Central Bureau of Narcotics,

Department of Revenue, Ministry of Finance,

Government of India

Gwalior, India

Request for Proposal (RFP) for Onboarding of a Managed Services Provider (MSP) for conducting GIS Survey & Implementation of GIS Platform for monitoring of Opium Cultivation in Central Bureau of Narcotics

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Central Bureau of Narcotics, Department of Revenue, Ministry of Finance, Government of India hereby invites proposals for Onboarding of a Managed Services Provider (MSP) for conducting GIS Survey & Implementation of GIS Platform for monitoring of Opium Cultivation in Central Bureau of Narcotics

The appointed firm shall be operating from Gwalior, Madhya Pradesh, India in coordination with the Central Bureau of Narcotics, Department of Revenue, Ministry of Finance. Following are the key dates in reference to the bid process:

Key Timelines

#	Description	Date & Time
1	Tender Publishing Date	02.01.2024 05:00 PM
2	Last Date of Query Submission	10.01.2024 05:00 PM
3	Pre-bid Conference Date and time	16.01.2024 03:00 PM
4	Authority's response to queries lates	19.01.2024 05:00 PM
4	Last Date for Bid Submission date and time	01.02.2024 05:00 PM
5	Opening of Technical Bids date and time	02.02.2024 11:00 AM
6	Technical Presentation	13.02.2024 11:00 AM
7	Date and time of Opening of commercial bids	20.02.2024 11:00 AM

The complete details viz. term of reference, evaluation process, and format for submission of bids etc. is available for download online through the procurement portal link in data sheet.

Dinesh Bouddh
Narcotics Commissioner,
Central Bureau of Narcotics,
Department of Revenue, Ministry of Finance,
Government of India

List of Abbreviations

AAT	Average Annual Turnover
ACA	Actual Cultivation Area
AI	Artificial Intelligence
AMC	Annual Maintenance Contract
AOI	Area of Interest
API	Application Programming Interface
ATS	Applicant Tracking System
BI	Business Intelligence
BIS	Bureau of Indian Standards
CBN	Central Bureau of Narcotics
CCF	Chief Controller of Factories (Government Opium & Alkaloid Works)
CCN	Change Control Notice
CERT-In	Indian Computer Emergency Response Team
CMMI	Capability Maturity Model Integration
COTS	Commercially-Off-The-Shelf
CP	Cultivation Plot
CRM	Customer Relationship Management
CRs	Change Requests
CSP	Cloud Service Provider
DEM	Digital Elevation Model
DMS	Document Management System
DoR	Department of Revenue
DSM	Digital Surface Model
DTM	Digital Terrain Model
EA	Export Authorization
EAI	Enterprise Application Integration
EMD	Earnest Money Deposit
ENDVI	Enhanced Vegetation Index
ERP	Enterprise Resource Planning
FRS	Functional Requirement Specification
GCP	Ground Control Point
GDOP	Geometric Dilution of Precision
GIGW	Guidelines for Indian Government Website
GIS	Geographic Information System
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GSD	Ground Sample Distance

GUI	Graphical User Interface
HQ	Head Quarter
HR	Human Resource
HRSI	High Resolution Satellite Imagery
IC	Import Certificate
IGS	International GNSS Service
IMU	Inertial Measurement Unit
ITIL	Information Technology Infrastructure Library
ITRF	International Terrestrial Reference Frame
JSON	JavaScript Object Notation
KPI	Key Performance Indicators
LAI	Leaf Area Index
LAN	Local Area Network
LD's	Liquidated Damages
LDAP	Lightweight Directory Access Protocol
LMS	Learning Management System
LOI	Letter of Intent
MCA	Ministry of Corporate Affairs
MCR's	Major Change Requests
MeitY	Ministry of Electronics and Information Technology, Government of India
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MIS	Management Information System
MoU	Memorandum of Understanding
MSA	Master Service Agreement
MSP	Managed Service Provider
NCIIPC	National Critical Information Infrastructure Protection Centre
NDPS	Narcotic Drugs and Psychotropic Substances
NDVI	Normalized Difference Vegetation Index
NFR	Non-Functional Requirements
NIC	National Informatic Centre
NLP	Natural language processing
NOC	No Objection Certificate
NRSC	National Remote Sensing Centre
NTP	Network Time Protocol
O&M	Operations & Maintenance
OEM	Original Equipment Manufacturer
OGC	Open Geospatial Consortium
OLAP	Online Analytical Processing
OS	Operating System
PAN	Panchromatic

PAR	Photosynthetic Active Radiation
PBC	Pre Bid Conference
PBG	Performance Bank Guarantee
PCEI	Perpendicular Crop Enhancement Index
PMGSY	Pradhan Mantri Gram Sadak Yojana
POC	Proof of Concept
PPK	Post Processed Kinematic
PSU	Public Sector Unit
QA/QC	Quality Analysis / Quality Control
QCBS	Quality and Cost Based Selection
RBAC	Role-based access control
REST	Representational State Transfer
RMS	Rights Management Services
RPC	Rational Polynomial Coefficients
RPO	Recovery Point Objective
RTO	Recovery Time Objective
SITC	Supply, Installation, Testing and Commissioning
SLA	Service Level Agreement
SMS	Short Message Service
SMTP	Simple Mail Transfer Protocol
SOAP	Simple Object Access Protocol
SoI	Survey of India
SPOC	Single Point of Contact
SPOF	Single Point of Failure
SRS	System Requirement Specification
SSL	Secure Socket Layer
STQC	Standardisation Testing and Quality Certification
UAT	User Acceptance Testing
UAV	Unmanned Aerial Vehicle
UID	Unique Identity
ULB	Urban Local Body
UTM	Universal Transverse Mercator
W3C	World Wide Web Consortium
WAN	Wide Area Network
WCAG	Web Content Accessibility Guidelines
WGS-84	World Geodetic System 1984
WSRP	Web Services for Remote Portlets

Disclaimer

The information contained in this Request for Proposal (hereinafter referred to as "RFP") document provided to the Bidders, by the Central Bureau of Narcotics, Department of Revenue, Ministry of Finance, Government of India, hereinafter referred to as Department, or any of their employees or advisors, is provided to the Bidder(s) on the terms and conditions set out in this RFP document and all other terms and conditions subject to which such information is provided.

The purpose of this RFP document is to provide the Bidder(s) with information to assist in the formulation of Proposals. This RFP document does not aim to hold all the information each Bidder may require. This RFP document may not be appropriate for all persons, and it is not possible for the Department, their employees, or advisors to consider the business/investment objectives, financial situation and particular needs of each Bidder who reads or uses this RFP document. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability, and completeness of the information in this RFP document and where necessary, obtain independent advice from appropriate sources.

Department, their employees, and advisors make no representation or warranty and shall incur no liability under any law, statute, rules, or regulations as to the accuracy, reliability or completeness of the RFP document.

The Department may, in its absolute discretion, but without being under any obligation to do so, update, delete, amend or supplement the information in this RFP document. This RFP includes statements, which reflect various assumptions and assessments arrived at by CBN in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for CBN, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources. Information provided in this RFP to the Bidder(s) is on a wide range of matters, some of which depends upon interpretation of law.

The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. CBN accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein. CBN, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Bidder under any law, statute, rules or regulations or tort, principles or restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Bidding Process. CBN also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFP. CBN may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFP.

The issue of this RFP does not imply that CBN is bound to select a Bidder or to appoint the Selected Bidder, as the case may be, for the Project and CBN reserves the right to reject all or any of the Bidders or Bids without assigning any reason whatsoever. The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bids including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by CBN or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will remain with the Bidder and CBN shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Bid, regardless of the conduct or outcome of the Bidding Process.

Data Sheet

1	**Tender No.**	
2	Name of the Work	Request for Proposal (RFP) for Onboarding of a Managed Services Provider (MSP) for conducting GIS Survey & Implementation of GIS Platform for monitoring of Opium Cultivation in Central Bureau of Narcotics
3	Name of the issuer of this tender	Central Bureau of Narcotics, Department of Revenue, Ministry of Finance, Government of India
4	Date of issue of tender document	02.01.2024 at 05:00 PM
5	Pre-Bid Meeting	Pre-Bid Meeting (Hybrid Mode) on 16.01.2024 at 03:00 PM at CBN Gwalior and over Virtual Conference
6	Publishing of pre-bid queries response	19.01.2024 at 05:00 PM
7	Last Date for Submission of Bids	01.02.2024 up to 05:00 P.M.
8	Date of Opening of Pre-qualification Bids	At 02.02.2024 at 11:00 A.M.
9	Date of Commercial Bid opening	20.02.2024 at 11:00 A.M.
10	Place of Submission & Opening of Bids	Through CPP Portal (https://eprocure.gov.in/eprocure/app) only
12	Address of Communication	Narcotics Commissioner, Central Bureau of Narcotics, Department of Revenue, Ministry of Finance, Government of India 19, The Mall, Morar, Gwalior – 474006, Madhya Pradesh, India narcommr@cbn.nic.in
13	Cost of Tender Document	Nil
14	Earnest Money Deposit (EMD)	Rs. 1,00,00,000/- (Rupees One Crore only). Either in form of Demand Draft or Bank Guarantee in favour of **the Drawing and Disbursing Officer, Central Bureau of Narcotics payable at Gwalior**, valid for a period of 240 days from last date of bid submission. Scanned copy of Demand Draft or Bank Guarantee should be placed in technical bid. Original Physical copy needs to be submitted in the office of Narcotics Commissioner, CBN on or before Bid Due Date.
15	Purchase of Tender Document	RFP can be Downloaded online from 02.01.2024. However, in this case, the bidders are required to submit the tender cost in the form of a demand draft (details mentioned in above para) along with the Proposal.
16	Validity of Proposal	Proposals must remain valid 180 days from the submission date.
17	Method of Selection	QCBS (70:30)

18	Bid Submission	Bidders must submit online bid before 01.02.2024 up to 05:00 PM
19	Maximum number of consortium members permissible	3
20	Purchaser	Central Bureau of Narcotics
21	MSP	Selected Bidder

1. About the Department – Central Bureau of Narcotics

Central Bureau of Narcotics (CBN) is India's premier Drug Law Enforcement and Regulating Agency under the Department of Revenue, Ministry of Finance, Government of India and is tasked with Licensing and Supervision of cultivation of licit Opium poppy crop, carrying out Anti-Narcotic operations (Search, Seizure, Arrest) throughout India, Identification and destruction of illicit opium and cannabis crops, Licensing of manufacture of narcotic drugs, Allocation of INCB approved estimates of narcotic drugs as quotas and subsequent monitoring, Control on import and export of Narcotic Drugs and Psychotropic Substances and Controlled Substances (Precursors), Registration of import contracts for poppy seeds, Exchange of live information on import and export of drugs and precursors with the competent national authorities of other countries and with the INCB.

CBN intends to digitize the opium cultivation process through GIS Survey and application in order to efficiently monitor and evaluate the illicit opium farming across India. CBN is hereby referred to interchangeably as to "Purchaser".

2. Instructions to Bidders

2.1. Procedure for bid submission

a. A pre-bid meeting is scheduled at the Central Bureau of Narcotics, 19, Mall Road, Gwalior, Madhya Pradesh, India or Department of Revenue, North Block, New Delhi or through VC, for clarifications, if any, pertaining to the scope of assignment, responsibilities of either parties or other details. In case some significant changes are made in the terms/ scope of the bid document as a result of pre-bid meeting or otherwise considered necessary, a formal corrigendum shall be uploaded only on portal mentioned. All decisions taken during the pre-bid meeting and uploaded on our website shall form part of the terms and conditions of the assignment. Please refer to datasheet for more details.

b. The bidders must submit bids through online channel only, no physical means for submission of bidding application would be considered.

c. In case of consortium, consortium agreement needs to be submitted.

d. All the applications submitted by the bidders shall follow the formats mentioned in the Annexure. If the applications are not as per the format, then CBN reserves the right to reject the proposal without assessing it.

e. The authorized signatory of the applicant (of all the parties in case of consortium partners) shall sign all the pages of the proposal. A notarized affidavit to this effect including extract of minutes of board meeting countersigned by Company Secretary and all board members must be submitted along with the proposal mandatorily. Non submission of this document lead to disqualification.

f. The details about the eligibility of the firm, experience certificates etc. shall be included in the bid. Both the technical details and financial bids shall be submitted to the department.

g. Please note that prices should not be indicated in the Technical Proposal as per the relevant sections in RFP including but not limited to relevant annexures. Bidders are advised against providing unreasonable price information. Pricing information which deviates significantly from the market rate may render the proposal non-responsive.

h. The cover page of Technical and Financial Form should also clearly indicate the name, address, telephone number, E-mail ID and fax number of the Bidder to enable the Bid to be returned unopened in case it is found to be received after the time and date of Bid submission prescribed herein.

i. All the pages of the Bid must be sequentially numbered and must contain the list of contents with page numbers. Any deficiency in the documentation may result in the rejection of the Bidder's Bid.

j. The authorized representative (or representatives) of the Bidder shall initial in all pages of the Proposal. In case of consortium, Consortium Members shall issue POA in the authorized signatory of the lead bidder, who shall sign all the pages of technical and commercial proposal.

k. The Bid shall contain no interlineations or overwriting, except as necessary to correct errors made by the Bidder itself. Any such corrections must be initiated by the authorized signatory of the Bidder.

l. The technical proposal shall also contain bidder's plan to address the key challenges anticipated during the execution of the project. The bidder is expected to provide bill of materials for the proposed solution as part of technical proposal without price quote. The Bill of materials/ deliverables as given in the technical solution should be in consonance with the commercial proposal. Any deviations between technical and commercial proposals shall make the proposal as being unresponsive and may lead to disqualification of the proposal. CBN reserves the right to take appropriate action in this regard.

m. Technical proposal must include (not limited to) the following:

1) Overview of the Proposed Solution that meets the requirements specified in the RFP.
2) Overall proposed Solution architecture.
3) Technical architecture.
4) Security architecture.
5) Integration Architecture.
6) Deployment Architecture.
7) Network architecture.
8) How proposed solution addresses scalability, availability, performance, security and manageability.
9) Bill of material of all the components (i.e., software, hardware, etc.).
10) Approach & Methodology for project development and implementation including the project plan.
11) Project Management, reporting and review methodology.
12) Strategy for conducting Operations & Maintenance.
13) Risk Management approach and plan.

14) Certification from the software vendors on the infrastructure proposed by bidder.
15) Training and Capacity Building Strategy for key stakeholders of the project.
16) Key Deliverables.
17) Documents and artefacts to be provided as given in the Annexures of the RFP.

n. Financial proposal must include (not limited to) the following:

- Documents mentioned in this RFP as per Annexure

2.1.1. Bidder's authorized signatory

A Bid should be accompanied by an appropriate board resolution and power of attorney in the name of an authorized signatory of the Bidder stating that he/ she is authorized to execute documents and to undertake any activity associated with the Bidder's Bid.

In case of a Consortium, the Consortium Members should issue a power of attorney to the Lead Bidder. Each page of the Technical Proposal will be signed by the authorized signatory of the Bidder/Consortium Members (in case of a Consortium). Consortium agreement with clear roles and responsibilities of each member should be enclosed in technical bid.

2.1.2. Proposal preparation costs

The Bidder shall be responsible for all costs incurred in connection with participation in the RFP process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions/presentations, preparation of Bid, in providing any additional information required by Purchaser to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the bid process.

Purchaser will in no event be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding Process.

2.1.3. Language

The Proposal should be filled by the Bidder in English language only.

2.1.4. Proposals received after designated time of submission

a) Bids received after the due date and the specified time (including the extended period if any) for any reason whatsoever, shall not be entertained and shall be returned unopened.

b) The Bids submitted by telex/telegram/fax/e-mail etc. shall not be considered. No correspondence will be entertained on this matter.

c) The Purchaser shall not be responsible for any postal delay or non-receipt/ non-delivery of the documents. No further correspondence on the subject will be entertained.

d) The Purchaser reserves the right to modify and amend any of the above-stipulated conditions/criteria depending upon project priorities vis-à-vis urgent commitments.

2.1.5. Download ability / Visibility of the uploaded document

Bidders shall ensure that the Bid uploaded on the e-procurement portal is clearly visible and downloadable. Bidders are advised to upload bids with sufficient time at hand and plan ahead of bid submission date, purchaser shall bear no associated liability in this regard.

2.1.6. Format and Numbering of the uploaded document

The Bidder shall ensure that the documents uploaded are correctly numbered so that any specific document can be easily and quickly found using the appropriate serial/page no. All documents shall only be uploaded in the formats mentioned here: PDF, MS Office, and Compatibility Mode. The unsuccessful opening or download ability of documents which are uploaded in any format other than those mentioned above shall not be entitled for any claim whatsoever.

2.1.6.1. Issues in uploading document due to internet connectivity

No claims shall be entertained owing to issues of internet connectivity. The Bidders are advised to upload the bid online well in advance of the deadline to avoid difficulties.

2.2. Eligible Bidders

Bids may be submitted by either a Sole Bidder or a Consortium of companies/corporations as described below.

a) Sole Bidder

The Sole Bidder must be a entity, which has the capabilities to deliver the entire scope of work as mentioned in the RFP. The Sole Bidder cannot bid as a part of any other Consortium Bid under this RFP.

b) Consortium of companies

In case Bidders are bidding as a Consortium

i. Maximum of number of companies allowed to come together to form a Consortium is specified in data sheet.
ii. As a part of Technical Proposal submitted by Consortium, the Consortium shall provide an agreement between the Consortium Members clearly stating the roles and responsibilities of each Consortium Member. Clarity amongst roles Clarity amongst roles and responsibilities of consortium members will be part of evaluation of technical proposal. Lack of clarity in roles and responsibilities in technical proposal may render the bid as non- responsive and may lead to disqualification of bid
iii. Consortium Members must identify a Lead Bidder among the Consortium Members who will be liable for the entire scope of work under this RFP and risks involved thereof (the liability will be for the entire value and during currency of the Contract).
iv. All consortium members will be jointly and severally responsible despite of their responsibility and specified scope of work.
v. Each entity can be a member of only one Consortium for this RFP.
vi. All consortium members must be part of the contractual arrangement between themselves before submitting the bid for this RFP. Executed Consortium agreement

(with roles and responsibilities, clearly specified) needs to be enclosed with technical proposal in the Bid.

vii. None of the members of the Consortium should be blacklisted entity by any Government or the Public Sector Agency.

viii. Any change in the consortium member at a later date should not be allowed.

ix. All Consortium Members should be registered legal entities in India and have to sign Integrity Pact at the time of signing Master Service Agreement.

2.3. Earnest Money Deposit (EMD)

Please refer to data sheet.

2.4. Confidentiality

The bidder undertakes not to divulge or communicate to any entity (unless required by law or by any regulation or court order) or use or exploit for any purpose whatever, any of the trade secrets or confidential knowledge about the department or the departments licensed entities or persons whosoever upon which this RFP pertains to, and to which it may receive or obtain as a result of entering into this Project Work order, and further to unless without express and written orders of this department and that the vendor shall use its appropriate and reasonable measures and strict efforts to prevent its officers, employees or its authorized agents if any from doing so.

2.5. Government Law & Arbitration

This Project shall be governed and construed in accordance with the laws of the Republic of India only. All disputes, claims, suits, and actions arising out of this work order, or its validity will be in a binding manner finally decided in accordance with the provisions of the Arbitration and Conciliation Act 2008 and its amendments. The venue for arbitration shall be at Gwalior, Madhya Pradesh and the proceedings will be conducted in English or Hindi only.

2.6. Tender Validity

The offer submitted by the bidder should be valid for minimum period of 180 days from the date of submission of proposal.

2.7. Performance Bank Guarantee

As a condition precedent to execution of the Agreement, the successful Bidder shall ensure submission of the requisite unconditional irrevocable Bank Guarantee, in the prescribed format within 15 days of receipt of the LOI as a Performance Guarantee for the services to be performed under the resultant Agreement. The Bank Guarantee shall be equivalent to 5% of the contract value must be issued by a Nationalized Bank/Scheduled Bank as per RBI provisions and will be valid until contract duration and co-terminus with the contractual agreement.

The bidder will submit the revise Performance Bank Guarantee prior to the expiration of current PBG. Revised PBG shall be based on revised contract if any and shall be valid until contract duration and valid for 6 months after completion of all contractual obligations.

The format of Performance Bank Guarantee is attached as Annexure.

2.8. Bidder's Responsibility

The bidder must submit a declaration as per format given in Annexure.

2.9. Duration of the Engagement of Firm

The contract will be awarded to successful bidder for 60 Months (five years) Monitoring of Opium Cultivation using GIS in Central Bureau of Narcotics from contract signing date.

2.10. Project ownership

The ownership of the project will fall on Narcotics Commissioner, Central Bureau of Narcotics, Department of Revenue, Ministry of Finance, Government of India.

For any clarification, query, project monitoring, supervision etc., the bid awardee will be required to contact Central Bureau of Narcotics (CBN), 19, The Mall, Morar, Gwalior - 474006, Madhya Pradesh.

2.11. Liability

Except in cases of criminal negligence or wilful misconduct, the aggregate liability of the contractor to the Procuring Entity, whether under the contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the contractor to indemnify the Procuring Entity concerning IPR infringement.

2.12. Indemnification

The Implementation Partner (the "Indemnifying Party") undertakes to indemnify the Purchaser and its nominated agencies (the "Indemnified Party") from and against all losses, claims, damages, compensation etc. on account of bodily injury, death or damage to tangible personal property arising in favour of any person, corporation or other entity (including the Indemnified Party) attributable to the Indemnifying Party's negligence, wilful default, lack of due care or beach of terms of this Agreement.

If the Indemnified Party promptly notifies the Indemnifying Party in writing of a third-party claim against the Indemnified Party that any Deliverables/ Services provided by the Indemnifying Party infringes a copyright, trade secret, patent, or other intellectual property rights of any third party, the Indemnifying Party will defend such claim at its expense and will pay any costs or damages that may be finally awarded against the Indemnified Party.

2.13. Force Majeure

The Implementation Partner or the Purchaser, as the case may be, shall be entitled to suspend or excuse performance of its respective obligations under this Agreement to the extent that such performance is impeded by an event of force majeure (‘Force Majeure’).

A. Force Majeure event means any event or circumstance, or a combination of events and circumstances referred to in this Clause, which:

   i. is beyond the reasonable control of the affected Party.
   ii. such Party could not have prevented or reasonably overcome with the exercise of reasonable skill and care.
   iii. does not result from the negligence of such Party or the failure of such Party to perform its obligations under this Agreement.

iv. is of an incapacitating nature and prevents or causes a delay or impediment in performance; and
v. may be classified as all or any of the following events:
vi. Such events include:
a) act of God like earthquake, flood, inundation, landslide, storm, tempest, hurricane, cyclone, lightning, thunder or volcanic eruption that directly and adversely affect the performance of services by the Implementation Partner under this Agreement.
b) radioactive contamination or ionizing radiation or biological contamination (except as may be attributable to the Implementation Partner's use of radiation or radioactivity or biologically contaminating material) that directly and adversely affect the performance of services by the Implementation Partner under this Agreement.
c) industry wide strikes, lockouts, boycotts, labour disruptions or any other industrial disturbances, as the case may be, not arising on account of the acts or omissions of the Implementation Partner and which directly and adversely affect the timely implementation and continued operation of the Project; or
d) an act of war (whether declared or undeclared), hostilities, invasion, armed conflict or act of foreign enemy, blockade, embargo, prolonged riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage, for a continuous period exceeding seven (7) days that directly and adversely affect the performance of services by the Implementation Partner under this Agreement.

B. For the avoidance of doubt, it is expressly clarified that the failure on the part of the Implementation Partner under this Agreement or the SLA to implement any disaster contingency planning and back- up and other data safeguards in accordance with the terms of this Agreement or the SLA against natural disaster, fire, sabotage or other similar occurrence shall not be deemed to be a Force Majeure event. For the avoidance of doubt, it is further clarified that any negligence in performance of Services which directly causes any breach of security like hacking shall not be considered as arising due to forces of nature and shall not qualify under the definition of "Force Majeure". The Implementation Partner will be solely responsible to complete the risk assessment, mitigation, security, audit obligations and ensure implementation of adequate security hygiene, best practices, processes and technology to prevent any breach of security and any resulting liability as maybe pointed to in cases of security audit third party viz Cert-IN and/or NCIIPC, NIC etc. therefrom (wherever applicable).

C. Upon the occurrence of any Force Majeure event prior to the Effective Date, the Parties shall bear their respective costs and no Party shall be required to pay to the other Party any costs thereof.

2.14. Ownership and Intellectual Property Rights

Further, the Implementation Partner shall be obliged to ensure that all approvals, registrations, licenses, permits and rights which are, inter-alia, necessary for use of the Deliverables, applications, services etc. provided by the Implementation Partner under this

Agreement shall be acquired in the name of the Purchaser, prior to termination of this Agreement and which shall be assigned by the Purchaser to the Implementation Partner for the purpose of execution of any of its obligations under the terms of this Agreement. However, subsequent to the term of this Agreement, such approvals etc. shall endure to the exclusive benefit of the Purchaser.

A. Pre-existing work: All intellectual property rights existing prior to the Effective Date of this Agreement shall belong to the Party that owned such rights immediately prior to the Effective Date. Subject to the foregoing, the Purchaser will also have rights to use and copy all process, specifications, reports and other document drawings, manuals, and other documents provided by Implementation Partner as part of the Scope of Works under this Agreement for the purpose of this Agreement on non-exclusive, non-transferable, perpetual, royalty-free license to use basis.

B. Third Party Products: If license agreements are necessary or appropriate between the Implementation Partner and third parties for purposes of enabling / enforcing/implementing the provisions hereinabove, the Implementation Partner shall enter into such agreements at its own sole cost, expense and risk. However, the Implementation Partner shall use all commercially reasonable endeavours to pass through to Purchaser any third party's warranties relating to such Third-Party Products. In the event that such warranties cannot be passed through to or enforced by Purchaser, the Implementation Partner will enforce such warranties on Purchaser's behalf and account to Purchaser for so doing.

C. Commercially-Off-The-Shelf Software (COTS): For all COTS products whose source code and IPR vest with the COTS owner, the licenses for such COTS shall be in the name of Purchaser. Purchaser shall retain exclusive and irrevocable intellectual property rights to the customized enhancements of the COTS/ application, forms and the compilations of the Project in perpetuity and nothing herein shall or will be construed or deemed to grant to the Implementation Partner any right, title, license, sub-license, proprietary right or other claim against or interest in, to or under (whether by estoppels, by implication or otherwise) to the aforesaid rights.

