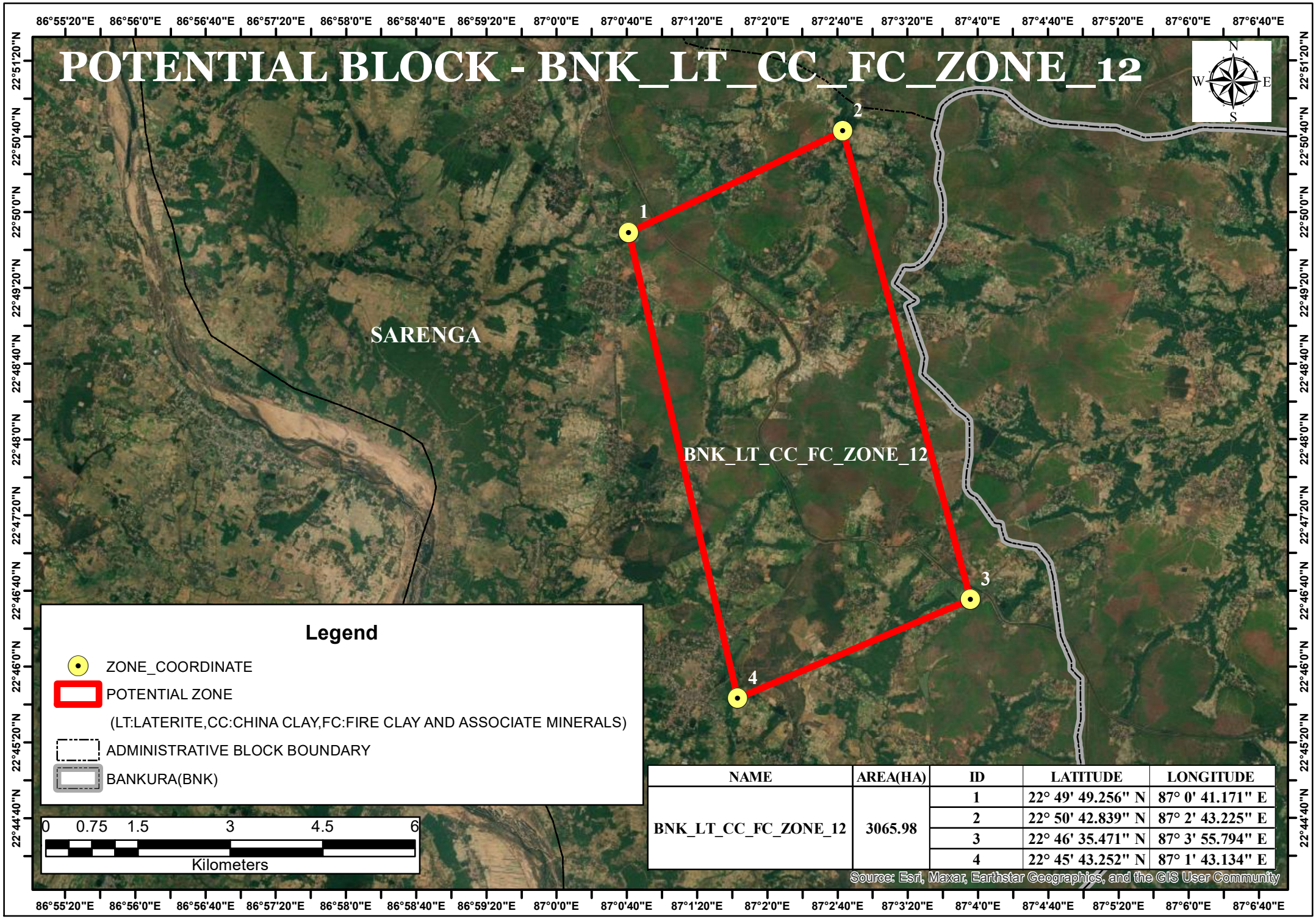


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_10	4813.30	1	22° 58' 52.345" N	87° 10' 11.279" E
		2	23° 0' 13.547" N	87° 12' 55.718" E
		3	22° 55' 20.401" N	87° 14' 38.319" E
		4	22° 54' 5.876" N	87° 12' 0.276" E



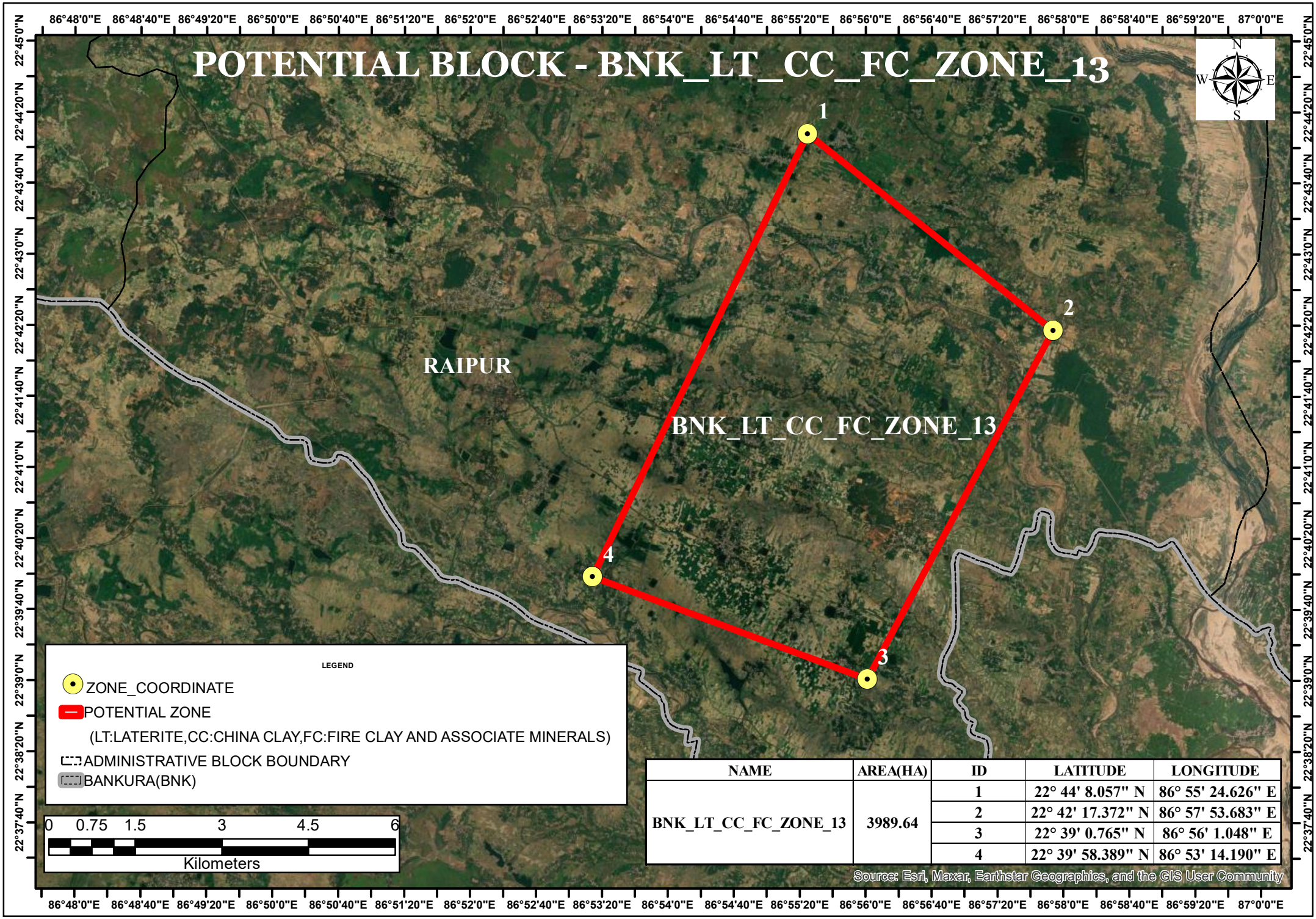
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_11	4143.47	1	22° 57' 11.931" N	87° 2' 31.832" E
		2	22° 59' 25.561" N	87° 5' 3.451" E
		3	22° 55' 31.708" N	87° 8' 57.305" E
		4	22° 54' 40.312" N	87° 7' 36.355" E

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_12



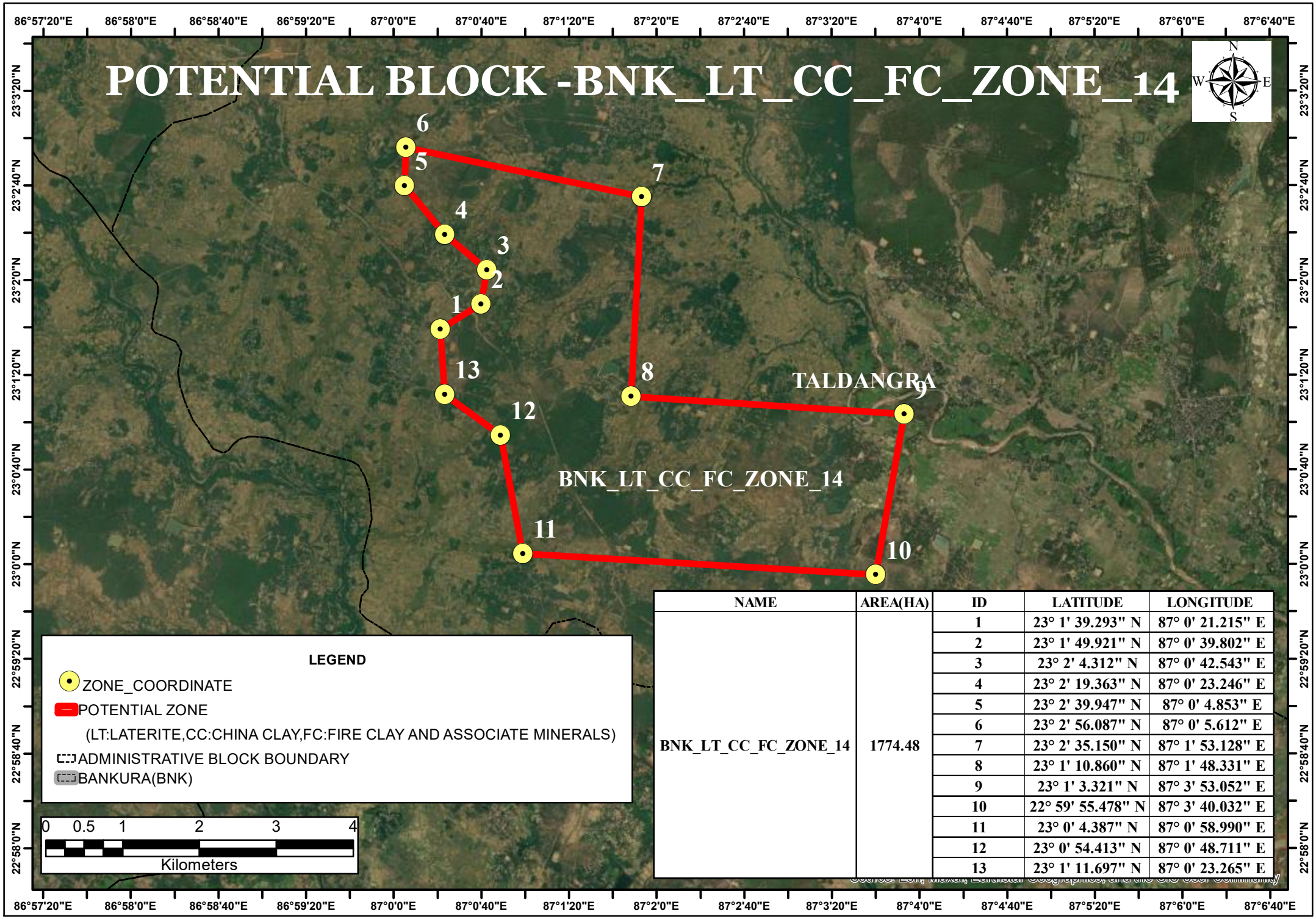
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_12	3065.98	1	22° 49' 49.256" N	87° 0' 41.171" E
		2	22° 50' 42.839" N	87° 2' 43.225" E
		3	22° 46' 35.471" N	87° 3' 55.794" E
		4	22° 45' 43.252" N	87° 1' 43.134" E

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_13



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_13	3989.64	1	22° 44' 8.057" N	86° 55' 24.626" E
		2	22° 42' 17.372" N	86° 57' 53.683" E
		3	22° 39' 0.765" N	86° 56' 1.048" E
		4	22° 39' 58.389" N	86° 53' 14.190" E

POTENTIAL BLOCK -BNK_LT_CC_FC_ZONE_14



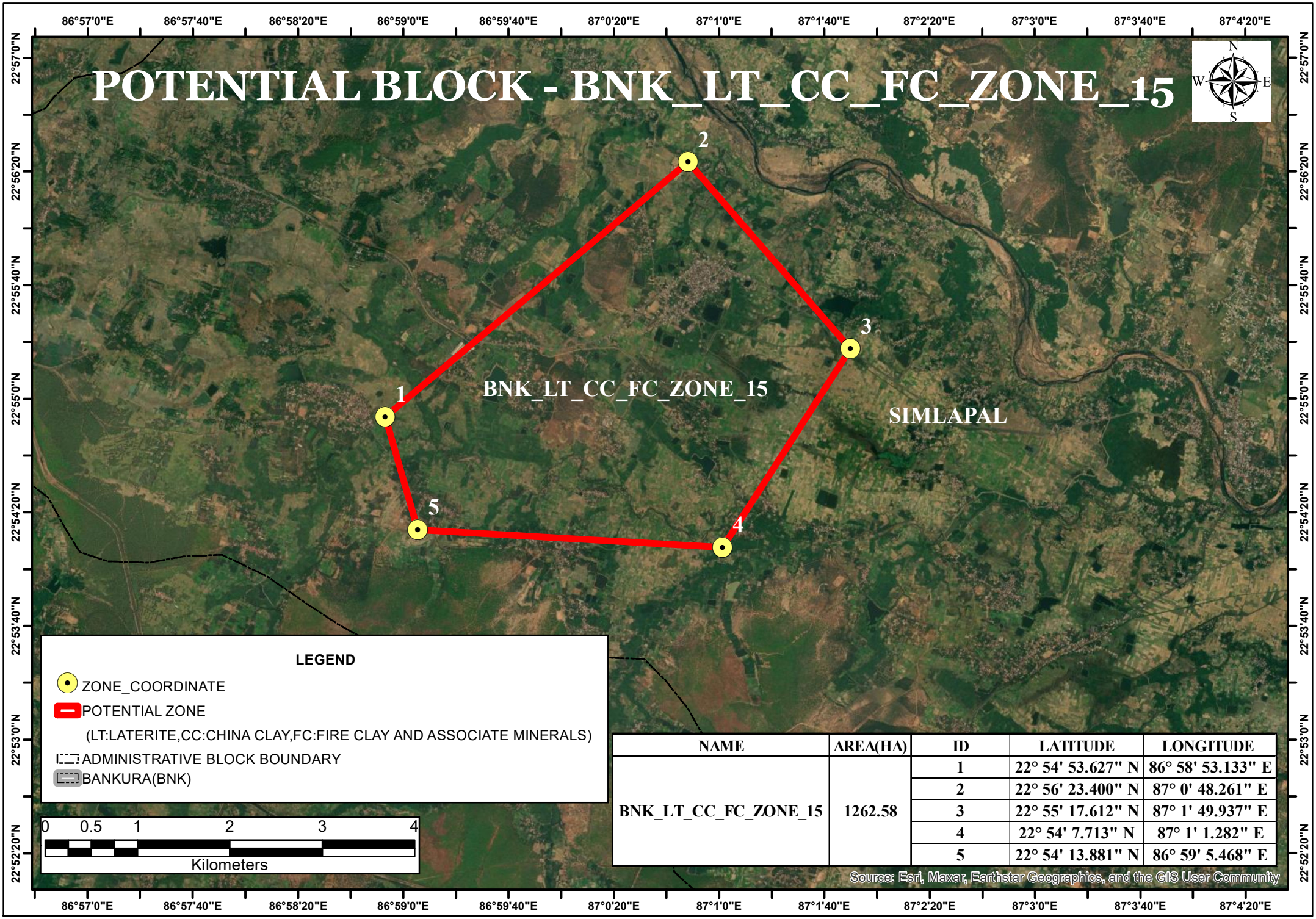
LEGEND

- ZONE_COORDINATE
- POTENTIAL ZONE
  (LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

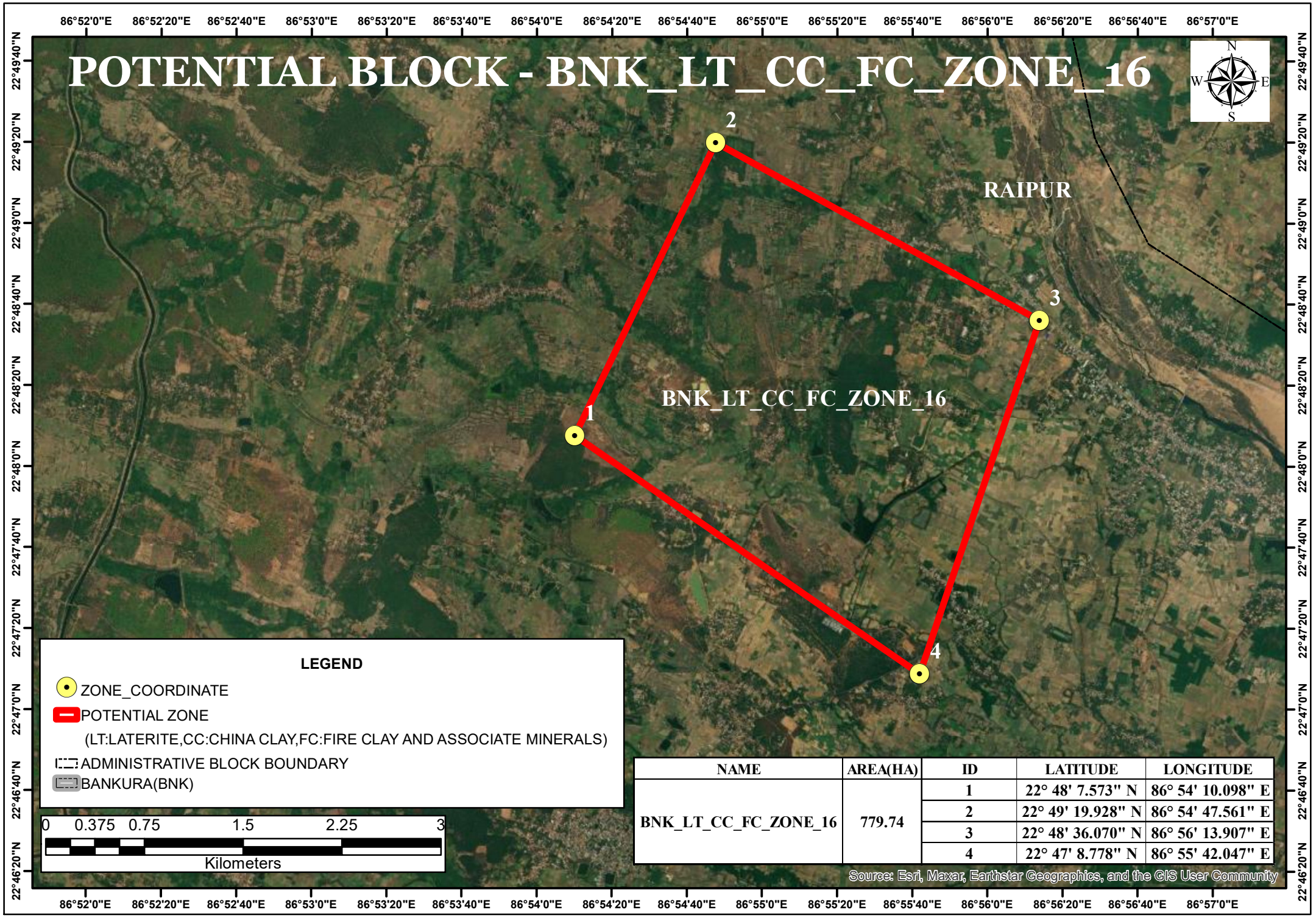
0 0.5 1 2 3 4
Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_14	1774.48	1	23° 1' 39.293" N	87° 0' 21.215" E
		2	23° 1' 49.921" N	87° 0' 39.802" E
		3	23° 2' 4.312" N	87° 0' 42.543" E
		4	23° 2' 19.363" N	87° 0' 23.246" E
		5	23° 2' 39.947" N	87° 0' 4.853" E
		6	23° 2' 56.087" N	87° 0' 5.612" E
		7	23° 2' 35.150" N	87° 1' 53.128" E
		8	23° 1' 10.860" N	87° 1' 48.331" E
		9	23° 1' 3.321" N	87° 3' 53.052" E
		10	22° 59' 55.478" N	87° 3' 40.032" E
		11	23° 0' 4.387" N	87° 0' 58.990" E
		12	23° 0' 54.413" N	87° 0' 48.711" E
		13	23° 1' 11.697" N	87° 0' 23.265" E

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_15

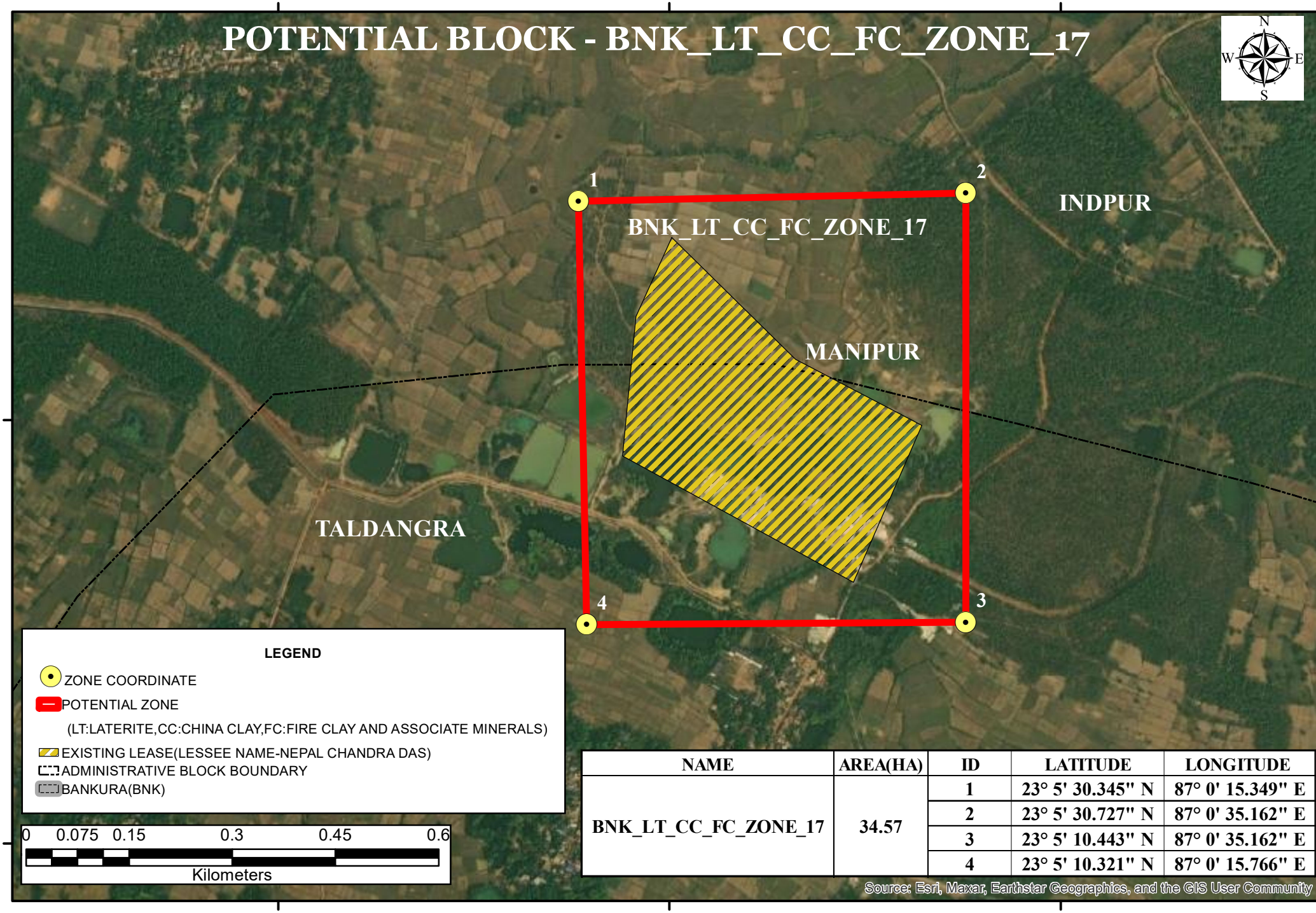


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_15	1262.58	1	22° 54' 53.627" N	86° 58' 53.133" E
		2	22° 56' 23.400" N	87° 0' 48.261" E
		3	22° 55' 17.612" N	87° 1' 49.937" E
		4	22° 54' 7.713" N	87° 1' 1.282" E
		5	22° 54' 13.881" N	86° 59' 5.468" E



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_16	779.74	1	22° 48' 7.573" N	86° 54' 10.098" E
		2	22° 49' 19.928" N	86° 54' 47.561" E
		3	22° 48' 36.070" N	86° 56' 13.907" E
		4	22° 47' 8.778" N	86° 55' 42.047" E

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_17



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_17	34.57	1	23° 5' 30.345" N	87° 0' 15.349" E
		2	23° 5' 30.727" N	87° 0' 35.162" E
		3	23° 5' 10.443" N	87° 0' 35.162" E
		4	23° 5' 10.321" N	87° 0' 15.766" E

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_18

87°8'30"E

87°9'0"E

23°16'0"N

23°15'30"N

N

W

E

S

1

2

3

4

5

BNK_LT_CC_FC_ZONE_18

SIMLAPAL

Legend

- ZONE COORDINATE
- EXISTING LEASE(LESSEE NAME-BIBHAS KUMAR DAS)
- POTENTIAL ZONE

(LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)

- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

0 0.05 0.1 0.2 0.3 0.4

Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_18	21.68	1	23° 16' 1.015" N	87° 8' 52.046" E
		2	23° 16' 2.789" N	87° 9' 4.876" E
		3	23° 15' 49.462" N	87° 9' 6.845" E
		4	23° 15' 47.358" N	87° 8' 46.938" E
		5	23° 15' 55.159" N	87° 8' 45.414" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

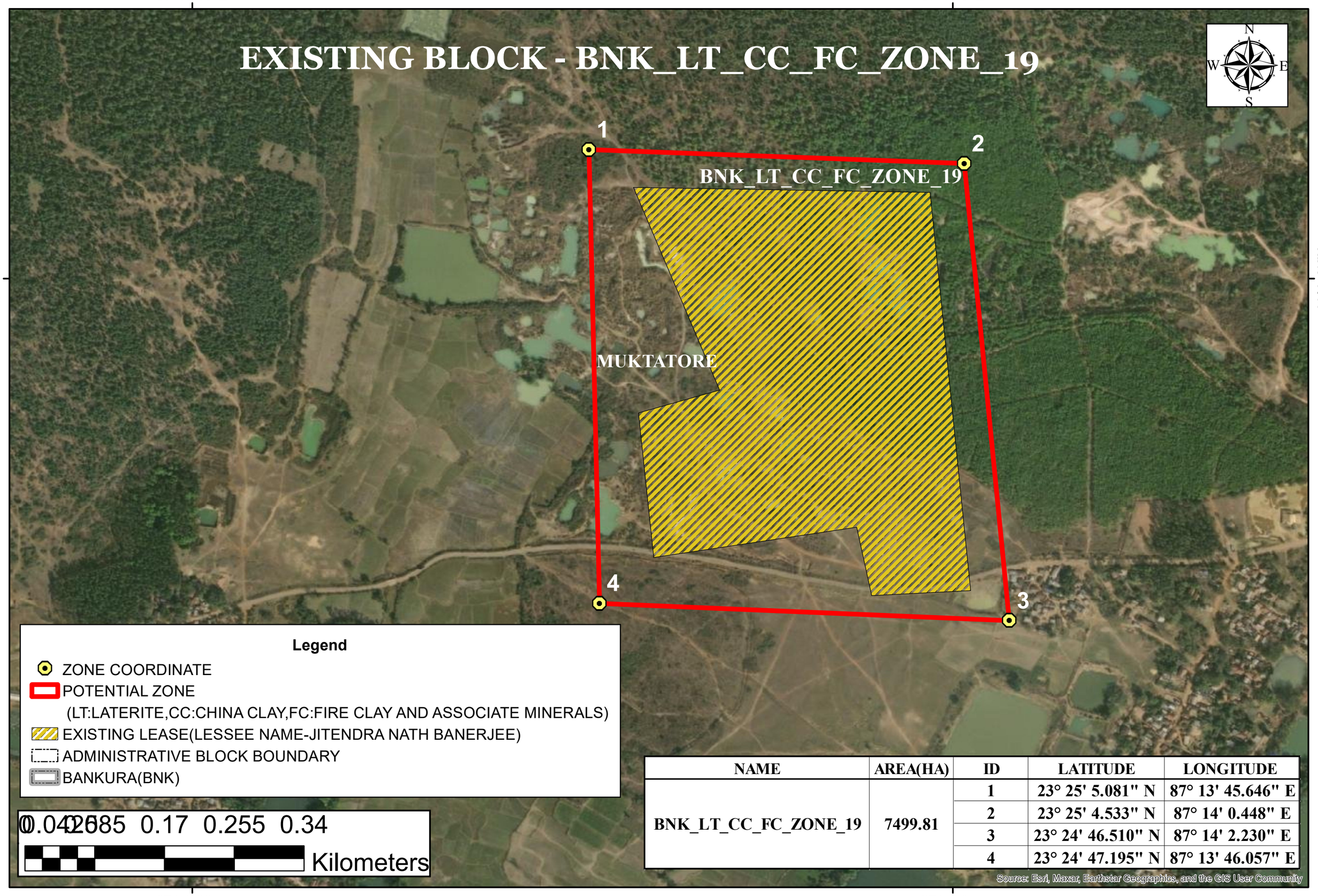
EXISTING BLOCK - BNK_LT_CC_FC_ZONE_19

87°13'30"E

87°14'0"E

23°25'0"N

23°25'0"N



Legend

- ZONE COORDINATE
- POTENTIAL ZONE
  (LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)
- EXISTING LEASE(LESSEE NAME-JITENDRA NATH BANERJEE)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

0 0.04 0.085 0.17 0.255 0.34

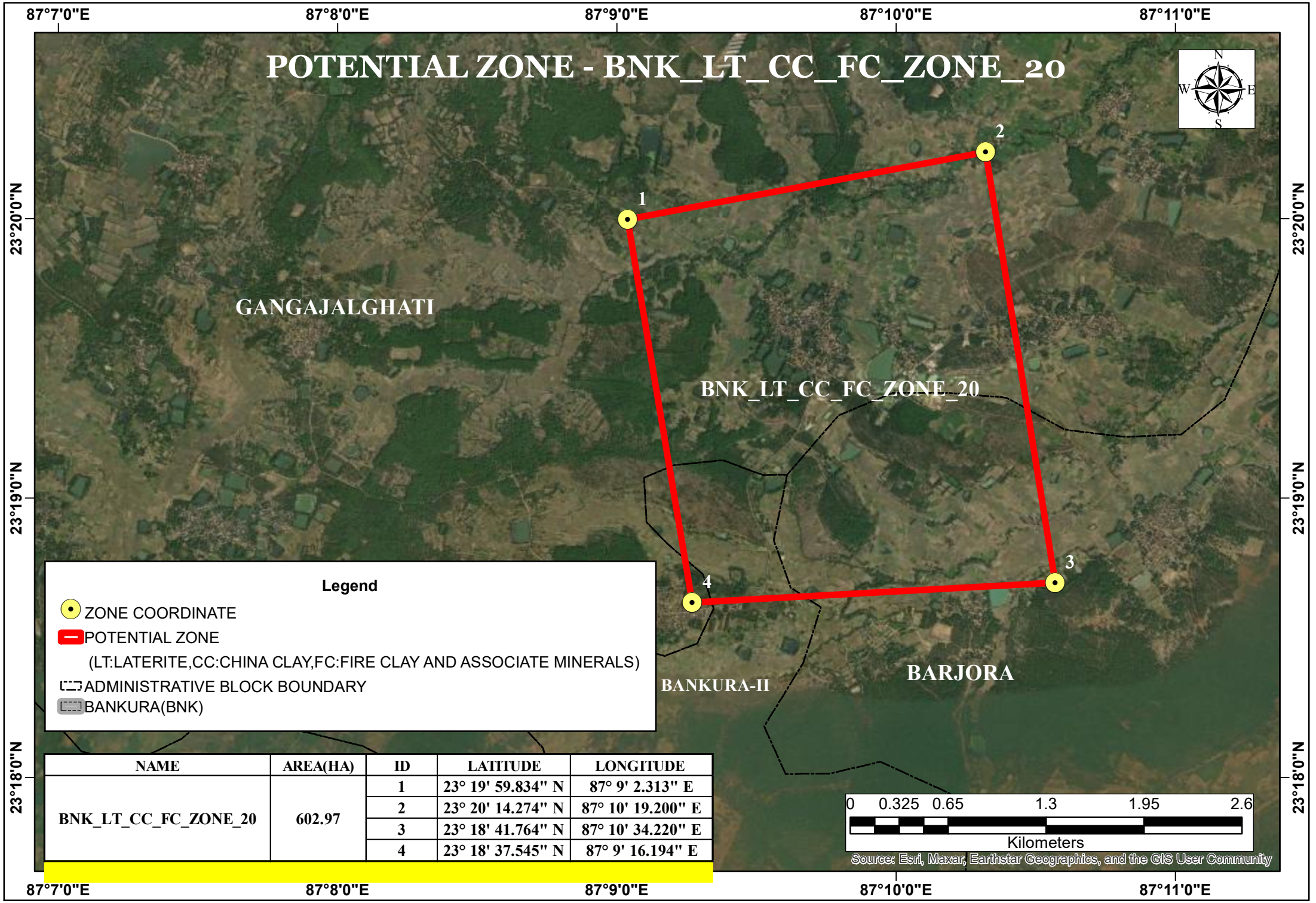
Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_19	7499.81	1	23° 25' 5.081" N	87° 13' 45.646" E
		2	23° 25' 4.533" N	87° 14' 0.448" E
		3	23° 24' 46.510" N	87° 14' 2.230" E
		4	23° 24' 47.195" N	87° 13' 46.057" E