D. Ownership of documents: The Purchaser shall own all Documents provided by or originating from the Purchaser and all Documents produced by or from or for the Implementation Partner in the course of performing the Services. Forthwith upon expiry or earlier termination of this Agreement and at any other time on demand by the Purchaser, the Implementation Partner shall deliver to the Purchaser all Documents provided by or originating from the Purchaser and all Documents produced by or from or for the Implementation Partner in the course of performing the Services, unless otherwise directed in writing by the Purchaser at no additional cost. The Implementation Partner shall not, without the prior written consent of the Purchaser store, copy, distribute or retain any such Documents.

E. The ownership of all IPR rights in any and all documents etc. (including all training materials) made during the Term for implementation of the Project under this Agreement will lie with Purchaser.

F. All the rights of material including but not limited to assets/data/information/portal created/collected by agency under this assignment, shall remain with the department i.e., the Central Bureau of Narcotics. All such material/ data/ information/ portal/ source code created/collected during the project shall be facilitated for hand-over as required by department post completion of the project at no extra cost to the department. Any data created during the usage will be the property of the department and will continue to remain perpetually. Any data created including survey and satellite images etc. during the usage will be the property of the department and will continue to remain perpetually. Personal information received by the vendor through this project shall be considered confidential information and vendor will not use or share the same with any third party, other than for the phase-wise activities listed under the scope of this project.

Notwithstanding anything contained herein, the Implementation Partner may use in its business activities the ideas, concepts and know-how which are retained in the unaided memories of its employees who have worked in the project under this Agreement. The foregoing does not permit intentional memorization of the any information for the purpose of evading obligations contained in this Agreement.

2.15. Warranty

I. The Implementation Partner represents, warrants and covenants that: (a) the Implementation Partner is the lawful owner or licensee of the materials used in the performance of the Services and delivery of the Deliverables, (b) the bespoke development and such materials have been lawfully developed or acquired by the Implementation Partner, and (c) the Implementation Partner has the rights to the bespoke development and such materials, including the rights of access to and use of the bespoke development, which it grants under this Agreement, without the consent of any other person or entity. The Implementation Partner represents, warrants, and covenants that during the Warranty Period it will promptly provide the Purchaser with any and all maintenance modifications, enhancements, upgrades, updates and related Documentation which the Implementation Partner makes available to any other person or entity.

II. Warranty for Software: The Implementation Partner represents, warrants, and covenants that on the Acceptance Date and for the Warranty Period, the Software will be free of material programming errors and will operate and conform to the respective Software's Documentation including, inter alia, FRS and SRS and other manuals. The Implementation Partner also represents, warrants and covenants that the medium on which the Software is contained when delivered to the Purchaser will be free from defects in material or workmanship and shall be free from any viruses, bugs etc. b) The Implementation Partner represents warrants and covenants that the technical documentation delivered to the Purchaser for the software will be sufficient to allow a reasonably knowledgeable information technology professional to maintain and support such Software. The Implementation Partner represents, warrants and covenants that

the user Documentation for the software will accurately describe in terms understandable by a typical end user the functions and features of the software and the procedures for exercising such functions and features.

III. Warranty for Services – The Implementation Partner represents, warrants, and covenants that all services under this Agreement will be performed with promptness and diligence and will be executed in a workmanlike and professional manner, in accordance with the practices and high professional standards used in well-managed operations performing services similar to the services under this Agreement. The Implementation Partner represents, warrants, and covenants that it shall use adequate numbers of qualified individuals with suitable training, education, experience and skill to perform the services hereunder.

IV. The representations, warranties and covenants provided by the Implementation Partner under this Agreement will not be affected by Purchaser's modification of any portion of the software so long as the Implementation Partner can discharge its obligations despite such modifications or following their removal by the Purchaser.

V. If during the Warranty Period of any component mentioned above, any of the warranties are found breached, the MSP shall promptly (but in no event more than 7 days), in consultation and agreement with the Purchaser, and at the Implementation Partner's sole cost make good such default, defect or deficiency as well as any damage to the Project caused by such default, defect or deficiency. Notwithstanding the foregoing, these are not the sole and exclusive remedies available to the Purchaser in case of breach of any warranty and are also not the sole and exclusive obligations on the Implementation Partner in case of breach of any warranty.

2.16. Insurance Cover

The Implementation Partner shall take out and maintain, at its cost adequate standard forms of insurance including liability which are mandatorily to be maintained as per the Applicable Laws and further agrees to provide Purchaser on request copies of such policy of insurance and evidence that the premiums have been paid. The Implementation Partner shall at the Purchaser's request, provide evidence to the Purchaser showing that such insurance has been taken out and maintained and that the current premium thereof have been paid.

2.17. Fraud and Corrupt Practices

a. The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process. Notwithstanding anything to the contrary contained in this RFP, the Purchaser shall reject a Bid without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the Bidding Process. In such an event, the Purchaser shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to the Purchaser for, inter alia, time, cost and effort

of the Purchaser, in regard to the RFP, including consideration and evaluation of such Bidder's Bid.

b. Without prejudice to the rights of the Purchaser and the rights and remedies which the Purchaser may have under the [LOI] or the [Agreement], if a Bidder or Service Provider, as the case may be, is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process.
c. Or after the issue of the LOI or the execution of the Agreement, such Bidder or Service Provider shall not be eligible to participate in any tender or RFP issued by the Purchaser during a period of 2 (two) years from the date such Bidder or Service Provider, as the case may be, is found by the Purchaser to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.
d. For the purposes of this Section, the following terms shall have the meaning hereinafter respectively assigned to them:
    i. "Corrupt practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Purchaser who is or has been associated in any manner, directly or indirectly with the Bidding Process or the LOI or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Purchaser, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or (ii) save as provided herein, engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the Purchaser in relation to any matter concerning the Project.
    ii. "Fraudulent practice" means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Bidding Process.
    iii. "Coercive practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person's participation or action in the Bidding Process.
    iv. "Undesirable practice" means (i) establishing contact with any person connected with or employed or engaged by Purchaser with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest; and
    v. "Restrictive practice" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

2.18. Conflict of Interest

a. A Bidder shall not have a conflict of interest that may affect the Bidding Process or the Solution delivery (the "Conflict of Interest"). Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the Purchaser shall forfeit and appropriate the EMD, if available, and as mutually agreed genuine pre-estimated compensation and damages payable to the Purchaser for, inter alia, the time, cost and effort of the Purchaser including consideration of such Bidder's Bid, without prejudice to any other right or remedy that may be available to the Purchaser hereunder or otherwise.
b. The Purchaser requires that the Service Provider provides solutions which at all times hold the Purchaser's interest paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Service Provider shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of the Purchaser.
c. Without limiting the generality of the above, a Bidder shall be deemed to have a Conflict of Interest affecting the Bidding Process, if:
d. The Bidder, its Consortium Member or Associates (or any constituent thereof) and any other Bidder, its Consortium Member or Associate (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Bidder, its Consortium Member or Associate (or any shareholder thereof having a shareholding of more than 5 per cent of the paid up and subscribed share capital of such Bidder, Consortium Member or Associate, as the case may be) in the other Bidder, its Consortium Member or Associate is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof. For the purposes of this Clause, indirect shareholding held through one or more intermediate persons shall be computed as follows:
    i. where any intermediary controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "Subject Person") shall be taken into account for computing the shareholding of such controlling person in the Subject Person; where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this Sub-clause if the shareholding of such person in the intermediary is less than 26% (twenty six per cent) of the subscribed and paid up equity shareholding of such intermediary; or
    ii. a constituent of such Bidder is also a constituent of another Bidder; or
    iii. such Bidder or its Associate receives or has received any direct or indirect subsidy or grant from any other Bidder or its Associate; or
    iv. such Bidder has a relationship with another Bidder, directly or through common third parties, that puts them in a position to have access to each other's' information with regard to this RFP, or to influence the Bid of either or each of the other Bidder; or

v. There is a conflict among this and other software solution and services assignments of the Bidder (including its personnel and other members, if any) and any subsidiaries or entities controlled by such Bidder or having common controlling shareholders. The duties of the Service Provider will depend on the circumstances of each case. While providing software implementation and related solutions to the Purchaser for this particular assignment, the Service Provider shall not take up any assignment that by its nature will result in conflict with the present assignment; or

vi. A firm hired to provide software solution and services for the implementation of a project, and its Consortium Members or Associates, will be disqualified from subsequently providing goods or works or services related to the same project.

1. A Bidder eventually appointed to implement the Solutions for this Project, its Associates, affiliates, shall be disqualified from subsequently providing goods or works or services related to the construction and operation of the same Project and any breach of this obligation shall be construed as Conflict of Interest; provided that the restriction herein shall not apply after a period of 12 months from the completion of this assignment; provided further that this restriction shall not apply to software solutions delivered to the Purchaser in continuation of this systems implementation or to any subsequent systems implementation executed for the Purchaser in accordance with the rules of the Purchaser.

2.19. Compliant Proposals / Completeness of Response

a. Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.

b. Failure to comply with the requirements of this paragraph may render the Bid non-compliant and the Bid may be rejected. Bidders must:

- Include all documentation specified in this RFP.
- Follow the format of this RFP and respond to each element in the order as set out in this RFP.

3. Pre-bid Conference (PBC) & Clarifications

The department will organize pre-bid meeting through video conferencing or physically with the prospective bidders on the mentioned date. The bidders must ensure that their queries for Pre-Bid meeting reach the Nodal officer as per the schedule given.

The bidder shall submit queries email only in editable excel format. Any queries/clarification/letter etc. sent after scheduled timeline will not be entertained.

The responses will be sent to the prospective bidders through email and shall be published on the portal as well. However, it will be bidder's responsibility that they collect all responses. Non-attendance at the Pre-Bid or pre-RFP Conference will not be a cause for disqualification of a bidder. The queries shall be submitted through authorized representative of the bidder.

Sl. No.	Page Number(s) & Section of RFP	Content of RFP requiring Clarification(s)	Points of clarification	Justification
1				
2				
3				
4				

4. Eligibility Criteria

4.1. Pre-Qualification /Technical Qualification Criteria:

S. No.	Basic Requirement	Specific Requirements	Documents Required
1	Legal Entity	The Lead Bidder and Consortium Partners (a Company or consortium of companies) registered under Companies Registration act 1956/2013 or LLP Act, 2008, any registered company/agency/organization that registered as per Government of India norms can apply and must have 10 years of existence in India as on bid submission date.	Valid copy of the certificate of incorporation of each consortium partner
2	Consortium Agreement (if applicable)	Consortium: The number of Consortium members cannot exceed number mentioned in data sheet, including the Lead Member. The Lead Member (bidder) would also need to submit the Agreement between the Consortium members for the Contract clearly indicating their scope of work and relationship	Consortium Agreement (Notarized Rs. 100/- on Stamp paper)
3	Certifications	The Lead Bidder/Consortium Partner should possess below Certifications which are valid till bid validity: • CMMI Level 3	Copy of Valid Certificate
4	Turnover	The Lead Bidder member should have average annual Turnover of INR 35 Crore for the last 3 consecutive audited financial years (2020-21 and 2021-22, 2022-23) from GIS/IT projects Lead Bidder should have positive net worth and should be a profit -making company as per the audited consolidated financial statements in each of the last three financial years.	Certificate from the Statutory Auditor along with extracts from the audited balance sheet and profit & loss statement for the last 3 consecutive audited financial

S. No.	Basic Requirement	Specific Requirements	Documents Required
			years (2020-21 and 2021-22,2022-23) from GIS/IT projects
5	Experience in GIS Implementation and Survey	The Lead Bidder or Consortium Partner should have successfully executed: a. projects of design, development, and implementation of GIS application services and b. GIS Base-map creation projects comprising Topographical/Field Survey with the contract value of: o one project of value > INR 6 Cr or o 2 similar projects of value> INR 3.5 Cr or o 3 projects of value > INR 2.5 Cr for any Govt./PSUs during the last 7 years as on date of submission. Project value of only Supply, Installation, Testing and Commissioning (SITC) of hardware shall not be considered. In case of projects having both SITC of hardware and GIS based implementation, only value of software, services and implementation part shall be considered. CA certificate on project value with component bifurcations need to be provided by the bidder.	a) Work order OR Signed Contract b) Completion Certificates from the client OR Go-Live certificate from the client
6	OEM Criteria	The Lead Bidder / Consortium Partner should have appropriate OEM Authorization for the proposed Enterprise Web GIS solution specifically for this project. The OEM products proposed in the solution should have at least 2 Enterprise Agreements for Large scale GIS implementations of 5 Cr. for Government Organization/Department in India as on date of submission of the bid. The average annual OEM turnover should be not less than 30 Cr for at least 3 audited financial years.	Copy of OEM Authorization on the letter head of the OEM for proposed solution
7	Employee Strength	The Lead Bidder / Consortium Partner should have at least 25 Subject Matter Expert working on GIS Implementation/Remote Sensing/Field Survey etc. on their payroll for the proper execution of the project.	HR Certificate
8	Blacklisting	As on date of submission of the proposal, The Service Provider should not be blacklisted by Central Government Department Agencies or State Government Agencies or any Central Public Sector Unit for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices	Self-Declaration by the authorized signatory as per format given in Annexure-6

Proposal without necessary and sufficient supporting documentary proofs may be summarily rejected without any request for clarification from the bidders.

5. Evaluation of Proposal

1. Information provided other than the format mentioned will not be considered for evaluation.
2. Evaluation methodology is for this RFP is based on Quality-and Cost Based Selection (QCBS). Weightage (Technical: Price)- 70:30.
3. All the bidders who will achieve 70 (cut off mark) or more marks in the technical evaluation would be eligible for the next stage, i.e., Financial Bid opening. In the exceptional, at least 3 bidders not scoring 70 or more marks, then cut off marks may go down up to 60 marks or lower at the discretion of the Purchaser. Bidders who score below cut off marks shall not be eligible for the next stage of bid processing.
4. Financial bids for only those bidders shall be opened who will be qualifying the technical criteria.
5. All the technically qualified Bidders will be notified to participate in Commercial Proposal opening process.
6. The Commercial Proposals for the technically qualified Bidders will then be opened on the notified date and time and reviewed to determine whether the Commercial Proposals are substantially responsive. Proposals that are not substantially responsive are liable to be disqualified at Purchaser's discretion.
7. Only fixed price financial bids indicating total prices for all the deliverables and services specified in this bid document will be considered.
8. The bid price will be inclusive of all taxes and levies and shall be in Indian Rupees.
9. A checklist MUST be created with proper page-wise indexing of all supporting documents both in technical and commercial bid.
10. The Bidders will be required to make a presentation on the technical and operational aspects of the proposed solution.
11. The decision to accept/reject the technical proposal will be made based on this presentation, and it will be binding on the Bidders. No further correspondence in this regard shall be entertained.
12. Any conditional bid would be rejected.
13. Errors & Discrepancies: Any errors and discrepancies in the information given in financial and technical bids, calculations, mismatch in rates and costs etc. will lead to rejection of the bid.
14. Errors & Rectification: Bidders are advised to exercise the greatest care while entering the pricing figures. No requests regarding correction of mistakes in the commercial proposals shall be entertained after the proposals are submitted. If any interlineations, erasures, alterations, fluid-marking, additions, or overwriting are found the proposal shall be rejected summarily.
15. Arithmetical errors will be rectified on the following basis:
    a. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless, in the evaluation, there is obviously a gross error such as a displacement of a decimal point, in which case the line-item total will prevail, or whichever is logically correct.

b. If there is a discrepancy between amount in words and figures, the amount in words will prevail.
c. If the Bidder does not accept the error correction, its Proposal will be rejected and its EMD may be forfeited.

16. In case there are item/items included in technical proposal or RFP but not priced in commercial form, it will be assumed that total price is inclusive of the said item/items
17. Undertaking for reasonableness, the Bidder shall furnish undertaking along with Commercial Proposal that to the best of their knowledge and belief:
    a. Quoted rates are at par with the prevailing market rates, and not more than the price usually charged for services of same nature/class or description from any Purchaser either Foreign or Government Purchaser.
    b. In respect of indigenous items for which there is a controlled price fixed by the Act/any Govt/statutory body, the price quoted are not higher than the controlled price.
18. Services/Products/Goods supplied, are of requisite specification and quality.
19. Final score calculation through QCBS.
20. The Bidder with the highest Final Score shall be treated as the Successful Bidder.
21. In the event the Final scores are 'tied', the Bidder securing the highest technical score will be adjudicated as the Best Value Bidder for award of the Project.

Note: The proposal price will include all taxes and levies and shall be in Indian Rupees and mentioned separately.

6. Evaluation Criteria

The bidder shall submit their technical proposals highlighting their expertise in undertaking similar assignments and their plan & strategy to undertake this assignment. The bidder is required to submit detailed CVs of the manpower including all the members positioned at the department that will be engaged for the assignment.

The bidder will be required to present their understanding of the assignment, approach and methodology, team's relevance and experiences and work plan with deliverables to the department on the prescribed date and time. The details of the presentation will be shared after the evaluation of the technical proposals and will be informed to the qualifying bidders.

6.1. Evaluation Criteria for Technical Proposal

The department will assess the proposals submitted by the bidders, considering the criteria as prescribed in the RFP document:

<table>
<tr><th>S. No.</th><th>Criteria</th><th>Documents Required</th><th>Marks</th></tr>
<tr><td>TQ1.0</td><td>Bidder's Past Experience and Strength</td><td></td><td>75</td></tr>
<tr><td>TQ1.1</td><td>Lead Bidder financial strength: Average Annual Turnover (AAT)
AAT >35 and <=50 Cr.: 5 Marks
AAT >50 and <=100 Cr: 10 Marks
AAT >100 Cr.: 15 marks</td><td>Certificate from the Statutory Auditor along with extracts from the audited balance sheet and profit & loss statement for the at least last 3 consecutive audited financial years (2020-21, 2021-22 and 2022-23) from GIS/IT related projects</td><td>15</td></tr>
<tr><td>TQ1.2</td><td>The Lead Bidder/Consortium Partner should have successfully executed projects of design, development, and implementation of GIS application services and GIS Base map Creation projects comprising Topographical/Field Survey for any Govt./PSUs in India during the last 7 years as on date of submission.
Project including only Supply, Installation, Testing and Commissioning (SITC) of hardware, shall not be considered.
<table>
<tr><th>Parameter</th><th>Marks</th></tr>
<tr><td>one project of value > INR 6 Cr
or
2 similar projects of value> INR 3.5 Cr
or
3 projects of value > INR 2.5 Cr</td><td>5 marks</td></tr>
</table></td><td>Work order OR Signed Contract
Completion Certificates from the client OR Go-Live certificate from the client</td><td>20</td></tr>
</table>

	• 2 projects of value > INR 6 Cr or • 3 similar projects of value> INR 3.5 Cr or • 4 projects of value > INR 2.5 Cr — 10 marks • 3 projects of value > INR 6 Cr or • 4 similar projects of value> INR 3.5 Cr or • 5 projects of value > INR 2.5 Cr — 20 marks In case of projects having both SITC of hardware and GIS based implementation, only value of software, services and implementation part shall be considered CA certificate on project value with component bifurcations need to be provided by the bidder.		
TQ1.3	Experience of large Turnkey IT project by lead bidder / any member of consortium in Govt/ PSU One Project of value more than 6 Cr : 5 Marks Two Project of value more than 6 Cr : 10 Marks Three Projects of value more than 6 Cr: 15 Marks	Work order OR Signed Contract Completion Certificates from the client OR Go-Live certificate from the client	15
TQ1.4	The Lead Bidder / any member of consortium should have below certifications as on date of NIT /Bid publishing date: • CMMi 5 = 15 Marks • CMMi 3 = 10 Marks	Copy of Valid Certificate	15
TQ1.5	GIS SMEs from any of the members of the consortium (2 marks each for individual resource) a) Educational Qualification: • M.Sc/M.Tech in Geo-informatics/Remote Sensing or Equivalent = **1** Marks • Else 0 b) Work experience in the capacity of Project Manager in GIS implementation projects: • >=10 years = **1** Marks • Else 0	CV and HR Certificate to specify the correctness of details provided in CV by the individual	4
	GIS Operator from any of the members of the consortium (0.6 mark each for individual resource) a) Educational Qualification: • M.Sc/M.Tech in Geo-informatics/Remote Sensing/Post Graduate Degree in Geography or Equivalent = **0.3** Marks • Else 0	CV and HR Certificate to specify the correctness of details provided in CV by the individual	4

	b) Work experience in the capacity of Project Manager in GIS implementation projects: • >=5 years = **0.3** Marks • Else 0		
	Survey Team Lead from any of the members of the consortium (0.12 mark each for individual resource) a) Educational Qualification: • Graduate Degree in Geography / Diploma in Engineering or Equivalent = **0.06** Marks • Else 0 b) Work experience in the capacity of Survey Manager/Lead in topographic surveying and handling a team of 15 people: • >=3 years = **0.06** Marks • Else 0	CV and HR Certificate to specify the correctness of details provided in CV by the individual	2
TQ 2.0	**Technical Presentation by lead bidder**		**25**
TQ 2.1	Proposed Project Approach and **Methodology:** **(Bidder shall submit the "Proposed Project Approach and Methodology" along with the technical bid.)**		
	- Understanding of Project	Presentation	2
	- Proposed Solution and Its advantages		2
	- Approach and Methodology for project execution		2
	• Proposed Work plan and Manpower		2
	- Value additions including innovative ideas		2
TQ 2.2	PoC/Demonstration of Proposed GIS Platform The internet connection and required bandwidth to show such a demo will have to be ensured by bidders themselves and the same can't be assured by Authority.		
	The bidder should demo technological solutions (as required in the scope of work of this RFP) pertaining to work done by them on other projects in reference to mapping crops using satellite and drone imagery and field survey, building algorithms as aa part of generating model for automated feature identification, extraction and analysis (pertaining to crops) and web GIS platforms developed in conjunction with the above.	Pilot demonstration	7
	Used case analysis of opium cultivation project cycle on GIS based platform. Dummy data will be considered as a part of the presentation.		8
Total			100

Note: Failure to provide sufficient proof may lead deduction in marks, hence the bidder is advised to exercise discretion will providing sufficient documentary evidence. Capabilities, commitments displayed in technical presentation will become part of contract.

In the unlikely event of e-procurement site declaring the tender as L1, the evaluation will continue to be done by CBN on basis of same QCBS parameters as defined in this RFP in offline mode.

Due to QCBS selection process adopted by Purchaser, the final composite score of the bidders shall be calculated after opening of both technical and financial bids. Hence, the L1 declared by the bidding portal system shall not be considered for the purpose of awarding the contract. The price quoted by different bidders including least cost bidder shall be used for calculation of financial score of respective bidders. Thereafter, such obtained financial scores shall be used to arrive at composite scores and accordingly highest ranking or H1 bidder shall be decided. Such H1 bidder shall generally be the selected bidder for the award of contract. No claim by any bidder in this regard shall be entertained by the Purchaser and Purchaser shall not be liable in any manner towards any bidder in this regard.

6.2. Evaluation of Financial Proposal

The bidder must submit their financial bids as per the format (Annexure) mentioned in the bidding document. Department reserves rights for deletion of any component on its own discretion prior issuance of LOI. However, for financial evaluation, the consolidated project cost quotations shall be considered.

7. Award Criteria

The selection of Implementation Agency would be done under Quality and Cost Based Selection (QCBS) method and procedures. A composite score shall be calculated for those bidders whose bids are found to be in order. The weightage for the composite evaluation is as described below:

a. Technical – 70%

b. Commercial/Financial – 30%

Each Technical Proposal will be assigned a technical score out of a maximum of 100 marks.

Tn= Technical Score of a Bidder = {Technical Score of that Bidder/Score of the bidder with the highest Technical Score} X 100 (adjusted to 2 decimals)

Cn= {Lowest Quote/Bidder's Quote} X 100 (adjusted to 2 decimals) For Quality and Cost based Evaluation (QCBS), the following formula will be used for evaluation of the bids.

B = 0.7 * Tn + 0.3 * Cn (adjusted to 2 decimals)

The bidder achieving the highest overall score will be termed the successful bidder for awarding the work order. In case of a tie where two or more bidders achieve the same highest overall score, the bidder with the higher technical score will be considered first for awarding the work order. In case there is still a tie, the bidder having the highest annual average turnover in last 3 (three) financial years shall be awarded the work. In case there is still a tie, the bidder having the highest net worth value shall be awarded the work.

8. Rejection criteria

Besides other conditions and terms highlighted in the Tender Document, bids may be rejected under following circumstances:

8.1. General Rejection Criteria

1. Conditional Bids.
2. If the information provided by the Bidder is found to be incorrect / misleading / fraudulent at any stage / time during the Tendering Process.

3. Any effort on the part of a Bidder to influence the bid evaluation, bid comparison or contract award decisions.
4. Bids without signature of person(s) duly authorized on required pages of the bid; v Bids without power of attorney/ board resolution.

8.2. Pre-Qualification rejection criteria

1. Bidders not complying with the Eligibility Criteria given in this Tender.
2. Failure to furnish all information required by the Tender Document or submission of a bid not substantially responsive or clarification sought by department is not adequately addressed and complied by the bidder.

8.3. Technical rejection criteria

1. Technical Bid containing commercial details.
2. Revelation of Prices in any form or by any reason before opening the Commercial Bid.
3. Failure to furnish all information required by the Tender Document or submission of a bid not substantially responsive to the Tender Document in every respect.
4. Bidders not quoting for the complete scope of Work as indicated in the Tender Documents, addendum (if any) and any subsequent information given to the Bidder.
5. Bidders not complying with the Technical and General Terms and conditions as stated in the Tender Documents.
6. The Bidder not confirming unconditional acceptance of full responsibility of providing services in accordance with the Scope of work and Service Level Agreements of this tender.

8.4. Commercial Rejection Criteria

1. Incomplete Price Bid.
2. Price Bids that do not conform to the Tender's price bid format.
3. If there is an arithmetic discrepancy in the commercial Bid calculations the department may consider rectifying the same. If the Bidder does not accept the rectification, then their bid may be rejected.

Detailed financial evaluation format can be referred in Annexure.