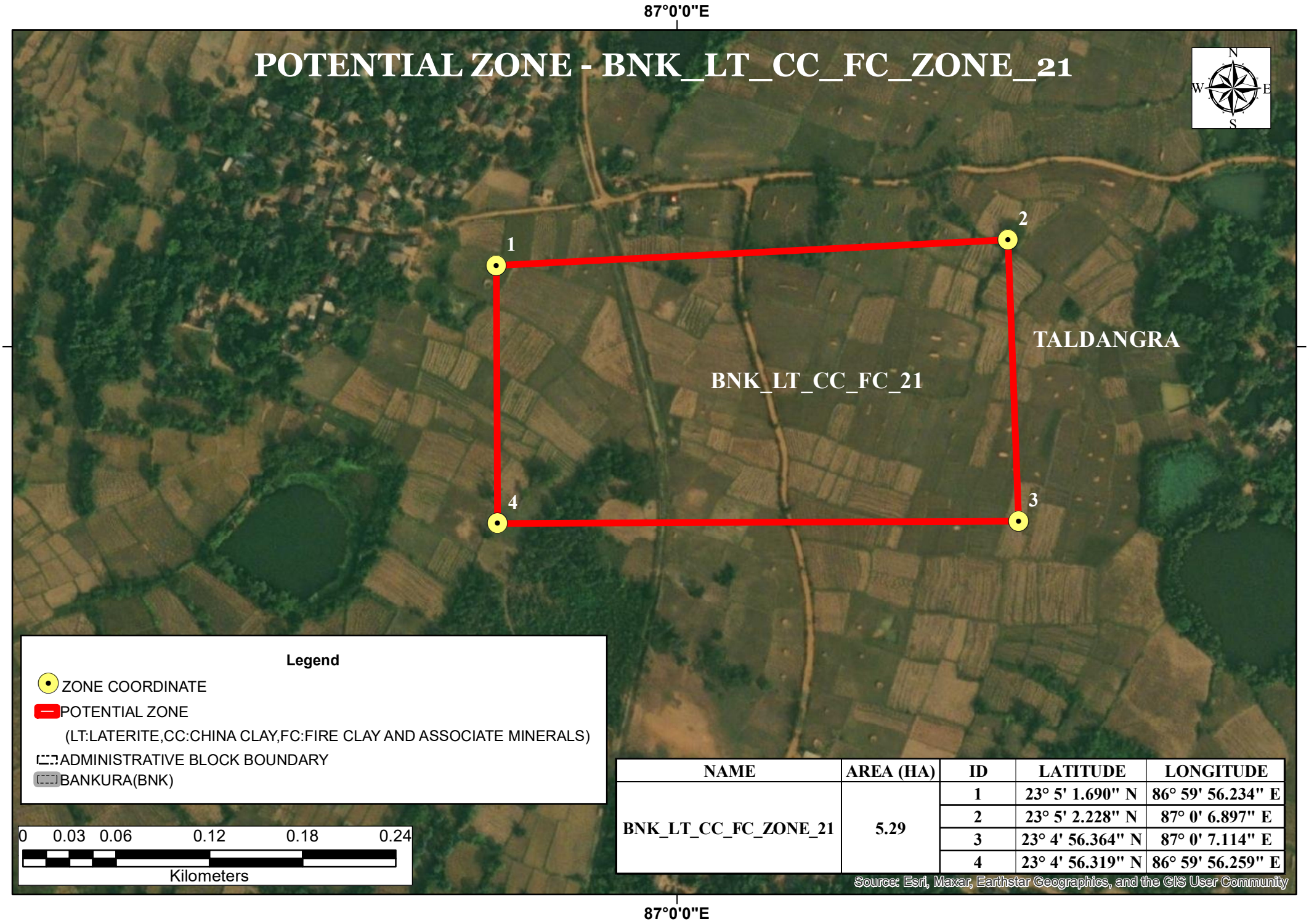
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

87°13'30"E

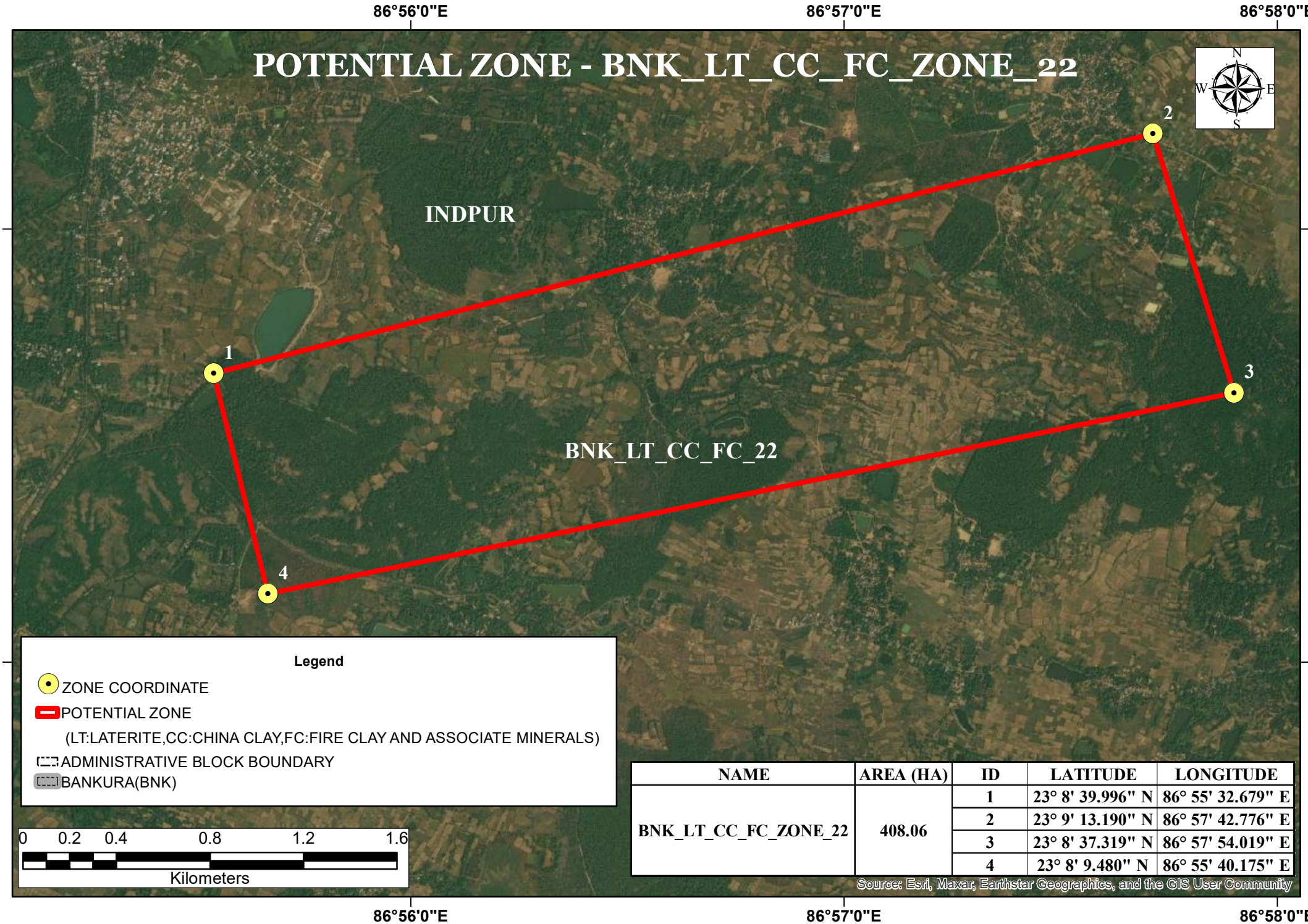
87°14'0"E



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_20	602.97	1	23° 19' 59.834" N	87° 9' 2.313" E
		2	23° 20' 14.274" N	87° 10' 19.200" E
		3	23° 18' 41.764" N	87° 10' 34.220" E
		4	23° 18' 37.545" N	87° 9' 16.194" E

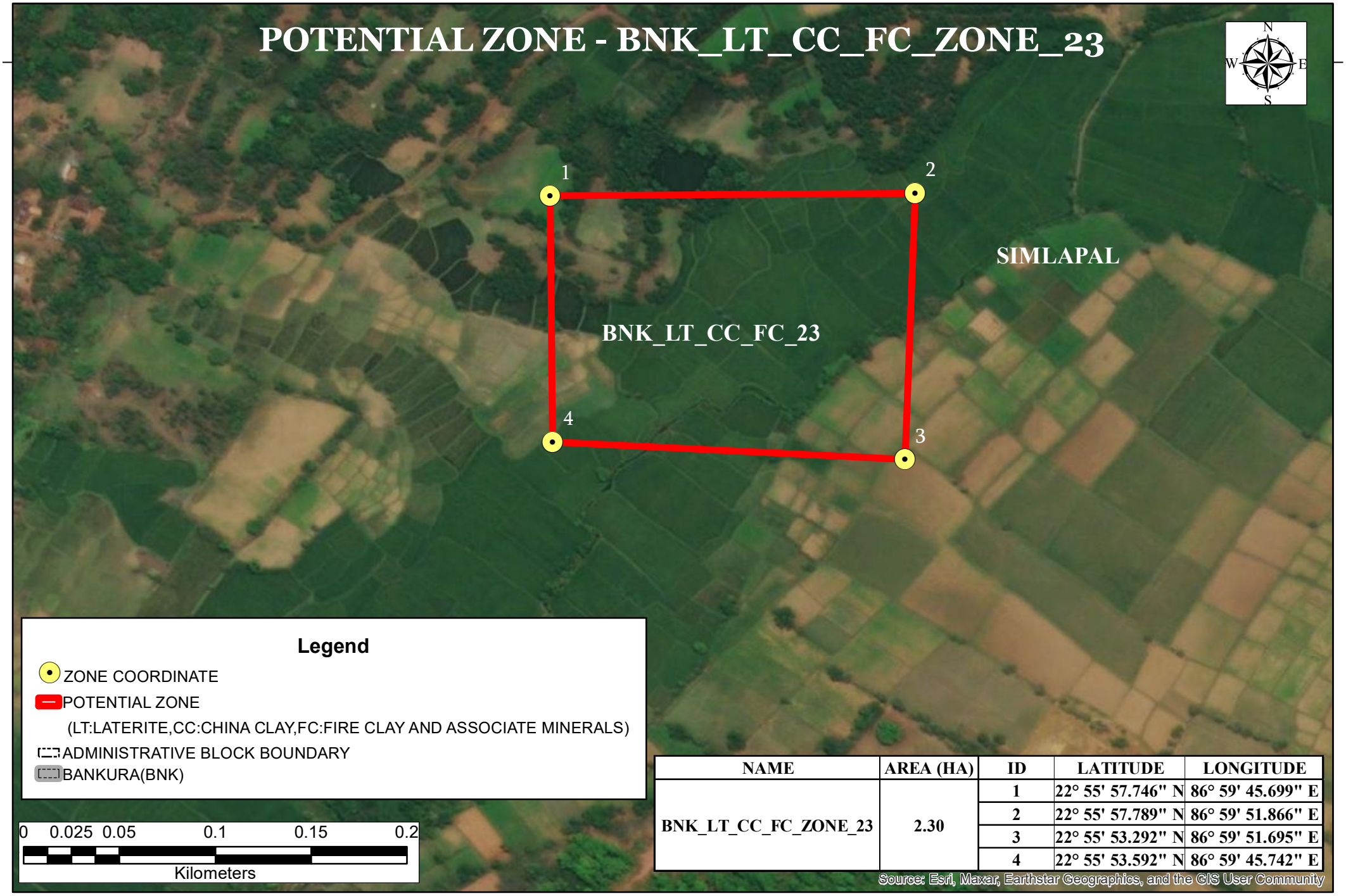


NAME	AREA (HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_21	5.29	1	23° 5' 1.690" N	86° 59' 56.234" E
		2	23° 5' 2.228" N	87° 0' 6.897" E
		3	23° 4' 56.364" N	87° 0' 7.114" E
		4	23° 4' 56.319" N	86° 59' 56.259" E



NAME	AREA (HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_22	408.06	1	23° 8' 39.996" N	86° 55' 32.679" E
		2	23° 9' 13.190" N	86° 57' 42.776" E
		3	23° 8' 37.319" N	86° 57' 54.019" E
		4	23° 8' 9.480" N	86° 55' 40.175" E

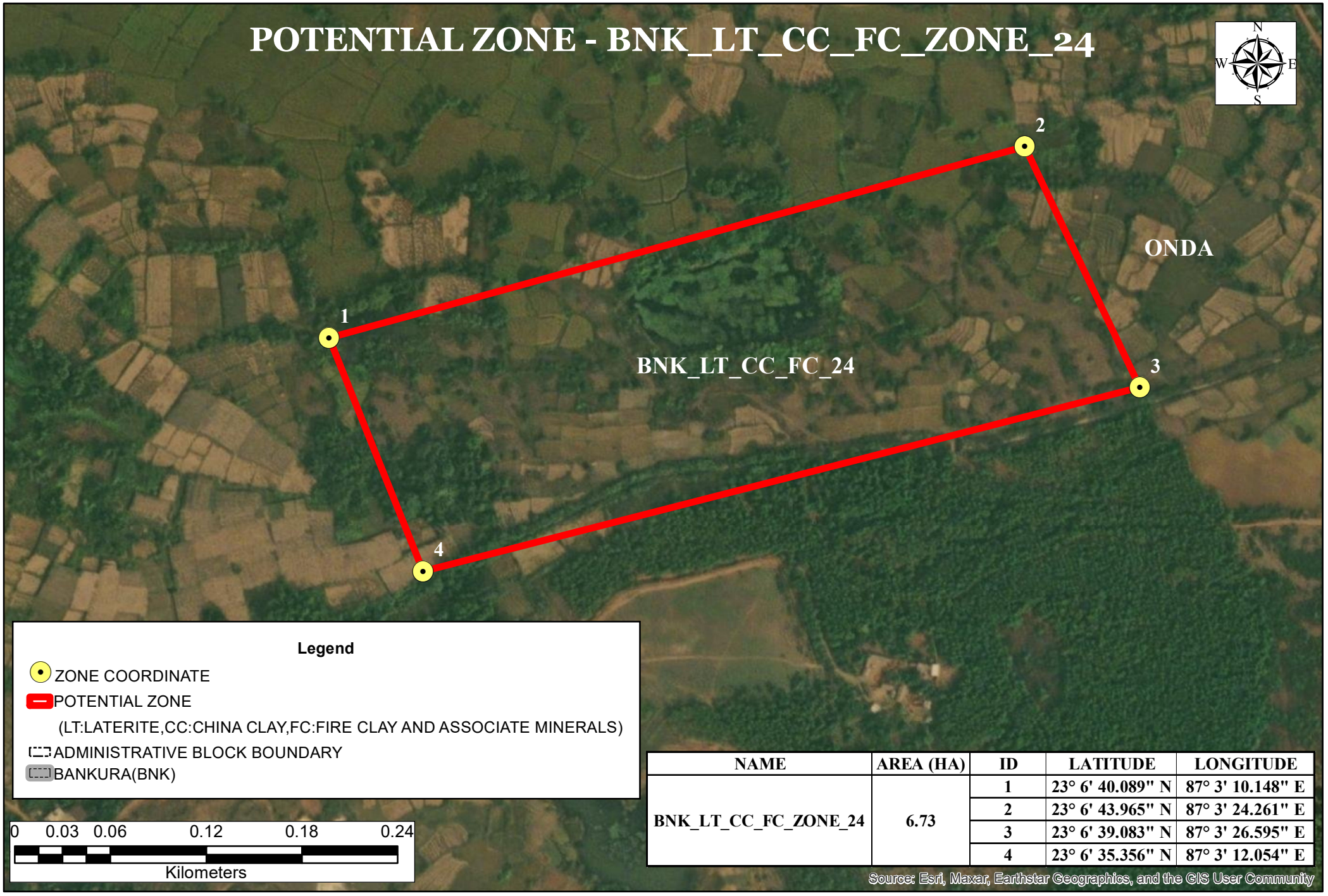
POTENTIAL ZONE - BNK_LT_CC_FC_ZONE_23



NAME	AREA (HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_23	2.30	1	22° 55' 57.746" N	86° 59' 45.699" E
		2	22° 55' 57.789" N	86° 59' 51.866" E
		3	22° 55' 53.292" N	86° 59' 51.695" E
		4	22° 55' 53.592" N	86° 59' 45.742" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL ZONE - BNK_LT_CC_FC_ZONE_24



Legend

- ZONE COORDINATE
- POTENTIAL ZONE
  (LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

0 0.03 0.06 0.12 0.18 0.24
Kilometers

NAME	AREA (HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_24	6.73	1	23° 6' 40.089" N	87° 3' 10.148" E
		2	23° 6' 43.965" N	87° 3' 24.261" E
		3	23° 6' 39.083" N	87° 3' 26.595" E
		4	23° 6' 35.356" N	87° 3' 12.054" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_25

87°6'30"E 87°7'0"E 87°7'30"E 87°8'0"E 87°8'30"E 87°9'0"E 87°9'30"E 87°10'0"E 87°10'30"E 87°11'0"E 87°11'30"E 87°12'0"E 87°12'30"E

23°2'30"N 23°2'0"N 23°1'30"N 23°1'0"N 23°0'30"N 23°0'0"N 22°59'30"N 22°59'0"N 22°58'30"N

N W E S

1 2 3 4

ONDA

BNK_LT_CC_FC_ZONE_25

TALDANGRA

Legend

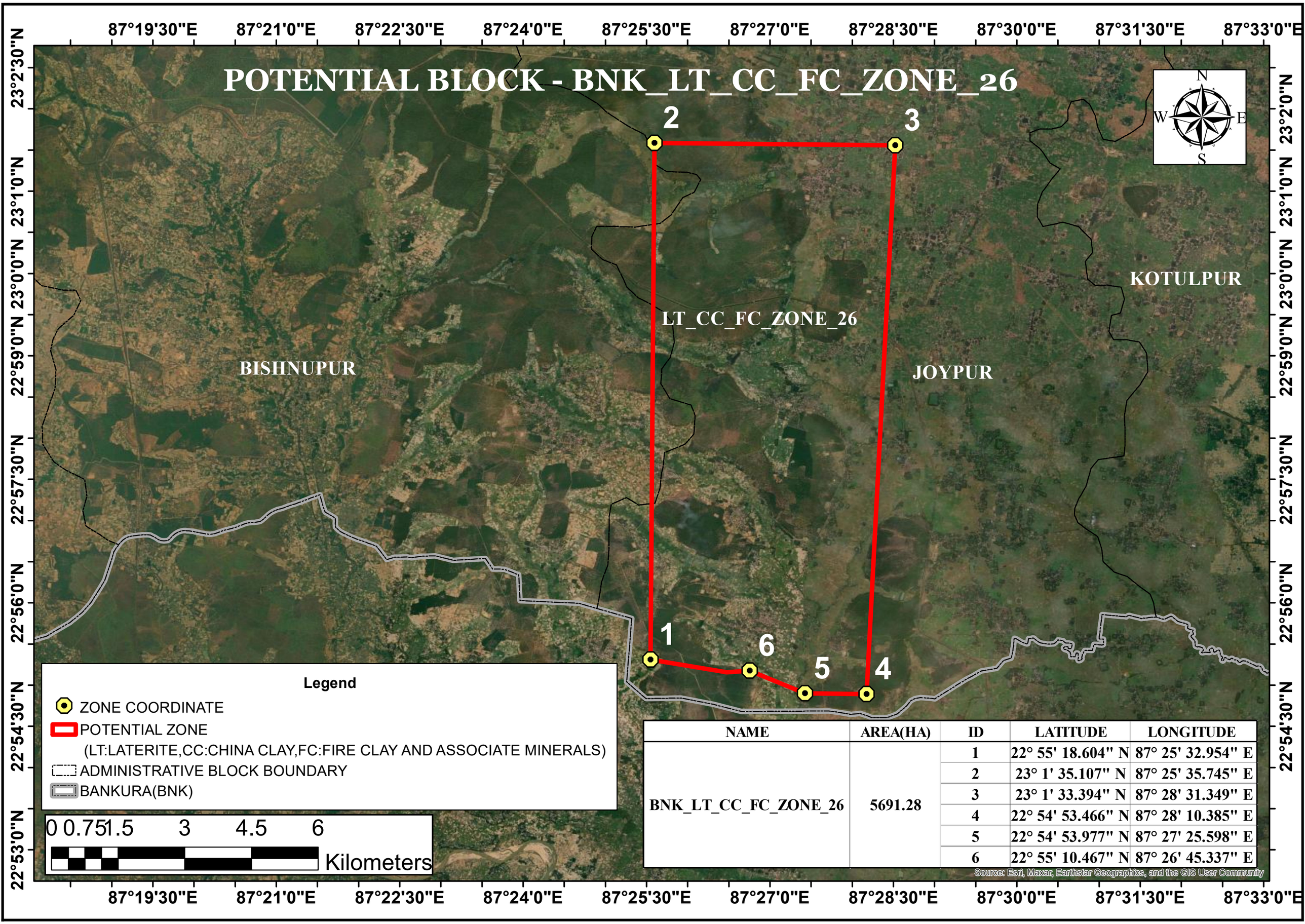
- ZONE COORDINATE
- POTENTIAL ZONE
  (LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

0 0.30.6 1.2 1.8 2.4
Kilometers

NAME	AREA (HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_25	1460.45	1	22° 59' 45.595" N	87° 9' 2.908" E
		2	23° 1' 54.941" N	87° 9' 0.751" E
		3	23° 2' 0.510" N	87° 11' 2.833" E
		4	22° 59' 41.847" N	87° 11' 9.793" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_26



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_26	5691.28	1	22° 55' 18.604" N	87° 25' 32.954" E
		2	23° 1' 35.107" N	87° 25' 35.745" E
		3	23° 1' 33.394" N	87° 28' 31.349" E
		4	22° 54' 53.466" N	87° 28' 10.385" E
		5	22° 54' 53.977" N	87° 27' 25.598" E
		6	22° 55' 10.467" N	87° 26' 45.337" E

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_27



ONDA

TALDANGRA

BNK_LT_CC_FC_ZONE_27

17 18 19 20 21 22 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Legend

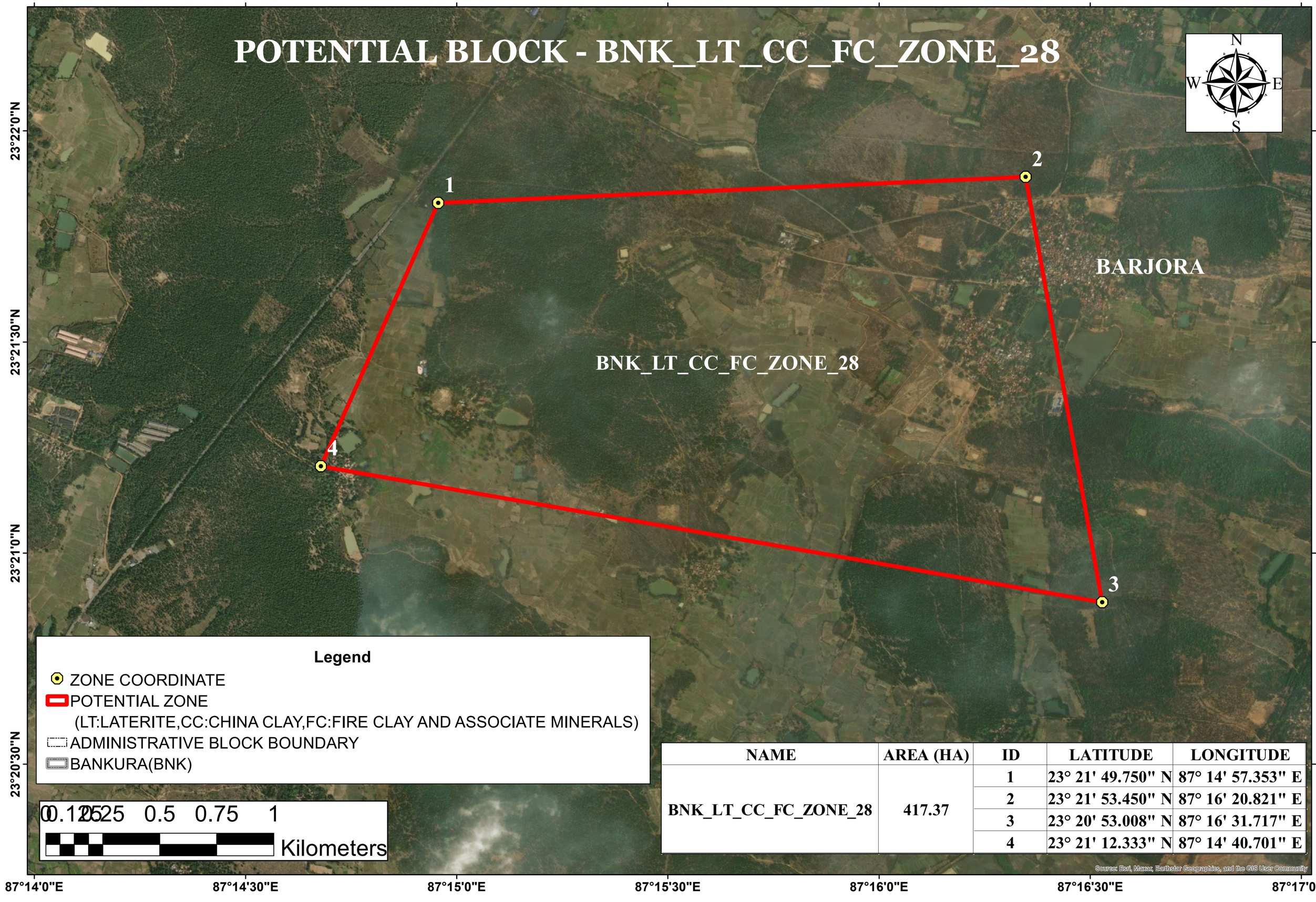
- ZONE COORDINATE
- POTENTIAL ZONE
  (LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

0 1 2 4 6 8 Kilometers

NAME	AREA(HA)	ID	LATITUDE	LONGITUDE	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_27	19138.27	1	23° 5' 15.188" N	87° 11' 25.469" E	12	23° 6' 11.381" N	87° 2' 22.723" E
		2	23° 4' 16.939" N	87° 11' 28.895" E	13	23° 6' 10.011" N	87° 3' 26.455" E
		3	23° 4' 17.004" N	87° 13' 32.280" E	14	23° 6' 29.921" N	87° 3' 45.431" E
		4	23° 4' 51.274" N	87° 13' 31.668" E	15	23° 7' 0.036" N	87° 3' 46.328" E
		5	23° 4' 53.844" N	87° 16' 16.137" E	16	23° 6' 59.351" N	87° 2' 56.302" E
		6	23° 3' 16.191" N	87° 16' 16.137" E	17	23° 11' 17.018" N	87° 2' 54.932" E
		7	23° 3' 18.761" N	87° 9' 26.251" E	18	23° 11' 18.389" N	87° 3' 31.252" E
		8	23° 4' 16.715" N	87° 9' 28.183" E	19	23° 11' 17.703" N	87° 7' 31.787" E
		9	23° 4' 16.253" N	87° 5' 18.156" E	20	23° 7' 13.057" N	87° 7' 38.640" E
		10	23° 2' 26.608" N	87° 5' 22.268" E	21	23° 7' 6.889" N	87° 12' 53.871" E
		11	23° 2' 25.922" N	87° 2' 26.835" E	22	23° 5' 17.285" N	87° 12' 56.480" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_LT_CC_FC_ZONE_28



Legend

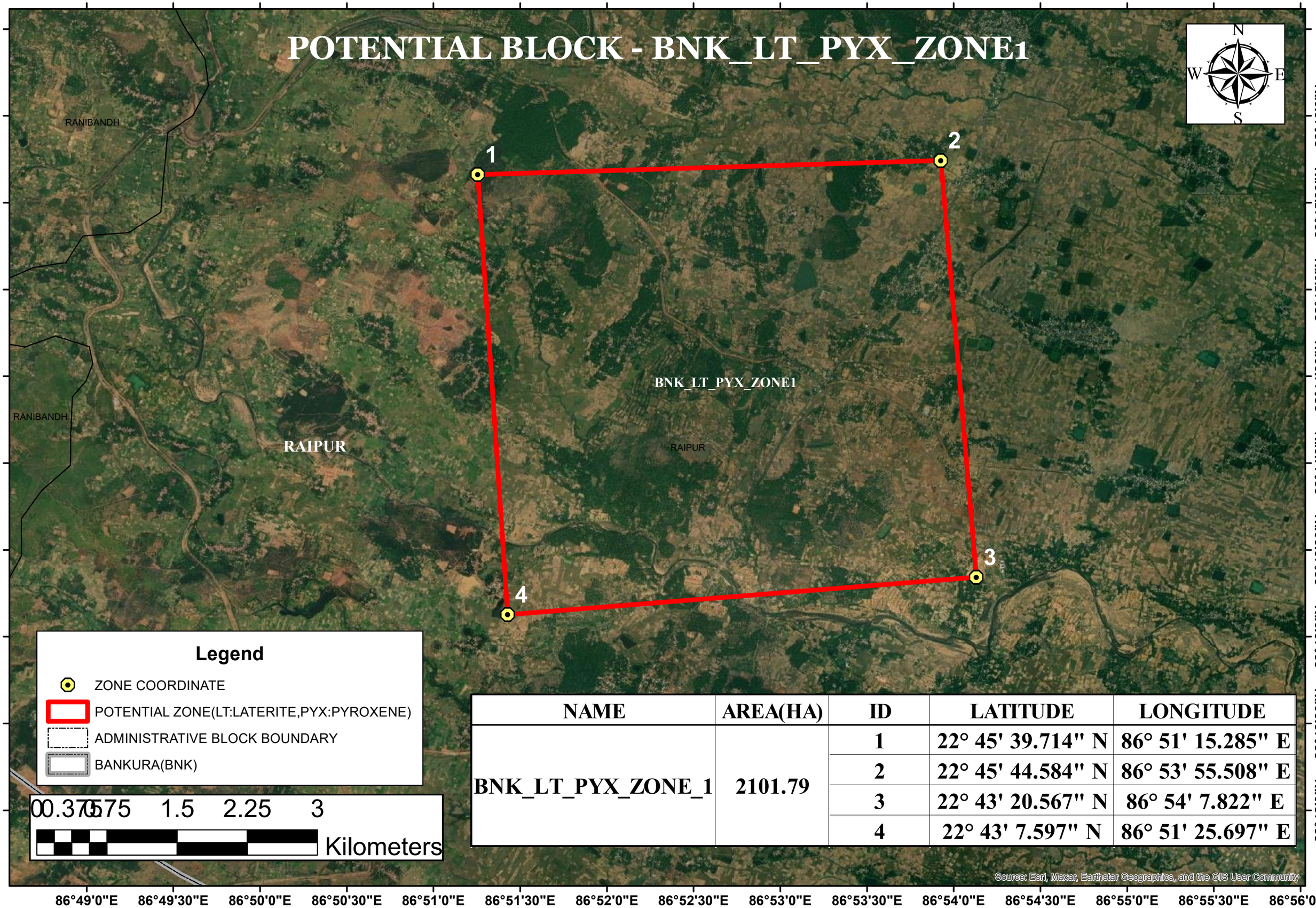
- ZONE COORDINATE
- POTENTIAL ZONE
  (LT:LATERITE,CC:CHINA CLAY,FC:FIRE CLAY AND ASSOCIATE MINERALS)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

0 0.125 0.25 0.5 0.75 1
Kilometers

NAME	AREA (HA)	ID	LATITUDE	LONGITUDE
BNK_LT_CC_FC_ZONE_28	417.37	1	23° 21' 49.750" N	87° 14' 57.353" E
		2	23° 21' 53.450" N	87° 16' 20.821" E
		3	23° 20' 53.008" N	87° 16' 31.717" E
		4	23° 21' 12.333" N	87° 14' 40.701" E

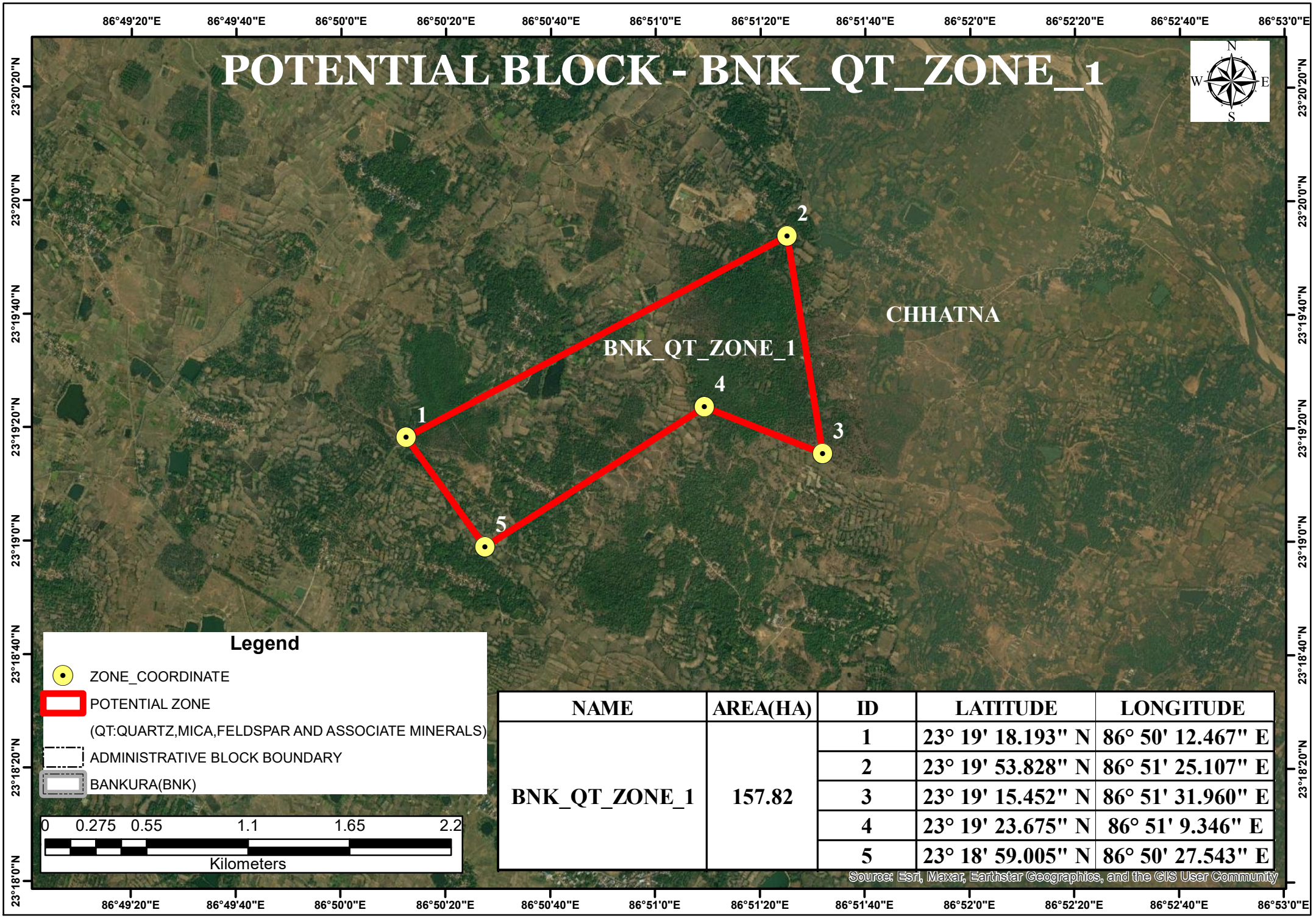
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_LT_PYX_ZONE1



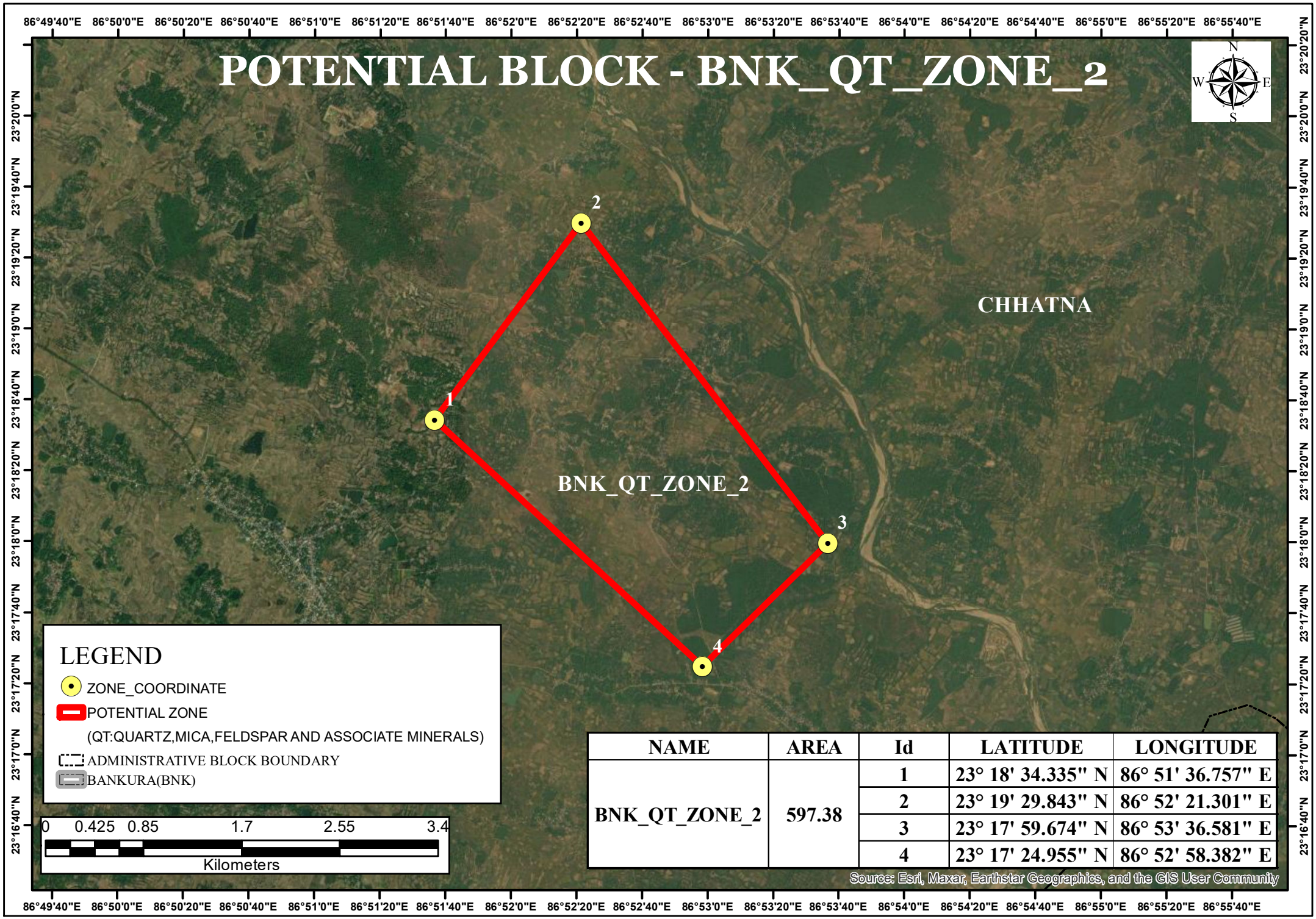
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_LT_PYX_ZONE_1	2101.79	1	22° 45' 39.714" N	86° 51' 15.285" E
		2	22° 45' 44.584" N	86° 53' 55.508" E
		3	22° 43' 20.567" N	86° 54' 7.822" E
		4	22° 43' 7.597" N	86° 51' 25.697" E

POTENTIAL BLOCK - BNK_QT_ZONE_1



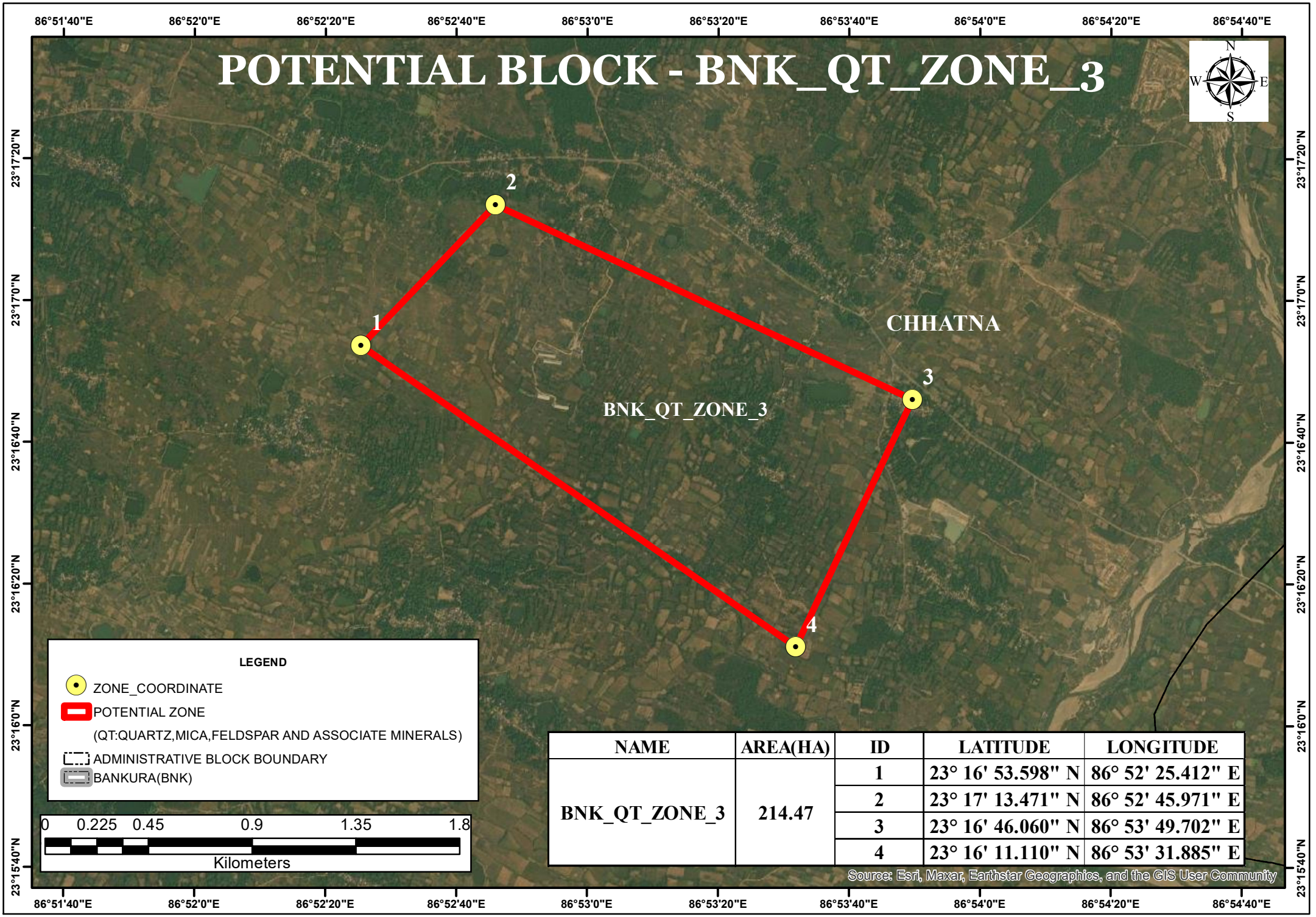
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_1	157.82	1	23° 19' 18.193" N	86° 50' 12.467" E
		2	23° 19' 53.828" N	86° 51' 25.107" E
		3	23° 19' 15.452" N	86° 51' 31.960" E
		4	23° 19' 23.675" N	86° 51' 9.346" E
		5	23° 18' 59.005" N	86° 50' 27.543" E

POTENTIAL BLOCK - BNK_QT_ZONE_2



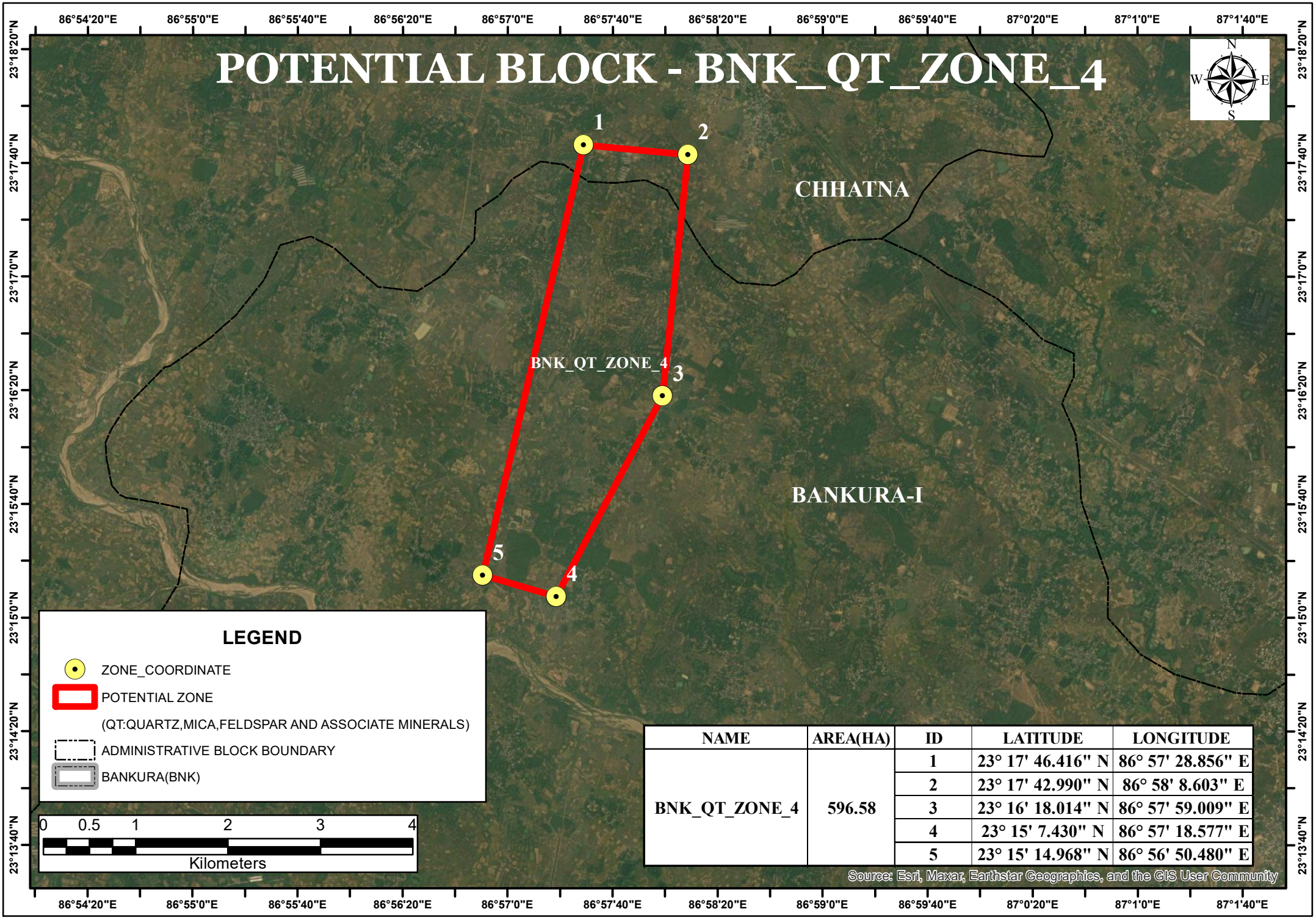
NAME	AREA	Id	LATITUDE	LONGITUDE
BNK_QT_ZONE_2	597.38	1	23° 18' 34.335" N	86° 51' 36.757" E
		2	23° 19' 29.843" N	86° 52' 21.301" E
		3	23° 17' 59.674" N	86° 53' 36.581" E
		4	23° 17' 24.955" N	86° 52' 58.382" E

POTENTIAL BLOCK - BNK_QT_ZONE_3



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_3	214.47	1	23° 16' 53.598" N	86° 52' 25.412" E
		2	23° 17' 13.471" N	86° 52' 45.971" E
		3	23° 16' 46.060" N	86° 53' 49.702" E
		4	23° 16' 11.110" N	86° 53' 31.885" E

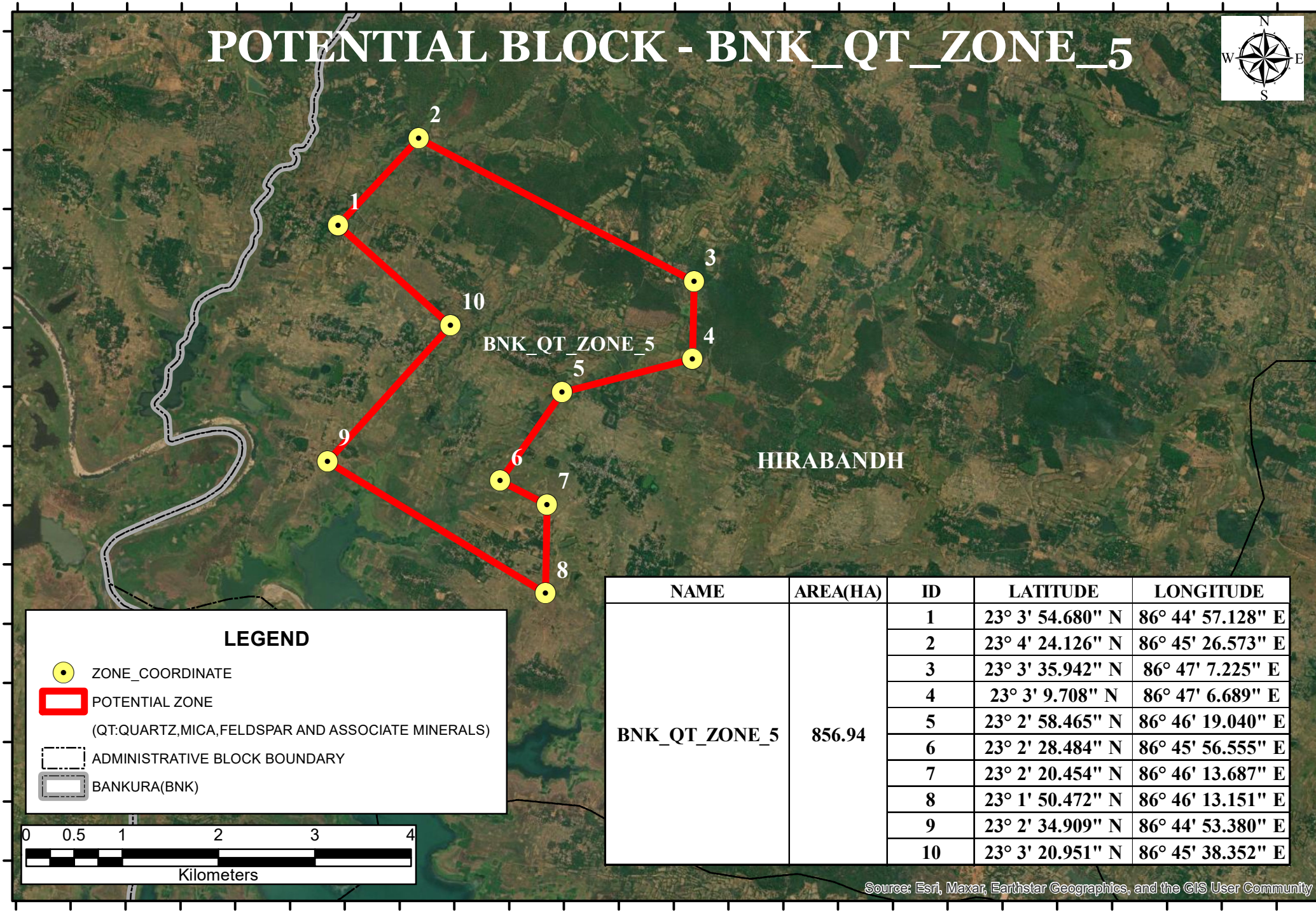
POTENTIAL BLOCK - BNK_QT_ZONE_4



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_4	596.58	1	23° 17' 46.416" N	86° 57' 28.856" E
		2	23° 17' 42.990" N	86° 58' 8.603" E
		3	23° 16' 18.014" N	86° 57' 59.009" E
		4	23° 15' 7.430" N	86° 57' 18.577" E
		5	23° 15' 14.968" N	86° 56' 50.480" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

POTENTIAL BLOCK - BNK_QT_ZONE_5



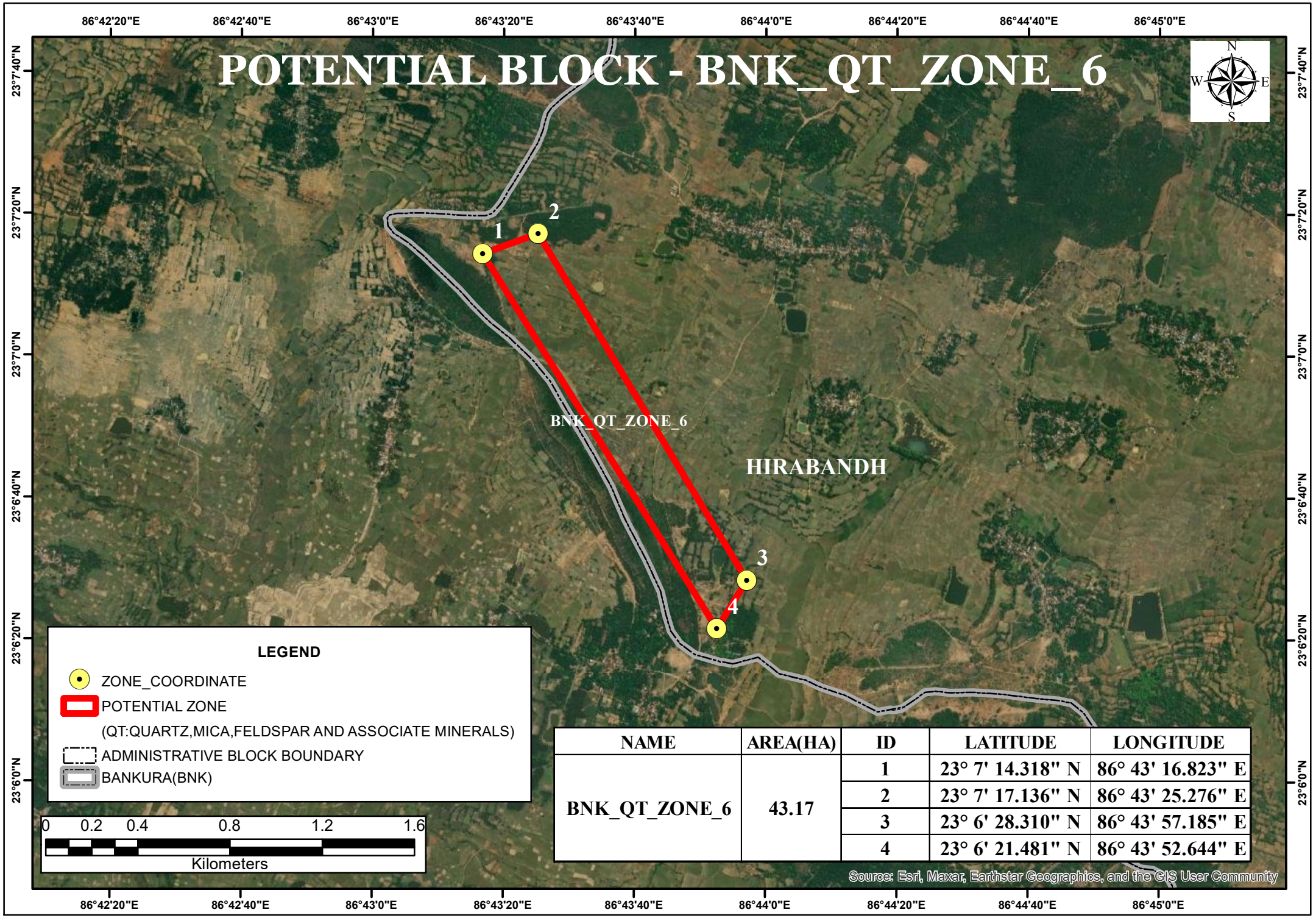
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_5	856.94	1	23° 3' 54.680" N	86° 44' 57.128" E
		2	23° 4' 24.126" N	86° 45' 26.573" E
		3	23° 3' 35.942" N	86° 47' 7.225" E
		4	23° 3' 9.708" N	86° 47' 6.689" E
		5	23° 2' 58.465" N	86° 46' 19.040" E
		6	23° 2' 28.484" N	86° 45' 56.555" E
		7	23° 2' 20.454" N	86° 46' 13.687" E
		8	23° 1' 50.472" N	86° 46' 13.151" E
		9	23° 2' 34.909" N	86° 44' 53.380" E
		10	23° 3' 20.951" N	86° 45' 38.352" E

LEGEND

- ZONE_COORDINATE
- POTENTIAL ZONE
  (QT:QUARTZ,MICA,FELDSPAR AND ASSOCIATE MINERALS)
- ADMINISTRATIVE BLOCK BOUNDARY
- BANKURA(BNK)

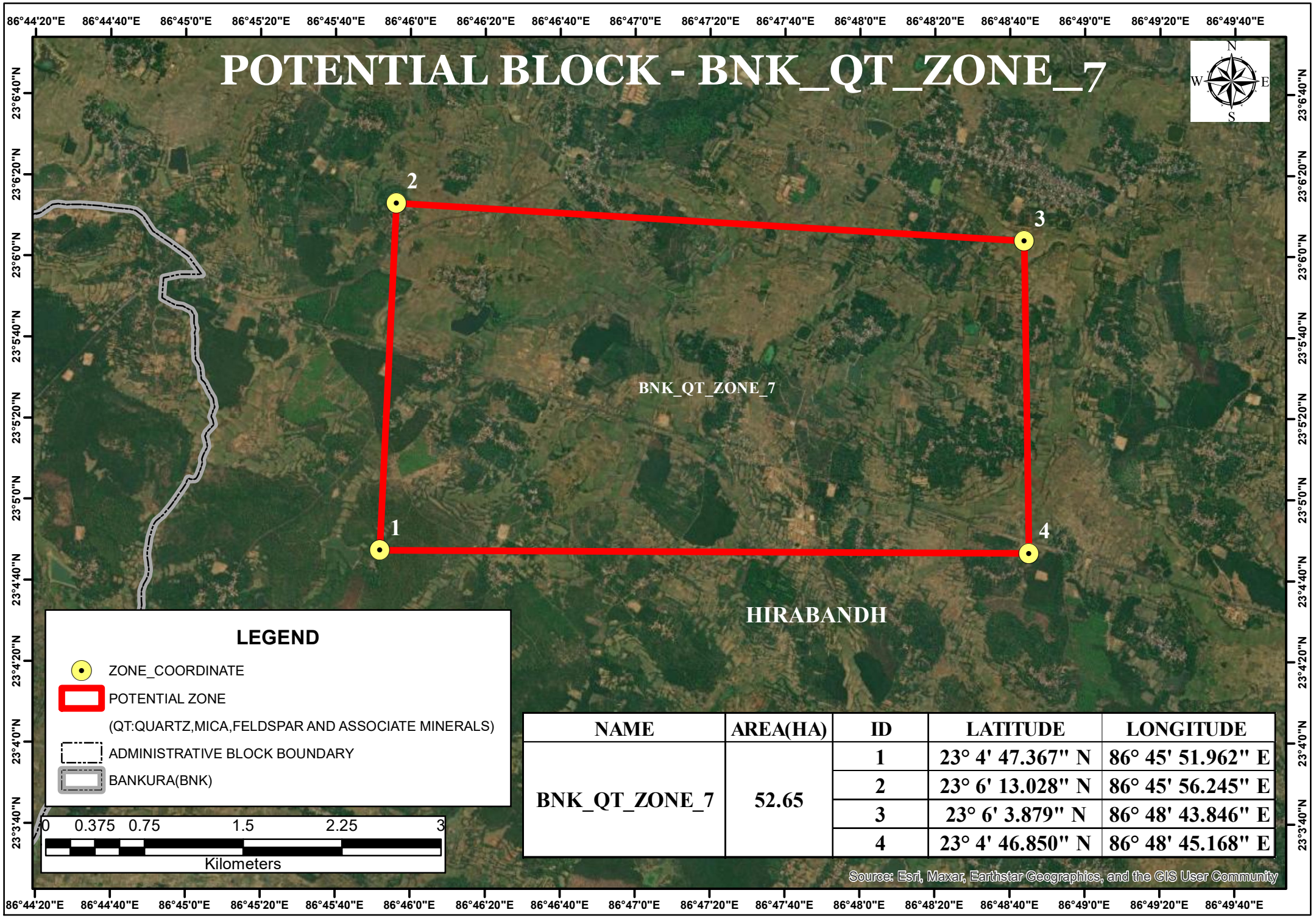
0 0.5 1 2 3 4
Kilometers

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



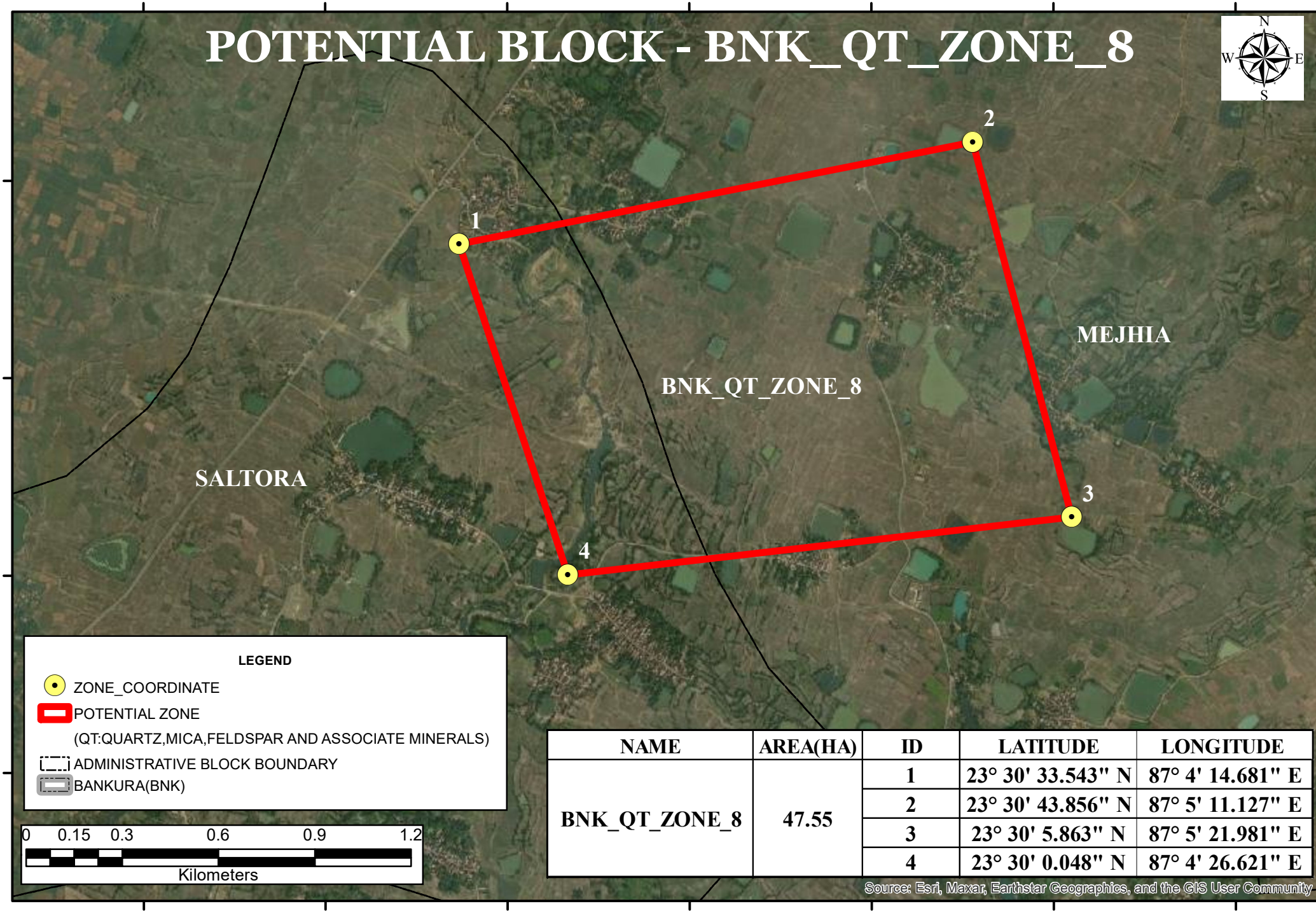
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_6	43.17	1	23° 7' 14.318" N	86° 43' 16.823" E
		2	23° 7' 17.136" N	86° 43' 25.276" E
		3	23° 6' 28.310" N	86° 43' 57.185" E
		4	23° 6' 21.481" N	86° 43' 52.644" E

POTENTIAL BLOCK - BNK_QT_ZONE_7



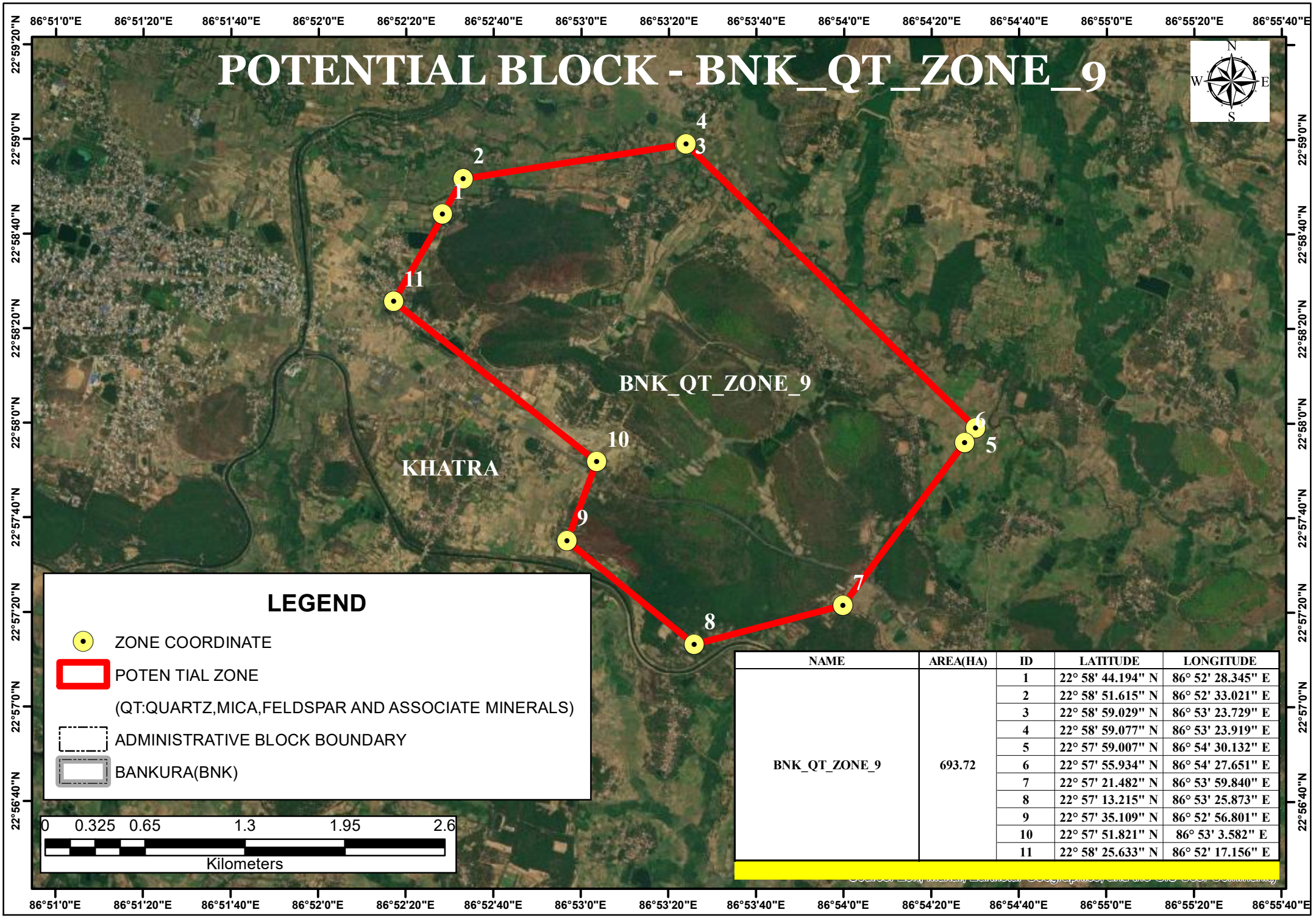
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_7	52.65	1	23° 4' 47.367" N	86° 45' 51.962" E
		2	23° 6' 13.028" N	86° 45' 56.245" E
		3	23° 6' 3.879" N	86° 48' 43.846" E
		4	23° 4' 46.850" N	86° 48' 45.168" E