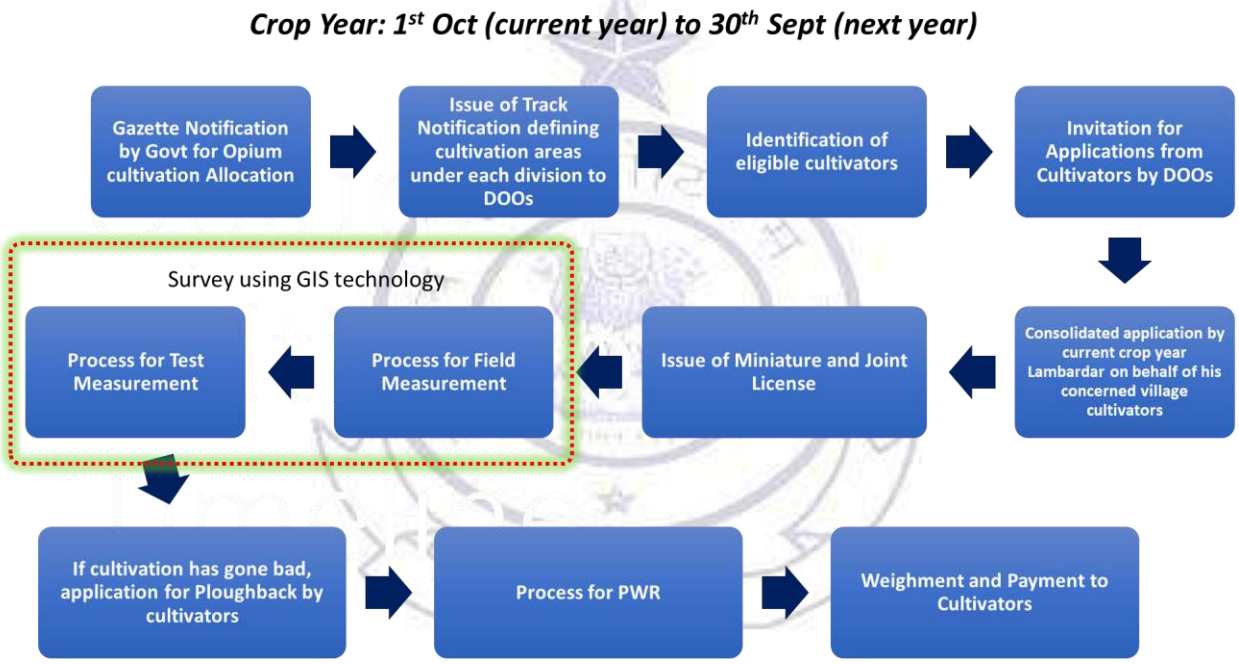
9. Scope of Work

The Central Bureau of Narcotics (CBN) is affiliated with India's Department of Revenue (DoR) and regulated by the country's Central Board of Indirect Taxes and Customs. The main function of CBN is to monitor opium production and trade and to issue licenses to produce legal synthetic drugs.

CBN wants to carry out all the opium crop measurement processes after issuance of Opium Cultivation License to cultivators through GIS Remote sensing and field surveys. Further, CBN wants to monitor the growth of Opium crop and thereby develop GIS based model for opium crop yield prediction and estimation.

In addition to this, CBN also wants to carry out satellite and UAV imagery-based identification of Opium cultivation in illicit areas for strict enforcement purpose.

The flow chart below shows the Opium cultivation and production cycle:



GIS based interventions are to be carried out in the following tasks:

1. For areas where opium cultivation is legalized
    a. Carry out GIS based surveys for Field and Test Measurement in 3 states, Rajasthan, Madhya Pradesh, and Uttar Pradesh for approximately 1,50,000 opium plots of about 15,000 hectares.
    b. Formulated a GIS based model for Opium crop yield prediction and estimation for opium cultivation in Rajasthan, Madhya Pradesh, and Uttar Pradesh.
2. For areas where opium cultivation is not legal
    a. Identification of illegal opium cultivation through satellite and UAV imagery and analysis for an area of about 7500 hectares.

The Bidder shall be entirely responsible for proposing the Solution which satisfies all features, functions and performance, SLA as described in this document. The Bidder shall be responsible for design, development, and implementation of the proposed solution, as well as providing comprehensive support to the Purchaser. The RFP contains indicative technical requirements for GIS based monitoring of Opium cultivation cycle, Bidders are expected to use their technical expertise to size the system adequately and reflect the same in the technical and commercial offer so that performance criteria of system are met.

Summary of Scope of Work		
#	Work Streams	**Description**
1.	**Carry out GIS based surveys** for Field and Test Measurement in 3 states, Rajasthan, Madhya Pradesh, and Uttar Pradesh for approximately 1,50,000 opium plots of about 15,000 hectares.	a. Study Area Delineation in GIS b. Preparation of GIS Schema c. Remote sensing survey d. Drone based optical remote sensing survey e. GIS based Field and Test Measurement f. Preparation of GIS ready Database g. Cross verification of Remote sensing-based data and ground data. h. Integration of verified/ final GIS data with Online Opium license issuance portal of CBN
2.	**Formulate a GIS based model** for Opium crop yield prediction and estimation for opium cultivation in Rajasthan, Madhya Pradesh, and Uttar Pradesh.	a. In Biophysical yield prediction model, the following steps are to be carried out: i. Collection of data such as weather parameters, soil analysis, crop state, phenological data, etc. ii. Calibrate the model and carry out the LAI (Leaf Area Index) assimilation, reasonable POD counts simulation to ensure accuracy of a crop yield forecast in the absence of statistical data and to increase the variability of values. iii. Simulate the biological productivity parameters to estimate yield and update the data once every 14 days to increase the accuracy. b. In Statistical yield prediction model, the following steps are to be carried out: i. Collecting data to create a crop yield prediction dataset and combining it with possible predictors (rainfall, temperature, humidity, soil type, and others). ii. Picking the right Machine learning model for the project - e.g., Linear regression, Random Forest, LightGBM, XGBoost, CatBoost, etc., whichever is most accurate and feasible for opium crop yield estimation. iii. Adjusting the model to answer the specific needs of the project in question for best results.
3.	**Identification of illegal opium** cultivation through satellite and UAV imagery of about 7500 hectares.	a. Processing multiple layers of satellite imagery data b. Conversion to vector imagery c. CMOS sensor camera-based UAVs to be flown in suspected areas in interval of 10 days d. Overlaying of Imagery of different seasons

Summary of Scope of Work		
#	Work Streams	**Description**
		e. Extraction of AOI (area of interest) f. Validation with ground survey Data g. Generation of Crop Pattern Maps h. Final NDVI maps generation **i.** Identification of Opium cultivation from maps
4.	**Training and Capacity Building**	Bidder must train around 500 key department users for hands on training regarding the GIS application usage. The details for capacity building assignments are mentioned in detail in Section 9.6 of this RFP
5.	**Warranty and maintenance**	The warranty and maintenance for the GIS system is mandated for 5 years till the currency of the project/contract. Further details of this work stream are mentioned in section 10.

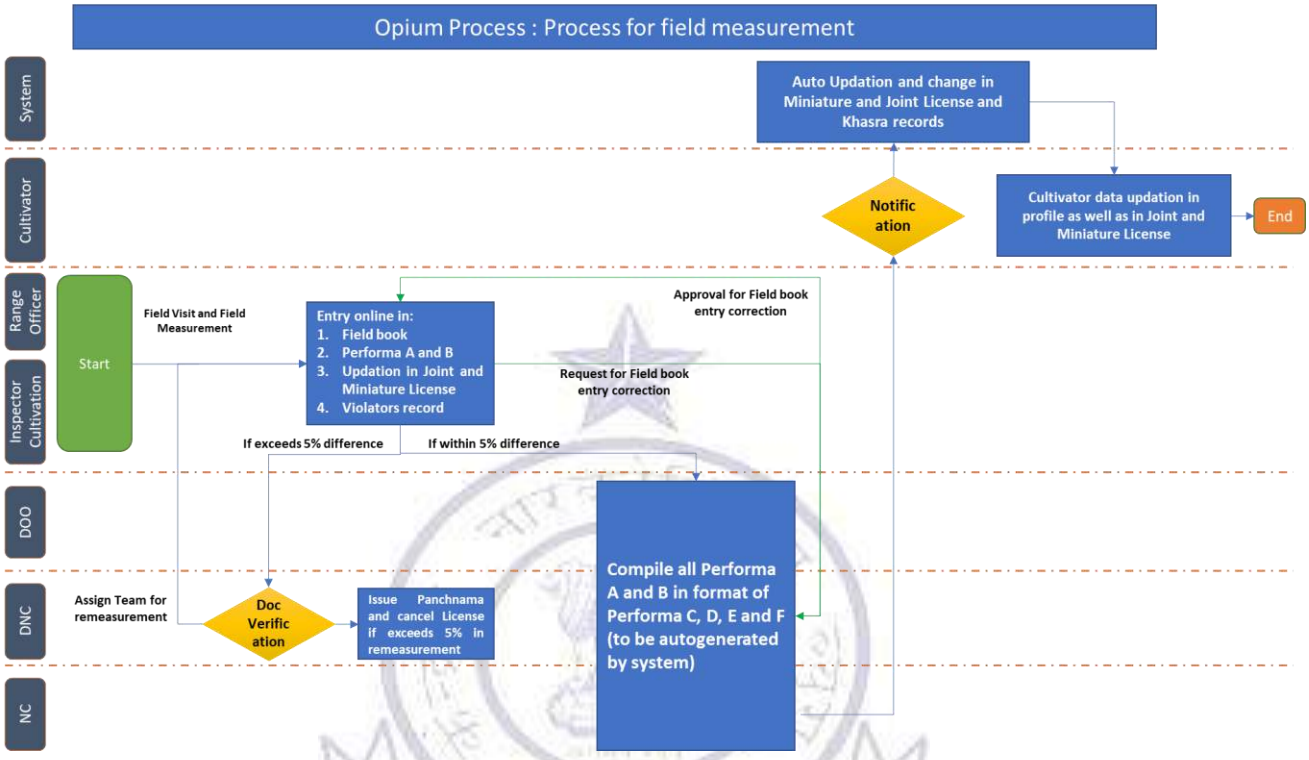
The Selected Bidder must follow all (but not limited to) below mentioned guidelines and standards issued by different Government Departments/Ministries related to spatial data collection, storage and dissemination:

i. Remote Sensing Data Policy by Dept. of Space, Govt. of India
ii. National Map Policy by Survey of India, Govt. of India
iii. NSDI Metadata Standard by National Spatial Data Infrastructure (NSDI), Ministry of Science and Technology, Govt. of India
iv. Guidelines for acquiring and producing Geospatial Data and Geospatial Data Services including Maps by Dept. of Science and Technology, Govt. of India
v. List of useful Geospatial Data standards from BIS for implementation of Interim Data Sharing Framework by Bureau of Indian Standards, Govt. of India

9.1. Scope of Work for GIS Interventions in areas where opium cultivation is legal

A. Field Measurement

The flowchart below shows the field measurement process which is one of the processes carried out by CBN after issuance of Opium cultivation license to Cultivators:

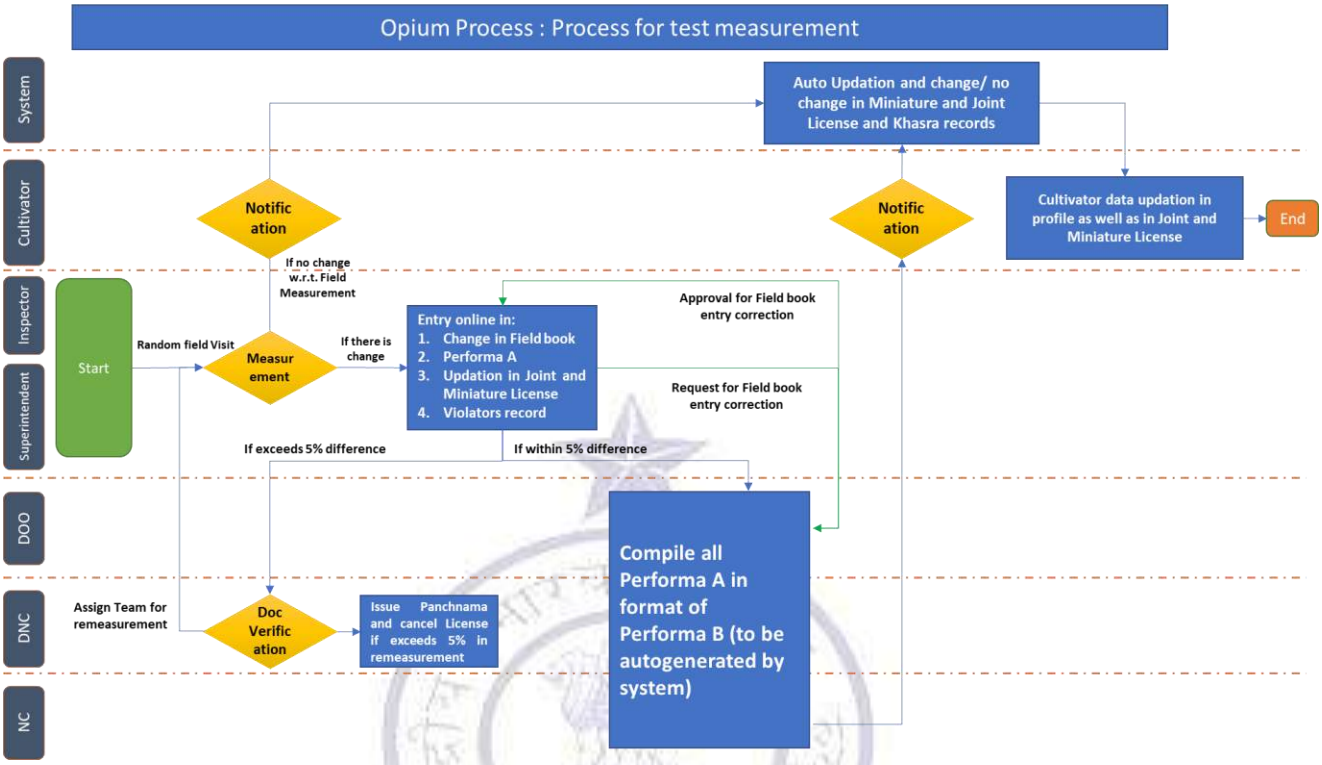


In field measurement, every opium cultivation plot is measured. The processes in field measurement are:

- CBN appoints teams for inspection for measurement of opium cultivation village wise.
- Field visits to the assigned villages by CBN Inspection Teams for measurement of every Opium field.
- Measurement of Opium fields and updation in Field Book.
- If any violation is recorded, appropriate action is taken against cultivator as per NDPS law.

B. Test Measurement

The flowchart below shows the test measurement process which is one of the processes carried out by CBN after issuance of Opium cultivation license to Cultivators:

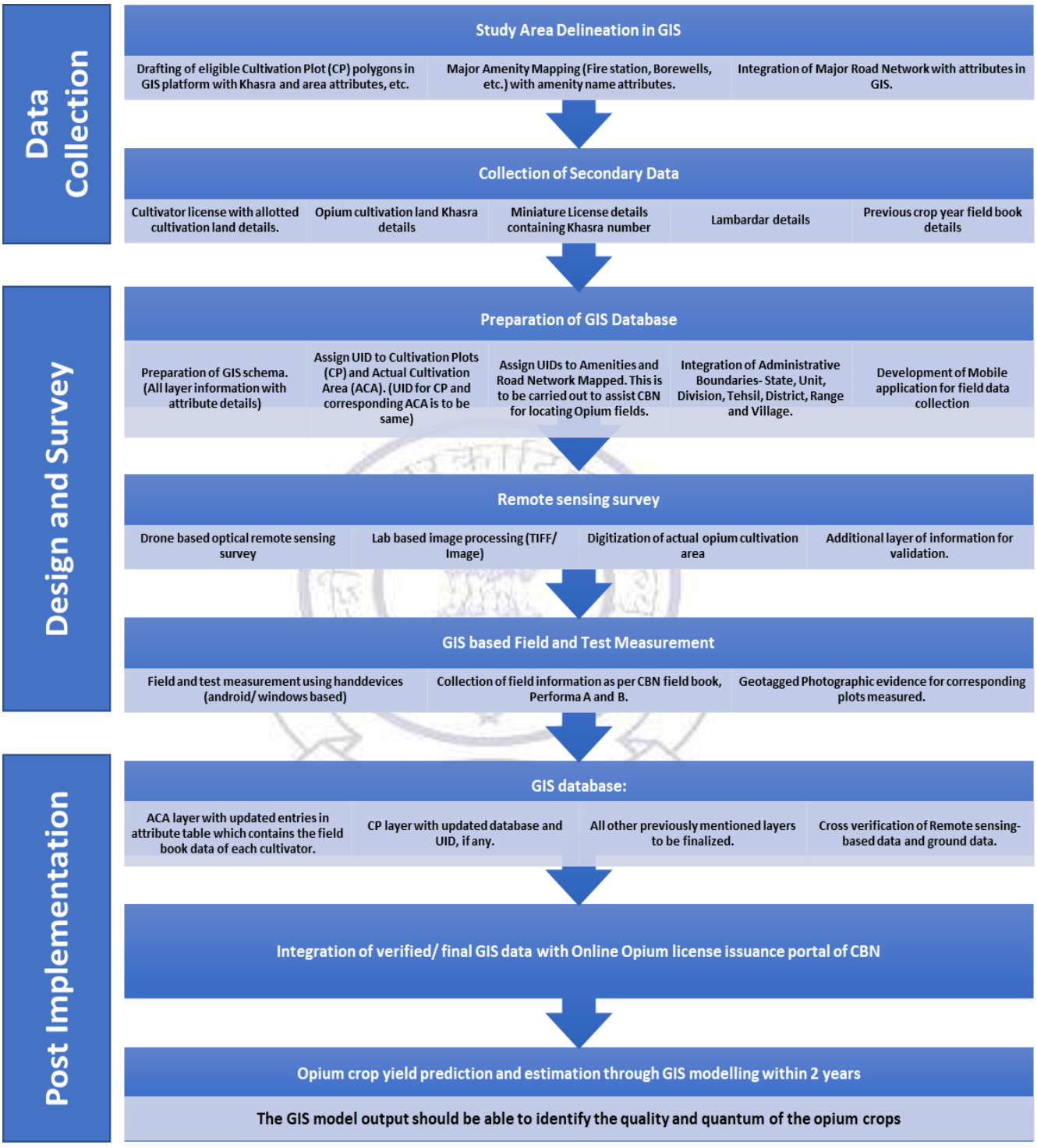


The Test measurement process is carried out after Field measurement. The Test measurement is carried out in randomly selected village and surprise visits are carried out for inspection whether extra cultivation is carried out post Field Measurement process. The processes in test measurement are:

- Appointment of Inspection Teams for randomly selected villages
- Field visits to the assigned villages by CBN Inspection Teams for measurement of selected Opium fields
- Measurement of Opium fields using measurement tape and updation in Field Book
- If measurement is not matching that of Field Measurement, appropriate action is taken against cultivator as per NDPS law.

9.1.1. Key Tasks for GIS Interventions in areas where opium cultivation is legal

The flow chart below lists the tasks to be carried out:



9.1.2. Data Collection

9.1.2.1. Collection of Secondary Data

The key tasks under this step are:

- Collection of Cultivator license data along with allotted cultivation land details.
- Collection of Opium cultivation land Khasra details
- Collection of Miniature and Joint License details containing Khasra number
- Collection of Lambardar details. A Lambardar is opium cultivator who is appointed by CBN who has the highest opium yield in his/her respective village and also who has adequate literacy.
- Collection of Previous crop year field book details
- Collection of georeferenced cadastral maps for reference regarding delineation of study area boundary, cultivation plot boundary, amenity mapping etc.

9.1.2.2. Study Area Delineation in GIS

The key tasks under this step are:

- Drafting of eligible Cultivation Plot (CP) polygons in GIS platform with Khasra and area attributes, etc.
- Major Amenity Mapping (Fire station, Borewells, etc) with amenity name attributes.
- Integration of Major Road Network with attributes in GIS

9.1.3. Design & Survey

Refer the steps pertaining to Post processing of satellite imageries in Annexure.

9.1.3.1. Preparation of GIS Database

- Procurement of GIS engine for CBN which is enabled with image and data analyst and has remote data collection mobile software for 500 surveyors simultaneously.
- Preparation of GIS schema. (All layer information with attribute details, refer Annexure for details)
- Assign UID to Cultivation Plots (CP) and Actual Cultivation Area (ACA). (UID for CP and corresponding ACA is to be same)
- Assign UIDs to Amenities and Road Network Mapped. This is to be carried out to assist CBN for locating Opium fields.
- Integration of Administrative Boundaries- State, Unit, Division, Tehsil, District, Range and Village.
- Development of Mobile application for field data collection (Please refer Annexure for details)

9.1.3.2. UAV survey of Opium Cultivation fields on need basis

- Carrying out Drone based optical remote sensing survey over eligible opium cultivation plots as per opium cultivation license data
- Lab based image processing for preparation of orthophotos and base maps. (Please refer the Annexures for details)

- Digitization of actual opium cultivation area from the base map. These layers to act as validation checks for the data received from ground surveys of actual opium cultivation areas.
- Utilization of drone data as additional layer of information for validation.

9.1.3.3. GIS based Field and Test Measurement

- Carrying out field and test measurement using handheld devices having at least accuracy level of 10 cm.
- Collection of field information as per CBN field book, Performa A and B and other outputs required by CBN.
- Taking geotagged photographic evidence for corresponding plots measured.

9.1.4. Post Implementation

9.1.4.1. GIS database (GIS ready)

- ACA layer with updated entries in attribute table which contains the field book data of each cultivator.
- CP layer with updated database and UID, if any.
- All other previously mentioned layers to be finalized.
- Cross verification of Remote sensing-based data and ground data.
- Field book data to be finalized for integration with Opium Licensing online portal

9.1.4.2. Integration of verified/ final GIS data with Online Opium license issuance portal of CBN

The final GIS data is to be integrated with the digital Opium Licensing platform of CBN for seamless working. As and when data is processed and updated in GIS database, the same is to be reflected in the Opium online portal of CBN as well as in the CBN Dashboard. The tentative wireframes of the opium online portal are explained in the following sections.

i. OPIUM CROP ACREAGE ESTIMATION

- Realtime crop area statistics plays an important role in planning and allocation of resources.
- Selected bidder should map the Opium crop and make collective crop wise, area wise crop acreage estimation report.
- It should be continuing throughout the period irrespective of the season.

ii. CROP IDENTIFICATION

- To assess the crop specific management in a spatial temporal context accurately parcel level crop present in a season is essential. Selected Bidder should develop machine learning algorithms which learn from the ground truth data and identify the crop sown in the field parcel wise and aggregate into village, block, district and state as per the requirement of the department.
- Selected Bidder should also develop a model for accuracy assessment on produced outputs in which ground truthing should be utilized.

- The authority would help in procuring the revenue data from the concerned department.
- Selected bidder should cover maximum sowing area.

9.1.4.3. Prediction and estimation of opium crop yield through GIS based forecasting model

Opium crop yield forecasting and estimation through GIS based crop forecasting model to be formulated by the SI within 2 years of project implementation for CBN. The GIS model output should be able to identify the quality and quantum of the opium crops.

Many crop yield estimation techniques are being used, however the most effective one is based on using geospatial data and technologies such as remote sensing. In remote sensing, multispectral and hyperspectral satellite images play a major role in crop management; their ability to represent crop growth conditions on the spatial and temporal scale is remarkable. These images can describe the crop development, photosynthetic active radiation (PAR), biomass accumulation (Bio), leaf area index (LAI), Normalized Difference Vegetation Index (NDVI), Enhanced Vegetation Index (ENDVI), Perpendicular Crop Enhancement Index (PCEI), and many other indices. In addition, climate data related to crops can also be extracted from satellite images such as albedo, surface temperature, and actual evapotranspiration.

For accurate forecasting and estimation of opium crop yield it is suggested that two different types of yield prediction models - biophysical and statistical to be fused together and hybrid crop yield estimation model is formulated.

In Biophysical yield prediction model, the following steps are to be carried out:

- Collection of data such as weather parameters, soil analysis, crop state, phenological data, etc.
- Calibrate the model and carry out the LAI (Leaf Area Index) assimilation to ensure accuracy of a crop yield forecast in the absence of statistical data and to increase the variability of values.
- Simulate the biological productivity parameters to estimate yield and update the data once every 14 days to increase the accuracy.

In Statistical yield prediction model, the following steps are to be carried out:

- Collecting data to create a crop yield prediction dataset and combining it with possible predictors (rainfall, temperature, humidity, soil type, and others).
- Picking the right Machine learning model for the project - e.g., Linear regression, Random Forest, LightGBM, XGBoost, CatBoost, etc., whichever is most accurate and feasible for opium crop yield estimation.
- Adjusting the model to answer the specific needs of the project in question for best results.

Crop production estimation typically calculated based on yield data and crop acreage estimation. Forecasting Opium crop production estimation in time is vital for the department to plan their further activities. Hence selected bidder should integrate crop

yield prediction results obtained through data analytics and crop models at earliest and with crop acreage estimation created from satellite remote sensing in order to forecast the expected crop production over a given area and determine how much of the crop will be produced. Ideally this report should be submitted once the final crop acreage report has been finalized.

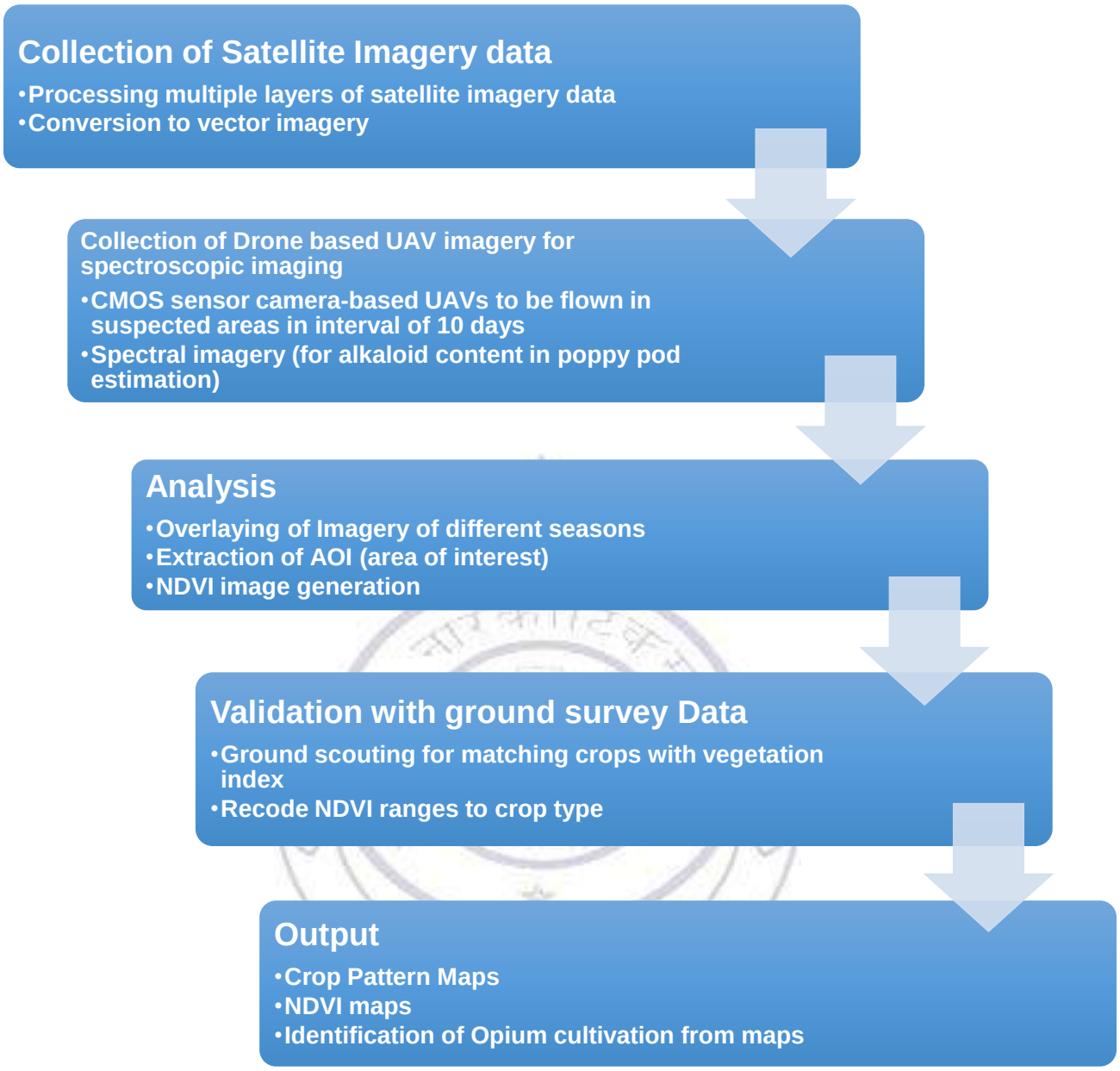
For better forecasting, bidders will ensure to do the drone-based survey at least three time in a crop cycle. this survey shall be in addition to Field and test measurement survey.