POTENTIAL BLOCK - BNK_QT_ZONE_8

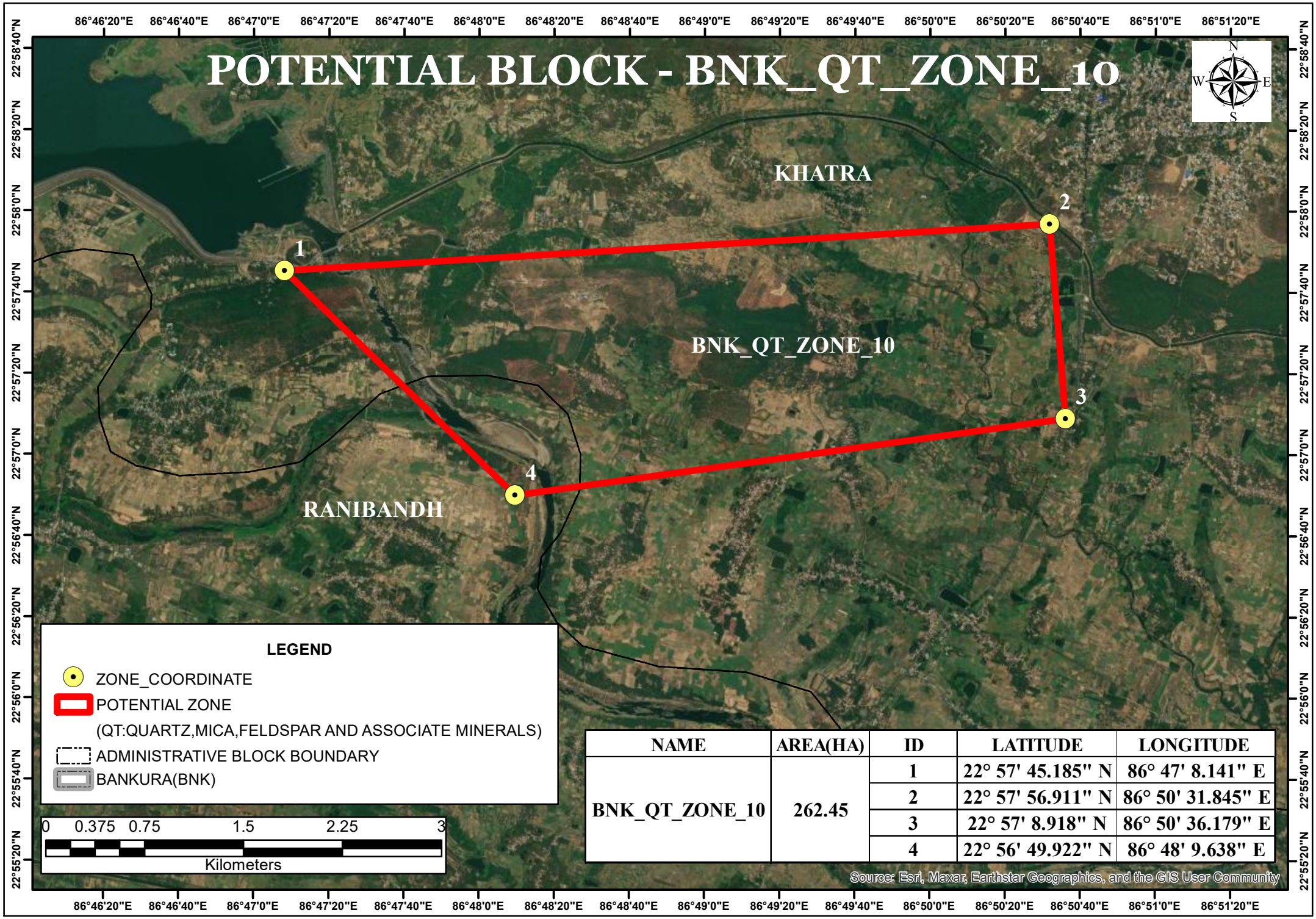


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_8	47.55	1	23° 30' 33.543" N	87° 4' 14.681" E
		2	23° 30' 43.856" N	87° 5' 11.127" E
		3	23° 30' 5.863" N	87° 5' 21.981" E
		4	23° 30' 0.048" N	87° 4' 26.621" E

POTENTIAL BLOCK - BNK_QT_ZONE_9

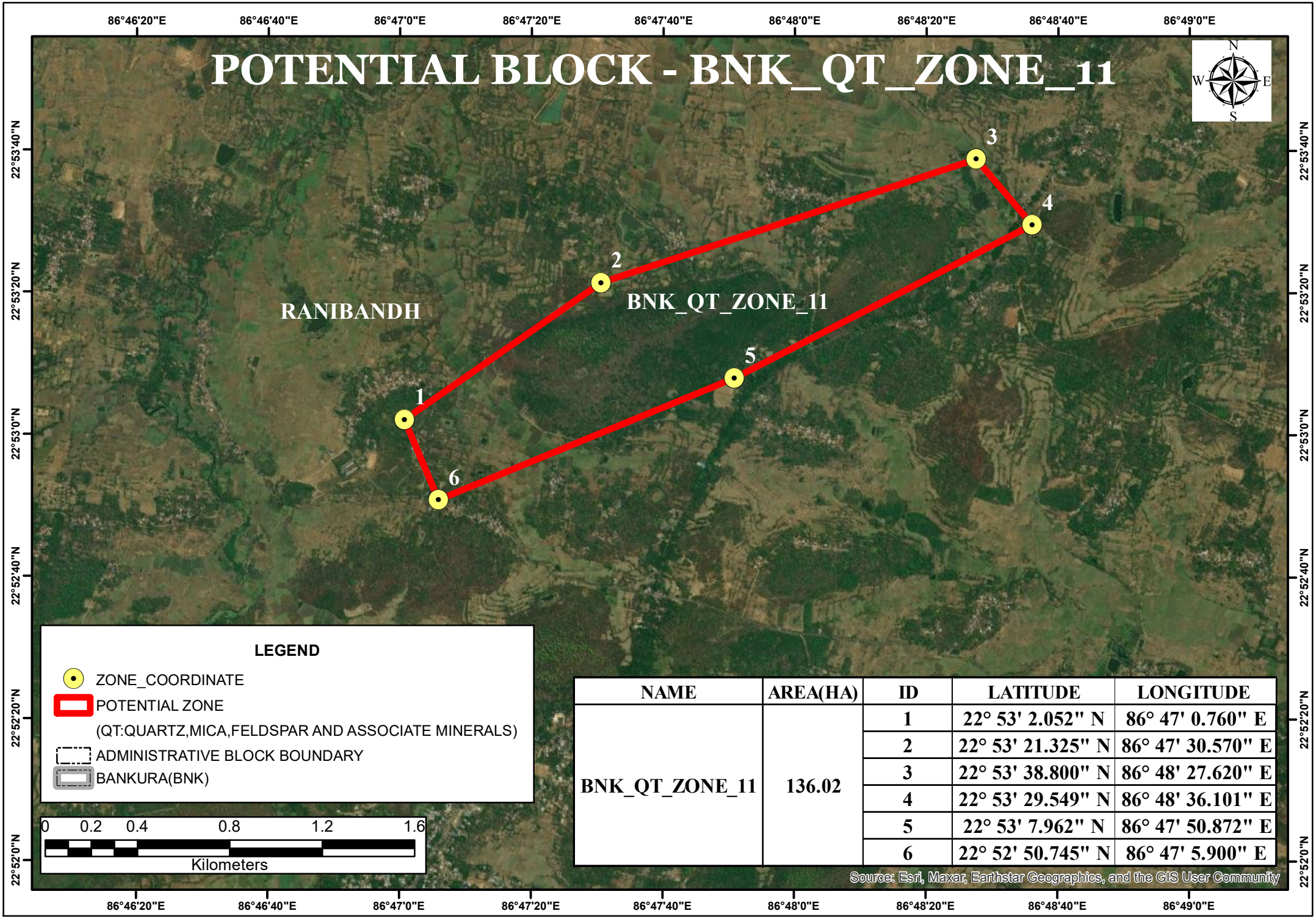


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_9	693.72	1	22° 58' 44.194" N	86° 52' 28.345" E
		2	22° 58' 51.615" N	86° 52' 33.021" E
		3	22° 58' 59.029" N	86° 53' 23.729" E
		4	22° 58' 59.077" N	86° 53' 23.919" E
		5	22° 57' 59.007" N	86° 54' 30.132" E
		6	22° 57' 55.934" N	86° 54' 27.651" E
		7	22° 57' 21.482" N	86° 53' 59.840" E
		8	22° 57' 13.215" N	86° 53' 25.873" E
		9	22° 57' 35.109" N	86° 52' 56.801" E
		10	22° 57' 51.821" N	86° 53' 3.582" E
		11	22° 58' 25.633" N	86° 52' 17.156" E



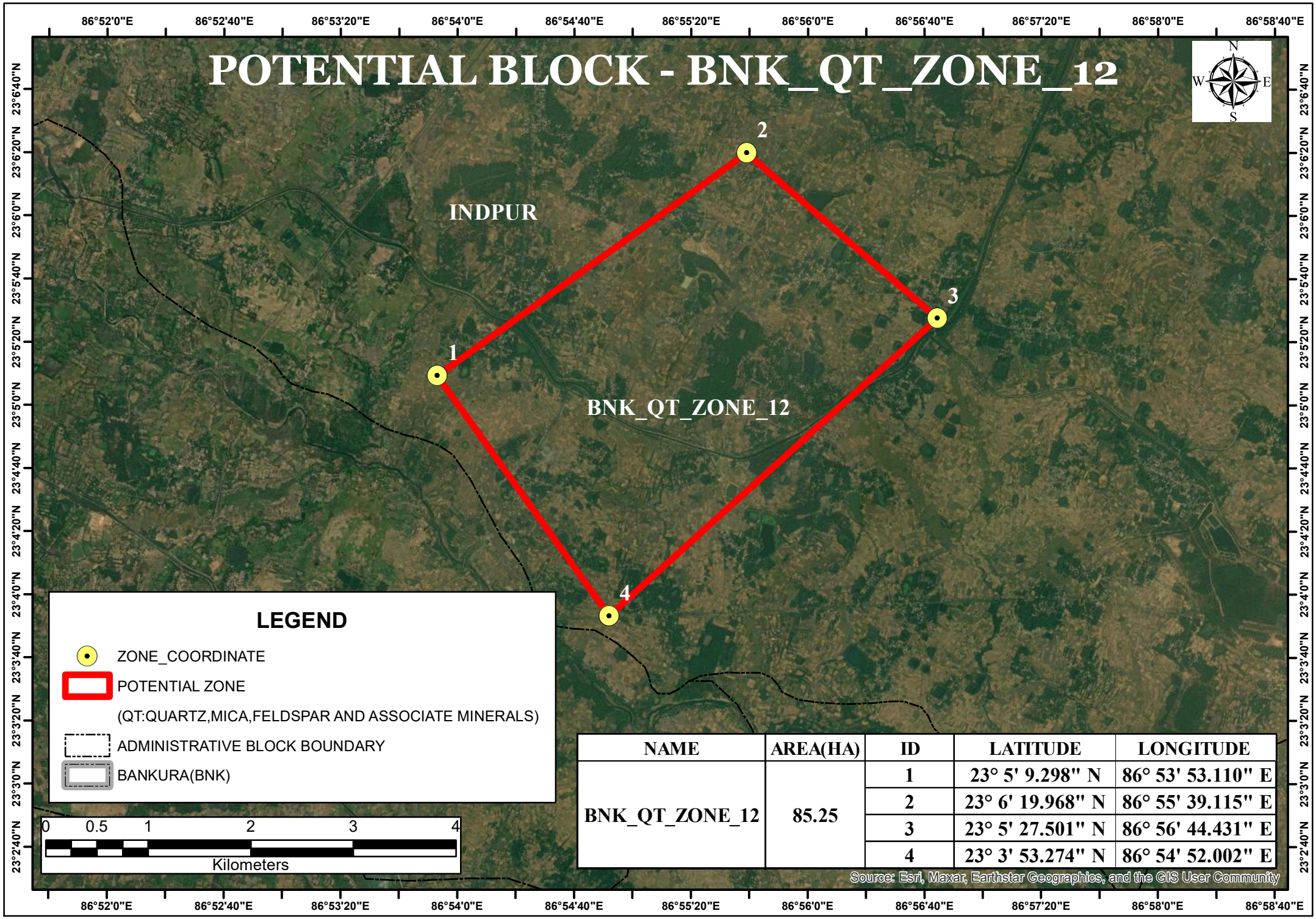
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_10	262.45	1	22° 57' 45.185" N	86° 47' 8.141" E
		2	22° 57' 56.911" N	86° 50' 31.845" E
		3	22° 57' 8.918" N	86° 50' 36.179" E
		4	22° 56' 49.922" N	86° 48' 9.638" E

POTENTIAL BLOCK - BNK_QT_ZONE_11

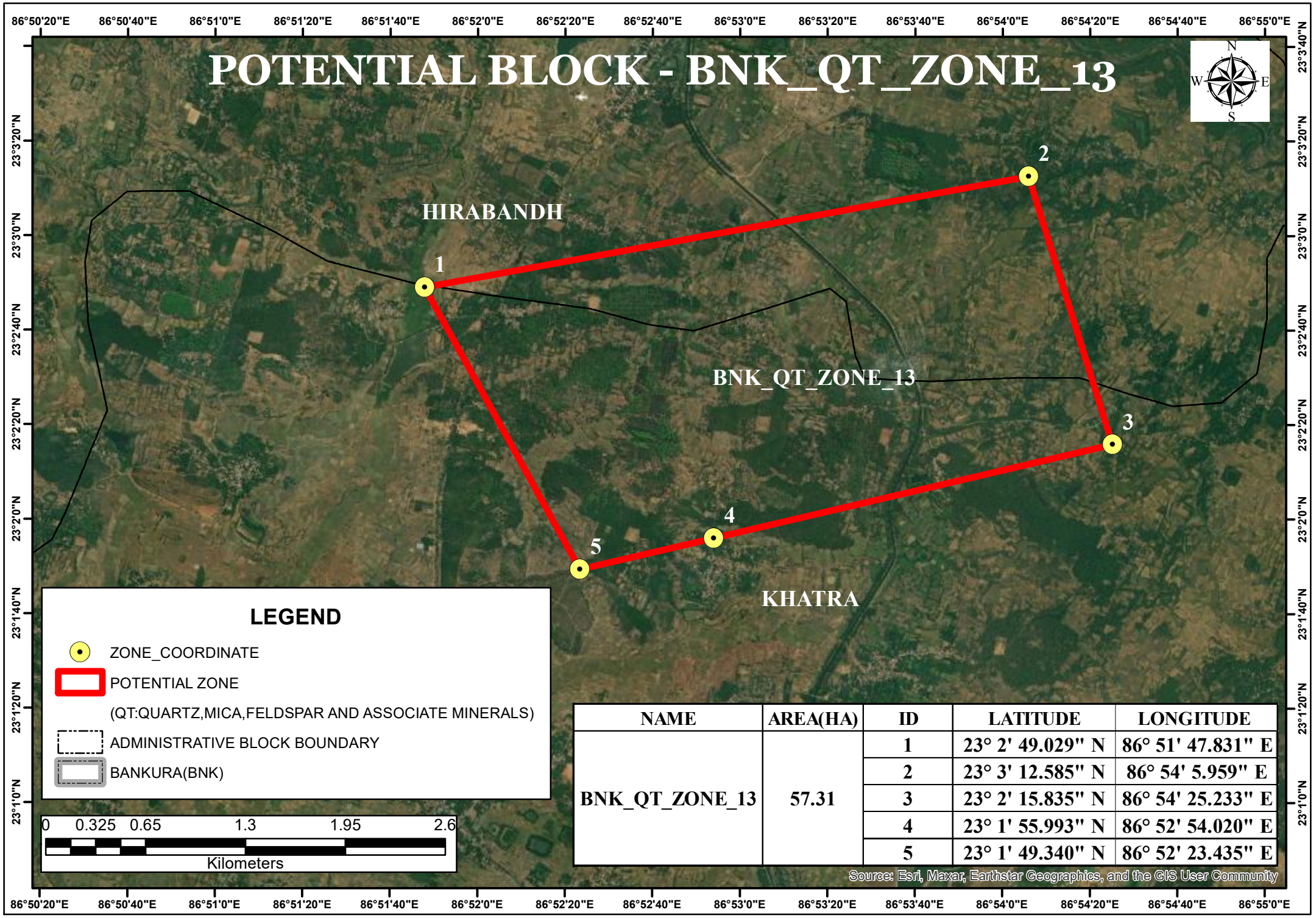


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_11	136.02	1	22° 53' 2.052" N	86° 47' 0.760" E
		2	22° 53' 21.325" N	86° 47' 30.570" E
		3	22° 53' 38.800" N	86° 48' 27.620" E
		4	22° 53' 29.549" N	86° 48' 36.101" E
		5	22° 53' 7.962" N	86° 47' 50.872" E
		6	22° 52' 50.745" N	86° 47' 5.900" E

POTENTIAL BLOCK - BNK_QT_ZONE_12

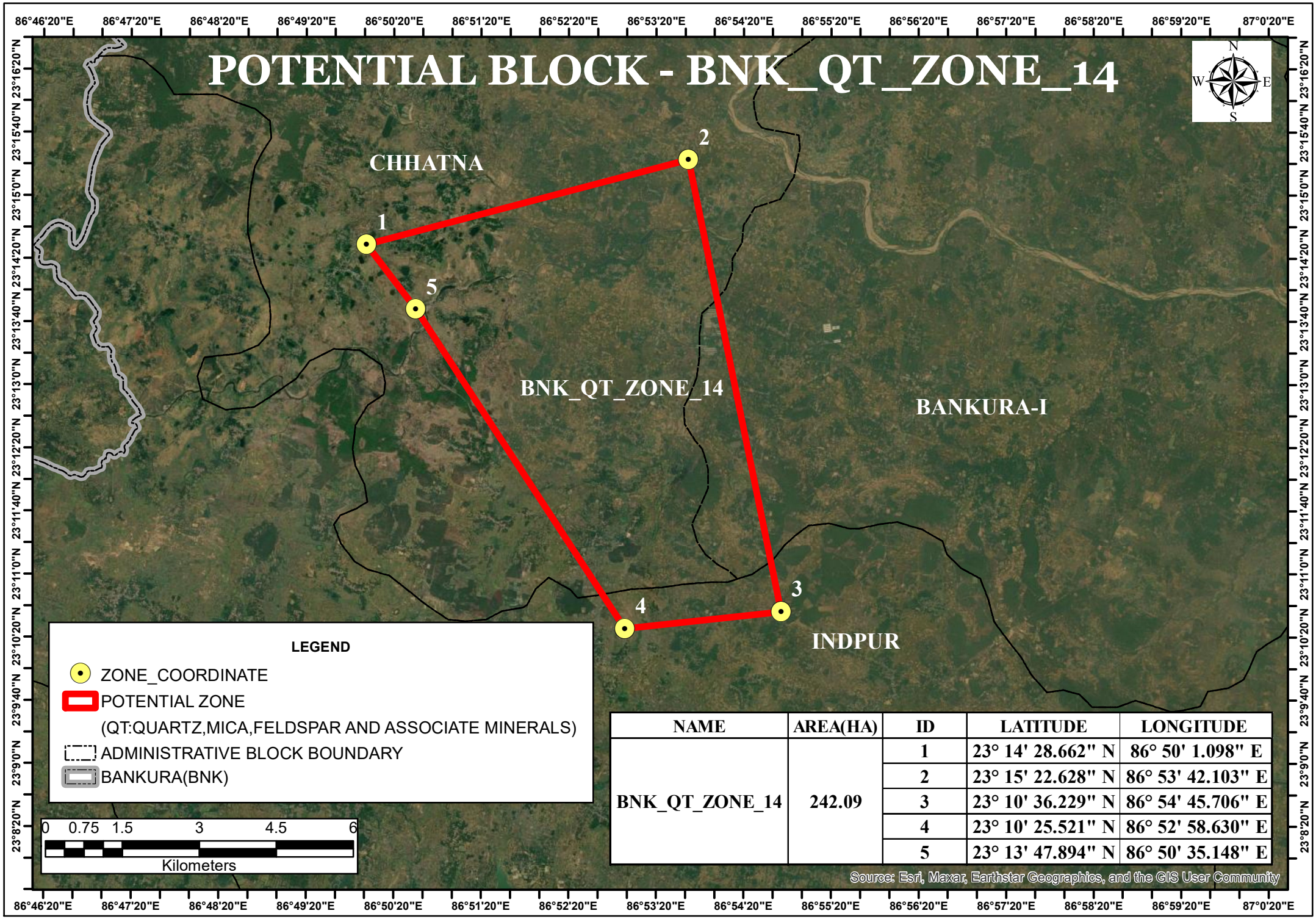


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_12	85.25	1	23° 5' 9.298" N	86° 53' 53.110" E
		2	23° 6' 19.968" N	86° 55' 39.115" E
		3	23° 5' 27.501" N	86° 56' 44.431" E
		4	23° 3' 53.274" N	86° 54' 52.002" E



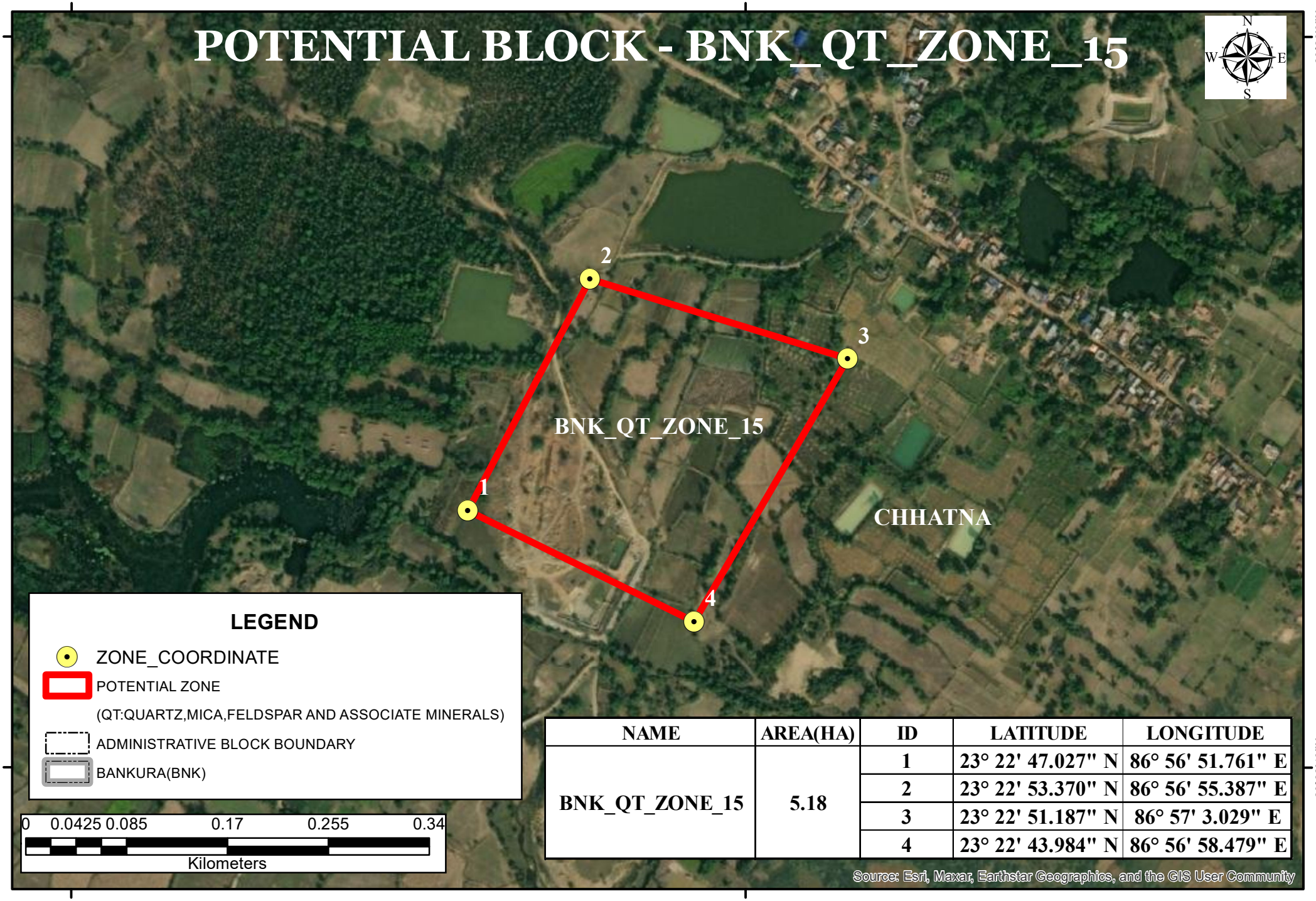
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_13	57.31	1	23° 2' 49.029" N	86° 51' 47.831" E
		2	23° 3' 12.585" N	86° 54' 5.959" E
		3	23° 2' 15.835" N	86° 54' 25.233" E
		4	23° 1' 55.993" N	86° 52' 54.020" E
		5	23° 1' 49.340" N	86° 52' 23.435" E

POTENTIAL BLOCK - BNK_QT_ZONE_14



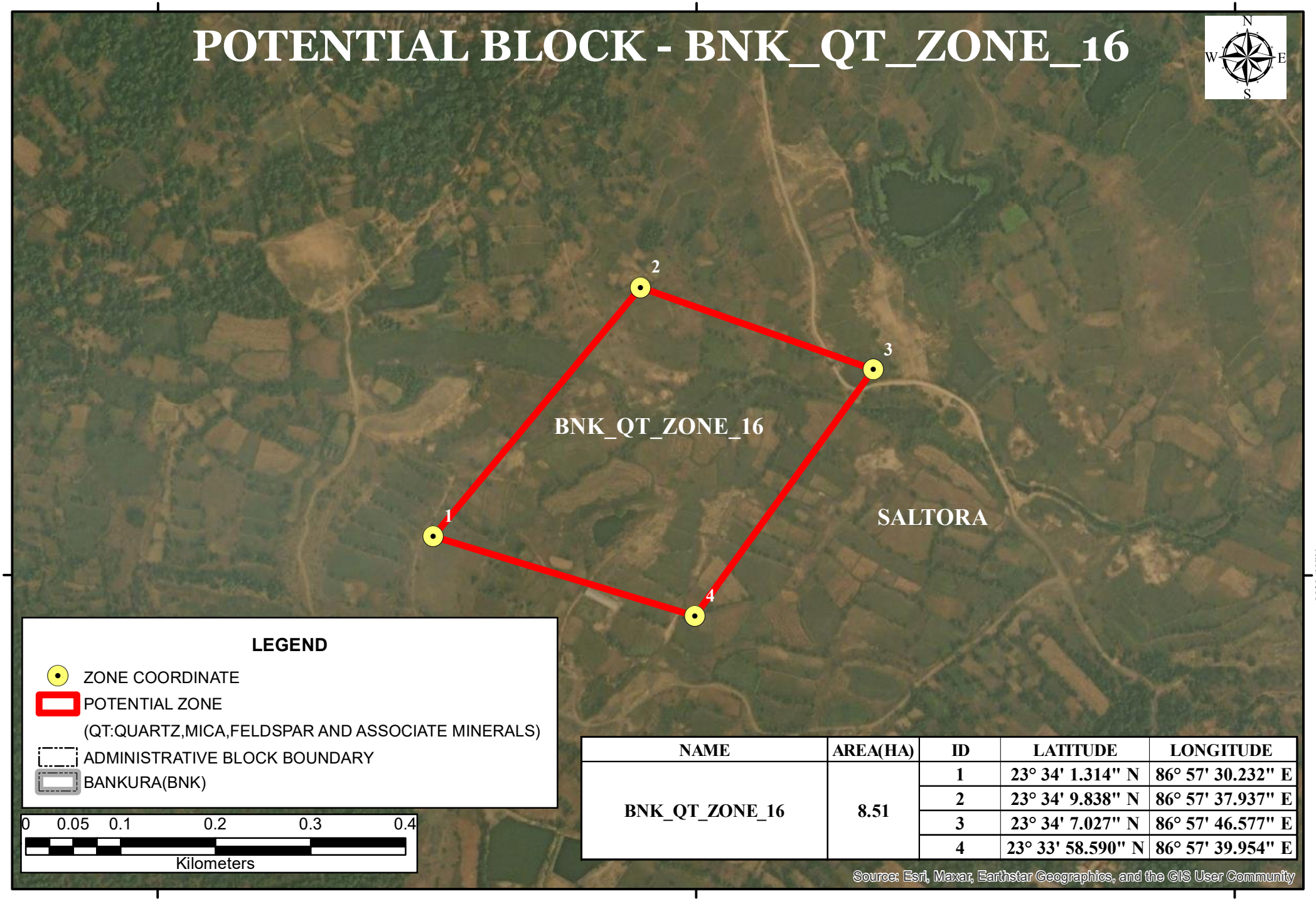
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_14	242.09	1	23° 14' 28.662" N	86° 50' 1.098" E
		2	23° 15' 22.628" N	86° 53' 42.103" E
		3	23° 10' 36.229" N	86° 54' 45.706" E
		4	23° 10' 25.521" N	86° 52' 58.630" E
		5	23° 13' 47.894" N	86° 50' 35.148" E

POTENTIAL BLOCK - BNK_QT_ZONE_15

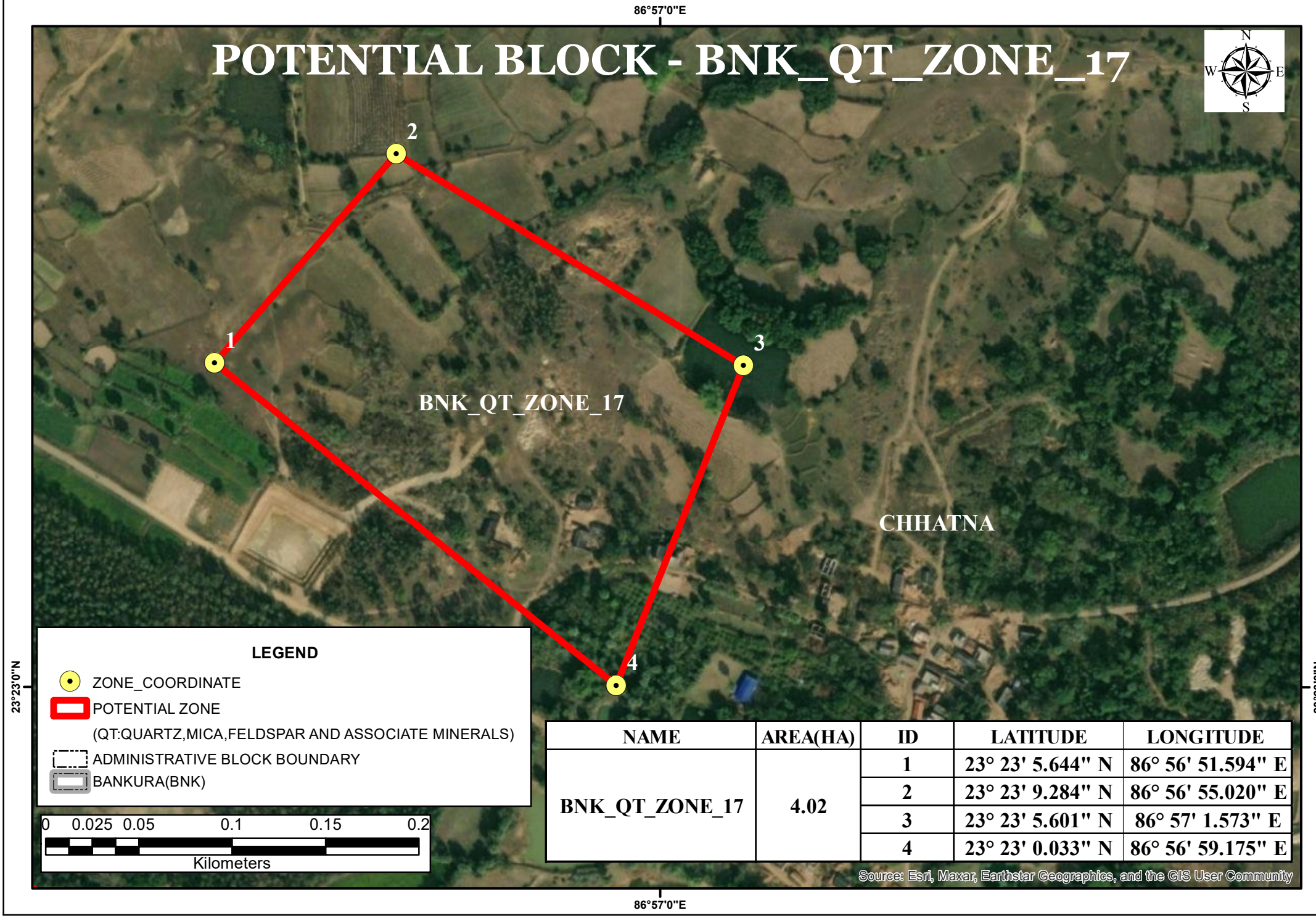


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_15	5.18	1	23° 22' 47.027" N	86° 56' 51.761" E
		2	23° 22' 53.370" N	86° 56' 55.387" E
		3	23° 22' 51.187" N	86° 57' 3.029" E
		4	23° 22' 43.984" N	86° 56' 58.479" E

POTENTIAL BLOCK - BNK_QT_ZONE_16

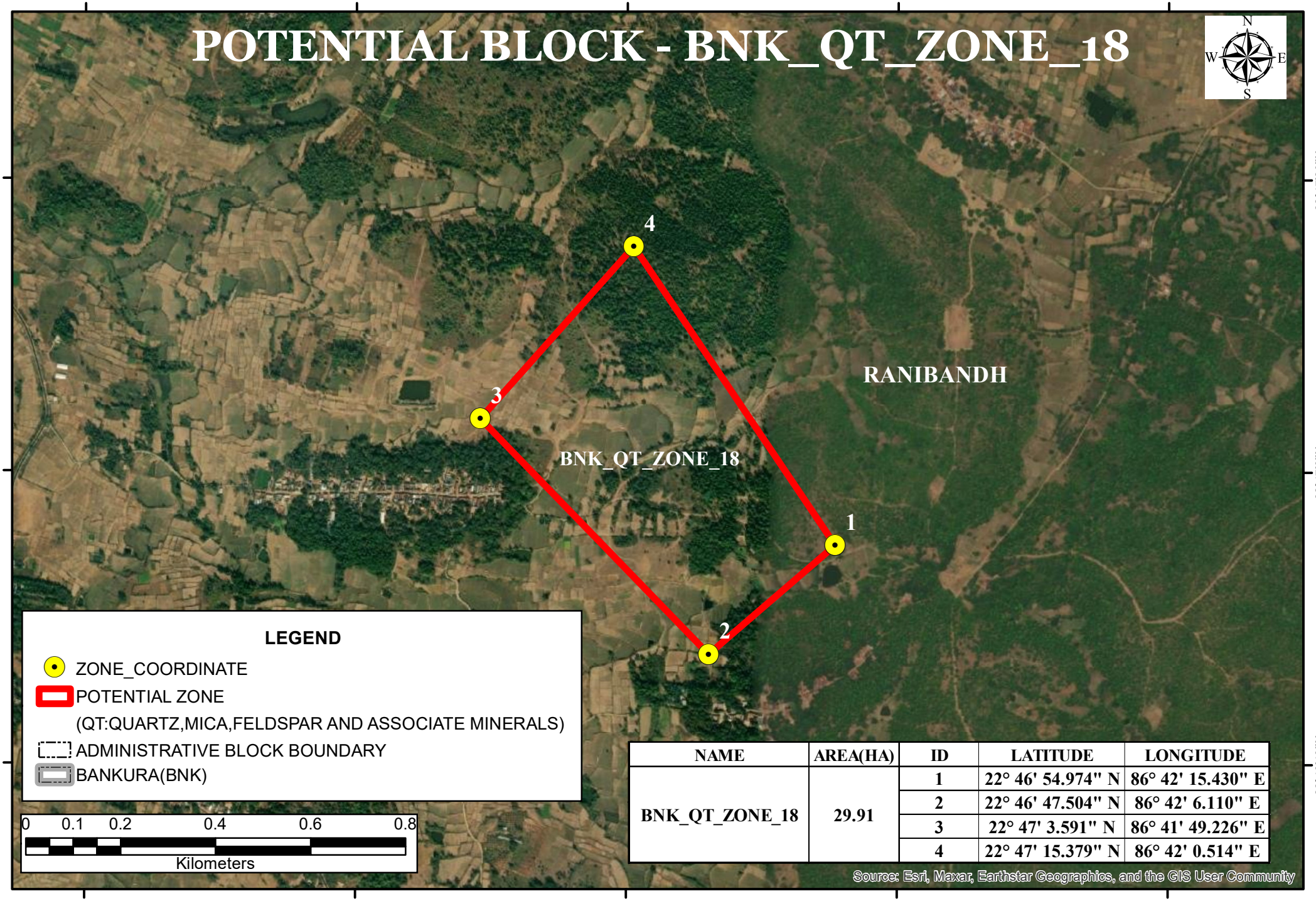


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_16	8.51	1	23° 34' 1.314" N	86° 57' 30.232" E
		2	23° 34' 9.838" N	86° 57' 37.937" E
		3	23° 34' 7.027" N	86° 57' 46.577" E
		4	23° 33' 58.590" N	86° 57' 39.954" E



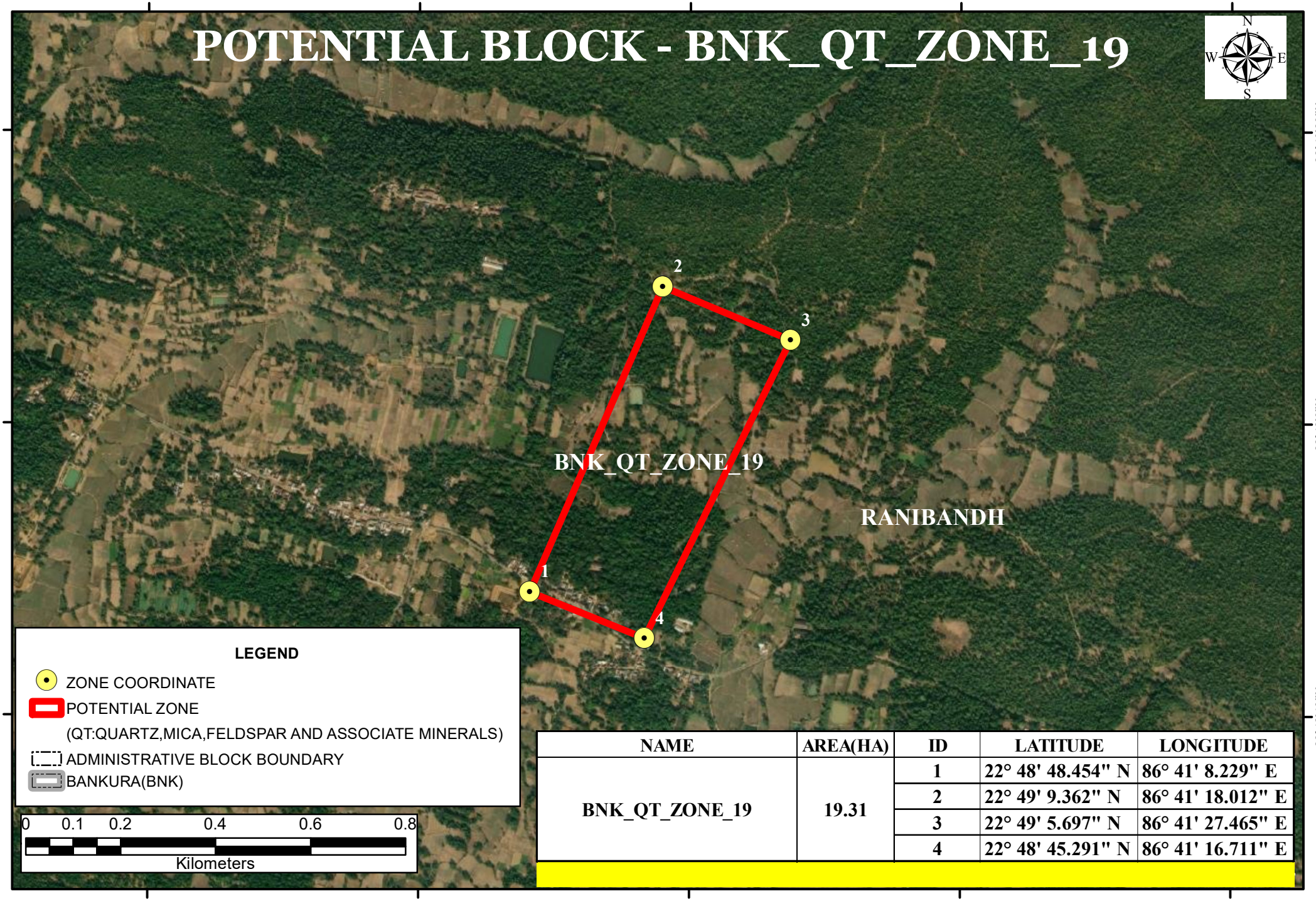
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_17	4.02	1	23° 23' 5.644" N	86° 56' 51.594" E
		2	23° 23' 9.284" N	86° 56' 55.020" E
		3	23° 23' 5.601" N	86° 57' 1.573" E
		4	23° 23' 0.033" N	86° 56' 59.175" E

POTENTIAL BLOCK - BNK_QT_ZONE_18



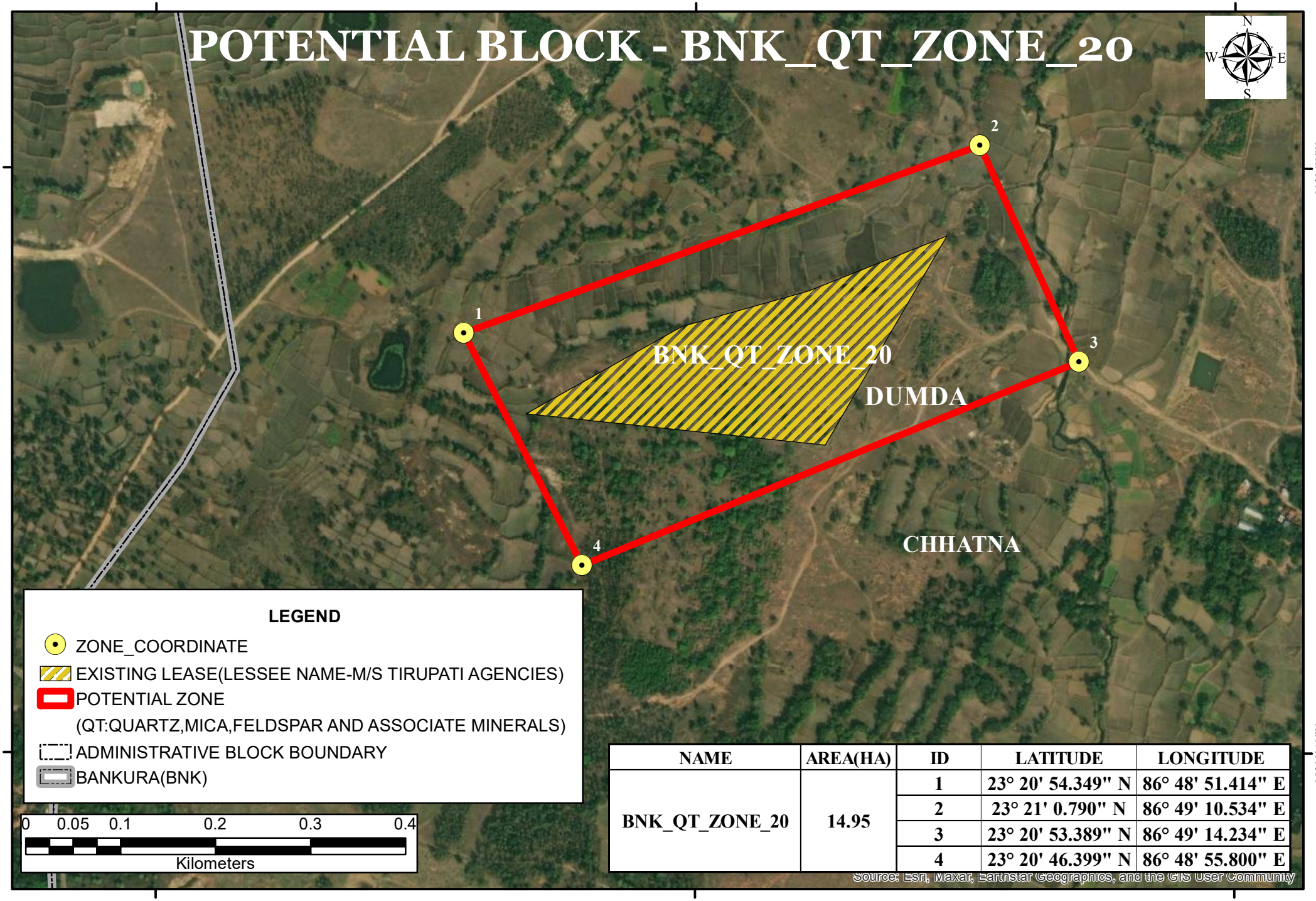
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_18	29.91	1	22° 46' 54.974" N	86° 42' 15.430" E
		2	22° 46' 47.504" N	86° 42' 6.110" E
		3	22° 47' 3.591" N	86° 41' 49.226" E
		4	22° 47' 15.379" N	86° 42' 0.514" E

POTENTIAL BLOCK - BNK_QT_ZONE_19



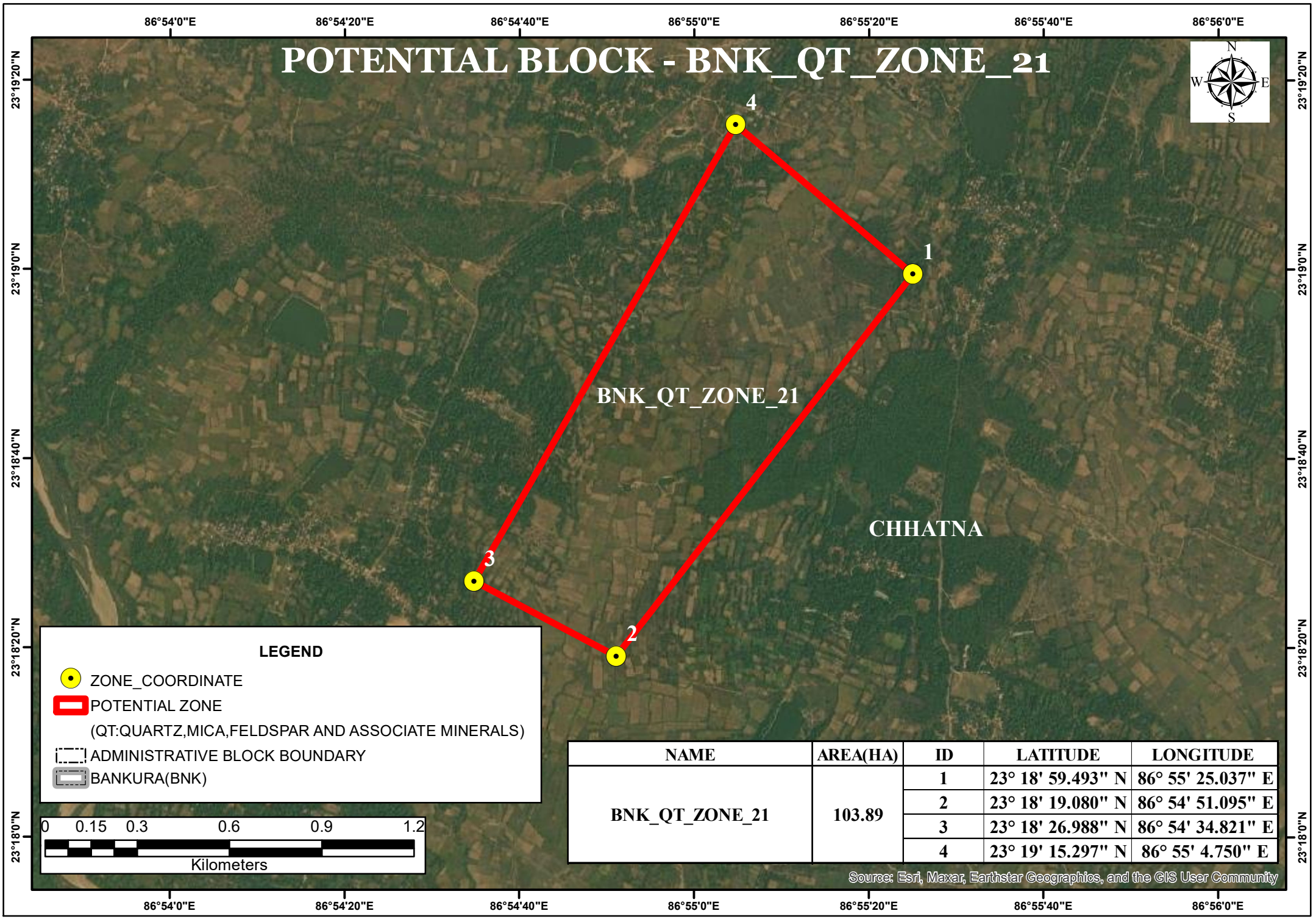
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_19	19.31	1	22° 48' 48.454" N	86° 41' 8.229" E
		2	22° 49' 9.362" N	86° 41' 18.012" E
		3	22° 49' 5.697" N	86° 41' 27.465" E
		4	22° 48' 45.291" N	86° 41' 16.711" E

POTENTIAL BLOCK - BNK_QT_ZONE_20



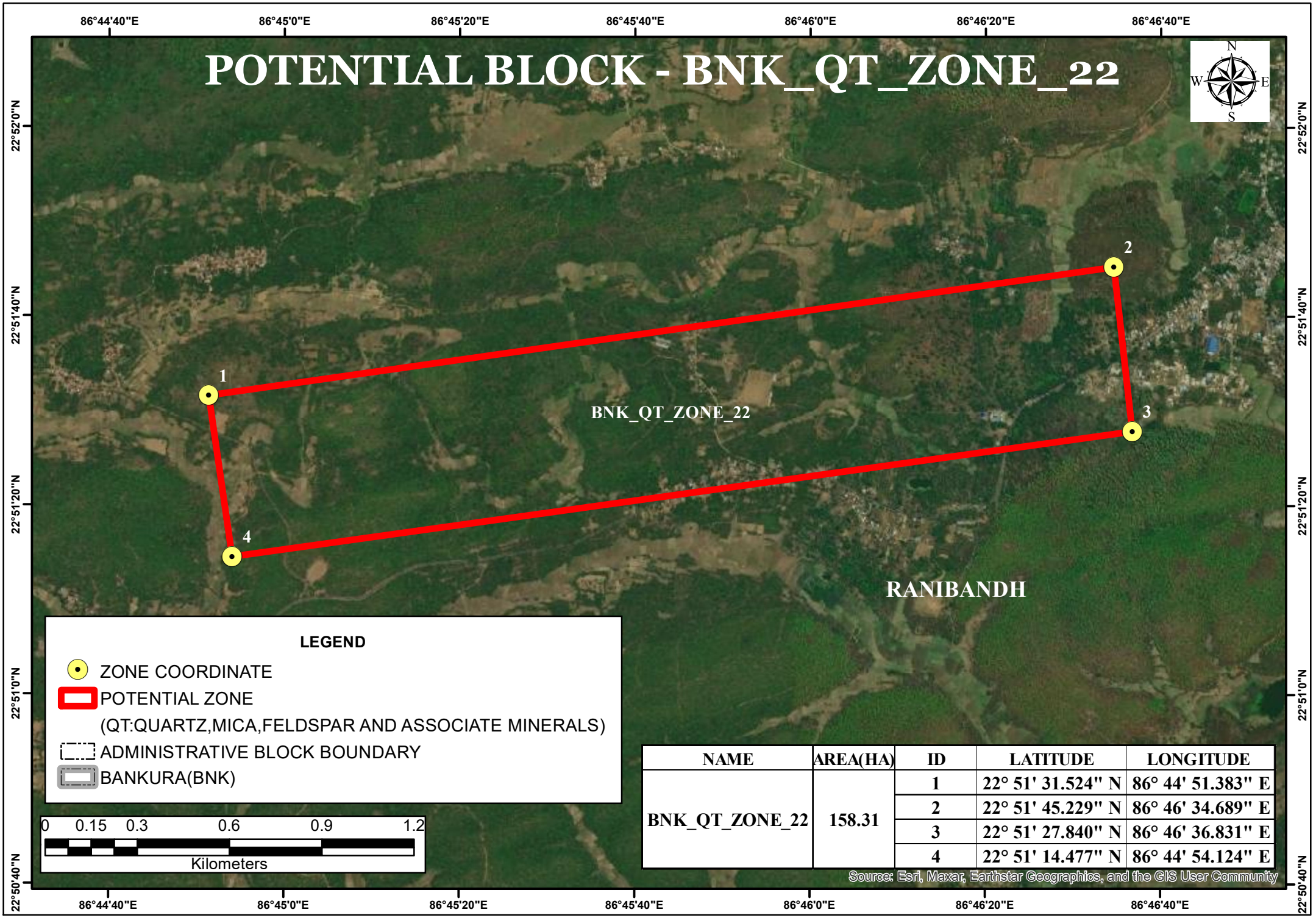
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_20	14.95	1	23° 20' 54.349" N	86° 48' 51.414" E
		2	23° 21' 0.790" N	86° 49' 10.534" E
		3	23° 20' 53.389" N	86° 49' 14.234" E
		4	23° 20' 46.399" N	86° 48' 55.800" E

POTENTIAL BLOCK - BNK_QT_ZONE_21



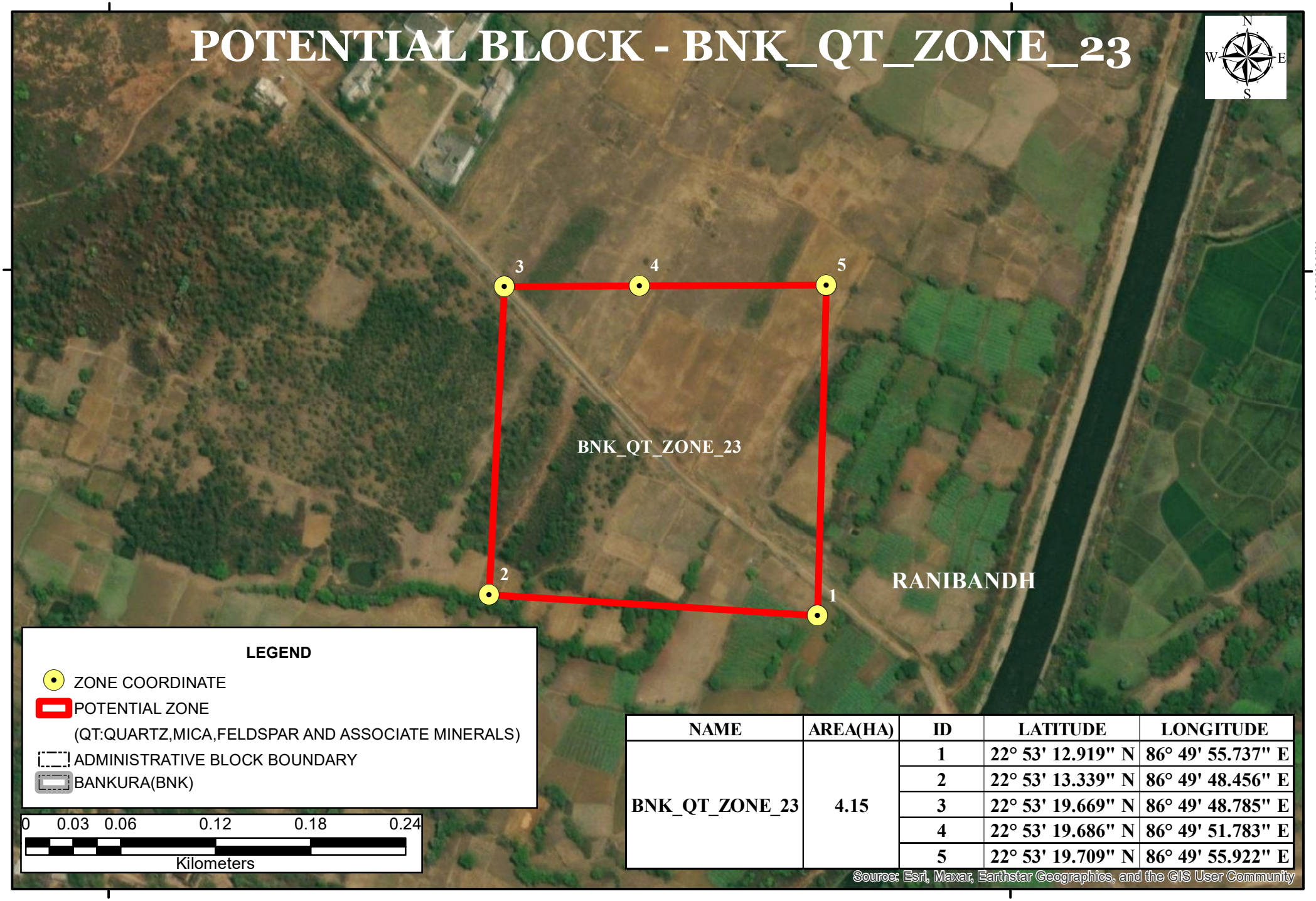
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_21	103.89	1	23° 18' 59.493" N	86° 55' 25.037" E
		2	23° 18' 19.080" N	86° 54' 51.095" E
		3	23° 18' 26.988" N	86° 54' 34.821" E
		4	23° 19' 15.297" N	86° 55' 4.750" E

POTENTIAL BLOCK - BNK_QT_ZONE_22



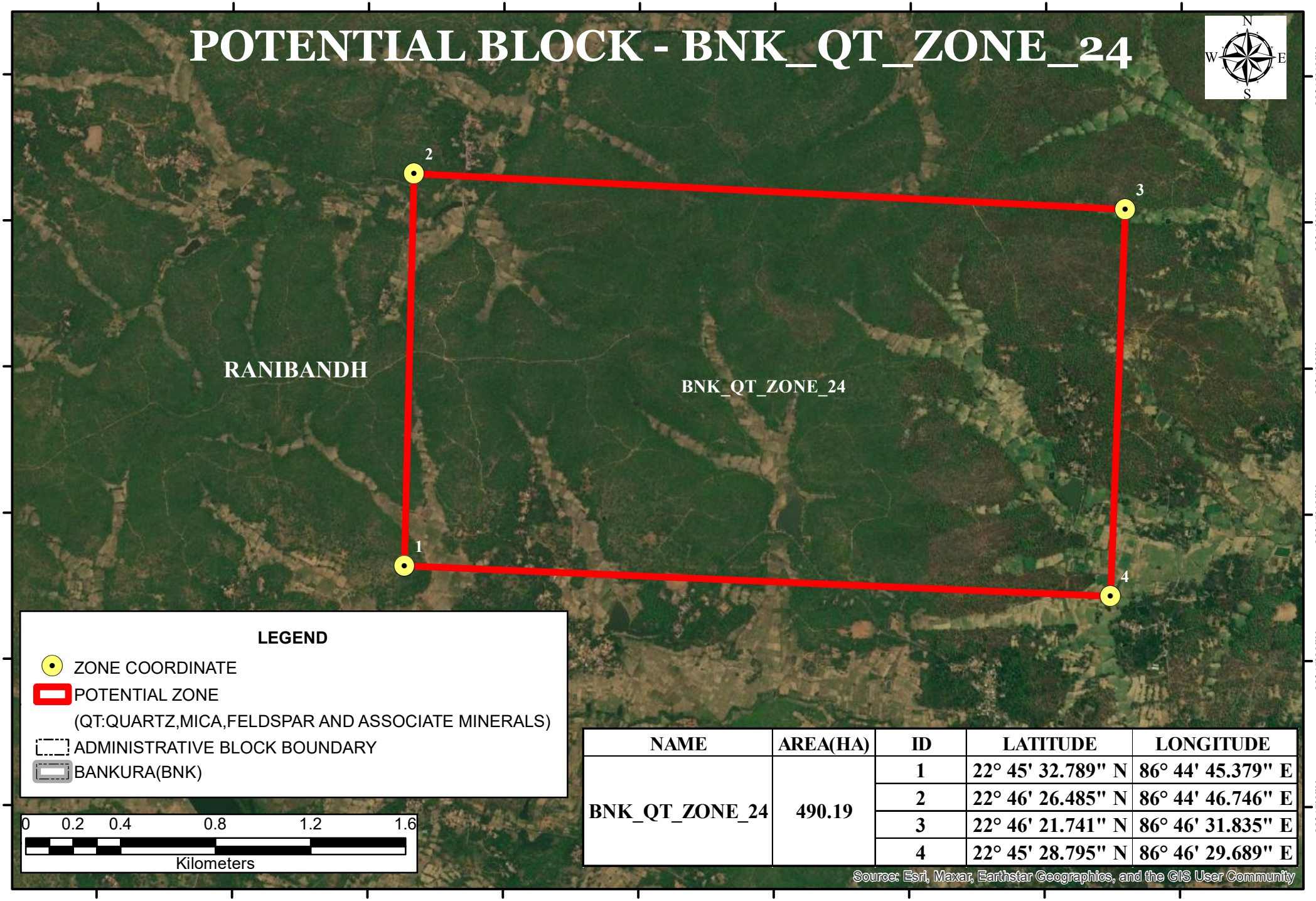
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_22	158.31	1	22° 51' 31.524" N	86° 44' 51.383" E
		2	22° 51' 45.229" N	86° 46' 34.689" E
		3	22° 51' 27.840" N	86° 46' 36.831" E
		4	22° 51' 14.477" N	86° 44' 54.124" E

POTENTIAL BLOCK - BNK_QT_ZONE_23

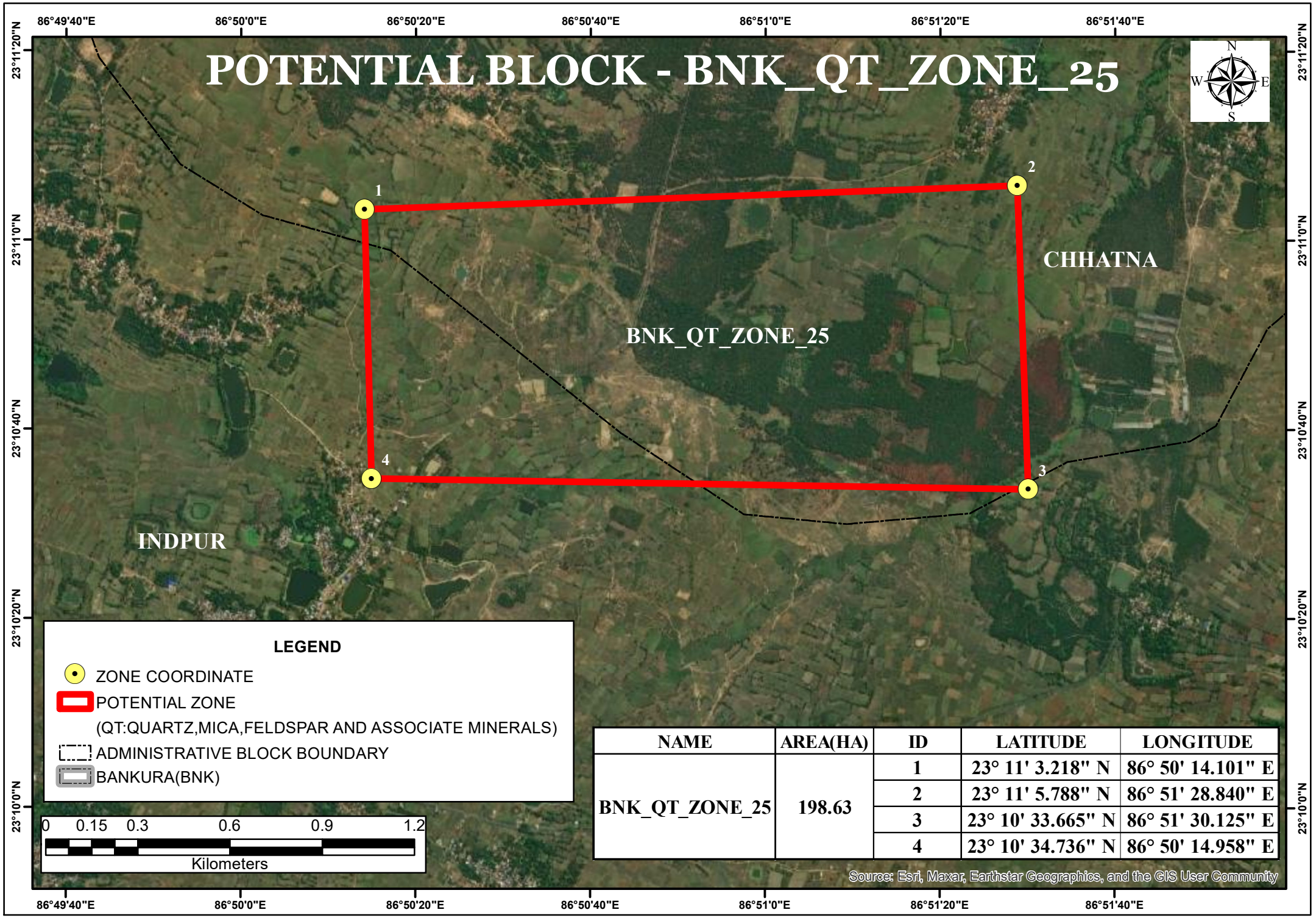


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_23	4.15	1	22° 53' 12.919" N	86° 49' 55.737" E
		2	22° 53' 13.339" N	86° 49' 48.456" E
		3	22° 53' 19.669" N	86° 49' 48.785" E
		4	22° 53' 19.686" N	86° 49' 51.783" E
		5	22° 53' 19.709" N	86° 49' 55.922" E

POTENTIAL BLOCK - BNK_QT_ZONE_24

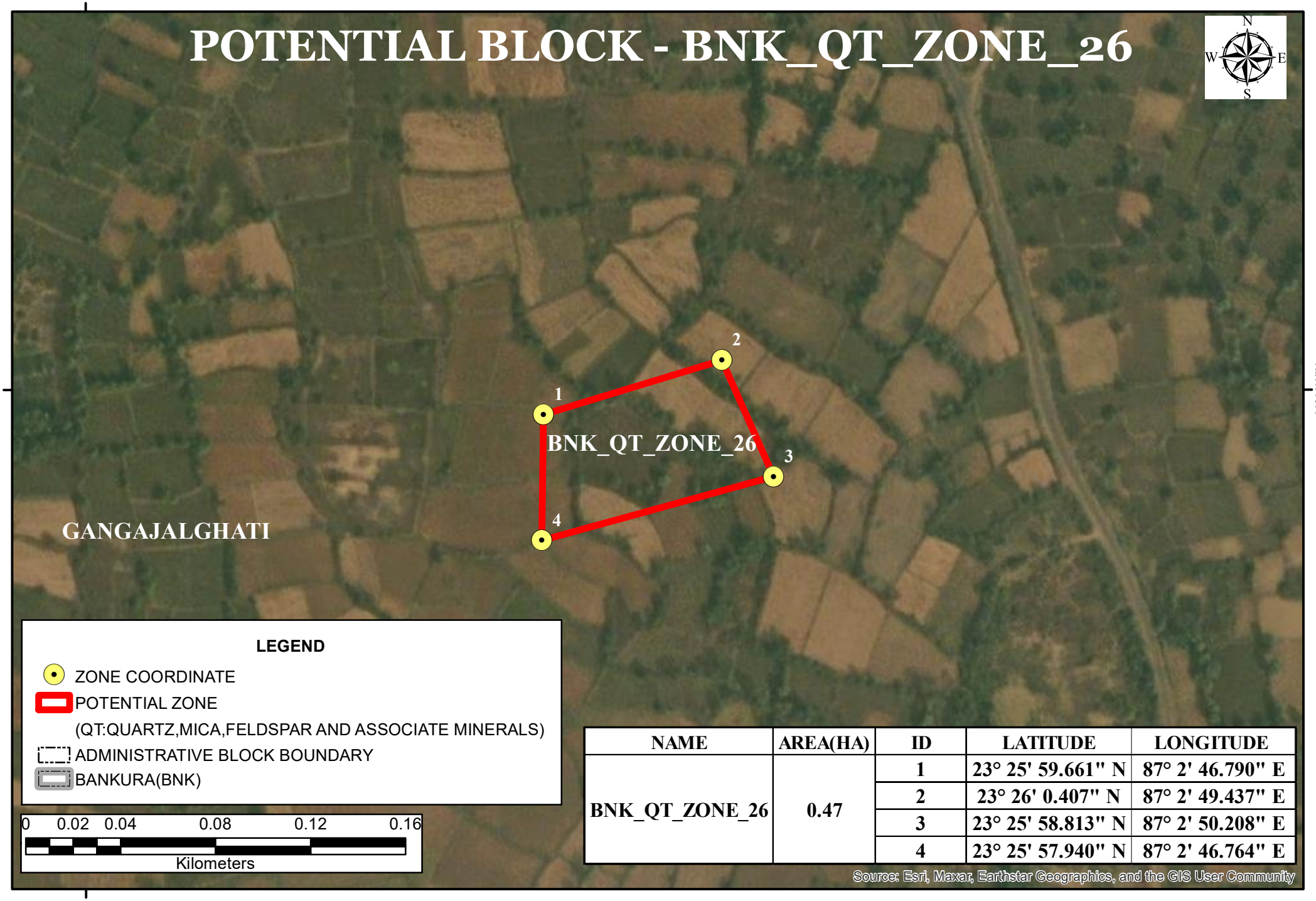


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_24	490.19	1	22° 45' 32.789" N	86° 44' 45.379" E
		2	22° 46' 26.485" N	86° 44' 46.746" E
		3	22° 46' 21.741" N	86° 46' 31.835" E
		4	22° 45' 28.795" N	86° 46' 29.689" E