Bidders are advised to demonstrate their expertise in PPT and POC.

9.2. Scope of Work for Digital Imagery based identification of illicit Opium Crops

The flow chart below lists the tasks to be carried out:




Collection of Satellite Imagery data
•Processing multiple layers of satellite imagery data
•Conversion to vector imagery
Collection of Drone based UAV imagery for spectroscopic imaging
•CMOS sensor camera-based UAVs to be flown in suspected areas in interval of 10 days
•Spectral imagery (for alkaloid content in poppy pod estimation)
Analysis
•Overlaying of Imagery of different seasons
•Extraction of AOI (area of interest)
•NDVI image generation
Validation with ground survey Data
•Ground scouting for matching crops with vegetation index
•Recode NDVI ranges to crop type
Output
•Crop Pattern Maps
•NDVI maps
•Identification of Opium cultivation from maps

This activity needs to be carried out every year for the duration of the project by the bidder for areas as desired by CBN.

From historical data, it is estimated that this activity requires surveying 5000-hectare area through UAVs and satellite imagery for identification of approximate 2000-3000 hectare of illegal opium cultivation. Currently, for execution of this task, human intelligence, and baseline technical support is provided to CBN by government agencies. The same technical and human intelligence support shall be provided to the selected bidder. However, payment for this task shall only be paid to the bidders for actual identification of illegal cultivation areas.

9.2.1. Collection of Satellite Imagery

For the cropping pattern mapping of the given study area, the initial step is the data acquisition. The satellite imagery is to be procured for a particular location during different time period in consonance with the instructions as provided under Annexure.

9.2.2. Collection of UAV Imagery for spectroscopic imaging

Drones are to be deployed on need basis (subject to conditions as mentioned in Annexure) for collection of optical imagery in suspected illegal opium cultivation areas. The UAVs to be used should meet the minimum specification as listed below and in Annexure of this document:

- 10 cm resolution camera (for monitoring cum alkaloid content estimation)
- Spectral imagery (for alkaloid content in poppy pod estimation)
- Sample size (at least 3-year image data required for developing model for forecasting and yield biomass estimation)
- Suggested frequency of drone in crop cycle 3 times (gum-based lancing)

9.2.3. Analysis of Satellite Imagery

Post collection of Satellite and UAV optical imagery data, the bidder needs to analyze the imagery for crop index identification:

- Step 1: Extraction of AOI (area of interest) from the imagery which can also be terms as study area delineation.
- Step 2: Overlaying of Satellite Imagery collected for different seasons. Further the images are to be processed to prepare TIFFs/ IMGs/ECWs seamless images.
- Step 3: NDVI image generation on basis of the satellite imageries can be used to generate crop pattern map.
- Step 4: Identify the spectral signature and code them to their respective crops. Prepare crop pattern maps.

9.2.4. Validation with Ground Survey Data

The crop pattern maps generated in the previous step are to be validated and the GIS model needs to be calibrated based on spectral signature emitted by Opium crops. This model is to be further develop for auto identification of crops from satellite imagery.

For validation, ground truthing is to be carried out for each of the vegetation index obtained in the crop pattern maps matching with their corresponding crops. For example, if there are 20 ranges of vegetation index obtained in a particular study area, ground, and image-

based scouting for 1 sample of each of the index needs to be carried out. Once the index for which the opium crop is matched, the index code can be replicated for the study area vector imagery.

This exercise needs to be carried out by the bidder which will enable the GIS system to auto identify other places where illicit Opium cultivation is carried out.

9.2.5. Post Implementation

The post implementation output of this exercise will be:

- Identification of illegal Opium cultivation using remote sensing and GIS
- Generation of NDVI maps
- Generation of Crop pattern maps
- Ease of carrying out enforcement activities

9.3. Technical Specifications for customized platform

Department intends to acquire all the poppy cultivation field layouts with accurate cultivation area and images during the cultivation period. To enable this vendor shall provide a technology platform that should be able to ingest and process high-resolution data from a variety of drone or similar aerial mapping platforms. The technology platform being offered shall come with an inbuilt enterprise Geospatial server solution to store, manage, analyze and disseminate the GIS and imagery data acquired via such aerial/drone survey. In addition to the following the functionalities are also detailed out in Annexure.

- GIS platform to have the capability of using free base maps like Imagery, High-Resolution Imagery, Oceanic data, Topographic, Street View data, etc. along with CoTS software to have a more accurate location scenario w.r.t. actual location. GIS Platform to have locational analytics and reports in form of configurable dynamic interactive dashboards which can help the users to track data using Pie/Bar Charts and run queries. Users should be able to configure them rather than write scripts.
- GIS Platform to have locational analytics software to connect to multiple databases like SQL, Oracle, Postgres. Where-in data can be integrated with MIS and reports can be visualized spatially on map.
- India-specific solutions should be customized in the software based on the requirements. The software should have facility for customization scalability. The customized solution should serve the application areas like Environmental and ecological studies such as forestry, agriculture, atmospheric data analysis, wildlife, and environmental analysis.
- GIS Platform to have locational analytics platform to support multiple Mobile OS.
- GIS Platform can create websites using templates and software should also have support to create a website from scratch using Wizard. This would enable the department to have multiple apps on browsers, tabs, mobiles etc. for different users with different roles and responsibilities.
- GIS Platform to make an application using development options .NET or Java or COM or Python to ensure scalability of the software among other software's.
- GIS Platform to have capabilities to create Reports Generation facility without requiring any additional software. Locational analytics software should be capable of generating infographic informative reports.

- GIS Platform to have software that helps visualize, and analyze data from multiple sources on maps, charts, and tables. Spatial financial problem should be customized interactively by applying analysis tools and shall share results across the enterprise.
- Software should have online or offline module for delivering useful imagery products from raw imagery with on-the-fly processing like orthorectification, pan sharpening, rendering, enhancement, filtering, and map algebra capabilities etc... Reduce data duplication by support for formats like JPEG2000, Geotiff, tiff, img formats.
- GIS system should have a portal for an administration that lets administrators add, update, manage and maintain GIS data and user management, content Sharing and the capability to build various GIS applications out of the box.
- Software platform should support Windows or Linux or any other platforms. GIS Server software should support standard Web server/application servers like IIS/Apache/ Tomcat/Web Sphere/Web logic etc.
- Integrations & OGC compliance – The software should provide open API & SDKs for developers to build/extend custom web mapping applications. (ex: Qt, .NET, Java, JavaScript). This must support Open Geospatial Consortium (OGC) and open web services like Map, WMS 1.0, WFS 2.0, WCS, WMTS, WPS, KML, Geo JSON, etc.)
- Editing administrators will have an in-build capability to create versions.
- The GIS platform should have capability to be integrated with base layers like Admin boundaries up to village level, Pin code boundaries, Constituency boundaries, Railway boundaries, Authoritative content from SoI, CWC, Government scheme's data- PMGSY, MGNREGA, Economic Survey Indicators etc., Open data from OSM etc. which will be provided by department on time-to-time basis.
- The data layers should have metadata detailing Item Descriptions, Source Details and Terms of Use.
- Enterprise GIS systems must be highly scalable. It must have architecture deployment flexibility such as single machine, multiple machines, cluster-based environment Active-Active Active- Passive, and multiple sites deployment. The system must be vertically scalable. GIS platform capability should be offered by a single/ seamless integration of software based on the same technology.
- Server software should support Security, Authentication, and Authorization using - Web-tier authentication (IWA, PKI), GIS-tier authentication (built-in identity, Enterprise logins), Enterprise Groups (Active Directory and LDAP) and TLS
- GIS System should support adding data, editing, and viewing by multiple users on a desktop, web browser and mobile clients. Web Server-based GIS should support any client and device including mobile, web browsers (Internet Explorer, Google Chrome and Firefox), and desktop applications.
- Desktop GIS Software should support On-the-fly dynamic labeling, multi-labeling, interactive labeling, rotation of labels from an attribute field, interactive label placement, predefined label styles & finally, saves labels as a data layer. This can also be defined as rule based.
- Should provide a complete web-based single gateway portal out of the box as an organizational GIS platform to Create, Access, Manage, and Share and disseminate geospatial content amongst users. In other words, it should provide a map-centric web

portal platform for managing the organization's geospatial content. Should have a facility of user management to create an account, and grant/ revoke user rights for viewing, publishing or administrator rights to any users across the network.

- Should have a facility to share published GIS content with other users and only authorized users can view or modify the shared content. Enterprise Web GIS system should have out-of-the-box capability to change the web pages appearance and to select services, base maps, templates, galleries, and available groups to be used.
- Should support Tile layer from Vector and Raster layers for better performance and fast accessibility. Should support browser-based access for viewing, editing and analysis of Geo-Spatial Data
- The Portal administrator should be able to create and manage groups out of the box to control access to the maps, applications, and other geographic information you have been stored. A group owner can decide who can find the group, if others can request to join, and who can contribute their content.
- It should provide a web publishing wizard out of the box so that registered users can publish websites, create GIS applications without the need of programming. Users should be able to insert search tags to assist authorized users to search and locate geographic information, web maps, and web GIS applications create and shared by other users. The search results should be helpful to determine the usefulness of each item and find related items.
- Enterprise Web GIS should be capable to disable legend entries dynamically for the layers that will change the visibility based on zoom in and out.
- The system must have the capability to process the geoprocessing on the web out of the box where users can use multiple geospatial tools to build a model on desktop and able to publish the processing service on the web that define the inputs and outputs criteria to come out for the desired analytic results.
- GIS Platform must convert between 2D and 3D & link 2D and 3D views. One can view 2D & 3D view simultaneously in the display area and can compare the geography. While moving and panning geography in one view (2D or 3D) should automatically change the respective view of other view (2D or 3D).
- GIS data model should support domains, subtype, spatial rules and relationship, joins and spatial references etc. GIS Solution must have a GIS explorer to manage and maintain the GIS data model. It must support database administration for user creation and management for GIS database.
- GIS system must support Industry leading database storage such as Amazon RDS for Microsoft SQL Server or Amazon RDS for PostgreSQL or IBM DB2 or Informix or Microsoft Azure SQL Database or Microsoft SQL Server or Oracle or PostgreSQL etc.
- GIS Desktop should be capable of maintaining data history, version management and conflict detection /resolution. Should support database check in – check out /replication functionalities, hence maintaining the parent child relationship of Master Database.
- GIS Desktop software should support creation & publishing of Geodata on the application server for accessing the GIS data model through LAN or on internet.

- System must create group layers from multiple data sources including vector overlays on top of raster data using desktop software. UNICODE support for Multilanguage attributes in desktop application

Primary data source for feeding and ingestion for interpolation and modelling purpose:

- CBN registers, digitized and migrated data
- CBN unified portal data
- ADRIN image data
- Drone/UAV survey data

Secondary data sources:

- Open-Source Capability (Optional):
  - ✓ QGIS data; https://www.qgis.org/
  - ✓ Sentinel monitoring data
  - ✓ Google earth data
- Government Resource Pool Data ingestion and resource capability (Optional):
  - ✓ State Cadastral Maps
  - ✓ ICRISAT images
  - ✓ NCRC centre image
  - ✓ CIMAP modelling & analytical data

- Desktop system must support on-the-fly projections for the coordinates systems of GIS data for matching the projection of GIS data of different projected coordinate system.
- Build and analyses complex surfaces to identify patterns or features.
- Should be able to apply cell, neighborhood, zonal overlay, to the model your spatial data.
- Should have an inbuilt graphical modeling tool, to create advanced procedures and workflows.
- Ability to generalize data to omit unnecessary details.
- GIS Desktop should support Image processing using pre-trained deep learning packages for automated feature extraction, tree identification and land cover classification etc.
- GIS desktop must have version/audit trail capability for multiple users editing and tracking of the editing work done by various users. GIS database administrator must have the capability for resolving any conflicts that may have occurred due to multiple users editing on data. There should be a complete mechanism for conflict detection and resolution while submitting the final data to GIS database.
- Serve very large volumes and numbers of raster to a large range of client applications using effortless distribution.
- Directly publish large image collections without pre-processing.
- Dynamically mosaic images in different projections, formats, locations, and pixel sizes
- Provide imagery access with dynamic mosaicking and on-the-fly processing.
- Image management server should support time aware WMS services.
- Should facilitate animation of time enabled data on the web for spatio-temporal analysis.

- Support for cloud services should be there (Amazon, Azure etc.)
- Platform should support rapid and configurable deployment of mobile apps.
- Mobile App should support task-based user experience on mobile devices.
- Mobile App should be available on both Android and IOS.
- Mobile App should support disconnected environment working mode and the capability to synchronize data between field and office.
- Mobile App should support users with little knowledge and scalable to large crowd.
- Mobile App should support higher accuracy of data collection.
- Mobile App should support collection using GPS/GNSS, predefined drop-down list to maintain data consistencies.
- The platform should have a Dashboard showing all lease areas on India geographical base map provided by the department.
- The platform should allow adding and removing multiple team members to a project and provide different access such as full (Clipping, downloading and viewing) and read-only access (only view) of drone data to different stake holders.
- The platform should process aerial images automatically (with pre-defined settings)/ manually to generate Orth mosaic, DSM DTM, contours, hill shading, and Point cloud of drone data in OGC-compliant data formats.
- The platform should generate the Visible Atmospherically Resistant Index (VARI) automatically over visual data.
- The platform should have interactive tools to measure length, area, cut and fill volume, the difference in volume, etc.
- The platform should allow clipping & downloading and publishing Orth mosaic, DSM, DTM, and Point cloud as service on web-GIS.
- The platform should support cataloging of Orth mosaic, DSM and DTM. This data should be available for clipping and downloading for authorized users and also can be shared as OGC complaint interoperable services.
- "Should have the concept of automatic crawling and metadata harvesting in the proposed COTS GIS Server software package itself, an administrator should be able to serve data (or a set of data) without worrying about the new or changed data. Proposed software can efficiently judge and serve the latest data. An administrator does not have to keep adding new or changed data because of updates being done in ‘a’ business system. And hence this ‘automated service management’ increases the efficiency and productivity by reducing the time required to manage it. The system must do the following tasks automatically out of the box:
  - Metadata harvesting and cataloguing from raster datasets.
  - Footprint generation.
  - Thumbnail generation.
  - Image Pyramid generation".
- The proposed COTS software should provide a synchronized lookup functionality for automatically uploading and cataloguing of raster datasets from a remote machine, very much like a DropBox. The administrator should be able to configure multiple drop boxes between remote machines (Over a network) and the server, it should be automatically look and uploaded to the preconfigured location on the server and once uploaded, the

same should also be catalogued along with all metadata harvesting facilities. Once configured, the dropbox should not require any manual intervention apart from dropping raster files on the incoming folders.

- Web services metadata should be automatically exposed through an OGC-compliant CSW (ebRIM) web interface, as well as through RESTful endpoints.
- Software should have license free 64bit administrator client to crawl and manage geospatial data.
- The proposed solution should have a “full” ISO 19115/19139 support for resource and service metadata management and encoding. An administrator can edit and update the metadata information.
- Using browser-based web client, the end user can Execute complex spatial models in a map area of interest, with detailed knowledge of the process or data and immediately visualize the Web Processing Service (WPS) outputs on the map out of the box.
- The Software should provide extremely fine-grained security model to assign access, scale and spatial security permissions to every dataset & aggregate / folders in the system per user/role. Should support full SSL.
- The system must stream high volumes of data over an Enhanced Compressed Wavelet Protocol (ECWP) for browser-based web client and desktop SW like AutoCAD etc.
- "Fine grained security system. The proposed solution should secure data depending on the following parameters:
  - Spatial extent (for restricted areas)
  - Depending on a scale
  - Depending on the data and type of user.
  - Depending on resolution (Globally i.e., Irrespective of any users or datasets)"
- The COTS software should provide the option to configure multiple themes in the web client by the administrator without any customization.

9.4. Design of Enterprise GIS Architecture to meet the requirements specified in the RFP

CBN needs a GIS platform to support enterprise-wide GIS, development of web-based GIS applications and desktop-based GIS for smooth editing of GIS data. Following are the estimates of the approximate usage of the proposed GIS application:

- Minimum No. of users on Intranet simultaneously viewing GIS data - 100
- Minimum No. of users on Intranet simultaneously editing GIS data – 50
- Minimum No. of users on Internet simultaneously viewing GIS data through CBN web portal – 5000
- Minimum No. of users collecting GIS data from remote sensing devices integrated with GIS application- 500

9.5. User Acceptance Testing (UAT)

The primary goal of Acceptance Testing is to ensure that the proposed GIS System meets requirements, standards, and specifications as set out in this RFP and as needed to achieve the desired outcomes. The Bidder/SI will prepare the UAT criteria document and sample data for UAT, and take approval from CBN, well in advance before start of the UAT process.

For UAT the test cases should be discussed, and the test data will have to be formally requested from each of the departmental users to ensure that each of the module user get real time feel of the application. This approach would also help in availing faster acceptance from respective user departments of CBN and their key stakeholders. CBN reserves its right to undertake this exercise of Testing, Acceptance and Certification through a third party.

The basic approach for UAT should ensure that the following are associated with clear and quantifiable metrics for accountability:

- Functional requirements
- Performance
- Security
- Manageability
- SLA Reporting System
- Project Documentation
- Data Quality Review

9.6. Training

- Prepare and organize training programs to facilitate the departmental users in the efficient usage of the whole system.
- The Bidder/SI shall provide training to departmental users to efficiently use the system. The staff thus trained would subsequently train the other staff as and when required.
- The Bidder/SI shall provide training as per the proposed training plan schedule to be shared as part of Approach and Methodology section in technical bid.
- Bidder must conduct a proper Training Needs Analysis of all the concerned staff and draw up a systematic training plan in line with the overall project plan. For all these training programs the bidder has to provide necessary course material and reference manuals (user/ maintenance/ administration)
- Based on the roles and responsibilities of the CBN officials at various levels, the training plan should be proposed; it should address level wise functional and general training requirements in accordance with the existing skillset and capacity of the CBN officials.
- Training plan would include sessions (classroom training sessions + Virtual Training Sessions) for the entire project duration.
- The Bidder/SI shall provide training to the selected officials of CBN as decided by the authorized official. The training batch size should not be more than 20 officials.
- Bidder has to train at least 500 key department users for hands on training regarding the GIS application usage.
- The selected bidder will have to take at least 5 training session for each user department
- A detailed training schedule, including the dates, areas to be covered, time and the training literature (to be supplied to CBN) at various stages of the training cycle and feedback for effectiveness will be agreed to by both parties (CBN and the selected Bidder/SI) during the performance of the Contract.
- As Field and Test Measurement surveys are to be carried out in presence of CBN officials, capacity building of accompanied CBN officials regarding operation of GIS enabled mobile devices is to be carried by the selected bidder/ SI.

- Training shall also be provided for teaching the basic trouble shooting activities in case of problems.
- Trainings shall be provided as per the training schedule provided by selected SI/Bidder.
- Training shall be imparted in Hindi and English language as per the requirement of the trainees. The printed manuals and training manuals should also be available in Hindi and English Language.
- Training is an important aspect of every project, and the authority expects the successful bidder to undertake it in a very professional manner. All the module users will have to be trained with respect to the functionality of the corresponding modules.
- If the Authority feels the need for any special training (in addition to those already planned by selected bidder), then adequate time will be provided to selected bidder to arrange the same, after which, a classroom and/or virtual training would be conducted for the concerned stakeholders.
- If, however, apart from the training requirement is not adequate and The Purchaser feels the need to conduct a greater number of trainings, then additional trainings may be planned.
- The proposed training module is expected to help the Purchasers officers and other stakeholders to undertake their revised roles and responsibilities with ease and without any apprehensions.

9.7. System Documents, User Documents

The Successful Bidder will provide documentation, which should follow the ITIL (Information Technology Infrastructure Library) standards. This documentation should be submitted as the project undergoes various stages of implementation. Indicative list of documents include:

- Project Commencement Documentation: Project Plan in giving out micro level activities with milestones & deadlines.
- Training Material: Training Material will include the presentations used for trainings and also the required relevant documents for the topics being covered.
- User Manuals: For all the Application Software Modules, required for operationalization of the system.
- System Manual: For all the Application Software Modules, covering detail information required for its administration.
- Test Plans and Test cases (including Unit Test Plan, System/Integration Test Plan, User Acceptance Test Plan, Security Test Plan, Load Test Plan, Regression Test Plan)
- Inspection and testing procedures manual including QA Policy as per STQC framework and Procedures for the software/hardware equipment
- Any other document(s) deemed necessary for implementation, operation and maintenance of the overall system.
- Software Design Document
    - High Level Software Design document including Software Architecture design, Logical and Physical Database Design etc.
    - Low Level Software Design document including Programming Logic, Workflows etc.
    - Complete Source Code with documentation

- The bidder shall prepare a process document in accordance with the ISO 9001 standard; containing all the process being carried out during the entire tenure of the project and share the same with CBN.
- Periodic reviews (at least once every quarter) shall be carried out for measurement of effectiveness for each of the process implemented and the same shall be shared by the System Integrator with CBN
- Escalation Mechanism
- Exit Management Plan

Note: The successful bidder will ensure Upkeep & Updating of all documentation and manuals.

9.8. Minimum Qualification and Experience of key Resources

The following are minimum qualifications and experience for key resources carryout the mandate for field surveys, data entries, data digitization and collation for the required work of at least 1,50,000 licensed and an area with geographical expanse spread across the three states that is Rajasthan, Madhya Pradesh, Uttar Pradesh, with the gross cropped area estimating around 15,000 hectares, for which this RFP is been basically carried out. In the considered view, the following minimum requirement and capabilities for the following personnel is being illustrated and provided in below table:

S. No	Role	Minimum Quantity	Min. Educational Qualification & Experience
1	GIS SMEs (Subject Matter Expert)	2	M.E / M. Tech / M. Plan / M.Sc., in Geography / Remote Sensing / Computer Science/Geo informatics with 10+ years of experience in surveying Skills: Experience in Spatial Data bases / Remote Sensing / Urban Planning / Socio-economic data with GIS and Handling a Team of 15 persons
2	GIS Operator	5	M.E / M. Tech / M. Plan / M.Sc., in Geography / Remote Sensing / Computer Science/Geo informatics with 5+ years of experience in surveying Skills: Experience in Spatial Data bases / Remote Sensing / Urban Planning / Socio-economic data with GIS and Handling a Team of 15 persons
3	Field Surveyors	475	12th board pass out with fluency in Hindi and English and having basic surveying experience in field surveys.
4	Survey Team Lead	25	The Survey Team Head must have a relevant diploma in Engineering with At least 3 years' Experience in All types of Topographic survey

10. User Support and Maintenance for the Integrated IT application for 5 years

The Bidder shall be appointed for a period encompassing 5 crop years as defined in the RFP with the crop year commencing from the 1st October 2024. (So, that it covers the complete opium crop cycle)

Application support includes, but not limited to, production monitoring, troubleshooting and addressing the functionality, availability and performance issues, implementing the system change requests etc. The Bidder shall keep the application software in good working order; perform changes and upgrades to applications as requested by the Purchaser's team. Key activities to be performed by Bidder in the application support phase are as follows:

1. Application monitoring and Compliance to Service Level Agreements.
2. Application support including modifications and integration with future systems.
3. Bugs/Fixes Management.
4. Software Change and Version Control.
5. Maintenance of Configuration and System Documentation.
6. Deployment of dedicated resources at CBN head office.

The bidder shall provide required manpower (Onsite and Offsite) to support the department in smooth operation and maintenance of GIS based Opium project cycle management. In case the department feels that the deployed manpower isn't able to suffice the request then the bidder is required to deploy additional resources in order to fulfil the needs.

10.1. Service Level Agreements & Penalties

The Service Levels applicable for various activities under this RFP, that would be incorporated in the contract between the Purchaser and the Successful Bidder as service level agreement that have been provided in the tables in Annexure 7 of this RFP. The Successful Bidder is responsible to submit the periodic SLA report to the Purchaser for effective monitoring of SLA's.

Note: No penalties shall be levied on the Successful Bidder in the following cases

- Non-compliance to the SLA for reasons beyond the control of the Bidder
- Force majeure event affecting the SLA

These service levels define the Successful Bidder's responsibility in terms of ensuring the timeliness and accuracy of services (including deliverables) under this contract and have been broadly categorized as below:

1. Successful Bidder should provide adequate tools/ setup adequate processes for capturing data required for measuring SLAs at no extra cost to the Purchaser.
2. The maximum penalty, excluding LD which would be imposed for late delivery, at any point of time on a cumulative basis and for any period shall not exceed 10% of project cost as per the Financial Bid submitted by the Successful Bidder. In case the penalty exceeds 10%, Purchaser reserves the right to terminate the project.

3. The SLAs shall be revisited by the department during the Project and may be revised in discussion with the Successful Bidder. However, the revised SLAs shall not cause any changes in the financial quote of the Bidder.
4. Agreement between the Purchaser and the Successful Bidder will be in the form of a Service Level Agreement (SLA). The SLA specifies the expected levels of service to be provided by the Successful Bidder to Bidder (Details for SLA criteria have been added to Annexure 7 of this RFP). This expected level is also called the baseline. Any degradation in the performance of the solution and services is subject to levying penalties as specified in Annexure 7 of this RFP.
5. Annexure 7 indicates the suggested SLA between Purchaser and the Successful Bidder for the project. A set of parameters has been identified as key to the successful implementation of the Project. If the performance of the Successful Bidder in respect of any parameter falls below the prescribed tolerance limit, a penalty is imposed for the breach. All the payments to the Successful Bidder are linked to the compliance with the SLA metrics specified in Annexure of this RFP. During the contract period, it is envisaged that there could be changes to the SLAs, in terms of addition, alteration or deletion of certain parameters, based on mutual consent of both the parties i.e., the Purchaser and Successful Bidder.

10.2. Application Support including modifications and integration with future systems

Bidder shall also provide hand-holding support to the Purchaser's personnel from the date of Go-Live of application. These personnel must be clearly identified exclusively for this role.
The scope of Bidder covers the following activities:

1. Enhancement / modifications with respect to new / enhanced / enriched functionality.
2. Ensure the desired functioning of the Interface / integration.
3. Test scripts preparation and interim application testing.
4. Application installation and testing whenever required.
5. Modification / development of reports.
6. Provide technical support on system parameters and requirement for Purchasers Enterprise Applications Software.
7. Manage the database administration according to the agreed standards.
8. Present relevant information and training if applicable and necessary regarding the use and functions of new products and services to a defined number of relevant Users designated by Purchaser.
9. Provide handholding support to end users in carrying out the business process transactions.

10.3. Bugs/Fixes Management

1. Bidder shall provide unlimited support and incident response system as required as per the service window defined in the RFP.
2. The Bidder shall address all the errors/bugs/gaps/hacks/malware elimination etc. in the functionality in the solution implemented by the Bidder (vis-à-vis the FRS and SRS signed off) at no additional cost during the support phase.

3. All patches and upgrades from OEMs shall be implemented by the Bidder ensuring customization is done in the solution as per the Purchaser's requirements. Technical upgrade of the installation to the new version, as and when required, shall be done by the Bidder.
4. Any changes/upgrades to the software performed during the support phase shall subject to the comprehensive and integrated testing by the Bidder to ensure that the changes implemented in the system meets the specified requirements and doesn't impact any other function, output and efficiency of the system.
5. Tuning of products/ applications, databases, third party software's and any other components provided as part of the solution software including reconfiguration of the system in the event of any hardware/ network failures/ if any hardware/ network components must be replaced, shall be the responsibility of the Bidder.
6. Issue log for the errors and bugs, malware identified in the solution and any change done in the solution shall be maintained by the Bidder and periodically submitted to the Purchaser team and pursuant to the incident response.

10.4. Problem Identification and Resolution

1. Errors and bugs that persist for a long time, which impact a wider range of users and are difficult to resolve become a problem. Bidder shall identify and resolve all the application problems in the identified solution (e.g., system malfunctions, performance problems and data corruption etc.).
2. Monthly report on problem identified and resolved would be submitted to the Purchaser's team along with the recommended resolution.

10.5. Grievance Redressal

Grievances / complaints shall be registered by any users of the portal. Timely redressal of the same shall be a crucial KPI for measuring the success and compliance of the portal. Hence, it is pivotal to design a module to manage, periodic collect and record grievances and disseminate it to appropriate authority.

1. System to register the complaints received either in writing or phone or email.
2. System to assist in assigning the grievance to appropriate authority.
3. System to send reminders each week in case of non-resolution of the grievance.
4. System to send the progress update to the complainant.

10.6. User Administration

Bidder will be responsible for:

1. Register new users and delete existing user's accounts as Purchaser requests.
2. Assign and change user passwords.
3. Implement adequate password complexity policy across the enterprise.
4. Use of the Web Single Sign On solution for the users.
5. Undertake the usage of the Authentication, Authorization & Auditing module for the users.
6. For critical user transactions, employ the usage of the OTP solution.

11. Security Administration

The security service will cover the user profile management, authentication, and authorization aspects of the security control. This service run across all the layers since service components from different layers will interact with the security components. All public contents should be made available to all users without authentication. The service will authenticate users and allows access to other features of the envisaged application for which the user is entitled to.

Following are some of the key requirements for Security Services through solution:

1. Data security policies and standards to be developed and adopted across the departments and systems.
2. To adequately provide access to secured information, security needs must be identified and developed at the data level. Database design must consider and incorporate data integrity requirements.
3. Role based access for all the stake holders envisaged to access and use the system.
4. Appropriate authentication mechanism adhering to industry good practice of password policies etc.
5. Authorization validity to be ensured for the users providing the data to the system. Data should be accepted only from the entity authorized.
6. Data should be visible only to the authorized entity.
7. Audit trails and Audit logging mechanism to be built in the system to ensure that user action can be established and can investigated if any can be aided. (E.g., Logging of IP Address etc.).
8. Data alterations etc. through unauthorized channel should be prevented.
9. Industry good practice for coding of application so as to ensure sustenance to the Application Vulnerability Assessment.

11.1. Authorization

Solution should allow a user to access various functions, forms, screens, sub modules, information, etc. as per the authorization and user role permitted by the portal administrator as per available guidelines and policies.

Public user can browse the portal with rights to view public content available on the website, remaining all types of users shall enter the solution using appropriate secured authorizations.

Authorization of system users should be enforced by access controls. It is recommended to develop access control lists. Consider the following approach for developing access control list.

- Establish groups of users based on similar functions and similar access privilege.
- Identify the owner of each group.
- Establish the degree of access to be provided to each group.

11.2. Multiple Authentication

The solution should support multiple authentication methods such as Username password, two factor authentication, captcha etc. The Bidder along with the Purchaser, shall roll-out strong authentication for users in phased manner.

Authentication should be done for all valid Users. A valid user for this application should be the one who has been set-up in the application such that he/she can access the application and perform tasks as per assigned roles and responsibilities as well we access rights within the system. Authorized users should have to access the login screen for authentication.

Audit trail should be a detailed record showing who has accessed the application and what transactions/ operations have been performed by the concerned user during a given period of time. Audit trail must display the following details, but not limited to, with filter / sorting criteria options:

1. Timestamp
2. Username
3. Module – Sub Module – Screen – Section – Field Name
4. Previous Value
5. Current Value
6. IP Address
7. Remarks (if any)

It is must that the Audit Trail module does not have a 'Delete' or 'Edit' right granted to any user irrespective of any type or hierarchy as created in the system. The 'view' rights should also be controlled through RBAC in Admin Module.

11.3. Application Security

1. The solution must comply with the Application Security Plan and security guidelines of Government of India viz for the Cert-IN, NCIIPC, NIC, MeitY as maybe issued from time to time and any other instructions of the Purchaser as applicable.
2. Secure coding guidelines should be followed. Secure coding guidelines should include controls against SQL injection, command injection, input validation, cross site scripting, directory traversal, buffer overflows, resource exhaustion attacks etc.
3. OWASP Top 10 standard should be mapped in the secure coding guidelines to cover all major vulnerabilities.
4. Validation checks should be incorporated into the application to detect any corruption of information through processing errors or deliberate acts.
5. Data output from an application should be validated to ensure that the processing of stored information is correct and appropriate to the circumstances.
6. Should implement secure error handling practices in the application system should have Role based access, encryption of user credentials. Application-level security should be provided through leading practices and standards including the following:
    i. Prevent SQL Injection vulnerabilities for attack on database.
    ii. Prevent XSS vulnerabilities to extract username password (Escape All Untrusted Data in HTML Contexts and Use Positive Input Validation).
    iii. Secure Authentication and Session Management control functionality shall be provided through a Centralize Authentication and Session Management Controls and Protect Session IDs from XSS.

iv. Prevent Security Misconfiguration vulnerabilities (Automated scanners shall be used for detecting missing patches, misconfigurations, use of default accounts, unnecessary services, etc. maintain Audits for updates.
v. Prevent Insecure Cryptographic Storage vulnerabilities (by encrypt off-site backups, ensure proper key storage and management to protect keys and passwords, using a strong algorithm).
vi. Prevent Failure to Restrict URL Access vulnerabilities (By providing authentication and authorization for each sensitive page, use role-based authentication and authorization and make authentication and authorization policies configurable.
vii. Prevent Insufficient Transport Layer Protection Vulnerabilities (enable SSL for all sensitive pages, set the secure flag on all sensitive cookies and secure backend connections.
viii. Prevent Id Redirects and Forwards vulnerabilities.

11.4. Compliance, Regulation and Policies, Government of India Guidelines

The solution must comply with MeitY's security guidelines, compliances, regulations and incident response management and other guidelines viz for NCIIPC, Cert-IN, NIC and others as the case maybe from time to time as well as policies.

The technical solution must be in conformance with e-Governance Standards of MEITY.

The entire solution must be capable of incorporating any changes because of changes in the regulations and policies of the government from time to time.

11.5. Exit Management

1. The Bidder shall submit a structured & detailed transition and Exit Management plan along with the technical proposal.
2. The Bidder needs to update the Transition and Exit Management on a half yearly basis or earlier in case of major changes during the entire contract duration. This plan needs to be discussed and approved by the Purchaser.
3. At the end of the contract period or during the contract period, if any other agency is identified or selected for providing services related to the Bidder's scope of work, the Bidder shall ensure that a proper and satisfactory handover is made to the other agency.
4. All risk during transition stage shall be properly documented by the Bidder and mitigation measures shall be planned to ensure a smooth transition without any service disruption.
5. The Bidder must ensure that no end of support products exist at time of transition.
6. The transition & exit management period will start 6 months before the expiration of the contract. The Bidder will provide shadow support for at least three months and secondary support for an additional three months before the end of the O&M period or termination of the contract, as applicable at no additional cost to Purchaser. In case of termination, the exit management period will start from effective date of termination, or such other date as may be decided by Purchaser but no later than 6 months from effective date of termination.
7. Closing off all critical open issues as on date of exit. All other open issues as on date of Exit shall be listed and provided to Purchaser.

8. The Bidder shall provide necessary knowledge transfer and transition support. The deliverables are indicated below:
9. Updated transition plan on periodic basis
10. Complete documentation for the entire system handed over to the Purchaser /identified agency.
11. Handover of all O&M support related documents, credentials etc.
12. Detailed walk-throughs and demos for the solution.
13. Hand-over of the entire software including source code, program files, configuration files, setup files, project documentation, etc. made for the Purchaser.
14. Knowledge transfer of the system to the incoming Purchaser to the satisfaction of the Purchaser per the specified timelines.
15. The Bidder shall be released from the project once successful transition is completed by meeting the parameters defined for successful transition.
16. A detailed program of the transfer process that could be used in conjunction with a Replacement Bidder including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer.
17. Plans for the communication with such of the Bidder's staff and any related third party as are necessary to avoid any material detrimental impact on the Purchasers operations because of undertaking the transfer.
18. Plans for provision of contingent support to the Purchaser, and Replacement Bidder for a reasonable period after transfer.
19. The Bidder shall re-draft the Exit Management Plan annually and get it approved from the purchaser to ensure that it is kept relevant and up to date.
20. In the event of termination or expiry of MSA, each Party shall comply with the Exit Management Plan.
21. During the exit management period, the Bidder shall use its best efforts to deliver the services.
22. Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule as indicated in this RFP.

12. Project Deliverables & Timelines

Note:
M_1 = 1st October of 2024
M_2 = 1st October of 2025
M_3 = 1st October of 2026
M_4 = 1st October of 2027
M_5 = 1st October of 2028

The below mentioned deliverables needs to be completed within the mentioned timelines.

S. No	Deliverable	Timeline (in months)
	Year 1	
1	Procurement and Supply, Installation, Testing and Commissioning (SITC) of GIS engine	**M_1**+1
2	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium license details, previous year field book details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.	**M_1**+1.5
3	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation)	**M_1**+3.5
4	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_1**+3.5
5	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_1**+5
6	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_1**+10
	Year 2	
7	Sign off and acceptance of Renewal of GIS Engine Operation Licenses	**M_2**+1
8	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium license details, previous year field book details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.	**M_2**+1.5
9	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation) including Opium Crop yield estimation and forecasting.	**M_2**+4.5
10	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_2**+4.5
11	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_2**+6
12	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_2**+9
13	Sign off and acceptance of O&M and Onsite support of GIS Engine/Application	**M_2**+12
	Year 3	
14	Sign off and acceptance of Renewal of GIS Engine Operation Licenses	**M_3**+1

S. No	Deliverable	Timeline (in months)
15	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium license details, previous year field book details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.	**M_3**+1.5
16	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation) including Opium Crop yield estimation and forecasting.	**M_3**+4.5
17	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_3**+4.5
18	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_3**+6
19	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_3**+9
20	Sign off and acceptance of O&M and Onsite support of GIS Engine/Application	**M_3**+12
Year 4		
21	Sign off and acceptance of Renewal of GIS Engine Operation Licenses	**M_4**+1
22	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium license details, previous year field book details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.	**M_4**+1.5
23	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation) including Opium Crop yield estimation and forecasting.	**M_4**+4.5
24	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_4**+4.5
25	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_4**+6
26	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_4**+9
27	Sign off and acceptance of O&M and Onsite support of GIS Engine/Application	**M_4**+12
Year 5		
28	Sign off and acceptance of Renewal of GIS Engine Operation Licenses	**M_5**+1
29	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium license details, previous year field book details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.	**M_5**+1.5
30	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation) including Opium Crop yield estimation and forecasting.	**M_5**+4.5
31	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_5**+4.5
32	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_5**+6
33	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_5**+9

S. No	Deliverable	Timeline (in months)
34	Exit Management Plan	**M_5**+10
35	Sign off and acceptance of O&M and Onsite support of GIS Engine/Application	**M_5**+12

13. Award of Contract

13.1. Notification of Award/ Letter of Intent

The Purchaser will notify the successful Bidder in writing that its proposal has been accepted. The Purchaser shall issue a Letter of Intent to the selected Bidder and the name of the selected Bidder.

13.2. Letter of Acceptance and Signing of Contract

The successful Bidder shall, within 15 (fifteen) days of the receipt of the LOI, give acceptance on its letterhead having authorized signatory, submit Performance Bank Guarantee and the Master Service Agreement. In the event of the acceptance letter duly signed by the Selected Bidder is not received by the stipulated date, or the Bidder fails to execute the MSA or submitted PBG, the Purchaser may, unless it consents to extension of time for submission thereof, consider the next eligible Bidder. Security Deposit / Performance Bank Guarantee to be submitted along with acceptance letter, as per LoI by the successful Bidder within the stipulated time mentioned in LoI failing to do so Purchaser may take necessary actions. Purchaser shall have the right to forfeit the EMD of successful Bidder and award the work to the next successful Bidder.

13.3. Issuance of Work Order / Letter of Award

Post submission of Security Deposit / Performance Bank Guarantee and signing of MSA by the successful Bidder, the Purchaser will issue the Work Order / Letter of Award which will initiate the Timeline “M” of the project work to be started.

13.4. Performance Bank Guarantee (PBG)

The successful Bidder shall at his own expense submit to Purchaser unconditional, irrevocable and continuing Performance Bank Guarantee (PBG) from a scheduled commercial bank, in the format prescribed in Annexure, payable on demand, for the due performance and fulfilment of the contract by the Bidder. The proceeds of the PBG shall be payable to the Purchaser as compensation for any loss (including loss of opportunity, time or cost, etc.) resulting from the Supplier’s/ Bidder’s failure to comply with its obligations under the Contract.

The PBGs shall be submitted within 15 days from the date of issuance of the Letter of Intent.

The Performance Bank Guarantees (PBG) to be submitted at issuance Letter of Intent.

PBG shall be invoked by Purchaser in the event the Bidder:

1. Fails to meet the overall liquidated damages condition as mentioned in RFP or any changes agreed between the parties,
2. Fails to perform the responsibilities and obligations as set out in the RFP to the complete satisfaction of Purchaser including failure to comply with exit management responsibilities.
3. Misrepresentations of facts/information submitted to Purchaser.

The PBG shall be valid till satisfactory completion of Post Implementation Support for a period of 180 days beyond the date of completion of all contractual obligations.

The PBG may be discharged/returned by Purchaser upon being satisfied that there has been due performance of the obligations of the Bidder under the contract. However, no interest shall be payable on the performance bank guarantee.

In the event of the Bidder being unable to service the contract for whatever reason, Purchaser would invoke the PBG. Notwithstanding and without prejudice to any rights whatsoever of Purchaser under the contract in the matter, the proceeds of the PBG shall be payable to Purchaser as compensation for any loss resulting from the Bidder's failure to perform/comply its obligations under the contract. Purchaser shall notify the Bidder in writing of the exercise of its right to receive such compensation within 40 days, indicating the contractual obligation(s) for which the Bidder is in default. Forfeiture of PBG shall be without prejudice to any other right of the Purchaser to claim any damages as admissible under the law as well as to take such action against the Supplier/Bidder such as severing future business relation or blacklisting, etc., as may be deemed fit.

Purchaser shall also be entitled to make recoveries from the Bidder's bills, performance bank guarantee, or from any other amount due to him, an equivalent value of any payment made to him due to inadvertence, error, collusion, misconstruction, or misstatement, failure in auditing or incident response.

In case the project is delayed beyond the project schedule as mentioned in RFP, the performance bank guarantee shall be accordingly extended by the Bidder till completion of scope of work as mentioned in RFP.

On satisfactory performance and completion of the order in all respects and duly certified to this effect by the Project Coordinator, Contract Completion Certificate will be issued and the PBG will be returned to the Bidder.

13.5. Failure to agree with the Terms and Conditions of the RFP

Failure of the successful Bidder to agree with the Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event Purchaser may award the contract to the next best value Bidder or call for new proposals. In such a case, Purchaser shall invoke the PBG and/or forfeit the EMD.

The Bidder at no point of time can excuse themselves from any claims by the Purchaser whatsoever for their deviations in conforming to the terms and conditions, payment schedules, the timeframe for implementation, etc. as mentioned in Request for Proposal (RFP) document.

14. Payment Terms (for BOQ please refer para 18.2)

S. No	Deliverable	Timeline (in months)	Payment Terms
	Year 1		
1	Procurement and Supply, Installation, Testing and Commissioning (SITC) of GIS engine	**M_1**+1	32% of BoQ Item No 3.1
2	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium license details, previous year fieldbook details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.	**M_1**+1.5	40% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of respective year + 5% of BoQ Item No 2.1, 2.2
3	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation)	**M_1**+3.5	60% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of respective year
4	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_1**+3.5	100% of BoQ (Item No 1.5 and 1.7)of respective year
5	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_1**+5	10% of BoQ Item No 2.1 and 2.2
6	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_1**+10	5% of BoQ Item No 2.1 and 2.2
	Year 2		
7	Sign off and acceptance of Renewal of GIS Engine Operation Licenses	**M_2**+1	17% of BoQ Item No 3.1
8	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium license details, previous year fieldbook details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.	**M_2**+1.5	40% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of respective year + 5% of BoQ Item No 2.1, 2.2
9	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation) including Opium Crop yield estimation and forecasting.	**M_2**+4.5	60% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of respective year
10	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_2**+4.5	100% of BoQ Item No 1.5 and 1.7 of respective year
11	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_2**+6	10% of BoQ Item No 2.1 and 2.2
12	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_2**+9	5% of BoQ Item No 2.1 and 2.2
13	Sign off and acceptance of O&M and Onsite support of GIS Engine/Application	**M_2**+12	20% of BoQ Item No 4.1
	Year 3		
14	Sign off and acceptance of Renewal of GIS Engine Operation Licenses	**M_3**+1	17% of BoQ Item No 3.1
15	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium	**M_3**+1.5	40% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of

S. No	Deliverable	Timeline (in months)	Payment Terms
	license details, previous year fieldbook details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.		respective year + 5% of BoQ Item No 2.1, 2.2
16	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation) including Opium Crop yield estimation and forecasting.	**M_3**+4.5	60% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of respective year
17	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_3**+4.5	100% of BoQ (Item No 1.5 and 1.7) of respective year
18	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_3**+6	10% of BoQ Item No 2.1 and 2.2
19	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_3**+9	5% of BoQ Item No 2.1 and 2.2
20	Sign off and acceptance of O&M and Onsite support of GIS Engine/Application	**M_3**+12	20% of BoQ Item No 4.1
	Year 4		
21	Sign off and acceptance of Renewal of GIS Engine Operation Licenses	**M_4**+1	17% of BoQ Item No 3.1
22	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium license details, previous year fieldbook details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.	**M_4**+1.5	40% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of respective year + 5% of BoQ Item No 2.1, 2.2
23	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation) including Opium Crop yield estimation and forecasting.	**M_4**+4.5	60% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of respective year
24	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_4**+4.5	100% of BoQ (Item No 1.5 and 1.7) of respective year
25	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_4**+6	10% of BoQ Item No 2.1 and 2.2
26	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_4**+9	5% of BoQ Item No 2.1 and 2.2
27	Sign off and acceptance of O&M and Onsite support of GIS Engine/Application	**M_4**+12	20% of BoQ Item No 4.1
	Year 5		
28	Sign off and acceptance of Renewal of GIS Engine Operation Licenses	**M_5**+1	17% of BoQ Item No 3.1
29	Submission of Secondary Data Report which will contain cultivator details, khasra details, Opium license details, previous year fieldbook details and georeferenced cadastral maps with study area delineation of Legal Opium cultivation areas.	**M_5**+1.5	40% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of respective year + 5% of BoQ Item No 2.1, 2.2

S. No	Deliverable	Timeline (in months)	Payment Terms
30	Submission of Field and Test Measurement (Survey) GIS database (legal opium cultivation) including Opium Crop yield estimation and forecasting.	**M_5**+4.5	60% of BoQ (Item No 1.1, 1.2, 1.3, 1.4 and 1.6) of respective year
31	Submission of Illicit cultivation evaluation Report which needs to identify potential illegal opium cultivation areas	**M_5**+4.5	100% of BoQ (Item No 1.5 and 1.7) of respective year
32	Sign off and acceptance of Opium GIS data integration with CBN unified portal by CBN	**M_5**+6	10% of BoQ Item No 2.1 and 2.2
33	Compliance report on Training and Capacity Building on GIS of CBN Officials	**M_5**+9	5% of BoQ Item No 2.1 and 2.2
34	Exit Management Plan	**M_5**+10	20% of BoQ Item No 4.1
35	Sign off and acceptance of O&M and Onsite support of GIS Engine/Application	**M_5**+12	20% of BoQ Item No 4.1

Note: Completion Certificate to selected bidder on to be issued if all deliverables are completed.

14.1. Additional Costs

1. All payments shall be made after adjustments required for any SLA based penalties.
2. No invoice for extra work / charge order on account of change order will be submitted by the MSP unless the said extra work / change order has been authorized / approved by CBN in writing in accordance with Change Control Schedule as agreed MSA.
3. CBN shall make payments after withholding tax deductible at source as appropriate.
4. The prices should be mentioned without any qualifications whatsoever and should include all taxes, duties, fees, levies, and other charges as may be applicable in relation to the activities proposed to be carried out. It is mandatory that such charges wherever applicable/ payable should be indicated separately. For the project bid, the MSP is expected to consider all taxes (except Service Tax).

14.2. Invoicing and Settlement

1. The Service Provider will submit its invoices in accordance with the following principles:
   a. Generally, and unless otherwise agreed in writing between the parties or expressly set out in the MSP (to be signed later), the SP shall raise an invoice after getting sign-off from Purchaser for agreed amount (including SLA adjustment if any).
   b. The invoice shall be submitted along with the necessary approval / signoff / acceptance / certification provided by the concerned parties for the respective Deliverables, failing which Purchaser reserves the right to reject the invoices.
   c. Along with the invoice, the MSP is required to submit the Deliverables linked with the payment in sign offs, softcopy and hardcopy formats, as applicable failing which the Purchaser reserves the right to reject the invoices.
   d. Any invoice presented in accordance with this Schedule shall be in a form agreed with Purchaser.
2. Invoices shall be accurate and all adjustments (if any) to payments to be made to the MSP shall be applied to the next payment invoice of the MSP.

3. Payment for invoices shall be made preferably within 60 days of the receipt of correct and valid invoice by Purchasers, which has to be after completion of the said activities, and after obtaining the signoff from Purchaser for the required Deliverables and is subject to penalties/ adjustments based on the MSP's performance. The penalties are imposed on the MSP as per the SLA criteria. In case penalties are incurred by the SP, the same shall be adjusted in the payment towards invoices.

14.3. Currency of Payment

1. Payment shall be made in Indian Rupees only.

14.4. Taxes and Statutory Payments

1. All relevant taxes would be considered for reimbursement on actuals as per CBN's discretion and prevailing Government Laws.
2. The MSP shall bear all personal / income taxes levied or imposed on its staff, vendor etc. on account of payment received under the contract. The MSP shall bear all income/corporate taxes, levied or imposed on the MSP on account of payments received by it from MSP for the work done under the contract.
3. CBN or its nominated agencies shall be responsible for withholding taxes from the amounts due and payable to the MSP wherever applicable. The MSP shall pay for all other taxes, duties or levies in connection with the MSA (to be signed later), SLAs, and any other Project Engagement Definition including, but not limited to, property, sales, use, excise duty, value-added, goods and services, consumption and other applicable taxes, duties or levies.
4. GST on Services which will be paid extra by CBN as per the prevailing rates.
5. In the event of any increase or decrease of the rate of GST on Services, the consequential effect shall be to the account of CBN.
6. In the event of any increase or decrease of any other tax, levies, currency exchange rates etc. due to any statutory notification(s) during the term of the MSA (to be signed later), the consequential effect shall be to the account of the MSP.

14.5. Liquidated Damages

1. In addition to the penalty as mentioned in the SLA, liquidated Damages will be levied on the MSP, in the event of the MSP:
2. Failing to meet the milestones provided for in the MSA,
3. Failing to perform the responsibilities and obligations as set out in MSA to the complete satisfaction of CBN or any of its nominated agencies,
4. CBN shall be entitled without prejudice to its other rights and remedies, to deduct from the price payable to the SP and also to encash the Performance Bank Guarantee, provided the total amount recovered does not exceed the Total Contract Value, whichever is higher.