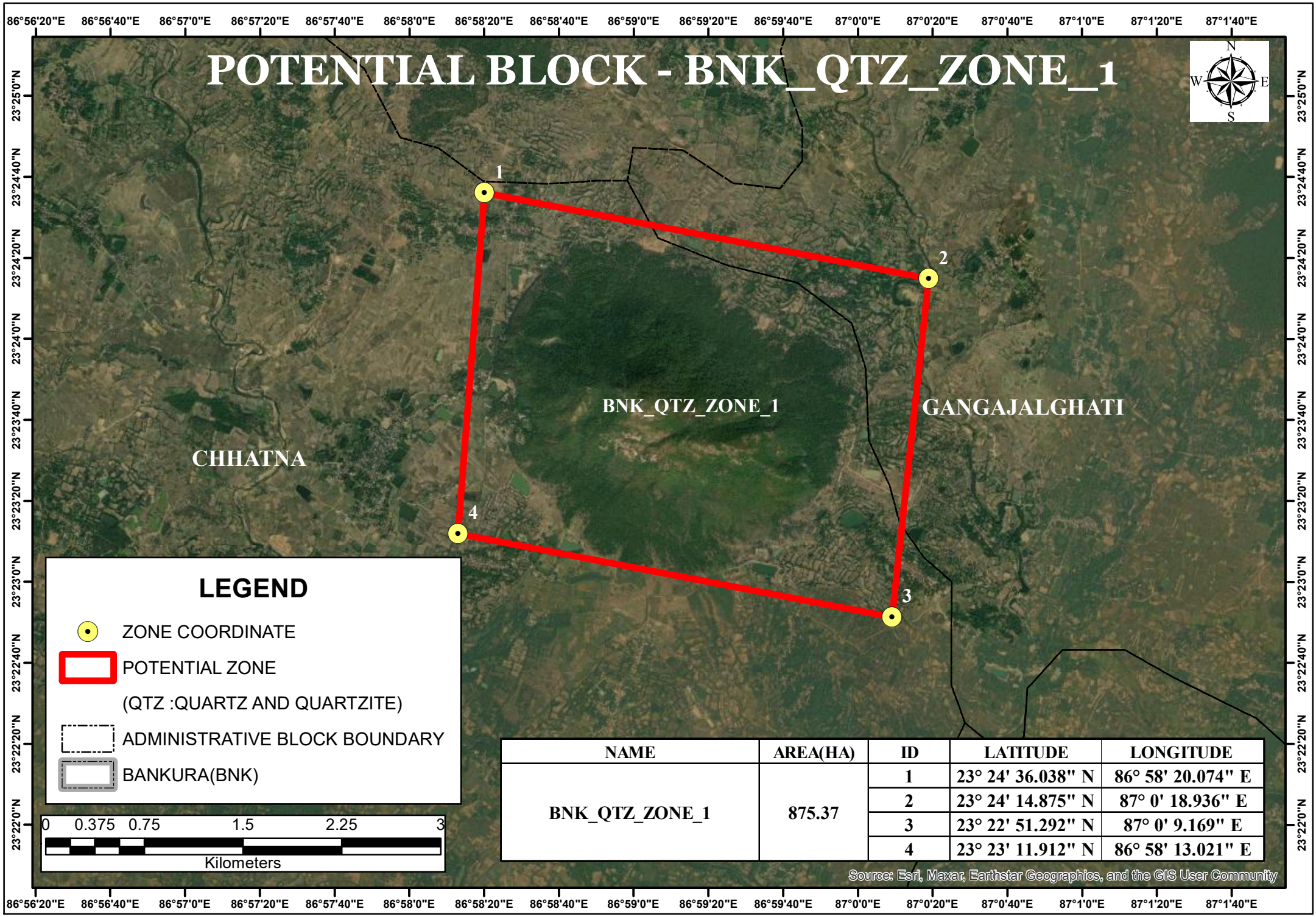
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_25	198.63	1	23° 11' 3.218" N	86° 50' 14.101" E
		2	23° 11' 5.788" N	86° 51' 28.840" E
		3	23° 10' 33.665" N	86° 51' 30.125" E
		4	23° 10' 34.736" N	86° 50' 14.958" E

POTENTIAL BLOCK - BNK_QT_ZONE_26



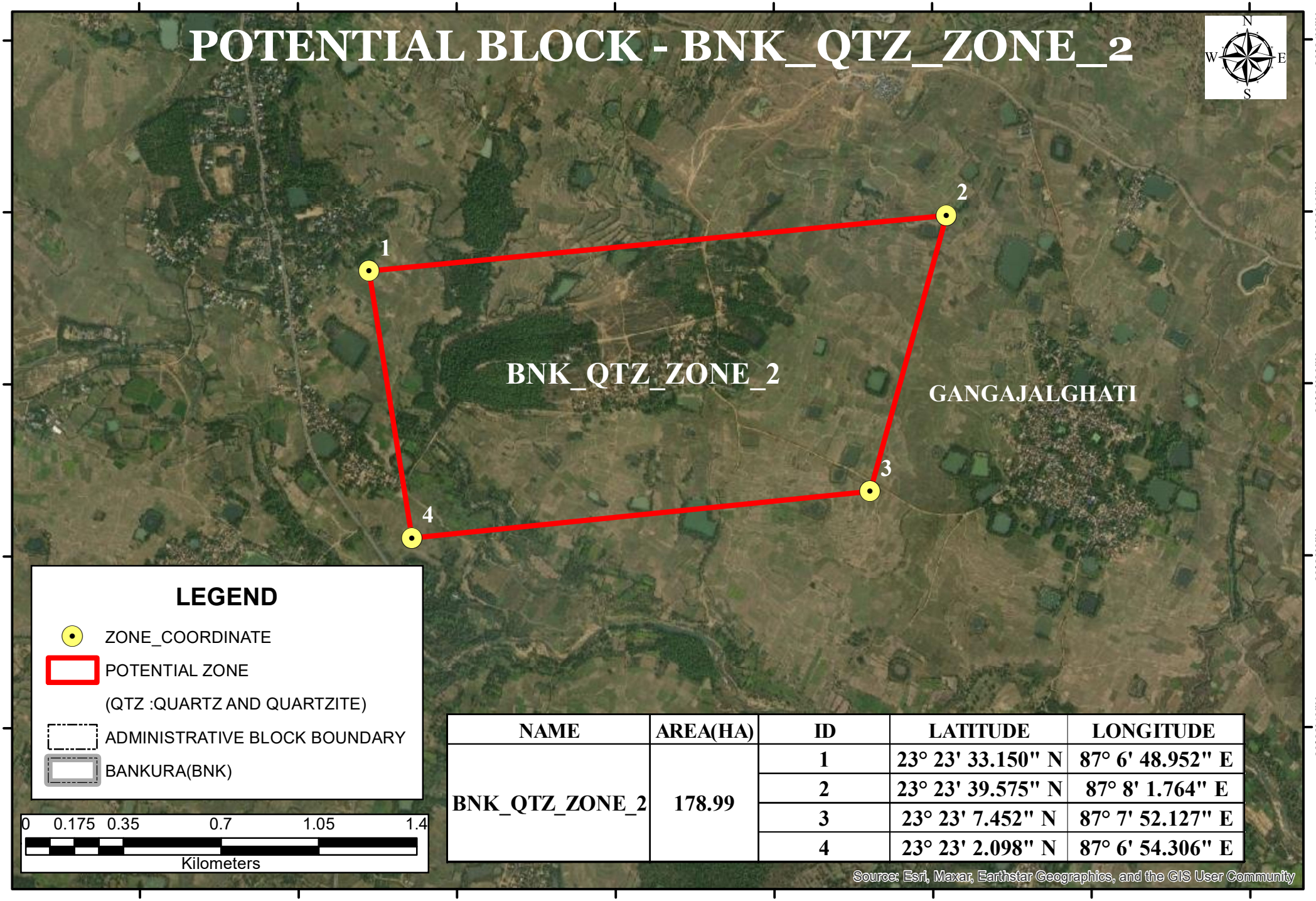
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QT_ZONE_26	0.47	1	23° 25' 59.661" N	87° 2' 46.790" E
		2	23° 26' 0.407" N	87° 2' 49.437" E
		3	23° 25' 58.813" N	87° 2' 50.208" E
		4	23° 25' 57.940" N	87° 2' 46.764" E

POTENTIAL BLOCK - BNK_QTZ_ZONE_1



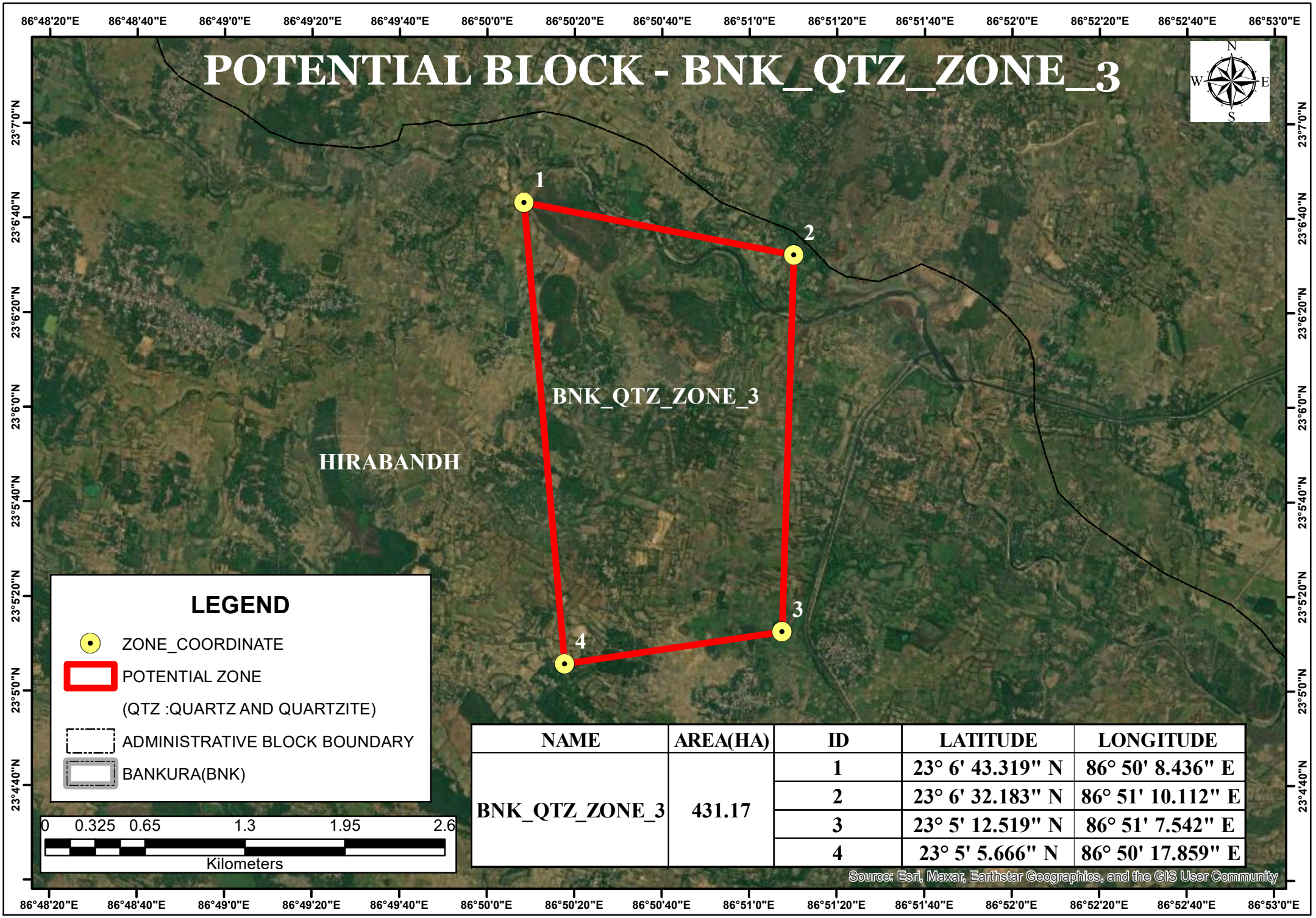
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_1	875.37	1	23° 24' 36.038" N	86° 58' 20.074" E
		2	23° 24' 14.875" N	87° 0' 18.936" E
		3	23° 22' 51.292" N	87° 0' 9.169" E
		4	23° 23' 11.912" N	86° 58' 13.021" E

POTENTIAL BLOCK - BNK_QTZ_ZONE_2



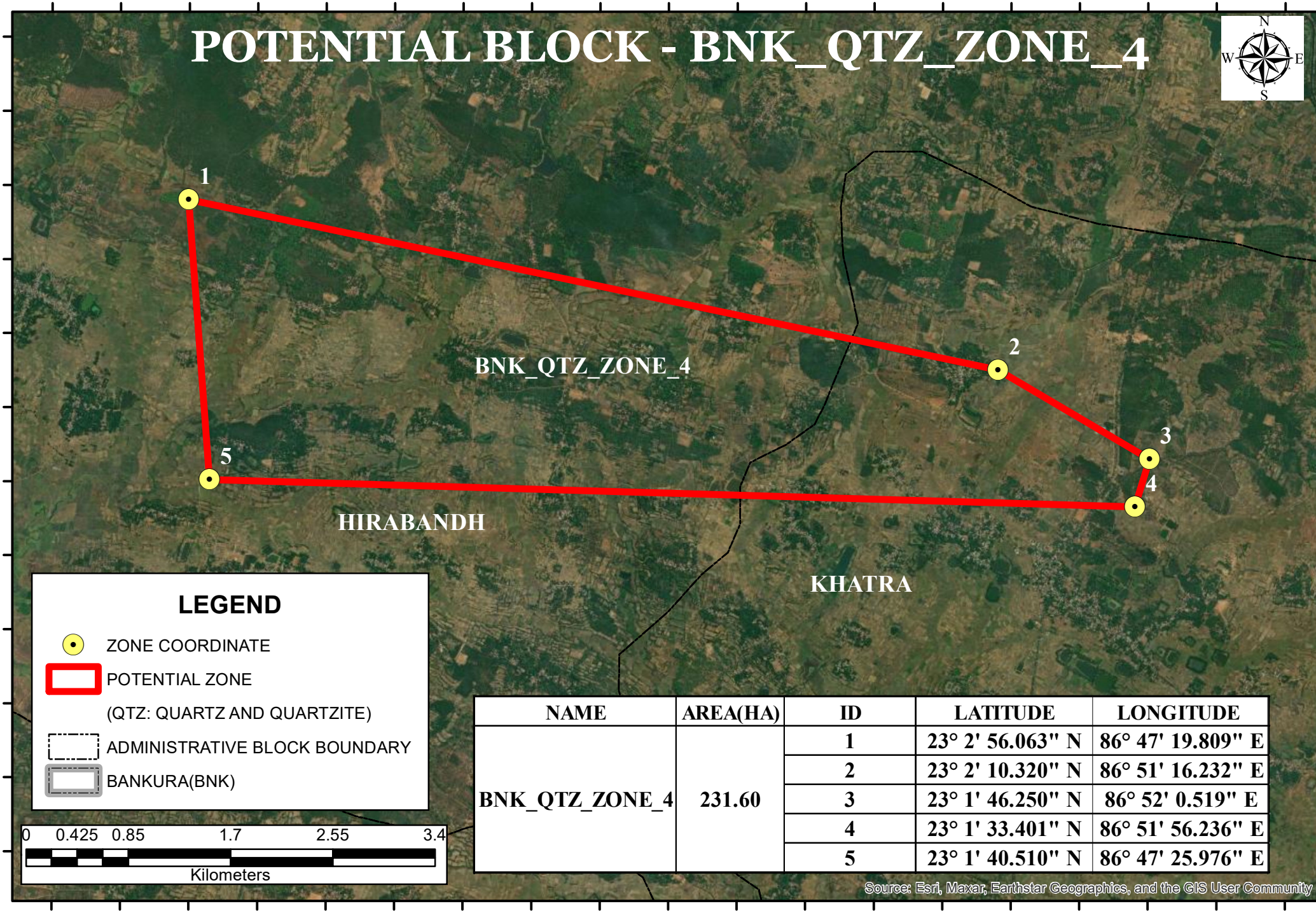
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_2	178.99	1	23° 23' 33.150" N	87° 6' 48.952" E
		2	23° 23' 39.575" N	87° 8' 1.764" E
		3	23° 23' 7.452" N	87° 7' 52.127" E
		4	23° 23' 2.098" N	87° 6' 54.306" E

POTENTIAL BLOCK - BNK_QTZ_ZONE_3



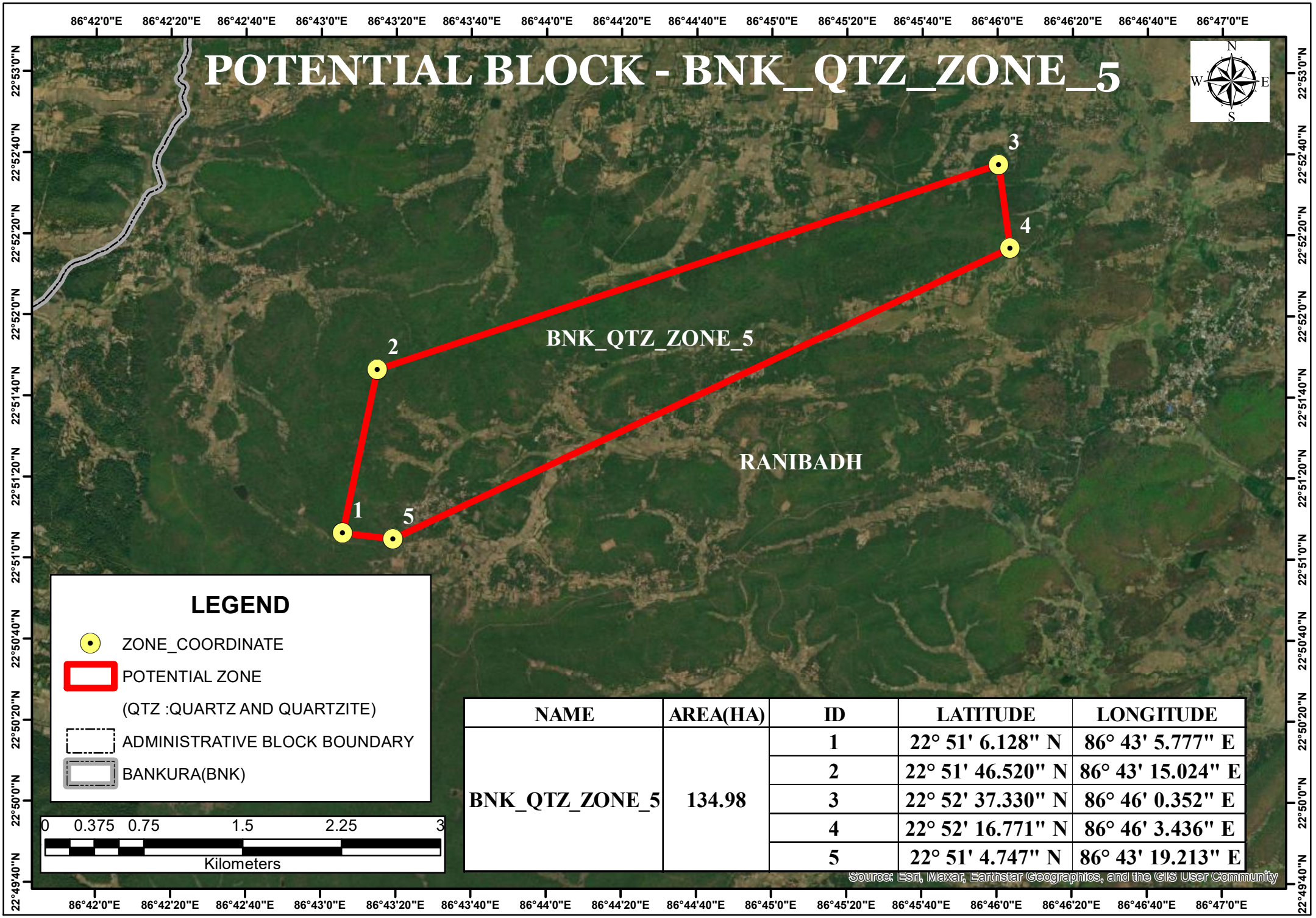
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_3	431.17	1	23° 6' 43.319" N	86° 50' 8.436" E
		2	23° 6' 32.183" N	86° 51' 10.112" E
		3	23° 5' 12.519" N	86° 51' 7.542" E
		4	23° 5' 5.666" N	86° 50' 17.859" E

POTENTIAL BLOCK - BNK_QTZ_ZONE_4



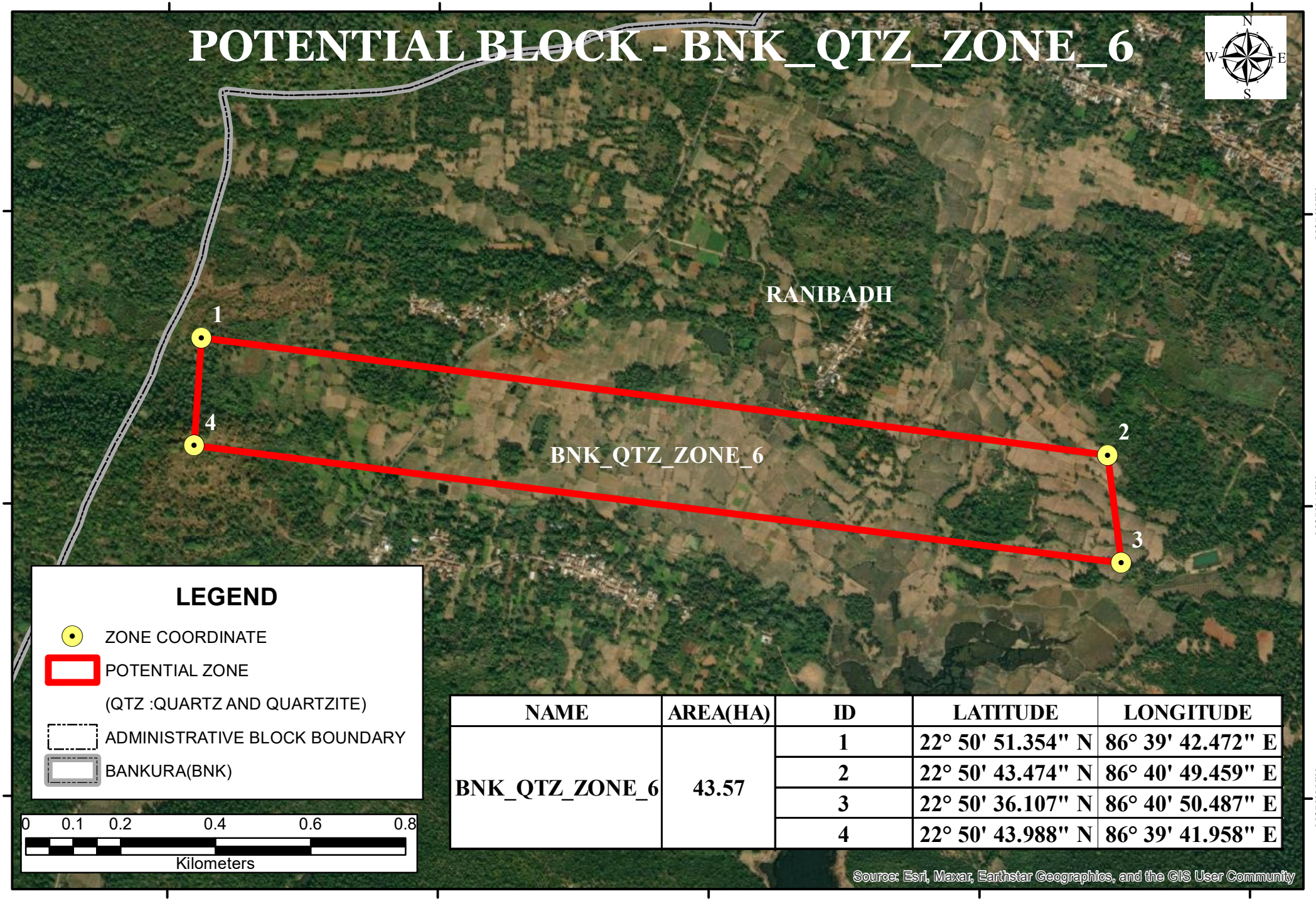
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_4	231.60	1	23° 2' 56.063" N	86° 47' 19.809" E
		2	23° 2' 10.320" N	86° 51' 16.232" E
		3	23° 1' 46.250" N	86° 52' 0.519" E
		4	23° 1' 33.401" N	86° 51' 56.236" E
		5	23° 1' 40.510" N	86° 47' 25.976" E

POTENTIAL BLOCK - BNK_QTZ_ZONE_5



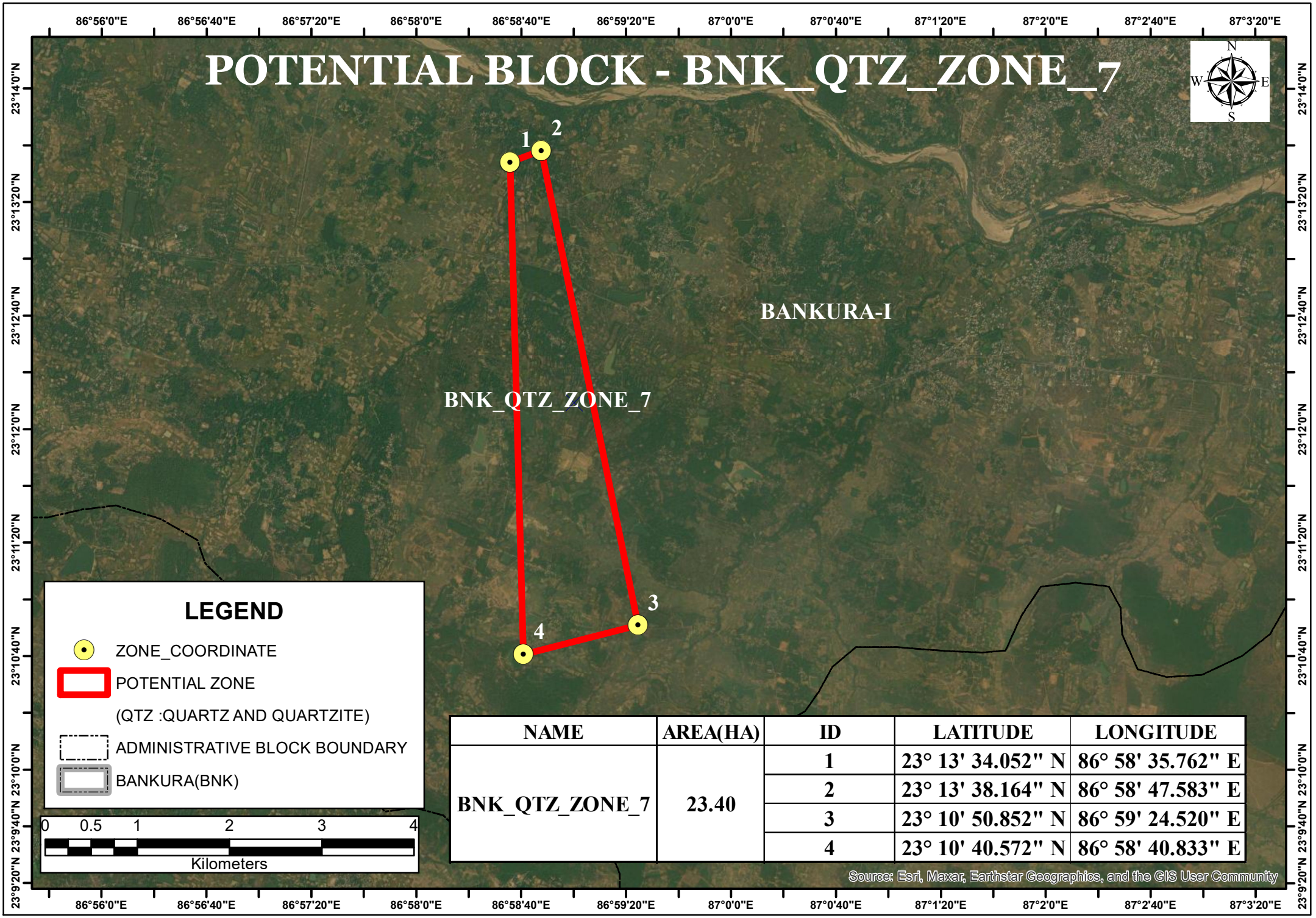
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_5	134.98	1	22° 51' 6.128" N	86° 43' 5.777" E
		2	22° 51' 46.520" N	86° 43' 15.024" E
		3	22° 52' 37.330" N	86° 46' 0.352" E
		4	22° 52' 16.771" N	86° 46' 3.436" E
		5	22° 51' 4.747" N	86° 43' 19.213" E

POTENTIAL BLOCK - BNK_QTZ_ZONE_6

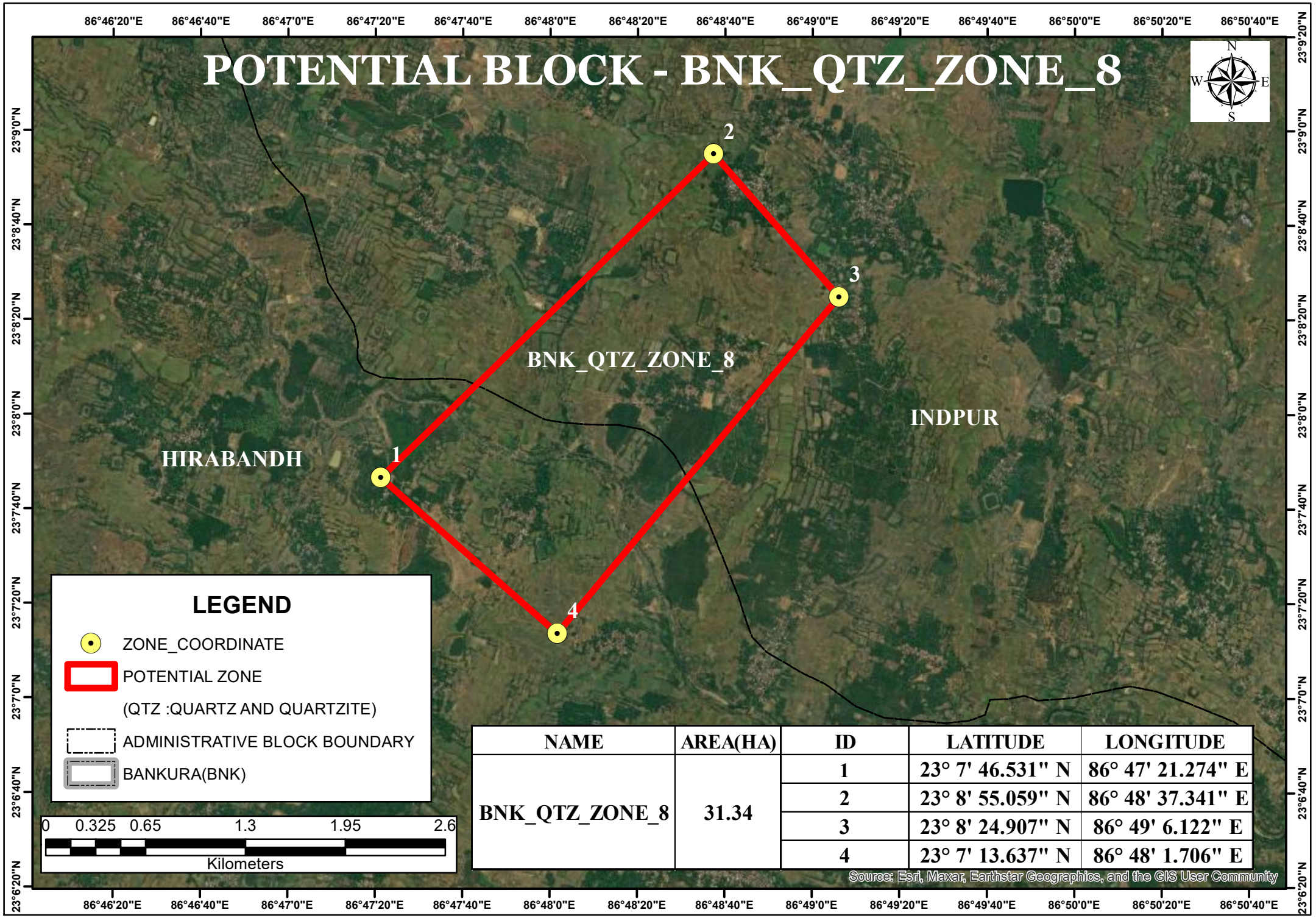


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_6	43.57	1	22° 50' 51.354" N	86° 39' 42.472" E
		2	22° 50' 43.474" N	86° 40' 49.459" E
		3	22° 50' 36.107" N	86° 40' 50.487" E
		4	22° 50' 43.988" N	86° 39' 41.958" E