15. Penalties

- **Implementation Period (Detailed Penalties have been mentioned in Annexures 7)**

Service Level Agreements for Project Implementation for GIS Platform for CBN				
#	**SLA Parameter**	**Target Performance**	**Description**	**Penalty Ref**
Portal availability and performance				
1.	Delay in any of the project milestone	< 15 days	Measured as the difference between the agreed planned date for the milestone and the actual date of its completion	15
2.	Delay in overall project duration (Individually for Business-critical functionalities & rest of the functionalities)	<1 month	Measured as the difference between the agreed planned date for the milestone and the actual date of its completion	16

- **Operations and Maintenance Period (Detailed Penalties have been mentioned in Annexure 7)**

Service Level Agreements for O&M				
#	**SLA Parameter**	**Target Performance**	**Description**	**Penalty Ref**
Reporting and Analytics Solution				
1	Average response time for simple query of the central data repository	< 2 sec	Measured as the response time for the output of a simple reporting query from the central server without taking into account the network latency	4
2.	Average response time for a medium complex query of the central data repository	< 3 sec	Measured as the response time for the output of a medium complex reporting query from the central server without considering the network latency	5
3.	Average response time for a highly complex query of the central data repository	< 5 sec	Measured as the response time for the output of a highly complex reporting query from the central server without taking into account the network latency	6
4.	Timeliness of availability or the scheduled canned reports	99.6%	Measured as the availability of scheduled/periodic canned reports in the system as per pre-set date/ time	7
5.	Average generation time for any customer analytics report	< 8 sec	Measured as the elapsed time between submitting a request for a custom or analytics report and the generation and display of the report to the user	8
6.	Rectification time for any reported violation of SLA with respect to Page response time	P1= 4 hours P2= 2 working days P3= 5 working days	Measured as the elapsed time between reporting of SLA violation for any page response and the resolution of the issue in order to meet the SLA	9

Note:

1 A simple query is a query that searches using up to 5 parameters.
2 A medium complex query is a query that searched using parameters in addition to 2 or 3 joints with multiple parameters.
3 A highly complex query is a multiple parameter with inner and outer joint.
4 **Severity 1 (P1):** Severity 1 problems are the ones which have a critical business impact and will have the following Business Impacts:
    - Entire or part of any service unavailable (including APIs)
    - Incorrect behaviour of the system
    - Security Incidents
    - Data Theft/loss/corruption
    - Severe impact on customer satisfaction/Purchaser's reputation
    - Malware and hack response, incident response out of Cert-IN or NCIIPC or others security alerts.
5 **Severity 2 (P2)**: Severity 2 problems are the ones which have a critical business impact and will have the following Business Impacts.
    - The efficiency of users is being impacted.
6 Severity 3 (P3): Severity 3 problems are the ones which doesn't have major impact on day-to-day operations.

Repeated SLA violations by the selected bidder including but not limited to quality data capture will result in termination and forfeiture of PBG.

16. Termination

The department reserve the right to cancel the contract placed on the selected bidder and recover expenditure incurred by the department under the following circumstances: -

a. The selected bidder commits a breach of any of the terms and conditions of the bid.
b. The bidder goes into liquidation, voluntarily or otherwise.
c. An attachment is levied or continues to be levied for a period of seven days upon the effects of the bid.
d. If the selected bidder fails to complete the assignment as per the timelines prescribed in the RFP. The department reserves its right to cancel the order in the event of delay and forfeit the bid security as liquidated damages for the delay.
e. If Delay in implementation is more than stipulated implementation time.
f. In case the selected bidder fails to deliver the services as stipulated in the delivery schedule, department reserve the right to procure the same or similar services from alternate sources at the risk, cost and the responsibility of the selected bidder.
g. After award of the contract, if the selected bidder does not perform satisfactorily or delays execution of the contract, department reserve the right to get the balance contract executed by another party of its choice by giving one-month notice for the same. In this event, the selected bidder is bound to make good the additional expenditure, which department may have to incur in executing the balance contract. This clause is applicable, if for any reason, the contract is cancelled.
h. All services and artifacts to be delivered in Annexure, otherwise the selected bidder shall be liable for termination, blacklisting and legal action.
i. Repeated SLA violations by the selected bidder including but not limited to quality data capture will result in termination and forfeiture of PBG.

The department reserve the right to recover any dues payable by the selected Bidder from any amount outstanding to the credit of the selected bidder, including the pending bills and/or invoking the bank guarantee under this contract.

17. Annexures for Technical Proposal

17.1. Annexure 1 (Firm's Details)

S. No.	Particulars	Description
1.	Name: Address of the Bidder: Phone nos.: Fax no.	
	(a) Registered office	
2.	Nature of constitution of Bidder (Whether individual, Partnership, form or company registered under companies Act) Enclose certificate, MOU, AOA, Partnership Deeds, etc.	
3.	Name of authorized signatory Phone no. Email ID	
4.	GST Number	
5.	PAN/TAN number	
6.	Number of on role manpower (HR declaration)	
7.	CMM Level 3 Certificate or CMMI Level 5	
8.	ISO 27001 & ISO 2000 Certificate	

Name of the Firm (with seal):

Signature of Authorised signatory:

Name of the Authorised signatory:

Address:

Phone no.:

Date:

17.2. Annexure 2 (Firm's Similar experience)

Details of similar type assignments undertaken:

General Information	
Name of the project	
Client for which the project was executed	
Name and contact details of the client	
Project Details	
Description of the project	
Scope of services	
Outcomes of the project	
Other Details	
Total cost of the project	
Total cost of the services provided by the respondent	
Duration of the project (no. of months, start date, completion date, current status, Go Live date)	
Other Relevant Information	
Letter from the client to indicate the successful completion of the projects	
Copy of Work Order	

Name of the Firm (with seal):

Signature of Authorised signatory:

Name of the Authorised signatory:

Address:

Phone no.:

Date:

17.3. Annexure 3 Covering letter of technical proposal.

To:

Dinesh Bouddh
Narcotics Commissioner,
Central Bureau of Narcotics,
19, The Mall, Morar, Gwalior – 474006 (MP)
Phone No: +91 751 2368996
email id: narcommr@cbn.nic.in

Subject: Submission of the Technical bid for _____<Name of the Systems Implementation assignment>

Dear Sir/Madam,

We, the undersigned, offer to provide services as a Managed Services Provider (MSP) for monitoring of Opium Cultivation in CBN with your Request for Proposal dated <insert date> and our Proposal.

We hereby declare that all the information and statements made in this Technical bid are true and accept that any misinterpretation contained in it may lead to our disqualification.

We undertake, if our Proposal is accepted, to initiate the Implementation services related to the assignment not later than the date indicated in Fact Sheet.

We agree to abide by all the terms and conditions of the RFP document. We would hold the terms of our bid valid for 180 days as stipulated in the RFP document.

We understand you are not bound to accept any Proposal you receive.

Yours sincerely,

Authorized Signature [In full and initials]:

Name and Title of Signatory:

Name of Firm:

Address:

Location:

Date:

17.4. Annexure 4 (Performance bank guarantee)

The format of Performance Bank Guarantee:

PERFORMANCE GUARANTEE

Ref: ----------
Bank Guarantee No:
Date:

To
The Narcotics Commissioner,
Central Bureau of Narcotics,
Department of Revenue, Govt. of India,

Against contract vide Advance Acceptance of the Tender No. _____ covering "Request for Proposal (RFP) for Onboarding of an Agency for Monitoring of Opium Cultivation using GIS in Central Bureau of Narcotics" (hereinafter called the said 'contract') entered into between the Central Bureau of Narcotics, Department of Revenue, Govt. of India, (hereinafter called the Purchaser) and M/s. , a Company incorporated under the Companies Act, 1956 and having its Registered Office at .....(hereinafter called the Bidder) this is to certify that at the request of the Bidder we (name of the Bank / Branch .....) a body corporate constituted under the Banking Companies [Acquisition and Transfer of Undertakings] Act, 1970 and having its, Registered Office at..... and a branch office at.....are holding in trust in favor of the Purchaser, an amount of Rs (Rupees.....only) to indemnify and keep indemnified the Purchaser against any loss or damage that may be caused to or suffered by the Purchaser by reason of any breach by the Bidder of any of the terms and conditions of the said contract and/or in the performance thereof. We agree that the decision of the Purchaser, whether by any breach of any of the terms and conditions of the said contract and/or in the performance thereof has been committed by the Bidder and the amount of loss or damage that has been caused or suffered by the Purchaser shall be final and binding on us and the amount of the said loss or damage shall be paid by us forthwith on demand and without demur to the Purchaser.

We (Name of the Bank /Branch) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for satisfactory performance and fulfilment in all respects of the said contract by the Bidder i.e. till hereinafter called the said date and that if any claim accrues or arises against us (Name of the Bank /Branch) by virtue of this guarantee before the said date, the same shall be enforceable against us .....(Name of the Bank/Branch) notwithstanding the fact that the same is enforced within six months after the said date, provided that notice of any such claim has been given to us .....(Name of the Bank/Branch) by the Purchaser before the said date. Payment under this guarantee shall be made promptly upon our receipt of notice to that effect from the Purchaser.

It is fully understood that this guarantee is effective from the date of the said contract and that we..... (Name of the Bank /Branch) undertake not to revoke this guarantee during its currency without the consent in writing of the Purchaser.

We undertake to pay to the Purchaser any money so demanded notwithstanding any dispute or disputes raised by the Bidder in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present bond being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Bidder shall have no claim against us for making such payment.

We (Name of the Bank / Branch) further agree that the Purchaser shall have the fullest liberty, without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the Bidder from time to time or to postpone for any time or from time to time any of the powers exercisable by the Purchaser against the said Bidder and to forebear or enforce any of the terms and conditions relating to the said contract and we, (Name of the Bank / Branch) shall not be released from our liability under this guarantee by reason of any such variation or extension being granted to the said Bidder or for any forbearance by the Purchaser to the said Bidder or for any forbearance and or omission on the part of the Purchaser or any other matter or thing whatsoever, which under the law relating to sureties, would, but for this provision have the effect of so releasing us from our liability under this guarantee.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Bidder. Notwithstanding anything contained herein:

Our liability under this Bank Guarantee shall not exceed of Rs..... (Rupees in words only). ii). The Bank Guarantee shall be valid up to, and.

We..... (Name of the Bank / Branch) are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before XX/XX/XXXX.

Authorized Signatory of the Bank

Signature

Full name/designation/ Address of the official and date

WITNESS NO. 1	WITNESS NO. 2
Signature	Signature
Full name/designation/ Address	Full name/designation/ Address

17.5. Annexure 5 (Undertaking)

Tender Ref._____ Date:

To

The Narcotics Commissioner,

Central Bureau of Narcotics,

Department of Revenue, Govt. of India,

Dear Sir,

Sub: Self certificate regarding Total Responsibility

This is to certify that we undertake total responsibility for the successful and defect free operation of the proposed Project, as per the requirements and terms and condition of the Request for Proposal (RFP) for Onboarding of an Agency for Monitoring of Opium Cultivation using GIS in Central Bureau of Narcotics.

Thanking you,

Yours faithfully

(Signature of the Authorized signatory of the Bidding Organization)

Name :

Designation :

Date :

Seal :

Business Address:

17.6. Annexure 6 (NON-Blacklisting certificate)

(To be submitted on the Letterhead of the responding agency)

Tender Ref. _____ Date:

To:

The Narcotics Commissioner,

Central Bureau of Narcotics,

Department of Revenue, Govt. of India,

Sub: Self Declaration of not been blacklisted in response to the RFP <<**>>**

Dear Sir,

We confirm that our company,_____, is not blacklisted in any manner whatsoever by any of the State/UT and/or central government in India on any ground including but not limited to indulgence in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as on date_/_/_.

Place:

Bidder's Company Seal:

Authorized Signatory's Signature:

Authorized Signatory's Name and Designation:

Note: The Bidder shall necessarily provide a copy of Board resolution/'Power of Attorney' authorizing the signatory for signing the Bid on behalf of the Bidder in its Pre-Qualification Bid.

17.7. Annexure 7 (Penalties)

Penalties for Survey and Map Generation

<table>
<tr><th colspan="3">Penalties for SLA Criteria for GIS Platform for CBN</th></tr>
<tr><th>#</th><th>SLA Parameter</th><th>Penalty Description</th></tr>
<tr><td>1.</td><td>Availability of all Critical functionalities of the GIS Platform for CBN</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>% Availability</th><th>Penalty as % of total 1st year quote in the financial proposal = X</th></tr>
<tr><td><99.5% &>=99%</td><td>0.5%</td></tr>
<tr><td>< 99% &>= 98%</td><td>1%</td></tr>
<tr><td>< 98% &>= 97%</td><td>2%</td></tr>
</table>
For each additional drop of 1% in performance below 97%, 2% of “X” of Operations & Maintenance will be levied as additional penalty.</td></tr>
<tr><td>2.</td><td>Average loading time for all pages</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>% Availability</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><99.5% &>=99%</td><td>0.5%</td></tr>
<tr><td>< 99% &>= 98%</td><td>1%</td></tr>
<tr><td>< 98% &>= 97%</td><td>2%</td></tr>
</table>
For each additional drop of 1% in performance below 97%, 2% of “X” of Operations & Maintenance will be levied as additional penalty.</td></tr>
<tr><td>3.</td><td>Business Transaction Response Time involving uploading/ downloading of documents</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>% Transactions</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><95% &>=93%</td><td>0.5%</td></tr>
<tr><td>< 93% &>= 91%</td><td>1%</td></tr>
<tr><td>< 91% &>= 89%</td><td>2%</td></tr>
</table>
For each additional drop of 1% in performance below 89%, 2% of “X” of Operations & Maintenance will be levied as additional penalty</td></tr>
<tr><td>4.</td><td>Average response time for simple query of the central data repository</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>Average response time(In seconds)</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><6 &>=4</td><td>0.5%</td></tr>
<tr><td>< 8 &>= 6</td><td>1%</td></tr>
<tr><td>< 10 &>= 8</td><td>2%</td></tr>
</table>
For each additional 2 seconds in performance above 10 seconds, 3% of “X” of Operations & Maintenance cost will be levied as additional Penalty</td></tr>
<tr><td>5.</td><td>Average response time for a medium complex query of the central datarepository</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>Average elapsed time(In seconds)</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><9 &>=7</td><td>0.5%</td></tr>
<tr><td>< 11 &>= 9</td><td>1%</td></tr>
<tr><td>< 13 &>= 11</td><td>2%</td></tr>
</table></td></tr>
</table>

<table>
<tr><th colspan="3">Penalties for SLA Criteria for GIS Platform for CBN</th></tr>
<tr><th>#</th><th>SLA Parameter</th><th>Penalty Description</th></tr>
<tr><td></td><td></td><td>For each additional drop of 2 second in performance above 13 seconds, 3% of “X” of Operations & Maintenance cost will be levied as additional penalty.</td></tr>
<tr><td>6.</td><td>Average response time for a highly complex query of the central datarepository</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>Average elapsed time(In seconds)</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><12 &>=10</td><td>0.5%</td></tr>
<tr><td>< 14 &>= 12</td><td>1%</td></tr>
<tr><td>< 16 &>= 14</td><td>2%</td></tr>
</table>
For each additional drop of 2 second in performance above 16 seconds, 3% of “X” of Operations & Maintenance cost will be levied as additional penalty.</td></tr>
<tr><td>7.</td><td>Timeliness of availability or the scheduled canned reports</td><td>For each occurrence of unavailability, 1% of “X” of Operations & Maintenance cost will be levied as penalty</td></tr>
<tr><td>8.</td><td>Average generation time for any customers analytics report</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>Average elapsed time(In seconds)</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><17 &>=15</td><td>0.5%</td></tr>
<tr><td>< 19 &>= 17</td><td>1%</td></tr>
<tr><td>< 21 &>= 19</td><td>2%</td></tr>
</table>
For each additional drop of 2 second in performance above 21 seconds, 3% of “X” of Operations & Maintenance cost will be levied as additional penalty.</td></tr>
<tr><td>9.</td><td>Rectification time for any reported violation of SLA with respect to Page response time</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>Average elapsed time(In hours)</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><60 &>=48</td><td>0.5%</td></tr>
<tr><td><72 &>= 60</td><td>1%</td></tr>
<tr><td><84 &>= 72</td><td>2%</td></tr>
</table>
For each additional drop of 1 hour in performance above 84 hours, 3% of “X” of Operation & Maintenance cost will be levied as additional penalty.</td></tr>
<tr><td>10</td><td>Problem Response time</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>% Transaction with >15 minutes response time</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><95% &>=93%</td><td>0.5%</td></tr>
<tr><td><93% &>=91%</td><td>1%</td></tr>
<tr><td><91% &>=89%</td><td>2%</td></tr>
</table>
For each additional drop of 1% in performance below 89%, 2% of “X” of Operation & Maintenance cost will be levied as additional penalty.</td></tr>
<tr><td>11</td><td>Time to Resolve</td><td>Penalty will be levied as per the following table:</td></tr>
</table>

<table>
<tr><th colspan="3">Penalties for SLA Criteria for GIS Platform for CBN</th></tr>
<tr><th>#</th><th>SLA Parameter</th><th>Penalty Description</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>% transaction with more response time as mentioned in SLA table (Severity wise)</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><100% &>=98%</td><td>0.5%</td></tr>
<tr><td><98% &>=96%</td><td>1%</td></tr>
<tr><td><96% &>=94%</td><td>2%</td></tr>
</table>
For each additional drop of 1% in performance below 94%, 2% of “X” of Operation & Maintenance cost will be levied as additional penalty.
</td></tr>
<tr><td>12</td><td>MTTR - Time to resolve</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>% transaction with more response time as mentioned in SLA table (severity wise)</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><95% &>=93%</td><td>0.5%</td></tr>
<tr><td><93% &>=91%</td><td>1%</td></tr>
<tr><td><91% &>=89%</td><td>2%</td></tr>
</table>
For each additional drop of 1% in performance below 89%, 2% of “X” of Operation & Maintenance cost will be levied as additional penalty.
</td></tr>
<tr><td>13</td><td>Percentage of reopened incidents</td><td>Penalty will be levied as per the following table:
<table>
<tr><th>% of reopened Incidents</th><th>Penalty as % of total 1st year quote in the financial proposal</th></tr>
<tr><td><=4% &>2%</td><td>0.5%</td></tr>
<tr><td><=6% &>4%</td><td>1%</td></tr>
<tr><td><=8% &>6%</td><td>2%</td></tr>
</table>
For each additional increase of 2% in reopened incidents above 8%, 2% of “X” of Operations & Maintenance cost will be levied as additional penalty.
</td></tr>
<tr><td>14</td><td>Submission of Root Cause Analysis (RCA) Reports</td><td>For delay of every 2 days in submitting Root Cause Analysis (RCA) report above 5 days, 1% of Operations & Maintenance cost for that month will be levied as penalty.</td></tr>
<tr><td>15</td><td>Delay in any of the project milestone</td><td>If the Bidder fails to achieve the completion of any milestone within defined duration, the payment to him will be liable for deduction @1% of the payment for that milestone for delay of 15 days or part thereof</td></tr>
<tr><td>16</td><td>Delay in overall project duration (Individually for Business-critical functionalities & rest of the functionalities)</td><td>If the Bidder fails to achieve the completion of project within defined duration (Individually for Business-critical functionalities & rest of the functionalities), the payment to him will be liable for deduction @1% of the Total Project cost with a capping of 10%</td></tr>
<tr><td>17</td><td>Variation in the yield estimation</td><td>An initial gestation period of 2 years shall be given to the Bidder to set up the accuracy and build up a model for deviation/inconsistency in estimation of yield forecasting. Penalties will be levied as per the following table from 3rd year:
<table>
<tr><th>Variation in yield estimation (%) per field/patta/Licence</th><th>Quality of service or Estimation</th><th>Penalty as % of total X’ Count 3rd year quote in the financial proposal</th></tr>
</table>
</td></tr>
</table>

Penalties for SLA Criteria for GIS Platform for CBN		
#	SLA Parameter	Penalty Description
		+/- up to 5% — Excellent — 0% +/- 5 % to 10 % — Very Good — 1% +/- 10 % to 15 % — Good — 3% +/- 15 % to 20 % — Moderate — 5% +/- 20 % to 25% — Poor — 7% +/- above 25 % — Below poor — 9 % X^{I} Stands for: (Number Count of Licences Falling in Concerned Performance Reference Range)/(Total Number Count of Registered Licensees) * X^{1} Percentage Performance range. The performance linked payment shall be restricted by final amount by the X^{1} limiting factor. Each Instance of Recording of "POOR" or below performance rating for yield estimation against the licence will be counted as "INCIDENCE". The following situations arising out of number count of INCIDENCE(s) may lead to termination or event of force majeure: (i) For the same plot /licenced patta; count of INCIDENCE is more than (2) two for two (2) such consecutive years; And in case such Count of INCIDENCEs Exceeds 10,000 (Ten Thousand) in number for the latest year of recording; OR (ii) For the Annual National Count of INCIDENCE shall in no case exceed beyond 10,000 in number; OR (iii) For the different plot/different licensed patta; the count of INCIDENCEs for two consecutive years shall not exceed 5000 in number.
Note: Overall Project penalty would not exceed >10% of the total Project cost. If the overall project penalty goes beyond 10% at any point during project execution, the Purchaser reserves the right to terminate the contract.		

#	Parameter	Condition	Penalty
1.	DGPS ground control point accuracy	Should be<0.3m.	Rs.5000 for every inaccurate point and are survey. The penalty will be charged to a maximum of 5% of the DGPS survey milestone.
2.	Map Digitization	100% features to be digitized as per the approved data model.	Rs.5000 for every missed feature in the output map. The penalty will be charged to a maximum of 5% of the map creation milestone.
3.	Accuracy of Property survey data	100% of the sample considered through random sampling	0.1% of the plot survey cost proposed by the bidder for every instance of inaccurate data collection. The penalty will be charged to a

			maximum of 5% and resurvey of the sampled area

The Selected Bidder shall adhere to the following Service Level Standards for Accuracy of the GIS Base Maps/Survey Data.

Deliverable	Desired Quality/ Resolution	Absolute Accuracy		Relative Accuracy	
		Horizontal Accuracy	Vertical Accuracy	Horizontal Accuracy	Vertical Accuracy
Data Acquisition					
GCP for Aerial / Drone Images	+ / - 30 mm or better	+ / - 30 mm or better	+ / - 50 mm or better		
Aerial Drone Imagery	+ / - 3 cm GSD or better	10 cm or better	-		
Stereo Model Using Satellite Imagery	+ / - 30 cm to 40 cm better	-	-		
Data Generation /Development					
Stereo Model Using Satellite Imagery		+ / - 60 cm or better	+ / - 80 cm or better		
Stereo Model Using Drone Imagery	-	+ / - 15 cm or better	+ / - 20 cm or better	-	**-**
Digital Elevation Model (DSM / DTM)	+ / - 20 cm or better	+ / - 15 cm or better	+ / - 20 cm or better	+ / - 20 cm or better	**+ / - 20 cm or better**
Ortho Image Mosaic seam line maximum allowed mismatch	+ / - 15 cm or better	+ / - 20 cm or better	-	-	**-**
Contours	**+ / - 20 cm or better**		**+ / - 20 cm or better**	**+ / - 20 cm or better**	

Note: *Multiple sample areas of desired size may be randomly checked to evaluate compliance of data quality standards/ specification of acquired and processed data and accordingly penalty shall be levied for the non-compliance data at Rs. 5000 per identified non-compliance accuracy error. The Successful Bidders shall be responsible to undertake re-survey of all the non-compliance data and rectify the error without having any financial impact on Authority.*

SLAs related to validation of 10% of surveyed Land/Assets

#	Service Level	Penalty
1	For submitted CPs/ACAs survey data of any plot, if there	No penalty imposed. The Selected Bidder (s) is required to perform re-survey of the identified CPs/ACAs and correct the

#	Service Level	Penalty
	is upto 5% of error identified by the Audit Agencies	erroneous data entries. No additional payment would be made for re-survey.
2	For submitted CPs/ACAs survey data of any land/asset, if there is upto10% of error identified by the Audit Agencies	4*'X' Where X = Price Quoted by the Bidder for individual plot survey. The bidder will be penalized 4 times the rate quoted for the number of CPs/ACAs in which errors were identified by the audit agencies. The Successful Bidder(s) shall be required to perform re-survey of the identified CPs/ACAs and correct the erroneous data entries. No additional payment would be made for re-survey.
3	For submitted CPs/ACAs survey data of any land/asset, if there is more than 10% and upto 15% of error identified by the Audit Agencies	8*'X' Where X = Price Quoted by the Bidder for survey. The bidder will be penalized 8 times the rate quoted for the number of CPs/ACAs in which errors were identified by the audit agencies. The Successful Bidder(s) shall be required toper form re-survey of the identified CPs/ACAs and correct the erroneous data entries. No additional payment would be made for re-survey.
4	For submitted CPs/ACAs survey data of any land/asset, if there is more than 15% and upto 20% of error identified by the Audit Agencies	10*'X' Where X = Price Quoted by the Bidder for CPs/ACAs survey. The bidder will be penalized 10 times the rate quoted for the number of properties in which errors were identified by the audit agencies. The Successful Bidder(s) shall be required to perform re-survey of the identified CPs/ACAs and correct the erroneous data entries. No additional payment would be made for re-survey.
5	For submitted CPs/ACAs survey data of any land/asset, if there is more than 20% of error identified by the Audit Agencies	Termination of Contract without clearing any of the pending invoices.
6	For completion of survey in the defined timelines as per the time schedule given in RFP	In case the survey is not completed in the defined time lines as specified in the RFP the bidder will be charged 1% per month penalty on the balance amount to be paid for survey maximum upto 10%, beyond which the contract will be terminated without clearing any of the pending invoices.

Error Definitions:

In the above table error shall mean any one of the following:

Data Captured for all mandatory fields shall be validated by the audit agencies for all the fields other than those mentioned in (a). Discrepancies between the data captured by survey agencies and audit agencies shall be analysed and accordingly errors will be calculated.

Maximum Penalty applicable to the bidder shall not exceed 10% of the Total Work Order value till the completion of CPs/ACAs survey. If the total Penalty exceeds beyond 10%, it would be considered as non-conformance to the Quality of Services and may lead to termination of the Contract and Authority may at their sole discretion cancel the order and go afresh with the entire

survey exercise without clearing any of the pending payment of the bidder and forfeiting the performance bank guarantee submitted by the bidder after receiving the order.

17.8. Annexure 8 (DGPS Survey for GPS points for Geo-referencing/Orthorectification of Satellite Image)

Establishing geodetic reference frame for ULBS using GNSS techniques

1. GPS provides accurate and uniform reference frame for the geospatial data. DGPS techniques are required for geo-referencing of high-resolution image data which essentially needs positional accuracy that matches the spatial resolution.
2. The satellite image shall cover the entire area of interest and sufficient no. of GCPs shall be planned to geo-reference the satellite image data, as well as to check the accuracy parameters of the corrected image datasets with the aid of check points.
3. The GCP configuration and density of the GCPs are key parameters to be implemented suitably to achieve high quality data product after for geo-referencing process. Spatial distribution of the GCPs over the study area and type of features that are being selected as GCPs, play an important role in this process.
4. The DGPS survey procedure involves:
    - Establishment of Monumented Reference station
    - Data collection and processing procedures
    - Upkeep of the reference station for future surveys
5. A permanent station shall be established which can be used as a reference station for the GPS surveys. A location, preferably in the central part of the area, which is clear to sky without obstructions like tree canopy, high-raise building, HT electrical lines, shall be identified, either on ground or on the top of a structure for constructing the reference station.
6. A cement concrete structure of 2ft x 2ft x 2ft shall be made and a brass plate marked with dot and circle shall be embedded on the top of the monument. A survey-grade dual frequency GPS receiver shall be operated with Tripod in static mode at this reference monument for a period of 3 consecutive days with a minimum of 12 hrs per day with 15 sec epoch rate and the 3 days data shall be processed with Single Point Positioning or Precise Point Positioning technique to derive the geodetic coordinates of the reference station in ITRF reference frame.
7. Establishing reference station coordinates in ITRF reference frame serves multiple benefits to the geospatial data in terms of maintaining uniform reference frame in future updates and also to use other datasets in GIS environment. ITRF reference frame can be implemented in two ways either by linking the reference station to IGS station nearby or processing using Precise Point Positioning technique using IGS data precise ephemeris and clock files. The derived Reference station geodetic coordinate shall be recorded properly and is documented in the records for future use by the ULB authorities.
8. Each GCP shall be identified with suitable permanent feature which is seen on the ground as well as on the image data. The location where GPS is being operated shall be clear to sky without obstruction to track GPS signals. Geodetic survey grade GPS receivers

shall be employed to collect the data. Base station and rover stations shall be operated at 15 sec epoch rate and observation period of min. 1hr shall be adopted for base line length of 10km. Base line distances of 10km.-20km. shall be observed with minimum of 2hrs time period.

9. Survey parameters like Receiver and Antenna make and model no., Antenna height, Observation time session, GDOP value, epochtime, Making of Sketches, filed photographs in all direction shall be documented properly on the field log sheet for every GCP location. Geometric Dilution of Precision (GDOP) shall be monitored and recorded, and should not exceed 2.5 nominally.
10. Observations shall be made using dual-frequency GPS receivers and L1/L2 geodetic ground plane antennas tripods with bubble levels shall be used to minimize setup errors. Post processing of the data shall be carried out on daily basis using broadcast ephemeris and post-processing software. Validity checks shall be documented with analysis of baseline vector solutions and loop closure errors. All the data produced shall pass ambiguity resolved vector solutions and loop closure exceeding one part per million relative positioning accuracy.
11. GPS antenna shall be mounted on tripod during survey for reference station as well at GCP location during data collection. The GCP location shall be marked with paint to ensure relocation at later data and it shall be post-pointed on the image. A detailed description of the GCP location shall be written in the field log sheet with a neat sketch.
12. Data quality parameters like cycle slips, no of satellite tracked, observed GDOP values shall be checked soon after the survey to ensure good quality of the data collected at reference station as well as at rover stations before data processing.
13. Data processing shall be carried out with baseline processing for each session and network adjustment for all the sessions and ensure that loop closure accuracy results shall be better than 1 on 50000 which is the geodetic standard for static surveys. The final adjusted coordinates shall be in Geographic coordinate system and also in WGS-84 coordinate system and UTM projection.
14. A project report shall be submitted with the details about GCP planning diagram, GPS equipment details and manuals, reference station details and its geodetic coordinate in ITRF latest epoch, data collection parameters, field photographs of all the locations, processing results, GCP network diagram and list of adjusted coordinates.

17.9. Annexure 9 (Satellite imagery)

Selected Bidder will have to procure cloud free high resolution multi spectral imagery datasets (Ortho-rectified) and geo-referenced from NRSC meeting following requirements:

- Geo-referenced & Geo-coded, mosaiced and color matched satellite data of 0.5 m resolution or better as per the required scale and grid base with proper spatial referencing and accuracy.
- Geo-database (GIS database) for the project area as per the standards with proper topology, code and linkages for other data integration with GIS.
- Digitize any map data available with the Authority and integrate with the GIS database.
- Authority will provide geo database and usable base maps with required feature extraction to the successful Selected Bidder for integration in to the web GIS system.

#	Description	Value	Remarks
1	Spatial Resolution	0.5 metres or Better	Not older than 6 months
2	Spectral Resolution	PAN Sharpened (Bands: Panchromatic, Red, Green, Blue and Near Infrared)	IR band is optional
3	Band to band registration	Less than1/4th of pixel size	
4	Radiometry	10 bit or better	
5	Image Resampling	Nearest Neighborhood	
6	a. Monoscopic/ Stereoscopic	Plain Areas: Monoscopic Highly Hilly areas: Stereoscopic	Need of Stereoscopic to be reviewed case by case. If the plot is on the terrain slope more than 15 degrees.
7	b. Monoscopic data View angle	Less than 10 degree from nadir	In specific cases, maximum upto 15 degrees view angle shall be allowed
8	c. Stereoscopic	One of the stereo image view angle should be less than 10 degrees from nadir	Base to Height (B/H) ratio:0.6 < B / H < 0.8
9	Vantage imaging	Fresh acquisition: Within 6months Archived Data: Less than 1 year	If area is covered by multiple scenes, the time difference among the scenes should be less than 3 months.
10	Product type	Image data should be associated with corresponding Rational Polynomial Coefficients (RPCs) Format: 1. Image data: Geo-tiff 2. RPCs : Open standards	Ortho-kit data with RPCs
11	Spatial Reference	Datum : WGS84 Projection: UTM	
12	Cloud Coverage	Zero % in the core town/city, Less than 10% in the periphery of town/city limits	Cloud free data is preferable

Area coverage: With sufficient buffer of 2 kms around area of interest

a. Procurement of High-Resolution Satellite Imagery (HRSI)

If base map/GIS layers/ high resolution satellite image are not readily available with the Authority, then HRSP needs to be procured from National Remote Sensing Centre (NRSC) for the entire area of interest. SELECTED BIDDER will be required to procure cloud free orthorectified satellite imagery with spatial resolution of 10 cm or better.

b. Collection of GCPs for Geo-referencing of Satellite Image

After procurement of satellite images, GCPs should be collected from field using DGPS for geo-referencing of Satellite Image. Minimum 10 GCPs should be collected. These points should ideally be spread over the entire area.

c. Geo-referencing of Satellite Image

The GCPs collected during DGPS survey can directly be downloaded in the GIS platform and will be used as tie point for geo-referencing the Satellite image.

d. Feature Extraction from Satellite Image for preparation of City Base Map

Following thematic layers needs to be extracted/digitized:

i. Administrative boundaries. Each boundary needs to be marked on the satellite image using GPS survey points.
ii. Key physical features such as roads, rivers, railways, water bodies, important landmarks etc.
iii. Land use & Land cover.

17.10. Annexure 10 (Drone based survey)

Stereo image acquisition using Drone Technology (10 cm GSD or better resolution)

a. Establishing of Ground Control Network for Drone Survey: Identification and marking of Ground Control Points (GCP) on the area of Interest. Minimum number of GCP should be atleast 200 (temporary/permanent). It should be taken with double frequency DGPS (Differential Global Positioning System).

b. The Selected Bidder shall establish required number of ground control points on the ground using DGPS method at regular/random interval throughout the project area by placing metallic plates. Control chart shall be prepared choosing Ground Control Points with easy access as well as easy identification on aerial image. Control points shall be established on ground based on the control chart preferably on permanent structure, culvert corner, Road barrier, bridge corner, rock-in-situ, field bunds and other definable points like tri- junctions, road-junctions. A detailed survey report shall be prepared consisting of GCPs parameters and pictures.

c. Aerial Imagery acquisition using drone technology: The Selected Bidder shall be responsible for obtaining necessary clearances/permissions from Local authority and other applicable agencies as needed for flying Unmanned Aerial Vehicle (UAV) over the project area to acquire Aerial Imagery. Necessary administrative support will be provided by Authority.

d. The Selected Bidder is required to meet following minimum criteria for acquisition of Imagery using UAV.

Components	Description
Coverage area	Approximate ------- Sq. Km (tile size)
Pixel size /Resolution	10 cm or better
Flight Height	Not more than 300 ft.
Camera Sensor	20 megapixels and above
Photography condition	Image must auto-correct, be free of fog, haze, dust; image shall preferably be taken in clutter free and stable camera position.
Overlapping	80 % forward overlap and 70 % side overlap

e. The Selected Bidder shall perform following Image processing and Ortho- rectification activities to process the aerial imagery acquired using UAV:

- Pre-processing and Ortho rectification of imagery.
- Pre-processing of acquired images.
- Digital surface models, digital terrain models generation.
- Ortho-rectification of Satellite Images.

f. The Ground Control Points Established and the DEM created should be used for Ortho-rectification of imagery:

- Mosaicking and Creating Tiles
- Image strips shall be mosaicked for contiguity during the Ortho-rectification process.
- Color balancing shall be done for the images to achieve homogeneity across stripe boundaries.
- Generation of Image Tiles

g. Following minimum features shall be captured:

S No	Feature Type	Layers	Geometry Type
1.	Transport Network	Major & Minor Road Network	**Line**
2.		Fly overs	**Polygon**
3.		Bridges	**Polygon**
4.	Land use	Open space	**Polygon**
5.		Residential	**Polygon**
6.		Commercial/Industrial	**Polygon**
7.	Water bodies	River	**Polygon**
8.		Canal	**Polygon**
9.		Lakes	**Polygon**
10.		Ponds	**Polygon**
11.		Pumping Station	**Point**
12.		Overhead tanks	**Point**
13.		**Borewell**	**Point**

h. Ortho-Mosaic: The Selected Bidder shall generate True-Ortho Mosaic of the identified Area of Interest (AoI) using the below inputs:

- Digital imagery (raw High-Resolution Images) received from multiple sources.
- Digital Elevation Model (DEM).
- Exterior orientation parameters from aerial triangulation or Inertial Measurement Unit (IMU).

i. Specifications of the final output Ortho-Mosaic Data shall be as under:

- Ortho-Mosaic shall be delivered in an industry-standard, GIS-compatible, 16-bit raster format.
- Ortho-Mosaic image shall be seamless in nature.
- Geo-reference information shall be in or accompanying each raster file.
- Ortho-Mosaic shall be delivered in Tiles, without overlap.
- Ortho Image shall cover the complete AOI with no omissions i.e., there shall not be any Cloud cover, smoke/haze, corrupt data, and void areas.
- Whole image shall be covered by DEM.
- There shall not be any wiped area in the image.
- There shall not be any feature/image duplicity in the image.
- There shall not be any feature cut/clip, tilt in the image.

- There shall not be any missing data in the image.
- Extreme tonal or colour variation shall be proper across seam lines.
- There shall not be any NO DATA in ortho image. NO DATA include items such as photographic frame borders, fiducial marks, artifacts, and titling.

j. All features shall be labelled properly, and labels shall not be overlapped.

k. Other than the final deliverables listed below, all raw/ intermediate data and reports shall also be part of deliverables:

S. No	Product / Deliverable	Format
Ortho-Mosaic Data		
1	Ortho-Mosaic Image	GEOTIFF & JPEG
2	Tiled Ortho-Mosaic Image	GEOTIFF & JPEG
3	Seam lines	GIS File Format
4	QA/QC Assessment Report	PDF / Excel File

17.11. Annexure 11 (Post processing of satellite imageries)

To correct various geometric anomalies in raw satellite imagery, Ground Control Points (GCP) collected through Differential Global Positioning System (DGPS) survey will be used for Georeferencing of the imagery. For this purpose, the Selected Bidder shall carry out the following functions:

i. The Selected Bidder shall carry out Geo-Referencing and Geo-coding of data on WGS-1984 with projection on UTM.

ii. For the DGPS Survey, the Selected Bidder should select the Ground Control Points (GCPs) at well-defined sharp points both on the ground and on imagery. The Ground Control Points (GCPs) should be located at nearly desired locations and should be clearly visible on the imagery. Sketch, coordinate both in latitude, longitude and Easting, Northing of GCP's including GPS observation and adjustment data should be provided to AUTHORITY for necessary approval.

iii. The Selected Bidder shall make sure that while taking DGPS survey all position fixes must use at least four satellites.

iv. The horizontal accuracy of the GCPs should be 0.3 – 0.5 mts.

v. During static point-mode surveys, the minimum recording duration at each survey point shall be at least 60 seconds with atleast 60 individual position fixed during that period.

vi. The Selected Bidder shall make sure that the pair of GCP's to be established is collected at minimum 2km (depending upon the size and shape of the Municipal Corporation Boundary) and these should be evenly distributed over the AUTHORITY City area.

vii. The Selected Bidder shall also do a mosaicking of the image tiles which are geo-referenced and ortho-rectified. The mosaics shall be verified once by the GIS representatives from AUTHORITY before proceeding for Base Map Creation/Update.

#	Description	Value	Remarks
1	Survey method used for GCPs	Differential GPS Survey (DGPS)	DGPS survey points should be processed using closed network traverse. The reference station coordinate shall be computed using ITRF (International Terrestrial Reference Frame)
2	Accuracy	Positional accuracy (X, Y): better than 0.5mts Height accuracy (Z): better than 0.5mts	With reference to absolute accuracy of Reference station coordinates in ITRF
3	Spatial reference	Horizontal Datum : WGS84 Projection: UTM Vertical Datum : WGS84 or MSL	Villages for which Stereo data is selected: The GCPs vertical Datum must be MSL.

		Units : Meters	
4	No. of GCPs	a. Uniform Distribution for the entire city /town planning area b. At least one GCP for every 5sq.km. c. At the overlap of images GCPs should be available d. The position of GCPs should be on the non-variable features	GCPs must be clearly visible in the Satellite image. GPS reference station shall be a monument in Cement concrete and embedded brass-plate to ensure station revisit, whenever the need arises.

The Selected Bidder/SELECTED BIDDER will verify the correctness of the imagery and data via on field data verification. The correctness of image is to be checked with respect to any issues in the coverage, and file format. The imagery that does not confirm to the correctness with respect to Coverage and file format must be reported within one week. AUTHORITY will discuss the same with the Selected Bidder and provide further instructions.

Only the supplied imagery must be used for the preparation of Base maps. Use of data from alternative online sources such as Google Earth / Google Maps is strictly prohibited as this is strictly against the usage policies of the respective services. The SELECTED BIDDER will be solely liable for any legality and any such deviations will lead to disqualification of the Selected Bidder/SI.

17.12. Annexure 12 (Base Map preparation, Data Contents and Specifications)

In order to complete the base map preparation, the following steps MUST be followed:

i. Collect relevant layers from relevant govt. dept.
ii. Purchase relevant layers from private mapping entities (if required)
iii. Digitize basic features from satellite and Drone imagery (in case not available from above mentioned sources).

The potential Interpretation, Updation and digitization of all physical features such as Roads and other visible features from satellite imagery.

- The satellite imagery would be procured in the name of Authority and delivered to the Selected Bidder.
- The digitization process shall include vectorization, Symbolization, edge matching, topological integrity, data base linking and QA/QC.
- Selected Bidder is expected to suggest inclusion of any important information other than that mentioned above, during the pre-bid meeting and subsequently during the project execution, for improving the overall Management.

The preparation of base map shall be based on high-resolution latest satellite data and DGPS. To facilitate sharing of information between various stakeholders (as and when required), it is critical that GIS base mapping be compatible with standard database formats. The base map shall be prepared on various layers for easy operation in GIS. Each map shall include, but not be limited to, the following:

Map	Content (Layers)	Remarks
Base Map of Gram Panchayat (GP) Area	All major physical features with reference names, such as, main roads, other important roads, railways, airport, cantonment areas, important landmarks, colony names, water bodies, drains, canals, rivers, etc. Gram Panchayat boundaries with ward boundaries.	Base Map of Gram Panchayat Area on scale of 1:1000
Administrative Jurisdiction	Gram Panchayat, Village, Ward, Cadastral/ Khasra, boundary with superimposed satellite image.	Map based on latest Satellite Data on Scale 1:1000
Base Map of Actual Cultivation Area (ACA) and Cultivation Plot (CP)	— National Highway, State Highway, Major District Road, Other District Road, Expressway, Bypass, Ring Road, Service Road, Major City Road, Minor City Road, Other Public Road, Other Private Road, Village Road, Culvert, Tunnel, Bridge across river, Over Bridge, Under Pass, Flyover, River, Stream, Canal, Drain Ponds, Lake, Tank, Agricultural area, forest, wasteland, open land and railways, settlements etc. — Location of geo-referenced survey control points using Differential Global Positioning System (DGPS). — ACA and CP boundary, Village boundary with geo-referenced Digital Cadastral/ Khasra boundary.	Map based on latest Satellite Data on Scale 1:4000

Checklist & formats for GIS Base Maps (Hard & Softcopy) & Layers with attributes are provided in the attachment.

Plotting and Numbering of Plot: Each CP/ACA will be provided with a unique identification number based upon a pre-agreed codification system. As soon as the mapping and numbering of one ward has been completed, the survey teams will begin the survey in the same area. The exercise must enable compatibility with any other existing database of Authority.

These maps will enable spatial referencing of unique identification number given to the CP and ACA and plan the survey more systematically. This would further provide a spatial dimension to the records through linking of database (in excel, access or SQL format only) with the plot map for analysis purpose in GIS.

A. Suggested Methodology

For preparation of GIS base map, all existing surveys and maps (including revenue maps and topographical maps) shall be utilized to the extent practical and reasonable possible. Revenue maps, commonly known as Digital Cadastral maps are available and contain valuable graphic information and triangulation survey control points which are useful inputs for the preparation of GIS base map. These maps, which were originally surveyed in the late 1920's, provide details on land holdings but the majority of them have not been updated. These maps are available with the State Land Records and Revenue Department.

The base map will be prepared using the latest high resolution satellite data (preferably QB, WV, GeoEye or any other high resolution satellite data) and DGPS. The steps required to undertake the preparation of GIS base mapping might be as follows:

- Collection of secondary data of CP and ACA.
- Procurement of latest high resolution satellite data (30 cm or better) in digital form covering the existing CP and ACA including buffer.
- DGPS ground control survey for providing control points evenly distributed over the study area.
- Post processing of ground control data.
- Interpretation and digitisation of satellite data in the different layers as specified
- Field verification to update the features, which are not visible on the satellite image.
- Production of draft base map with different layers (CP, ACA layer along with unique IDs) as mentioned above.
- Incorporation of ward and GP area boundary.
- Final GIS base map incorporating corrections.
- GP/Village Base Map with the Digital Geo-referenced Cadastral (revenue map) map (.shp format with Khasra No.) as background.

The SELECTED BIDDER will be responsible for providing the entire data in standard GIS format and as per the database structure as specified by Authority at the commencement of the project.

The standard Map Layout should be finalised in close consultation with the Authority.

The survey comprises the following activities:

- **Piloting and finalization of survey method and instruments**

  Questionnaires for all Components are attached. Before starting the surveys, the SELECTED BIDDER will (i) prepare a prioritised list of wards in close consultation with Authority, and (ii) translate the questionnaires to Hindi and test both language versions of these questionnaires. The Pilot should cover one ward which is prioritised and agreed with the Authority. The pilot will include but is not limited to peer and cognitive (including language) pre-tests of all instruments, and piloting the assignment of identification numbers, interviews, quality assurance, survey administration and data management tasks. The SELECTED BIDDER will provide a report on findings and recommended changes and will agree with Authority any refinements to the survey method and instruments.

- **Survey training**

  Subject to agreement with Authority on the content and programme, the SELECTED BIDDER will develop survey administration protocols, training design and guidelines/manuals, and after review and approval of these by the Authority, will provide training for field surveyors in the specific methods to be employed for all survey components. The training will also include selected participants from the Authority.

- **Component**

  1. **Field survey**

     a. Field survey is one of the essential components of crop classification using remote sensing data. The field surveys shall be conducted by the selected bidder.
     b. Field surveys are conducted in different parts of the study area to gather primary as well as secondary information about the crop from the field.
     c. The signature of various crop are very significant, so signature of crop should be collected from the field and should be used during AI & ML based classification and visual interpretation of data.
     d. Field staffs will record the latitude and longitude of the location along with associated attribute information related to crop type, transplantation date, crop growth stage etc. This ground-truth data should be updated in the crop map.
     e. The authority may provide the field survey data to the selected bidder of the previous years. The field survey should be well distributed according to the crop area, and it should cover all the mentioned crops. The selected agency should submit the field survey plan to authority before initiating the process.
     f. SELECTED BIDDER to take the photograph of each plot in a best possible angle using the mobile app to be used for undertaking survey. The photograph should get geotagged to the plot being surveyed automatically. There should not be any need to manually link the photographs with hyperlink to the plot database. The resolution and size will be pre decided and agreed with the Authority.
     g. Before the start of the survey, the Authority will generate from its manual or computerised records ward-wise lists of the plots.

h. Immediately prior to the survey, the SELECTED BIDDER will publicly announce the purpose, content, and timing of the survey, in accordance with requirements in law.
i. For the survey, wards will be classified according to their accessibility. Easily accessible wards will be targeted on priority and will subsequently be extended to cover all plots in the entire CP and ACA.
j. A functionary of the respective GP will accompany the survey team, while conducting survey.
k. The survey will update the data/information related to CP and ACA assessment parameters and compare the same with records available with the Authority.
l. Comparison of survey data with the official records of Authority will result in identification of under assessed plots, which shall be verified and approved by Authority. Authority will ensure that all under-assessed properties are reassessed, which will be assisted by selected bidder.

- **Verification/reconciliation of Data**

The Selected Bidder shall check the source and reliability of the collected data from Authority and document the details which can be taken into account and usage. Type of validation to be carried out on the available datasets from Authority with the satellite imagery shall be:

i. ***Positional Accuracy***: The Selected Bidder shall check whether the positional accuracy of the existing data available with the Authority is in sync with the Satellite Imagery. Selected Bidder needs to digitize the satellite imagery.

ii. Further Selected Bidder would have to carry out Geo-referencing of the available data by using DGPS for collecting GCPs as required for the process and also spatially adjust in case of vector data.

The Selected Bidder also needs to prepare Base Map using the available and fetched data and validation of the same will be carried out by the authorized officials of AUTHORITY.

iii. ***Accuracy Requirement*:**

The 10% of GCPs will be randomly selected as sample for the accuracy. If any incorrectness in accuracy is found in any sample, the entire work of GCPs shall be rejected and Selected Bidder/SELECTED BIDDER shall be required to rework.

iv. ***Reliability***: The Selected Bidder shall also check from the available data with AUTHORITY, whether the data (spatial or non-spatial) is recent or accurate enough to be used and not obsolete.

v. ***Data Validity:*** The Selected Bidder shall make sure by taking a signoff from authorized officials of AUTHORITY on the authenticity of the data taken from any department of AUTHORITY.

vi. 10% of the overall plots surveyed by the SELECTED BIDDER shall be audited by agency (ies) selected by Authority. The inspections may be in the form of concurrent or post-survey inspection.

vii. If any irregularities are found as a result of these inspections, the selected bidder needs to rectify the same. Bidder shall be responsible to provide requisite information and facilitate inspection by audit Selected Bidder.

viii. The findings of the audit agency shall be binding on the bidders, and they shall have to re-do the survey and provide necessary explanation for the earlier error, if any.

ix. In case of discrepancy between audit agency and SI, the Authority shall accompany both and both shall demonstrate actual survey results to the Authority whose decision in this matter will be final.

2. Data collation and creation of records

The SELECTED BIDDER will be required to complete all data entry work including photograph (which should be geo tagged using the mobile app to be used for this purpose) of each plot and digitisation of maps / sketches. Following completion of data entry and QA, agreed reports from the data files and survey forms will be provided to the Authority. The Authority will compare the data from the survey to their records and provide a list of exceptions (differences such as the plots is not on the Authority records, or differences in some data element between the survey and Authority records). The surveyor of the SELECTED BIDDER will confirm data entry for these exceptions comparing the original questionnaire to the data. The SELECTED BIDDER will also provide support in migration/digitization of Authority's existing data which would be required for updation of demand collection registers.

The results to be achieved by this Technical Assistance will include:

a. Base map showing all the plots and key physical features based on latest satellite data and GIS technology.
b. Data collation and creation of records.
c. Capacity building of Authority for updating MIS & GIS data.
d. Updated MIS register of Authority.

- **Successful Bidder/System Integrator is supposed to:**

i. Conduct geo-enabled survey using mobile/handheld device (to be arranged by the selected bidder at no additional cost) for faster, transparent and better survey of CPs and ACAs.

ii. Integrate all the surveyed data with GIS database of Authority.

iii. Design and develop a web-based system to incorporate the integrated data with visualization tool to display attribute and spatial data.

iv. Design web-based system to provide Tagging facility for plots in Visual and map data.

v. Acquisition of Stereo image using Drone Technology (2cm – 3cm Ground Sampling Distance (GSD) or better resolution).

vi. Performing Image processing and ortho-rectification for images acquired from Drone Technology.

vii. Create a detailed GIS base map through digitization of images acquired from Drone Technology.

viii. The bidder shall interpret, update and digitize all physical features such as - Roads, building footprints, railway lines, road dividers, footpaths, compound walls, water bodies, etc. at 1:500 scale with the existing maps/field surveys/aerial imagery.

ix. Provide training on complete solution.

x. Provide handholding support to the identified users.

xi. Provide a dedicated development team to undertake future customization of the application as per requirements of Authority.

xii. Provide integration capability with other centralized dashboards available with Authority for ease of reporting.

17.13. Annexure 13 (Mobile Application for Survey)

AUTHORITY intends to carry out a geo-tagging survey of all CPs and ACAs. SELECTED BIDDER shall create/customize a Mobile Application to be used for Survey. This mobile application should have the following features:

1. It should be compatible with latest android OS.
2. It should geotag each photograph.
3. Alphanumeric data collected via survey should be stored in .xls or. dbs format for better computing
4. Apart from alphanumeric input as answers to questions, the mobile application should accept input in the following forms too (they should also be geolocated/geotagged):
   - Images – stored in .jpeg format.
   - Videos clips–stored in .mp4or .3gp format.
   - Audio clips–stored in .mp3or .wma format.
5. The Selected Bidder must design, develop, deploy and end user training of GIS database and a customized Mobile based GIS application for geotagging all the properties within jurisdiction. The scope of work is as follows:
   - Mobile app survey or module for GPS enabled handheld device with good accuracy for effective and real time geospatial property tax survey.
   - Provide documented functional requirements, as and when gathered throughout the period, for validation with the AUTHORITY's stakeholders, or persons appointed thereby.
   - Develop wire frames for new UI or existing UI revamps, wherever required, upon written request by the AUTHORITY or representatives thereof. Please note that this includes creation of new UI or enhancements or adjustments to be made to existing UI, in response to external events, change in functionality or other factors.
   - Provide robust design and solutions considering the integration with backend systems and the integration with existing systems.
   - Provide web services and APIs for the mobile applications, on written request by the AUTHORITY or representatives thereof.
   - Design, development, testing, deployment and end user training of the mobile application developed. End user training may be required more than once.
   - Deliver and provide handover for the source code and any additional software components that are developed to fulfil the project requirements
   - Provide technical documentation: requirements, design, architecture, installation, configuration, testing related documents.
   - Suggest UI and UX improvements based on current trend sand technology available.
   - Integrate the latest developments from the mobility space into the mobile application, as and when deemed suitable by the AUTHORITY or representatives thereof.
   - The mobile and web-based application provided by Selected Bidder should comply with CERT-IN, NCIIPC, NIC and MeitY as the case maybe for adhering to principals, protocols guidelines assuring for web security and should be audited by a CERT-IN empaneled Security Auditor. Selected Bidder shall be required to submit security audit certificates of all the deliverables.