POTENTIAL BLOCK - BNK_QTZ_ZONE_7

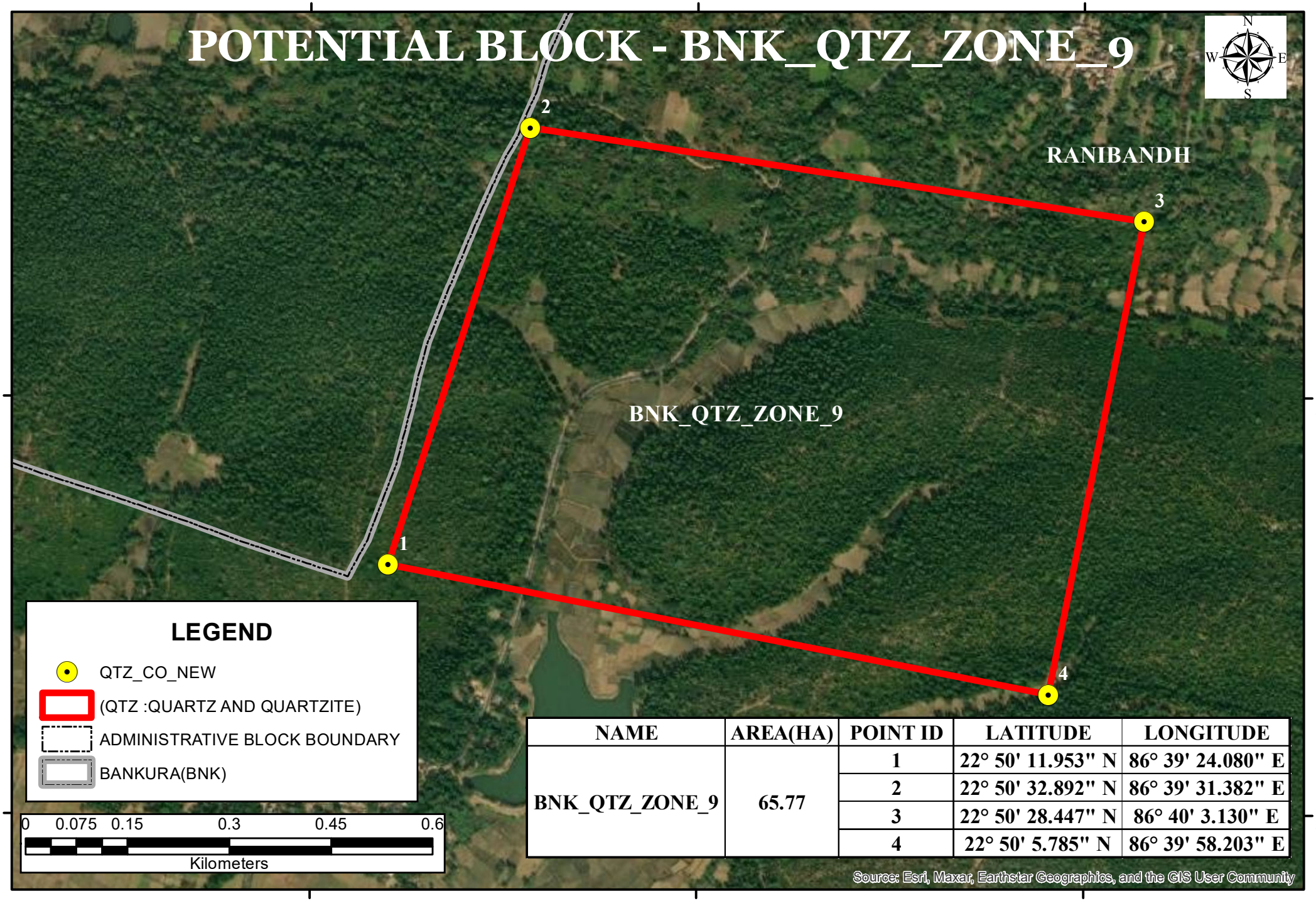


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_7	23.40	1	23° 13' 34.052" N	86° 58' 35.762" E
		2	23° 13' 38.164" N	86° 58' 47.583" E
		3	23° 10' 50.852" N	86° 59' 24.520" E
		4	23° 10' 40.572" N	86° 58' 40.833" E

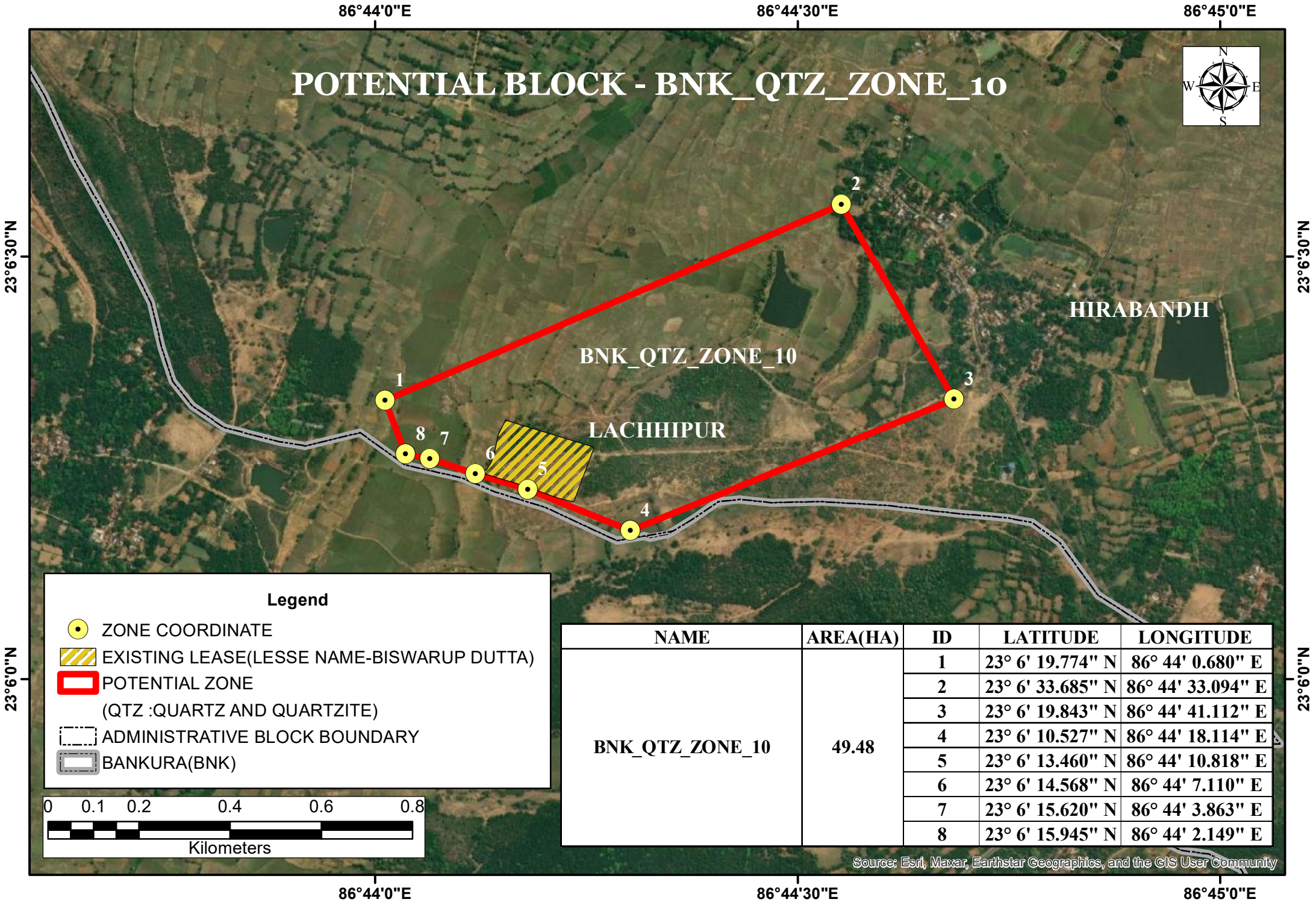


NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_8	31.34	1	23° 7' 46.531" N	86° 47' 21.274" E
		2	23° 8' 55.059" N	86° 48' 37.341" E
		3	23° 8' 24.907" N	86° 49' 6.122" E
		4	23° 7' 13.637" N	86° 48' 1.706" E

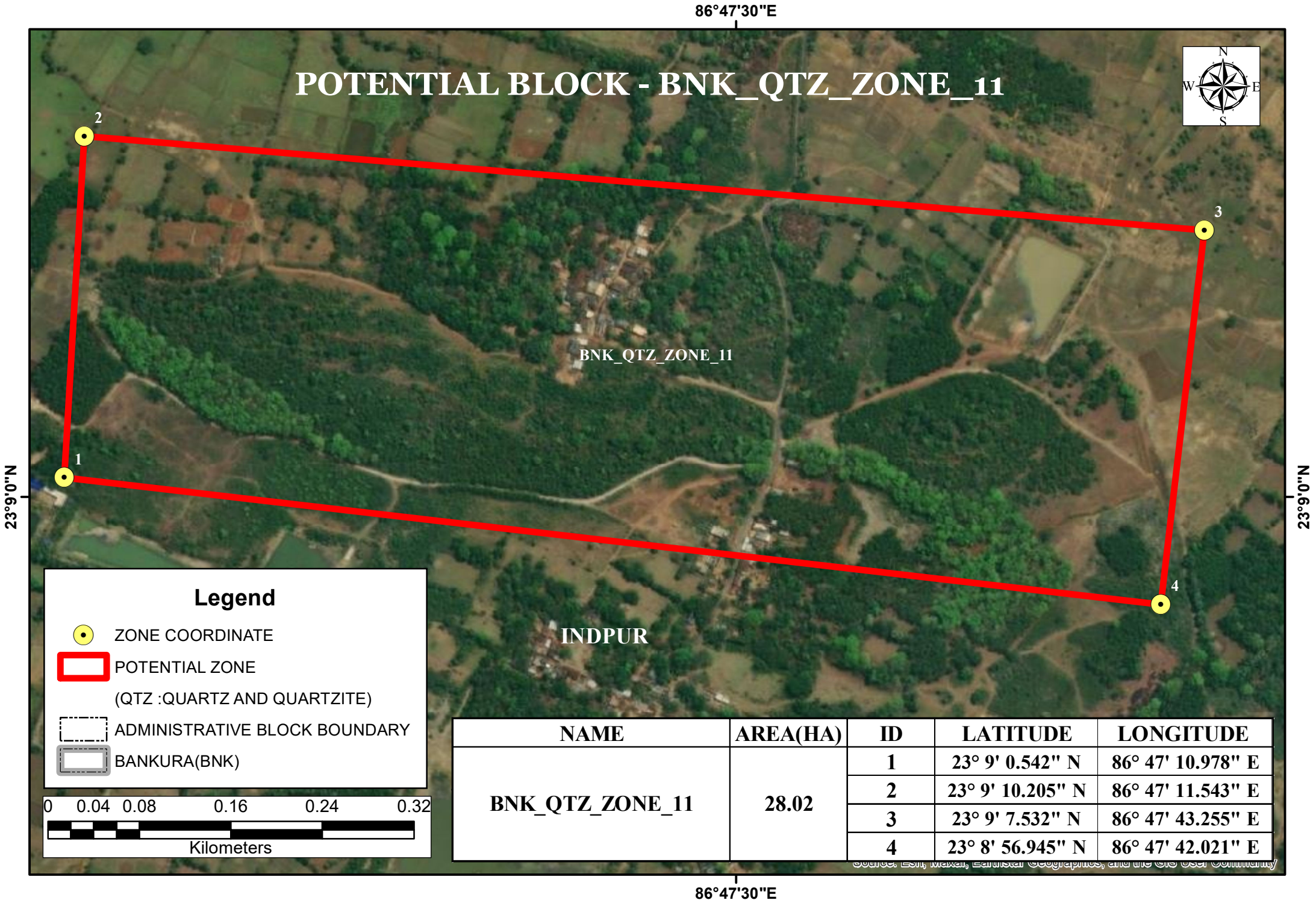
POTENTIAL BLOCK - BNK_QTZ_ZONE_9



NAME	AREA(HA)	POINT ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_9	65.77	1	22° 50' 11.953" N	86° 39' 24.080" E
		2	22° 50' 32.892" N	86° 39' 31.382" E
		3	22° 50' 28.447" N	86° 40' 3.130" E
		4	22° 50' 5.785" N	86° 39' 58.203" E



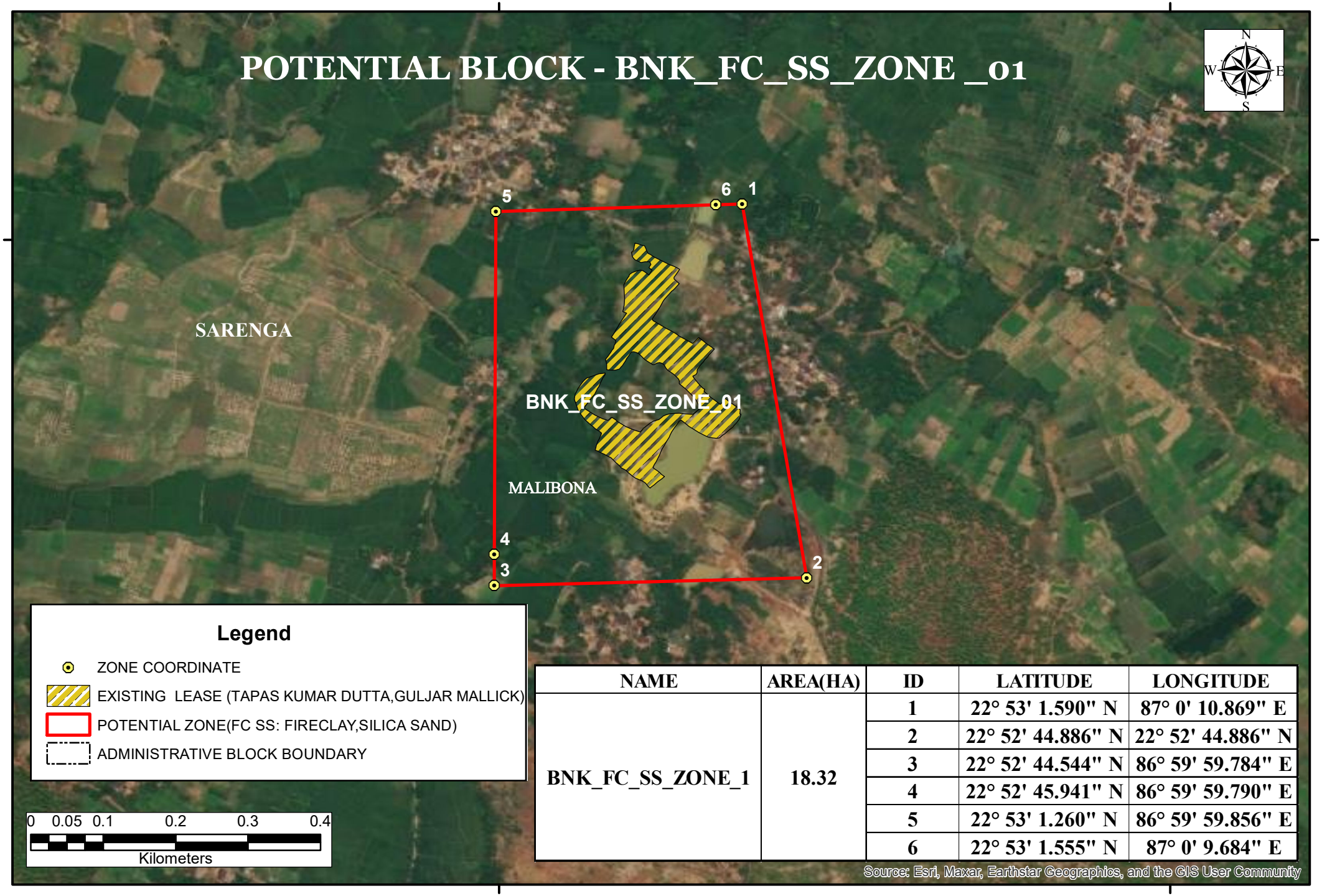
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_10	49.48	1	23° 6' 19.774" N	86° 44' 0.680" E
		2	23° 6' 33.685" N	86° 44' 33.094" E
		3	23° 6' 19.843" N	86° 44' 41.112" E
		4	23° 6' 10.527" N	86° 44' 18.114" E
		5	23° 6' 13.460" N	86° 44' 10.818" E
		6	23° 6' 14.568" N	86° 44' 7.110" E
		7	23° 6' 15.620" N	86° 44' 3.863" E
		8	23° 6' 15.945" N	86° 44' 2.149" E



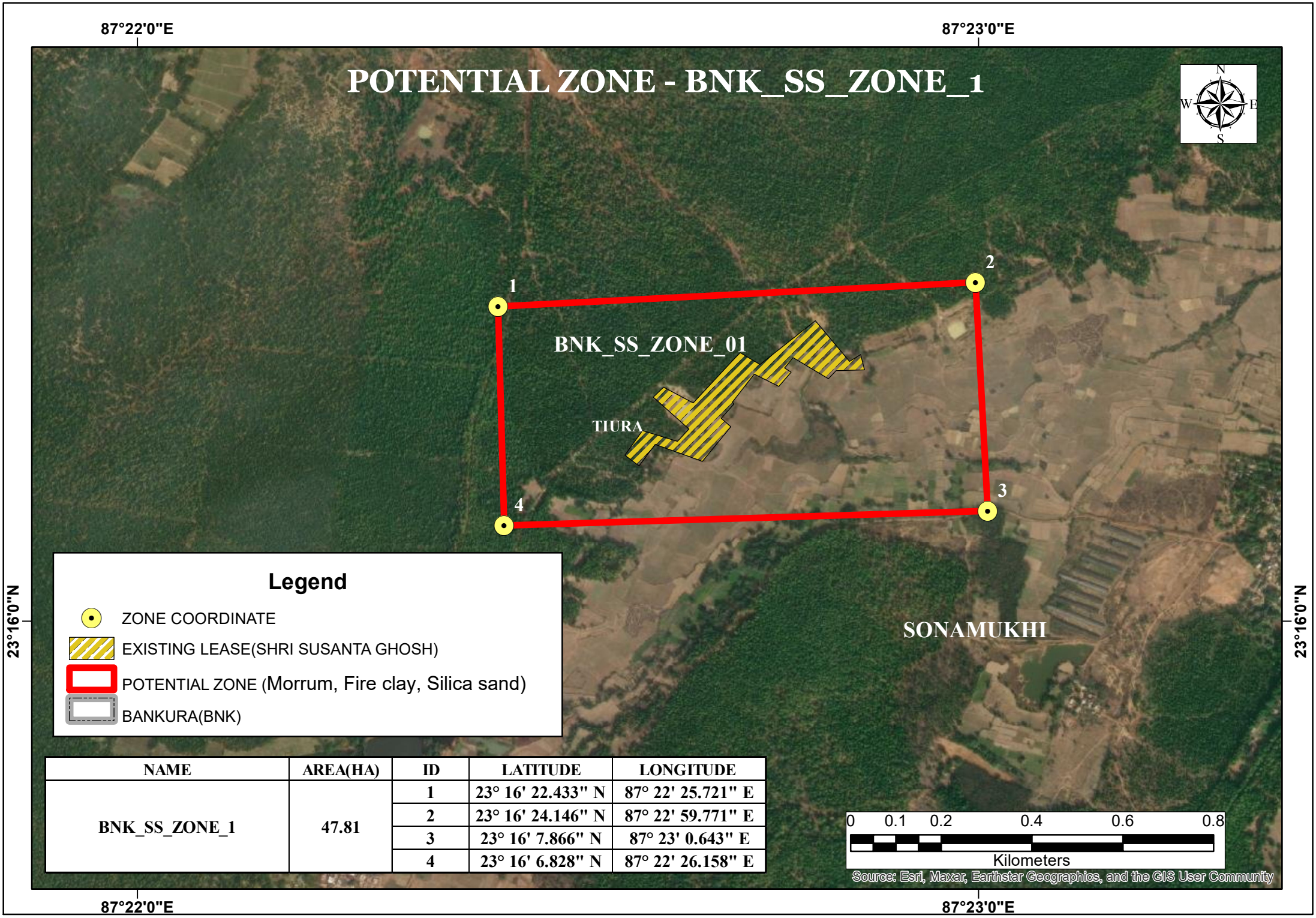
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_QTZ_ZONE_11	28.02	1	23° 9' 0.542" N	86° 47' 10.978" E
		2	23° 9' 10.205" N	86° 47' 11.543" E
		3	23° 9' 7.532" N	86° 47' 43.255" E
		4	23° 8' 56.945" N	86° 47' 42.021" E

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

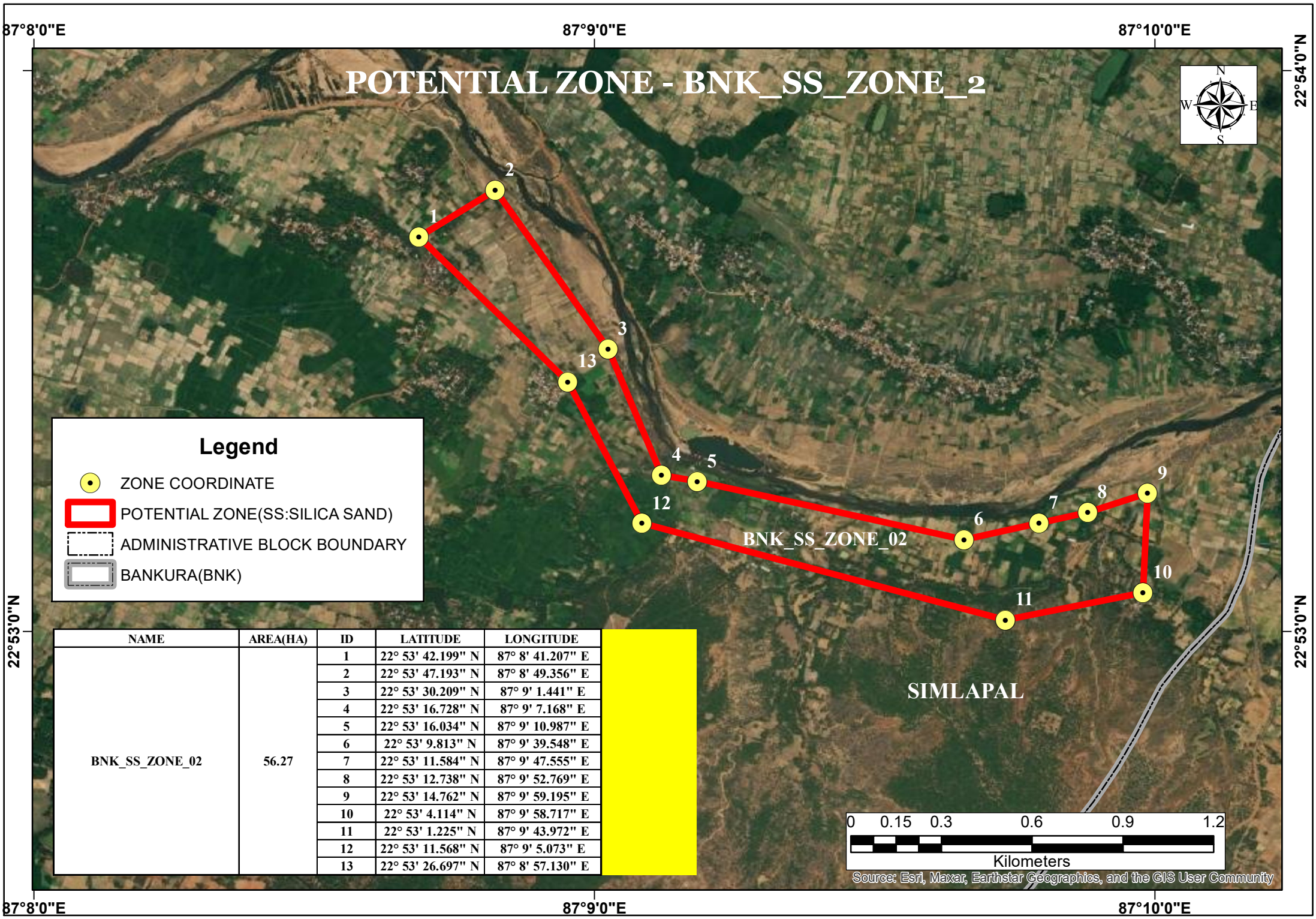
POTENTIAL BLOCK - BNK_FC_SS_ZONE _01



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_FC_SS_ZONE_1	18.32	1	22° 53' 1.590" N	87° 0' 10.869" E
		2	22° 52' 44.886" N	22° 52' 44.886" N
		3	22° 52' 44.544" N	86° 59' 59.784" E
		4	22° 52' 45.941" N	86° 59' 59.790" E
		5	22° 53' 1.260" N	86° 59' 59.856" E
		6	22° 53' 1.555" N	87° 0' 9.684" E



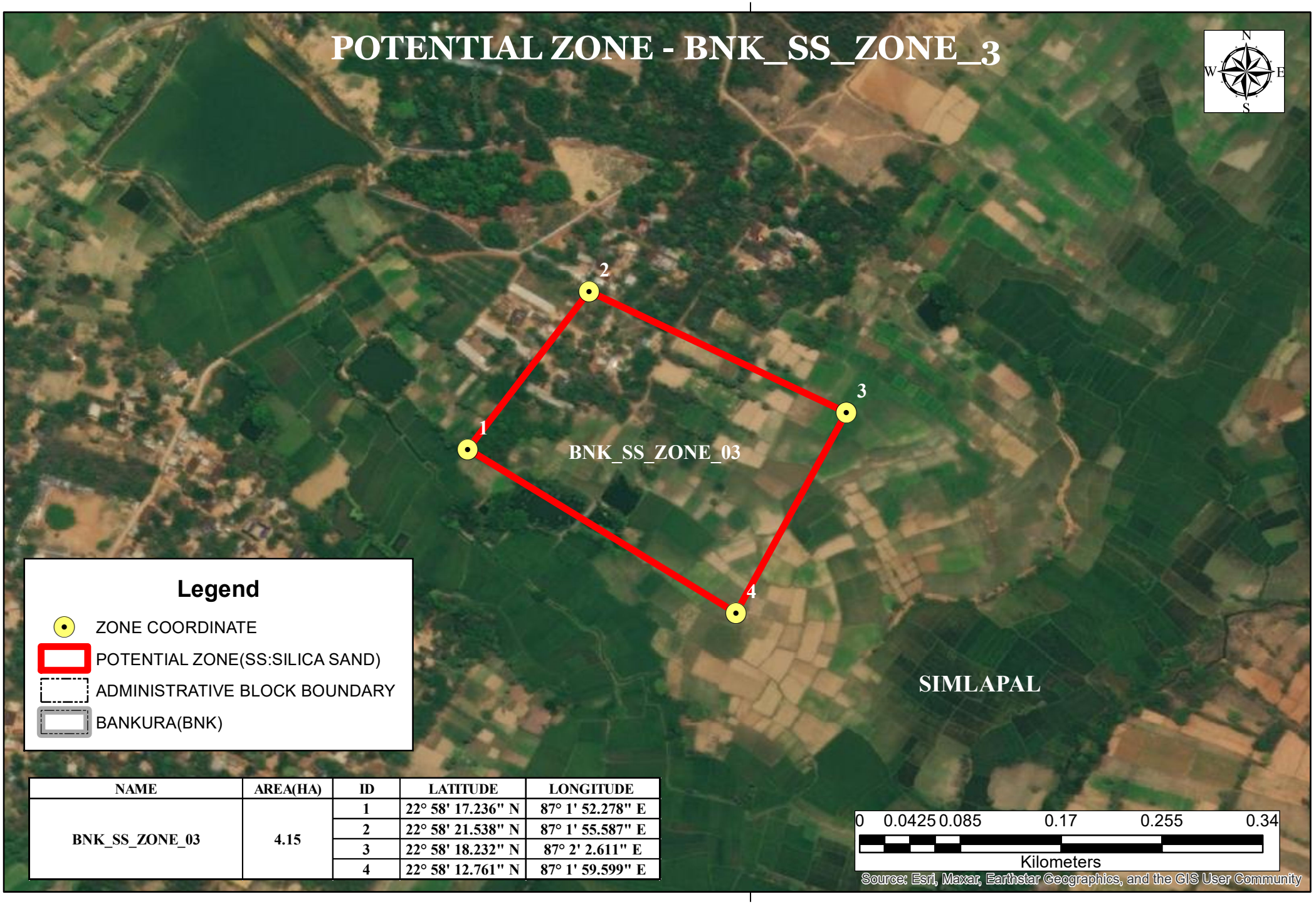
NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_SS_ZONE_1	47.81	1	23° 16' 22.433" N	87° 22' 25.721" E
		2	23° 16' 24.146" N	87° 22' 59.771" E
		3	23° 16' 7.866" N	87° 23' 0.643" E
		4	23° 16' 6.828" N	87° 22' 26.158" E



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_SS_ZONE_02	56.27	1	22° 53' 42.199" N	87° 8' 41.207" E
		2	22° 53' 47.193" N	87° 8' 49.356" E
		3	22° 53' 30.209" N	87° 9' 1.441" E
		4	22° 53' 16.728" N	87° 9' 7.168" E
		5	22° 53' 16.034" N	87° 9' 10.987" E
		6	22° 53' 9.813" N	87° 9' 39.548" E
		7	22° 53' 11.584" N	87° 9' 47.555" E
		8	22° 53' 12.738" N	87° 9' 52.769" E
		9	22° 53' 14.762" N	87° 9' 59.195" E
		10	22° 53' 4.114" N	87° 9' 58.717" E
		11	22° 53' 1.225" N	87° 9' 43.972" E
		12	22° 53' 11.568" N	87° 9' 5.073" E
		13	22° 53' 26.697" N	87° 8' 57.130" E

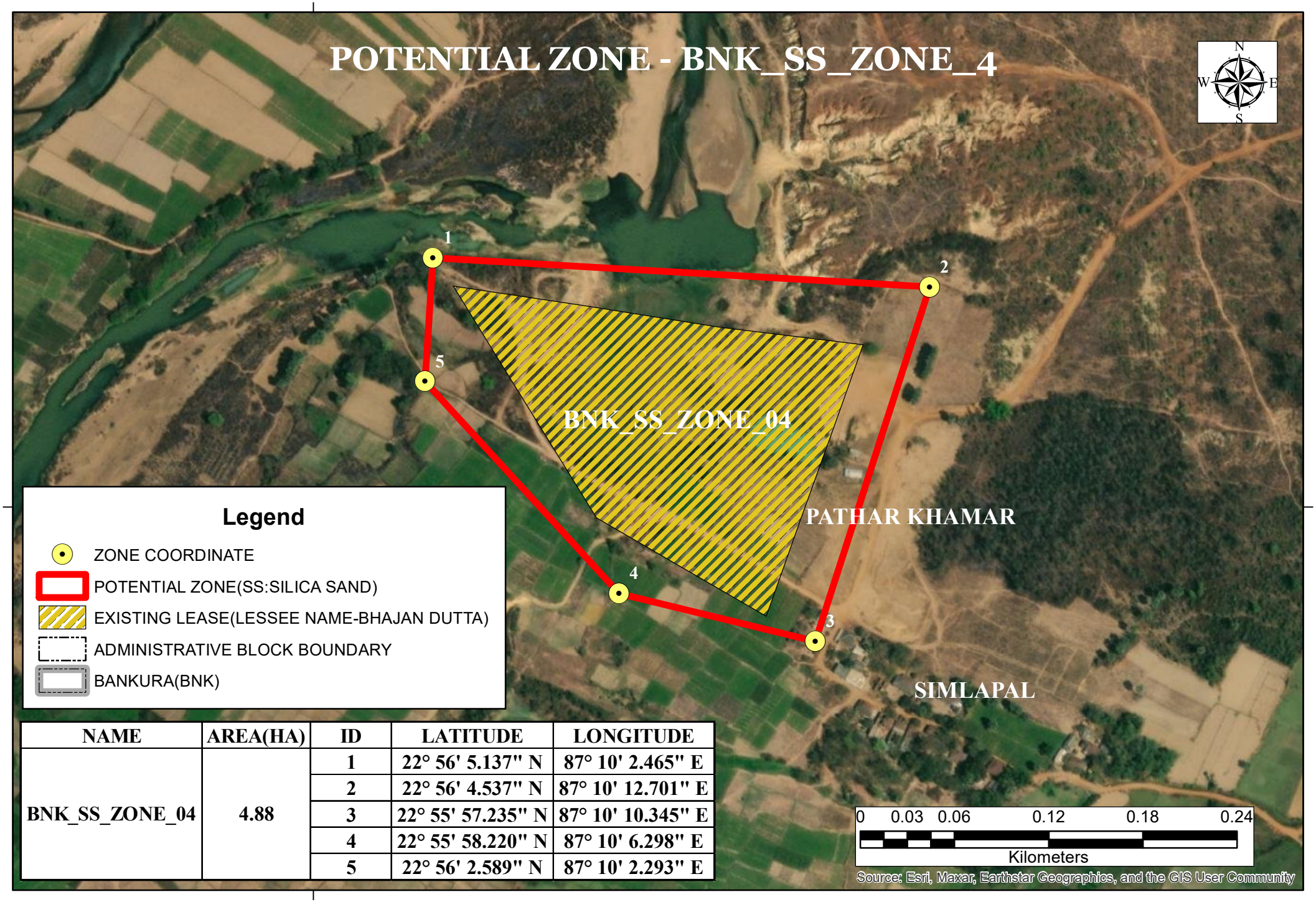
87°2'0"E

POTENTIAL ZONE - BNK_SS_ZONE_3



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_SS_ZONE_03	4.15	1	22° 58' 17.236" N	87° 1' 52.278" E
		2	22° 58' 21.538" N	87° 1' 55.587" E
		3	22° 58' 18.232" N	87° 2' 2.611" E
		4	22° 58' 12.761" N	87° 1' 59.599" E

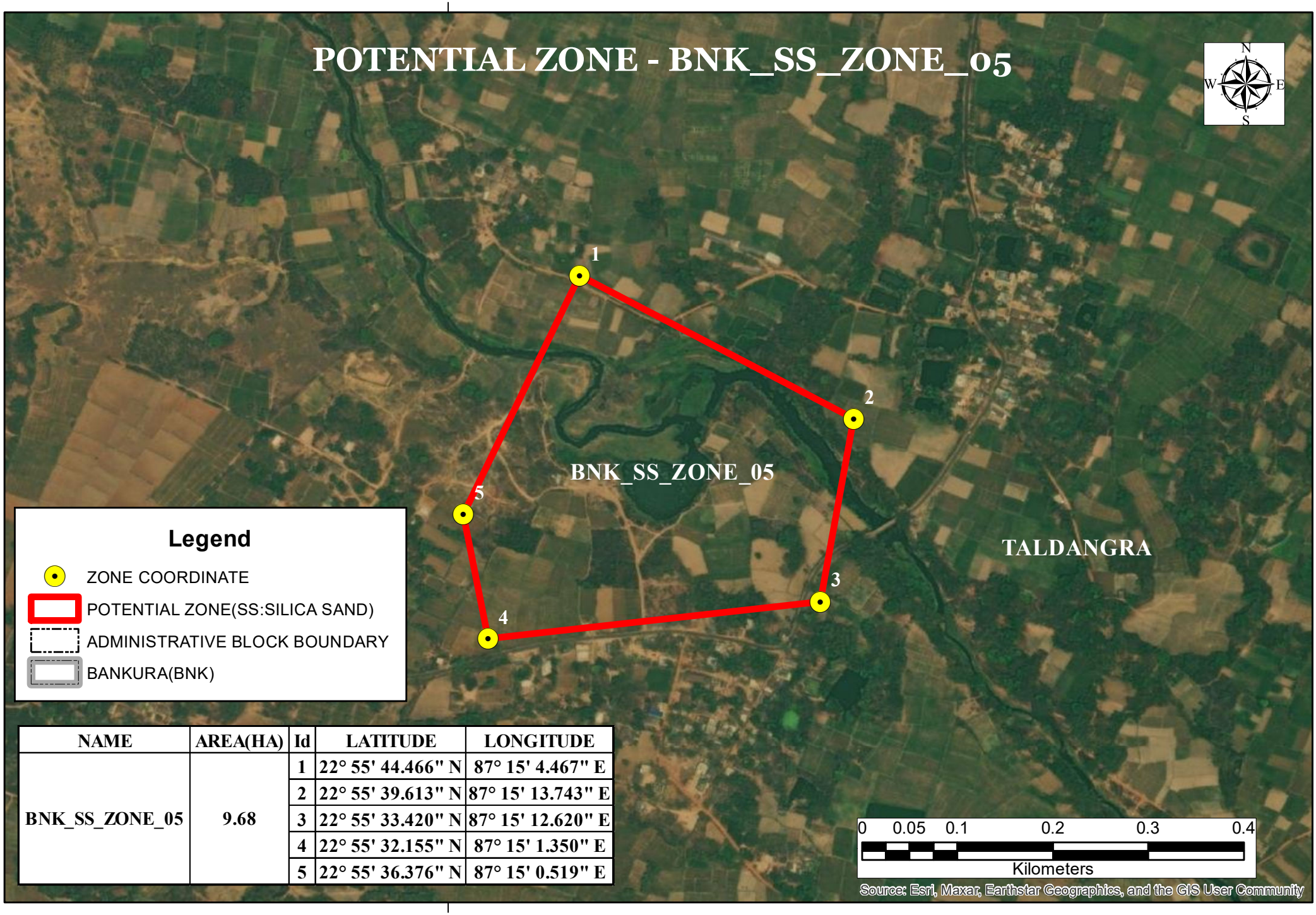
87°2'0"E



NAME	AREA(HA)	ID	LATITUDE	LONGITUDE
BNK_SS_ZONE_04	4.88	1	22° 56' 5.137" N	87° 10' 2.465" E
		2	22° 56' 4.537" N	87° 10' 12.701" E
		3	22° 55' 57.235" N	87° 10' 10.345" E
		4	22° 55' 58.220" N	87° 10' 6.298" E
		5	22° 56' 2.589" N	87° 10' 2.293" E

87°15'0"E

POTENTIAL ZONE - BNK_SS_ZONE_05



NAME	AREA(HA)	Id	LATITUDE	LONGITUDE
BNK_SS_ZONE_05	9.68	1	22° 55' 44.466" N	87° 15' 4.467" E
		2	22° 55' 39.613" N	87° 15' 13.743" E
		3	22° 55' 33.420" N	87° 15' 12.620" E
		4	22° 55' 32.155" N	87° 15' 1.350" E
		5	22° 55' 36.376" N	87° 15' 0.519" E

87°15'0"E



Annexure 6

SEIAA 70th Meeting (22nd August, 2022) Minutes of Meeting

&

SEIAA (Reconstituted on 17.05.23) 25th Meeting (8th December, 2022) Minutes of Meeting

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State Environment Impact Assessment Authority
Pranisampad Bhawan, 5th Floor, Sector-III, Salt Lake, Kolkata - 700106
(West Bengal)
Minutes of SEIAA Meeting

--***--

Subject:- 70th meeting of SEIAA

Venue:- Conference Room of Environment Department, Prani Sampad Bhavan, 5th Floor, LB Block, Sector III, Salt Lake, Kolkata 700106.

From :- 22 Aug 2022

To :- 22 Aug 2022

1. Proposal No. :- **SIA/WB/MIS/220603/2021** File No- **EN/T-II-1/138/2021** Proposed development of an affordable Housing Complex under Pradhan Mantri Awas Yojana at Premises No. 39/1, Shalimar Road, L.R. Dag No. – 12, 13, 39, 40, 41, 42, 44, 45, 60, 61, 62, 63, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 24, 1, 2, 11, L.R. Khatian No. – 170, 9, 15, 17, J.L. No. – 1, Mouza – Shibpur, Ward No. – 39, Borough – VI, under Howrah Municipal Corporation, P.S. – Shibpur, Howrah – 711103, West Bengal by **M/s. Ideal Riverview Projects Pvt. Ltd.**	Type- **EC**

INTRODUCTION

The proponent made online application vide proposal no. **SIA/WB/MIS/220603/2021** dated **09 Aug 2021** along with copies of EIA/EMP seeking environment clearance under the provisions of the EIA Notification, 2006 for the above mentioned project. The proposed project activity is listed at SL.No. **8(a) Building and Construction projects** , under Category **"B2 "** of EIA Notification 2006 and the proposal is appraised at State level.

SEAC recommended the proposed project for Environmental Clearance with the following additional conditions :-

a) Construction activity shall be carried out complying all statutory rules / regulations and sanction plan.
b) Waterbodies shall be maintained as per the approval of Competent Authority.

PROJECT DETAILS

The project of M/s **IDEAL RIVERVIEW PROJECTS PVT. LTD.** located in as follows :

State of the project				
S. No.	**State**	**District**	**Tehsil**	**Village**
(1.)	West Bengal	Howrah	Domjur	Shibpur

14. **Project configuration/product details**

S. No.	Project configuration/product details	Quantity	Unit	Other Unit	Mode of Transport/Transmission of Product	Other Mode of Transport
Eight (8) Residential Towers: Tower 1 to 5 – G + 12 Tower 6 to 8 – G + 1 and						

MISCELLANEOUS

1. Discussion on draft DSRs of Bankura and Paschim Bardhaman.

   The DSRs of Bankura and Paschim Bardhaman are approved.

--***--

State Environment Impact Assessment Authority
West Bengal
Minutes of SEIAA Meeting

--***--

Subject:	**25th meeting of SEIAA (Reconstituted on 17.05.2023)**
Venue:-	**Conference Room of Environment Department, Prani Sampad Bhavan, 5th Floor, LB – Block, Sector – III, Salt Lake, Kolkata – 700106**
From :-	**08 December 2023**
To :-	**08 December 2023**

CONSIDERATION/RECONSIDERATION OF ENVIRONMENTAL CLEARANCE

(1) Proposed expansion of Calcutta Leather Complex (CLC) at Village Bantala, Post Bhojerhat, Tehsil & District - South 24 Parganas, West Bengal by **M/s. Kolkata Metropolitan Development Authority.**

Proposal No. :- SIA/WB/NCP/78706/2021, File No. : EN/T-II-1/162/2021, Type-EC

INTRODUCTION

The proponent made online application vide proposal no. **SIA/WB/NCP/78706/2021** dated **25 June 2022** along with copies of EIA/EMP seeking environment clearance under the provisions of the EIA Notification, 2006 for the above-mentioned project. The proposed project activity is listed at Sl. No. **7(c) Industrial estates/ parks/ complexes/ areas, export processing Zones** under Category "**B1**" of EIA Notification 2006.

The project proponent (PP) obtained Auto-Terms of References (TORs) vide File No. EN/T-II-1/162/2021 dated 22.12.2021 from SEIAA, WB against proposal no. SIA/WB/NCP/69796/2021.

SEAC, during its 65th meeting held on 08.02.2023, recommended the proposed project for Environmental Clearance.

The proposal was placed before SEIAA in its 9th meeting held on 20.07.2023 and it was observed that some documents required to be uploaded in the PARIVESH Portal. The project proponent uploaded documents on 01.12.2023.

PROJECT DETAILS

The project of **M/s. Kolkata Metropolitan Development Authority** located in as follows :

S. No.	State	District
(1.)	West Bengal	South 24 Parganas

DELIBERATION IN SEIAA

SEIAA considered the submission uploaded by the project proponent on 01.12.2023 and observed the following :-

i) **WBPCB has issued CCR vide Memo No. 913-4A/18/2008(Pt.-V) dated 24.07.2023 which**

The matter was considered in the 19th meeting of SEAC, WB (2023-2026) held on 22.11.2023 and the SEAC recommended that the validity extension of ToR may be granted for a period of further 1 (one) years i.e. upto 15.11.2024 within which the PP should submit the EC application along with the EIA study report.

PROJECT DETAILS

The project of **M/s. Pasari Multiprojects Private Limited** located in as follows :

S. No.	State	District
(1.)	West Bengal	South 24 Parganas

DELIBERATION IN SEIAA

SEIAA considered the recommendation of SEAC and accepted the same.

RECOMMENDATIONS OF SEIAA

SEIAA approved the application for extension of validity of Terms of Reference for a period of further 1 (one) year i.e. upto 15.11.2024.

CONCLUSION

Approved the extension of validity of Terms of Reference.

MISCELLANEOUS

1. Revised District Survey Report (DSR) of Bankura District for mining of minor minerals.

   Revised DSR of Bankura is approved.

2. Application received from private parties for sand mining projects.

   For applications received from private parties for sand mining projects which are pending with SEIAA, it was decided to request the PP to submit a certificate from the district authority or IC&E Dept. that the date of application by the PP is within 60 days of uploading of DSR (of the respective district) on the official website.



ANNEXURE- 7

REASONS FOR DSR MODIFICATION

DSR AMENDMENT STATEMENT

Objectives for DSR Modification

- The primary need for Modification of DSR is to include in-situ minor mineral potential zones of the district. The government of West Bengal implemented a Policy of Mining of Minor Minerals in Private/ Raiyati Land in West Bengal. The minor mineral (Sand/ other than Sand) mining can only be possible if the potentiality is mentioned in the approved DSR, and then only environmental clearance of the mining block will be granted.
- Also, to in-corporate district boundary revision based on Survey of India database instead of district portal information.

Modifications:

1. Modified text part (Chapters) of the DSR to include both Sand and Other than Sand minerals resources of the district. Amendment DSR contain chapters in following manners.

Table 1: Distribution of chapters in the DSR

GENERAL PART	PART A- RIVERBED DEPOSITS	PART B- INSITU MINOR MINERAL DEPOSITS
General Profile of the District	Overview of mineral resources	In-situ Minerals Reserve and potentiality
Physiography of the District	Sand and other riverbed minerals	Mineral Development Prospect of the district
Land Use Pattern of The District	Drainage System	Existing Minor Mineral Leases of the District
Geology	Annual deposition of riverbed minerals	Exploration Requirement of the district
	Replenishment Study as per EMGSM guidelines 2020	Remedial measure to mitigate the impact of Mining
	Total potential of minor mineral in the river bed	Suggested reclamation plan for already mined out areas
	Overview Of Mining Activity in The District	Risk assessment & disaster management plan
	Details Of Revenue Generated from Mineral Sector During Last Five Years	

2. Modification in In-situ minor mineral potential resources. In-situ potential zones are demarcated based on the available Geological information from GSI and DMM. Wherever possible, potential blocks are also identified based on the LOI issued to various mine owners under West Bengal Raiyati policy. A total 105 potential zone has been demarcated, previously it was 46 nos.
3. Modification/ addition of potential in-situ zones in the DSR is the dynamic process and will be updated on regular basis due effectiveness of Raiyati Policy under which Raiyat are applying for mining leases. Therefore, the changes/ amendment will be made in the DSR on regular intervals to includes mining leases approved by authority.
4. District boundary modified in the amended DSR. Prevoisly district boundary was collected from district portal and in the present DSR boundary was collected from Survey of India and it's verified from district authority for any modification.
5. Hyperlink of District boundary modification

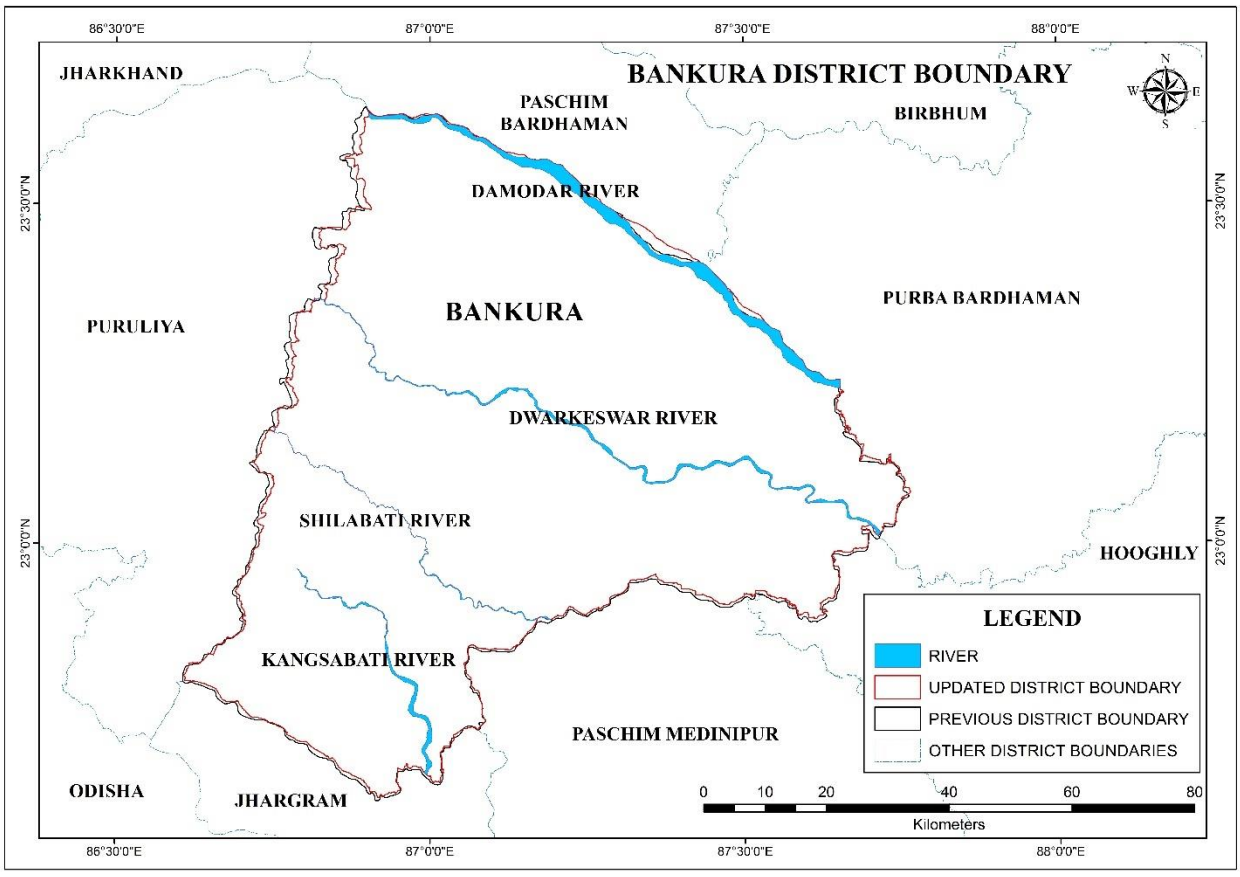
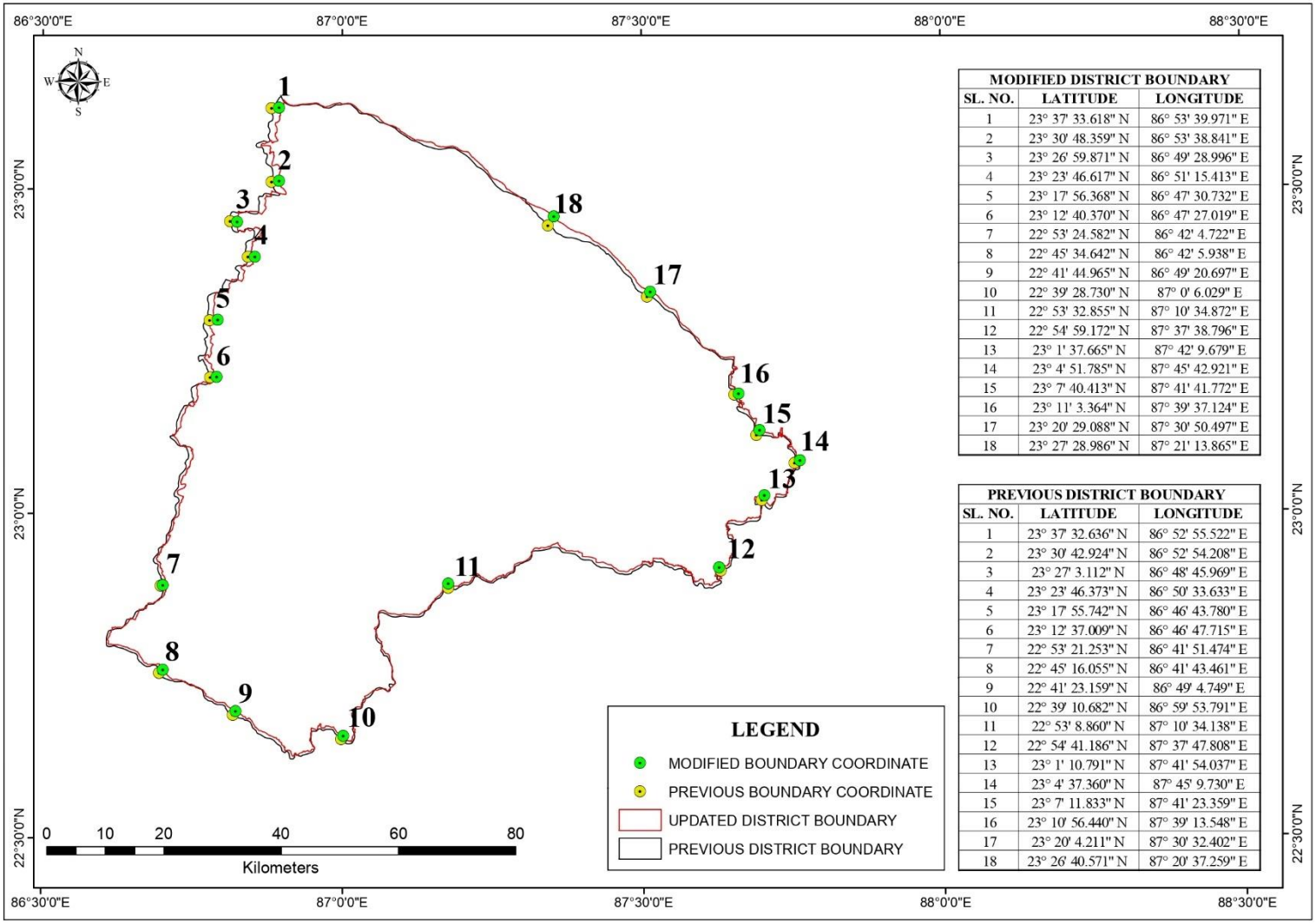


Figure 1: Map showing changes in district boundary



MODIFIED DISTRICT BOUNDARY		
SL. NO.	LATITUDE	LONGITUDE
1	23° 37' 33.618" N	86° 53' 39.971" E
2	23° 30' 48.359" N	86° 53' 38.841" E
3	23° 26' 59.871" N	86° 49' 28.996" E
4	23° 23' 46.617" N	86° 51' 15.413" E
5	23° 17' 56.368" N	86° 47' 30.732" E
6	23° 12' 40.370" N	86° 47' 27.019" E
7	22° 53' 24.582" N	86° 42' 4.722" E
8	22° 45' 34.642" N	86° 42' 5.938" E
9	22° 41' 44.965" N	86° 49' 20.697" E
10	22° 39' 28.730" N	87° 0' 6.029" E
11	22° 53' 32.855" N	87° 10' 34.872" E
12	22° 54' 59.172" N	87° 37' 38.796" E
13	23° 1' 37.665" N	87° 42' 9.679" E
14	23° 4' 51.785" N	87° 45' 42.921" E
15	23° 7' 40.413" N	87° 41' 41.772" E
16	23° 11' 3.364" N	87° 39' 37.124" E
17	23° 20' 29.088" N	87° 30' 50.497" E
18	23° 27' 28.986" N	87° 21' 13.865" E

PREVIOUS DISTRICT BOUNDARY		
SL. NO.	LATITUDE	LONGITUDE
1	23° 37' 32.636" N	86° 52' 55.522" E
2	23° 30' 42.924" N	86° 52' 54.208" E
3	23° 27' 3.112" N	86° 48' 45.969" E
4	23° 23' 46.373" N	86° 50' 33.633" E
5	23° 17' 55.742" N	86° 46' 43.780" E
6	23° 12' 37.009" N	86° 46' 47.715" E
7	22° 53' 21.253" N	86° 41' 51.474" E
8	22° 45' 16.055" N	86° 41' 43.461" E
9	22° 41' 23.159" N	86° 49' 4.749" E
10	22° 39' 10.682" N	86° 59' 53.791" E
11	22° 53' 8.860" N	87° 10' 34.138" E
12	22° 54' 41.186" N	87° 37' 47.808" E
13	23° 1' 10.791" N	87° 41' 54.037" E
14	23° 4' 37.360" N	87° 45' 9.730" E
15	23° 7' 11.833" N	87° 41' 23.359" E
16	23° 10' 56.440" N	87° 39' 13.548" E
17	23° 20' 4.211" N	87° 30' 32.402" E
18	23° 26' 40.571" N	87° 20' 37.259" E

Figure 2: Map showing major shifting in district boundary

6. Due to district boundary modification, potential sand bars also changed, and, in some cases, new sandbar added with respect to 2022 satellite images. Changes in sand resources are tabulated below.

Table 2: Changes in sandbar resources

Sl. No.	River or Stream	Considered Thickness (m)	Area recommended for mineral potential (as per approve DSR) (sq.km)	Mineable mineral potential (As per approve DSR) (million cubic meter)	Area recommended for mineral potential (as per modified DSR) (sq.km)	Mineable mineral potential (As per Modified DSR) (million cubic meter)	Resource modification (million cubic meter)
1	Damodar	3	34.79	62.61	59.81	107.66	45.05
2	Dwarakeswar	2.50	18.23	30.19	21.96	40.45	10.26
3	Kangsabati	2	4.61	5.53	13.48	16.17	10.64
4	Silabati	2	0.85	1.02	2.12	2.55	1.53

7. Sandbar addition/deletion are highlighted below:

Table 3: Changes in sandbar of the district due to modification

RIVER	SANDBAR AS PAER APPROVED DSR	SANDBAR AS PER MODIFIED DSR	REMARKS
DAMODAR	BNK_DA_SL_01A	-	**Deleted due to District Boundary modification**
	BNK_DA_SL_01_02	BNK_DA_SL_01_02	No changes
	BNK_DA_SL_2A	BNK_DA_SL_2A	No changes
	BNK_DA_SL_03	BNK_DA_SL_03	No changes
	BNK_DA_SL_04	BNK_DA_SL_04	No changes
	BNK_DA_SL_4A	BNK_DA_SL_4A	No changes
	BNK_DA_SL_05	BNK_DA_SL_05	No changes
	-	BNK_DA_SL_05A	Added based on 2022 satellite image
	BNK_DA_MJ_06	BNK_DA_SL_06	No changes
	-	BNK_DA_MJ_06A	Added based on Block Boundary modification
	BNK_DA_MJ_07	BNK_DA_MJ_07	No changes
	BNK_DA_MJ_08	BNK_DA_MJ_08	No changes
	BNK_DA_MJ_09	BNK_DA_MJ_09	No changes
	BNK_DA_MJ_9A	BNK_DA_MJ_9A	No changes
	-	BNK_DA_MJ_9B	Added based on 2022 satellite image
	BNK_DA_MJ_10	BNK_DA_MJ_10	No changes
	BNK_DA_MJ_11_12_13_14	BNK_DA_MJ_11_12_13_14 _15_16_17	Modified to BNK_DA_MJ_11_12_13_14_15_16_17 as per 2022 satellite image
	BNK_DA_MJ_15		
	BNK_DA_MJ_16_17		
	BNK_DA_MJ_12A	BNK_DA_MJ_12A	No changes

RIVER	SANDBAR AS PAER APPROVED DSR	SANDBAR AS PER MODIFIED DSR	REMARKS
	-	BNK_DA_MJ_17A	**Added due to District Boundary modification**
	-	BNK_DA_MJ_17B	**Added due to District Boundary modification**
	BNK_DA_MJ_18A	BNK_DA_MJ_18A	No changes
	-	BNK_DA_MJ_18B	Added based on 2022 satellite image
	-	BNK_DA_BJ_18C	**Added due to District Boundary modification**
	-	BNK_DA_BJ_18D	Added based on 2022 satellite image
	BNK_DA_MJ_18	BNK_DA_MJ_18	No changes
	BNK_DA_BJ_19	BNK_DA_BJ_19	No changes
	BNK_DA_BJ_20	BNK_DA_BJ_20	No changes
	BNK_DA_BJ_20A	BNK_DA_BJ_20A	No changes
	BNK_DA_BJ_20B	BNK_DA_BJ_20B	No changes
	BNK_DA_SM_21A	BNK_DA_SM_21A	No changes
	BNK_DA_SM_21B	BNK_DA_SM_21B	No changes
	BNK_DA_SM_21	BNK_DA_SM_21	No changes
	BNK_DA_SM_22	BNK_DA_SM_22	No changes
	BNK_DA_SM_22A	BNK_DA_SM_22A	No changes
	-	BNK_DA_SM_22B	**Added due to District Boundary modification**
	-	BNK_DA_SM_22C	**Added due to District Boundary modification**
	-	BNK_DA_SM_22D	Added based on 2022 satellite image
	BNK_DA_SM_23	BNK_DA_SM_23	No changes
	BNK_DA_SM_24	BNK_DA_SM_24	No changes
	BNK_DA_SM_25	BNK_DA_SM_25	No changes
	BNK_DA_PS_26	BNK_DA_PS_26	No changes
	BNK_DA_PS_27	BNK_DA_PS_27	No changes
	BNK_DA_PS_28	BNK_DA_PS_28	No changes
	BNK_DA_IN_29A	BNK_DA_IN_29A	No changes
	BNK_DA_IN_29B	BNK_DA_IN_29B	No changes
	BNK_DA_IN_29	BNK_DA_IN_29	No changes
DWARAKESWAR	BNK_DW_CH_01	BNK_DW_CH_01	No changes
	-	BNK_DW_CH_01A	**Added due to District Boundary modification**
	-	BNK_DW_CH_01B	**Added due to District Boundary modification**
	-	BNK_DW_CH_01C	Added based on 2022 satellite image
	BNK_DW_CH_02	BNK_DW_CH_02	No changes
	BNK_DW_CH_03	BNK_DW_CH_03	No changes
	-	BNK_DW_CH_03A	Added based on 2022 satellite image
	-	BNK_DW_CH_03B	Added based on 2022 satellite image
	-	BNK_DW_CH_03C	Added based on 2022 satellite image
	BNK_DW_CH_04	BNK_DW_CH_04	No changes

RIVER	SANDBAR AS PAER APPROVED DSR	SANDBAR AS PER MODIFIED DSR	REMARKS
	BNK_DW_B1_05	BNK_DW_CH_05	No changes
	-	BNK_DW_B1_05_IA	Added based on Block Boundary modification
	BNK_DW_B1_05A	BNK_DW_B1_05A	No changes
	BNK_DW_B1_06	BNK_DW_B1_06	No changes
	BNK_DW_B1_06A	BNK_DW_B1_06A	No changes
	BNK_DW_B1_07	BNK_DW_B1_07	No changes
	BNK_DW_B1_08	BNK_DW_B1_08	No changes
	-	BNK_DW_B1_08A	Added based on 2022 satellite image
	BNK_DW_ON_09	BNK_DW_ON_09	No changes
	BNK_DW_ON_09A	BNK_DW_ON_09A	No changes
	BNK_DW_B2_09B	BNK_DW_B2_09B	No changes
	BNK_DW_ON_10	BNK_DW_ON_10	Modified to BNK_DW_ON_10 as per 2022 satellite image
	BNK_DW_B2_10A		
	BNK_DW_ON_11	BNK_DW_ON_11	No changes
	BNK_DW_ON_12	BNK_DW_ON_12	No changes
	BNK_DW_ON_13	BNK_DW_ON_13	No changes
	BNK_DW_ON_14	BNK_DW_ON_14	No changes
	BNK_DW_BSP_14A	BNK_DW_BSP_14A	No changes
	BNK_DW_BSP_15	BNK_DW_BSP_15	BNK_DW_BSP_15 breaks into BNK_DW_BSP_15 and BNK_DW_BSP_15A as per 2022 satellite image
		BNK_DW_BSP_15A	
	BNK_DW_BSP_16	BNK_DW_BSP_16	No changes
	-	BNK_DW_BSP_16A	Added based on 2022 satellite image
	BNK_DW_JY_17_19	BNK_DW_JY_17_19	No changes
	-	BNK_DW_JY_18	Added based on 2022 satellite image
	BNK_DW_PS_20	BNK_DW_PS_20	No changes
	BNK_DW_JY_21	BNK_DW_JY_21	No changes
	BNK_DW_PS_22	BNK_DW_PS_22	No changes
	BNK_DW_JY_22A	BNK_DW_JY_22A	No changes
	BNK_DW_PS_23	BNK_DW_PS_23	No changes
	BNK_DW_PS_23A	BNK_DW_PS_23A	No changes
	BNK_DW_JY_24	BNK_DW_JY_24	No changes
	BNK_DW_PS_24A	-	Deleted as per block boundary modification
	BNK_DW_IN_24B	-	Deleted as per block boundary modification
	BNK_DW_IN_25	BNK_DW_IN_25	No changes
	BNK_DW_JY_25A	-	Deleted as per block boundary modification
	BNK_DW_IN_26	BNK_DW_IN_26	No changes
	BNK_DW_KP_26A	BNK_DW_KP_26A	No changes
	BNK_DW_KP_27	BNK_DW_KP_27	No changes
	BNK_DW_KP_27A	BNK_DW_KP_28	Modified to BNK_DW_KP_28 as per 2022 satellite image

RIVER	SANDBAR AS PAER APPROVED DSR	SANDBAR AS PER MODIFIED DSR	REMARKS
	BNK_DW_IN_28		BNK_DW_IN_28 breaks into BNK_DW_IN_28 and BNK_DW_IN_28B as per 2022 satellite image
		BNK_DW_IN_28B	
	BNK_DW_IN_28A	BNK_DW_IN_28A	No changes
	BNK_DW_IN_29	BNK_DW_IN_29	BNK_DW_IN_29 and BNK_DW_KP_29A merged as BNK_DW_IN_29 as per 2022 satellite image
	BNK_DW_KP_29A		
	BNK_DW_KP_29B	BNK_DW_KP_29A	BNK_DW_KP_29B and BNK_DW_IN_29C merged as BNK_DW_KP_29A as per 2022 satellite image
	BNK_DW_IN_29C		
	BNK_DW_KP_30	BNK_DW_KP_30	BNK_DW_KP_30 and BNK_DW_IN_30A merged as BNK_DW_KP_30 as per 2022 satellite image
	BNK_DW_IN_30A		
	BNK_DW_KP_31	BNK_DW_KP_31_32	BNK_DW_KP_31 and BNK_DW_IN_32 merged as BNK_DW_KP_31_32 as per 2022 satellite image
	BNK_DW_IN_32		
	BNK_DW_IN_33	BNK_DW_IN_33	No changes
SHILABATI	BNK_SL_TD_01	BNK_SL_KT_01	No changes
	BNK_SL_KT_1A	BNK_SL_SM_1A	No changes
	BNK_SL_SM_1B	BNK_SL_SM_1B	No changes
	-	BNK_SL_SM_1C	Added based on 2022 satellite image
	-	BNK_SL_SM_1D	Added based on 2022 satellite image
	-	BNK_SL_SM_1E	Added based on 2022 satellite image
	BNK_SL_SM_02	BNK_SL_SM_02	No changes
	BNK_SL_SM_03	BNK_SL_SM_03	No changes
	BNK_SL_SM_04	BNK_SL_SM_04	No changes
	-	BNK_SL_SM_04A	Added based on 2022 satellite image
	BNK_SL_SM_05	BNK_SL_SM_05	No changes
	BNK_SL_SM_5A	BNK_SL_SM_5A	No changes
	BNK_SL_SM_06	BNK_SL_SM_06	No changes
	BNK_SL_SM_07	BNK_SL_SM_07	BNK_SL_SM_07 breaks into BNK_SL_SM_07 and BNK_SL_SM_07A as per 2022 satellite image
		BNK_SL_SM_07A	
	BNK_SL_SM_08	-	**Added due to District Boundary modification**
	BNK_SL_SM_09	BNK_SL_SM_09	No changes
KANGSABATI	-	BNK_KN_RB_01	Added based on 2022 satellite image
	-	BNK_KN_RB_01A	Added based on 2022 satellite image
	-	BNK_KN_RB_01B	Added based on 2022 satellite image
	BNK_KN_RA_02	BNK_KN_RA_02_03	BNK_KN_RA_02 and BNK_KN_KT_03 merged as BNK_KN_RA_02_03 as per 2022 satellite image
	BNK_KN_KT_03		

RIVER	SANDBAR AS PAER APPROVED DSR	SANDBAR AS PER MODIFIED DSR	REMARKS
	-	BNK_KN_RA_03A	Added based on 2022 satellite image
	-	BNK_KN_RA_03B	Added based on 2022 satellite image
	BNK_KN_SR_04	BNK_KN_RA_04	No changes
	BNK_KN_SR_4A	BNK_KN_RA_4A	No changes
	BNK_KN_RA_4B	BNK_KN_RA_4B	No changes
	-	BNK_KN_RA_4C	Added based on 2022 satellite image
	-	BNK_KN_RA_4D	Added based on 2022 satellite image
	-	BNK_KN_RA_4E	Added based on 2022 satellite image
	BNK_KN_RA_05	BNK_KN_RA_05	No changes
	BNK_KN_SR_06	BNK_KN_RA_06	No changes
	BNK_KN_RA_07	BNK_KN_RA_07	No changes
	BNK_KN_SR_07A	BNK_KN_RA_07A	No changes
	BNK_KN_RA_08	BNK_KN_RA_08	No changes
	BNK_KN_RA_09_10	BNK_KN_RA_09_10	No changes
	BNK_KN_SR_10A	-	**Deleted due to District Boundary modification**