- Provide development and testing environments for any and all software components in the mobile applications. UAT and production environments shall be provided by the AUTHORITY.
- Develop components keeping in mind performance issues specific to mobility, such as call interruption behavior, battery consumption and usability according to the form factor specified.
- Develop components that are W3C, WCAG and GIGW compliant.
- At the end of the engagement, the Selected Bidder will be required to submit a learnings document that must contain the content including, but not limited to, the following:
    i. Best practices for software development employed
    ii. Learnings from the engagement
    iii. Recommendations for new features in the mobile app

17.13.1. Key Features of Mobile App

The following are the indicative features of the Mobile Application to be used for Survey

- Provision for field related Data entry for every property as per AUTHORITY requirement
- Attach photograph which should be geo-tagged and geo-controlled with timestamp. The photograph capture should not be allowed beyond particular distance (in meter) and this distance should be configurable as AUTHORITY will decide it later.
- Application should restrict upload photograph facility from gallery so that Surveyor has to click the property photograph on the field within allowed area.
- Surveyor should be provided very user-friendly dashboard which can directly take him to the location where he stands as soon as he logs in.
- As surveyor completes field level data entry, he should be able to submit details from field.
- Surveyor should be able to work on any properties within his allocated area that are also rejected by office users.
- Survey or should also be able to search plots by giving plot id.
- Provision for Alphanumeric GIS IDs for all property.
- Provision for Ground Truthing of plot.
- Provision for Ground Truthing of other Asset layers.
- Provision for uploading documents from site for new assessment.
- GIS Navigation facilities and Search Tool.

17.14. Annexure 14 (Sizing of servers required for hosting the GIS Solution)

The Selected Bidders will have to do proper Sizing and undertake Supply, Installation & Maintenance of the Server for Database & Application Software for GIS. The Selected Bidder needs to quote one of the top 5 OEMs as per the latest IDC / Gartner report for the same.

The servers will be centrally located at _____ being commissioned at AUTHORITY office. The Selected Bidder should include a list of the proposed hardware elements as part of their response to the Tender.

A. Design of Enterprise GIS Architecture to meet the requirements specified in the RFP

As a part of implementation services, the Selected Bidder will have to setup an enterprise GIS environment for using the mentioned GIS platform. This setup will have a centralized GIS database having all departmental GIS datasets within one enterprise GIS database of Authority. Authority and concerned users will be accessing this centralized GIS database for editing and managing their own departmental layers using web based, desktop based and mobile based interface, all of which will be created by the SI. The Selected Bidder will have to provide support to all the department officials in using the enterprise setup. The SI/Selected Bidder will also have to manage and support the centralized GIS setup. The GIS System and Database Administrators from the Selected Bidder side will have to manage and support the system.

Note: Selected Bidder should only procure the required hardware needed to deploy the enterprise GIS solution. Authority shall provide the necessary software & hardware infrastructure in _____ for the deployment of the proposed Enterprise GIS system. However, Successful Bidder shall provide detailed sizing of necessary software & hardware which might be required for successful implementation of Enterprise GIS system. The proposed recommendations of the hardware should adhere to the SLA as mentioned in this RFP.

B. Functional Requirements of Web-GIS Application (For Authority Staff)

i. Navigation Tool Bar

- Pan View, Refresh Map
- Zoom to full extents
- Zoom In (User-defined area)
- Zoom Out (User-defined area)
- Zoom to Previous extents (Back) - must keep at least 5 previous extents
- Zoom to Next extents (Forward) - must keep at least 5 next extents
- Zoom to Selected Features
- Activity indicator - display notification while map/data is being processed
- Move up/down/left/right;
- Scale input box - allow user to enter representative fraction scale for dynamic services - For cached services, scale box should contain dropdown menu of available cache scales (levels of detail)
- Show/hide mouse coordinates

ii. Descriptive Map Information Tool

- When the mouse cursor hovers over each map feature, information should be shown based on the feature's attributes. Functionality should be available for all feature classes; should be able to display a combination of attributes and should not limit the number of features that can be included with the map tool.
- It should allow user to turned on and off as needed.

iii. Searching Tools

- Should allow users to search features by both pre-configured and dynamic based on unique values as follows:
  a. Search by District and Block
  b. Search by Gram Panchayat
  c. Search by Village,
  d. Search by Ward
  e. Search by CP/ACA ID etc.
- Should allow user to run the custom queries on-the-fly and save those queries for future use.
- Should allow user to run spatial query on multiple layers with spatial operators.
- Should also allow for a buffer to be applied to the search criteria allowing for features within a certain distance of the query feature to be selected.
- Should have a tool allowing users to search and zoom to a location based on GPS coordinates.
- Should have facility to run combination of attribute & spatial query.
- Should have facility to auto-complete text boxes based on either feature attributes or linked records.
- Should allow user to Search all the municipal assets around a specified point within a given radius in a specified zone.
- Draw the path on the map to search all the municipal assets along a specified path within a given width in a specified zone.

iv. Distance and Area Measurements

- Should have distance measurements tool to allow user to measure the length of irregular shaped lines.
- Should have area measurements tool to allow user to measure irregular shaped polygons.
- Measurements should be shown using the metric and the imperial system. The ability to snap to the edge or nodes of the feature being measured is desirable.

v. Thematic Mapping

- Should allow user to generate various thematic maps based on the attribute information available in databases.

vi. Visualization of Temporal Data

- Should have facility to visualize time aware layers.
- Should allow user to add temporal data layer on-the-fly.

vii. Visualization of 3D Data

- Should have facility to visualize 3D view of GIS Data layers.

viii. Printing

- Should have ability to print maps to a printer/plotter with the selection of paper size (A2, A1, A0, Letter, Tabloid etc.) and page orientation (landscape or portrait)
- Should have print preview option.
- Should be able to handle and process any redlining / markups of the map.
- Should have ability to export the map to a standard image format (BMP, TIF, JPEG and PDF file).
- Should have a variety of templates must be available which allow the user to add a custom map title and to decide which map elements (north arrow, scale bar, overview map, legend, etc.) will be visible.
- Print date and time should be automatically added to output at application runtime.
- Legend should be automatically adjusted based layers displayed in print area.

ix. Redlining Capabilities

- The system should allow users to draw simple shapes (point, line, rectangle, polygon and circle) and add text to make annotations and markups to the map that must be printable. It shall allow the user to provide supplemental information on the map.
- Should allow user to set the redlining display style based on the following specification: Line: color, style, transparency and width. Rectangle, circle, and polygon: fill color, fill opacity, outline style, outline color and outline width.

x. Proximity Analysis Tool

- Selecting the features based on their location relative to features in another layer. For instance, if user wants to know how many homes were falling in certain Zone for tax implementation, it can select all the homes that fall within the Zone boundary.

xi. Add Map Layers

- Should allow user to add GIS map layers.
- Added new map layer should be overlaid on the existing map.

xii. Swipe Layer

- Should have provision to easily compare the content of different layers in a map by sliding the swipe layer tool or move mouse around layer.

xiii. Hyperlinks

- Should have ability to hyperlink to document, images, avi files and PDF files with the feature's attribute.

xiv. Emailing

- Should allow user to Email map as an attachment.

xv. Reporting

- Should provide predefined report templates.
- Should allow user to create custom reports using SQL query interface and save those reports for shared future use.
- Should allow user to generate reports on selected features.
- Should be able track the history of reports a user has performed.
- Should be able to export reports into PDF and MS Excel.
- Should allow use to select different date ranges to view report information.
- Should allow user to print reports.

xvi. Web-Editing

- Support role based multi-user editing access and editing workflows.
- Should allow authenticated user to validate spatial feature create/delete/edit/upload through Web-GIS application.
- Should allow administrator to Accept/Reject the changes made and a log should be created for the same.
- Should have easy-to-use map editing tools.
- Should allow user to divide the polygon or polyline.
- Should allow user to amalgamate the two or multiple polygons or polylines.
- Should allow administrator to configure the edit/view security at the level of feature attribute.

xvii. Select Feature

- Should be able to select features by clicking on or by drawing a polygon around the feature.
- Should allow user to generate URL for current view extents, visible layers, and active selection.
- Should allow user to email the generated URL.
- Should allow user to export data into KML/KMZ and Shapefile.

xviii. Bookmarks

- User should be able to save a map view and be able to return to that exact view at a later date.
- Should have ability to email the current view extents, visible layers, and active selection in the form of image.

xix. Application Error Reporting

- Should allow user to report errors, with a screen capture, back to the Authority's GIS Coordinator.

xx. Dashboard

- Should be able to provide management with easy-to-understand, easy-to-use reports that use appropriate info graphics (Charts) to present the performance of the Authority departments.
- Should have a GIS-enabled real-time dashboard to display dynamic charts & graphs that the management wants to view.
- Should have easy to use, interactive facility for management to generate ad-hoc reports.

xxi. Mobility/In-Field Usage

- Should allow remote access on Mobile & Tablet devices.
- Should have ability to configure security to assure that only authorized persons are allowed to sign in.
- Should have redlining capability.
- Should allow user to edit map feature and attribute details and save those changes in their user profile.
- Should allow user to post the edited map feature and attribute changes to Map Server of a versioned GIS database.
- Should allow authenticated user to validate spatial (along with relevant attribute information) feature create/delete/edit/upload through Mobile device.

xxii. Security and User Management

- Should allow Active Directory, LDAP, or other security source.
- Should allow administrator to configure security to map service, layer and attribute levels.
- Should allow group-based security policies.
- Should not require opening of any special protocols for connecting the user client to the web/application server used by the package. All communication should be on HTTP or HTTPs.
- Application users should not have direct access to the database.
- Any changes to data should be recorded in a separate table and should be stamped with the identity of the user/program and the date / time of the creation/change.
- Should be possible to audit users at the form level, user level, application module level and at the organizational role level.
- Should provide reports on user activity based on the role and the application that was used.
- The system should support configurable password policies including:
  - Password expiry
  - Password complexity
  - Password history and reuse policy
  - Forced password change on first log on
  - Capability of self-service reset of passwords in case of forgotten passwords or locked accounts.
  - Should support security system with a full-fledged Role Based Access Control

(RBAC) model.

xxiii. Video / CCTV Surveillance Interface

- User should be able to see the location of CCTV cameras installed and mapped on to the GIS map.
- System should have provision to integrate with video feeds available from CCTV camera.

C. Functional Requirements of Web-GIS Application (For Citizen Users)

#	Functionality	Description
1	My Locations	To locate citizens' current location, display nearby utilities & distance between current location and searched utility
2	Print	Facility to Print, Convert into PDF
3	Measure	Perform Measurement (Find Distance, Area & Latitude/Longitude)
4	Bookmark	To save a map view and be able to return to that exact view at a later date.
5	Legend window	A legend window explaining all the symbology used in the map
6	Query tab	It shall have common queries for citizens: Locate CPs/ACAs, Borewells, etc.
7	Draw	The tool should basically allow citizen to draw the shapes like Point, Line, Polygon, Triangle, extent, freehand polyline, circle, ellipse, freehand & save & share it in .pdf, .jpg or another format.
8	Around Me	This will have all the map layers available for the citizen to select & set the aerial distance (within which they wish to see the utilities).
9	Administrative body Information	Gram Panchayat, Ward details and functionaries and other officials details.
10	Know your CP/ACA	Searching one's CP/ACA with appropriate ID.
11	Online help	Should have bi-lingual (Hindi & English) online help files and user manual with GIS usage examples for the end user.
12	Language toggle	A button for toggling the languages English and Hindi.
13	Authority announcements	Any announcements made by Authority for citizens is to be displayed here.
14	Feedback	Citizen can submit their feedbacks here.
15	Add Data	Provision for citizens to add image, data on the portal & submit it to Authority. For reporting unauthorized cultivation.
16	From - To	Network analysis running back hand is to help citizens find route from one place to another in the city.
17	Mobile compatibility of the citizen portal	Should support One-Web functionality.

D. Technical Requirement

1. The server-based GIS application should support any client and device including mobile, smart clients, web browsers (internet explorer, google chrome, Mozilla Firefox). It should also support modern cross-platform HTML5 and CSS3.
2. The underlying GIS application should support integration with a variety of mobile applications on multiple platforms – smartphone and tablet operating on iOS, Android, and Windows.
3. The GIS solution should support n-tier architecture consisting of a database, an application server (and/or web server) and a browser.
4. System should be capable of being deployed in an active-passive cluster using either software-based capabilities or load balancers.
5. System should run as a native 64-bit application and should support windows 64- bit and Linux 64-bit operating system.
6. System should be built from best of breed components with no obsolescence and with futuristic designs.
7. Interoperability of servers from different Successful Bidders is required at all levels.
8. Scalability, manageability to handle huge data volumes.
9. Efficient Resource Utilization by separation of Compute and Storage resources.
10. Successful Bidder shall ensure that latest patches/ upgrades for software components being used will be applied in consultation with Authority.
11. Successful Bidder shall be responsible for configuration / customization of the software components procured as required for the solution.
12. Successful Bidder shall carryout development of any software which is required within solution adopting industry leading practices.
13. Successful Bidder shall maintain a software configuration management system with appropriate version control for the software deployed.
14. Successful Bidder shall adopt leading practices for release deployment in production environment.
15. Successful Bidder shall be responsible to carry out white box and black box testing, unit testing, integration testing, volume testing, performance testing, penetration and vulnerability testing.
16. Testing cases executed, testing logs, bugs fixed, testing results, etc. shall be maintained by successful bidder and shall be made available to Authority on request if required.
17. Comprehensive development and rollout plan for each of the software component shall be provided successful bidder and status updates against planned milestones shall be provided in project status update reports periodically.
18. Post deployment bug fixing, patches, fine-tuning, minor changes, etc. shall have to be carried out successful bidder as a part of ongoing support and maintenance of the software.
19. Should have efficient and quick data storage and retrieval with encryption techniques.
20. The systems logs should be maintained for at-least 6 months.
21. All the application, system events to log with timestamp onto the system, super-user to have access of such logs.
22. The application should be designed to prevent from SQL injections. User Interface/

Front-End should be HTML injection proof.

23. While writing the source code of customized modules, successful bidder should ensure high-quality documentation standards to improve the readability of the software module. An illustrative list of comments that each module contained within the source file should be preceded by is outlined below:
    - The name of the module.
    - The date when module was created.
    - A description of what the module does.
    - A list of the calling arguments, their types, and brief explanations of what they do.
    - A list of required files and/or database tables needed by the module.
    - Error codes/Exceptions.
    - Operating System (OS) specific assumptions.
    - A list of locally defined variables, their types, and how they are used.
    - Modification history indicating who made modifications, when the modifications were made, and what was done.
24. Apart from the above, the Successful Bidder needs to follow appropriate coding standards and guidelines inclusive of but not limited to the following while writing/configuring the system:
    - Proper and consistent indentation
    - Inline comments
    - Structured programming
    - Meaningful variable names
    - Appropriate spacing
    - Declaration of variable names

17.15. Annexure 15 (List of layers that will need to be generated)

#	Feature Type/ Category	Feature Type	Major Attributes	Dataset Name
1	State Boundary	Polygon	UID, Name and Area	State Admin Boundaries
2	District Boundary	Polygon	UID, Name and Area	
3	Tehsil/Block Boundary	Polygon	UID, Name and Area	
4	Gram Panchayat Boundary	Polygon	UID, Name and Area	
5	Village Boundary	Polygon	UID, Name and Area	
6	Block HQ	Polygon	UID, Name and Area	
7	Wards	Polygon	UID, Name and Area	
8	Opium Tract	Polygon	UID, Name and Area	Opium Office and Tract
9	District Opium office boundary	Polygon	UID, Name and Area	
10	Cultivation Plots	Polygon	UID, Khasra No. & Area as per records, Photo etc.	Agricultural Land
11	Actual Cultivation Area	Polygon	UID, Khasra No. & Area as per records, Photo etc.	
12	Cultivator Name	Table	UID, Name, Phone, License, Plot Area, Permissible Cultivation area, Opium Cultivation area, Sown etc.	Lanbadar Details
13	Crop Year Field-book	Table	UID, License, Plot Area, Permissible Cultivation area, Opium Cultivation area, Sown etc.	
14	Inspectors	Table	UID, Name etc.	Inspector Details
15	Other Staffs	Table	UID, Name etc.	
16	Fire Station	Point	UID, Name etc.	Major Amities
17	Borewell	Point	UID, Name etc.	
18	Hospitals	Point	UID, Name etc.	
19	Police Station	Point	UID, Name etc.	

#	Feature Type/ Category	Feature Type	Major Attributes	Dataset Name
20	Road	Line	UID, Name, Type, Width, Condition	Transport Details
21	Railway Line	Line	UID	
22	Contour	Line	UID, Height	Elevation
23	Slope	Raster	UID, Height	
24	Aspect	Raster	UID, Height	
25	DEM	Raster	UID, Height	
26	DSM	Raster	UID, Height	
27	Canals	Line	UID, Name	Water body
28	Rivers & Streams	Line	UID, Name	
29	Lakes and Ponds	Polygon	UID, Name	
30	Satellite Image	Raster	-	Raster Imagery
31	Aerial Ortho Photos	Raster	-	
32	Cadastral Maps	Raster	-	
33	Other Maps	Raster	-	
34	Rainfall	Raster	UID	Misc.
35	Temperature	Raster	UID	
36	Humidity	Raster	UID	
37	Soil Type	Raster	UID	
38	Ground Water	Raster	UID	
39	Others	-	UID, Remarks	

17.16. Annexure 16 CV Format

PHOTO	**Name**			
	Position:			
	Date of Birth			
	Education:			
	Trainings and Certifications			
	Total Years of Experience			
Employment Record	**From**	**To**	**Company**	**Position Held**
Brief Profile				
Countries of Work Experience				
Languages				

Work Undertaken that Best Illustrates Capability to Handle the Task Assigned
{please add as many rows required to best illustrate all the projects and nature of work undertaken by you}

Project 1:
Nature of Work:
Year:
Location:
Client:
Employer:
Position Held:
Activities Performed:

Certification
I, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.
Date:

Signature of Staff Member

17.17. Annexure 17 Change Control Note/Notice (CCN) Format

Change Control Note	CCN Number:
Part A: Initiation	
Title:	
Originator:	
Sponsor:	
Date of Initiation:	
Details of Proposed Change	
(To include reason for change and appropriate details/specifications. Identify any attachments as A1,	
Authorized by:	Date:
Name:	
Signature: Received by the IP	Date:
Name:	
Signature:	
Change Control Note	CCN Number:
Part B : Evaluation	
(Identify any attachments as B1, B2, and B3 etc.) Changes to Services, charging structure, payment profile, documentation, training, service levels and component working arrangements and any other contractual issue.	
Brief Description of Solution:	
Impact:	
Deliverables:	
Timetable:	
Charges for Implementation: (including a schedule of payments)	
Other Relevant Information: (including value-added and acceptance criteria)	
Authorized by the Implementation Partner	Date:
Name:	
Signature:	

17.18. Annexure 18 No deviation Certificate

To:

<Location, Date>

<Name>

<Designation>

<Address>

<Phone Nos.>

<Fax Nos.>

<Email id>

Subject: No Deviation Certificate

This is to certify that our offer is exactly in line with your tender enquiry/RFP (including amendments) no. _____ dated _____. This is to expressly certify that our offer contains no deviation on Technical (including but not limited to Scope of Work, Business Requirements Specification, Functional Requirements Specification, Data Centre Requirements Specification and Technical Requirements Specification), Legal or Commercial aspects in either direct or indirect form.

(Authorized Signatory)

Signature:

Name:

Designation:

Address:

Seal:

Date:

18. Annexure for Commercial Proposal

18.1. Annexure 19 Covering letter of financial proposal

To:

<Location, Date>

<Name>

<Designation>

<Address>

<Phone Nos.>

<Fax Nos.>

<Email id>

Subject: Submission of the financial breakup for <Provide Name of the Implementation Assignment>

Dear Sir/Madam,

We, the undersigned, offer to provide the Implementation services for <<Title of Implementation Services>> in accordance with your Request for Proposal dated <<*Date*>> and our Technical Proposals. Our Solution for developing, implementing and maintaining the subject line assignment is for the sum of <<*Amount in words and figures*>>. This amount is inclusive of the local taxes.

1. PRICE AND VALIDITY

All the prices mentioned in our Tender are in accordance with the terms as specified in the RFP documents. All the prices and other terms and conditions of this Bid are valid for a period of <days> calendar days from the date of opening of the Bid.

We hereby confirm that our prices include all taxes. However, all the taxes are quoted separately under relevant sections.

We understand that the actual payment would be made as per the existing GST on Services rates during the time of payment.

2. UNIT RATES

We have indicated in the relevant forms enclosed, the unit rates for the purpose of on account of payment as well as for price adjustment in case of any increase to / decrease from the scope of work under the contract.

3. QUALIFYING DATA

We confirm having submitted the information as required by you in your Instruction to Bidders. In case you require any other further information/documentary proof in this regard before evaluation of our Tender, we agree to furnish the same in time to your satisfaction.

4. PERFORMANCE BANK GUARANTEE

We hereby declare that in case the contract is awarded to us, we shall submit the Performance Bank Guarantee as specified in this RFP document.

Our Financial Costs shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, i.e., [Date].

We understand you are not bound to accept any Proposal you receive.

We hereby declare that our Tender is made in good faith, without collusion or fraud and the information contained in the Tender is true and correct to the best of our knowledge and belief.

We understand that our Tender is binding on us and that you are not bound to accept a Tender you receive.

Yours sincerely,

Authorized Signature:

Name and Title of Signatory:

Name of Firm:

Address:

*Please note: GST on Services which will be paid extra by Purchaser as per the prevailing rates. All other taxes, duties insurance (if any) will be borne by bidder.

18.2. Annexure 20 (Financial evaluation format)

Format for Financial Bid (Implementation and 1st Year Support)

Item No	Item	Quantity	Unit	Unit Rate (Rs)	Duration (in yr.)	Amount (Rs)
1	**GIS based Surveys (for 5 years)**					
1.1	Field Measurement UAV survey (legal opium cultivation)	11500	Hectare		1	
1.2	Field Measurement Survey (legal opium cultivation)	11500	Hectare		1	
1.3	Test Measurement UAV survey (legal opium cultivation)	3450	Hectare		1	
1.4	Test Measurement Survey (legal opium cultivation)	3450	Hectare		1	
1.5	UAV Survey in illicit Opium Cultivation area	7500	Hectare		1	
1.6	Plough back area survey through Remote sensing devices for exigencies including but not limited to diseases, flood, hailstorm, insect infestation and other bad weather conditions etc. (including manpower)	1150	Hectare		1	
1.7	Procurement of Satellite Imagery for illicit Opium Cultivation Area	7500	Hectare		1	
2	**Manpower for 1st years (6-man months per year)**					
2.1	GIS SMEs (Subject Matter Expert)	2	Qty		5	
2.2	GIS Operators	5	Qty		5	
3	**GIS engine and Satellite Imagery Procurement**					
3.1	Procurement of GIS platform for CBN with Image and Data Analyst & Data Validation workflow capabilities along with Mobile Software for 500 surveyors simultaneously (inclusive of any annual cost and SLA management tool).	1	Qty		5	
4	**Operation and Maintenance**					
4.1	O&M & Onsite support of GIS Engine/Application	1	Qty		5	
5	**Miscellaneous**					
5.1	Miscellaneous (Any other cost which is required for seamless completion of the project)	1	Qty		1	
	Total Cost (Excluding Applicable Taxes)					

Format for Financial Bid (Implementation and 2nd Year Support)

Item No	Item	Quantity	Unit	Unit Rate (Rs)	Duration (In yr.)	Amount (Rs)
1	**GIS based Surveys (for 5 years)**					
1.1	Field Measurement UAV survey (legal opium cultivation)	12000	Hectare		1	
1.2	Field Measurement Survey (legal opium cultivation)	12000	Hectare		1	
1.3	Test Measurement UAV survey (legal opium cultivation)	3600	Hectare		1	
1.4	Test Measurement Survey (legal opium cultivation)	3600	Hectare		1	
1.5	UAV Survey in illicit Opium Cultivation area	7500	Hectare		1	
1.6	Plough back area survey through Remote sensing devices for exigencies including but not limited to diseases, flood, hailstorm, insect infestation and other bad weather conditions etc. (including manpower)	1150	Hectare		1	
1.7	Procurement of Satellite Imagery for illicit Opium Cultivation Area	7500	Hectare		1	
	Total Cost (Excluding Applicable Taxes)					

Format for Financial Bid (Implementation and 3rd Year Support)

Item No	Item	Quantity	Unit	Unit Rate (Rs)	Duration (in yr.)	Amount (Rs)
1	**GIS based Surveys (for 5 years)**					
1.1	Field Measurement UAV survey (legal opium cultivation)	13000	Hectare		1	
1.2	Field Measurement Survey (legal opium cultivation)	13000	Hectare		1	
1.3	Test Measurement UAV survey (legal opium cultivation)	3900	Hectare		1	
1.4	Test Measurement Survey (legal opium cultivation)	3900	Hectare		1	
1.5	UAV Survey in illicit Opium Cultivation area	7500	Hectare		1	
1.6	Plough back area survey through Remote sensing devices for exigencies including but not limited to diseases, flood, hailstorm, insect infestation and other bad weather conditions etc. (including manpower)	1300	Hectare		1	
1.7	Procurement of Satellite Imagery for illicit Opium Cultivation Area	7500	Hectare		1	

	Total Cost (Excluding Applicable Taxes)					

Format for Financial Bid (Implementation and 4th Year Support)

Item No	Item	Quantity	Unit	Unit Rate (Rs)	Duration (In yr.)	Amount (Rs)
1	**GIS based Surveys (for 5 years)**					
1.1	Field Measurement UAV survey (legal opium cultivation)	14000	Hectare		1	
1.2	Field Measurement Survey (legal opium cultivation)	14000	Hectare		1	
1.3	Test Measurement UAV survey (legal opium cultivation)	4200	Hectare		1	
1.4	Test Measurement Survey (legal opium cultivation)	4200	Hectare		1	
1.5	UAV Survey in illicit Opium Cultivation area	7500	Hectare		1	
1.6	Plough back area survey through Remote sensing devices for exigencies including but not limited to diseases, flood, hailstorm, insect infestation and other bad weather conditions etc. (including manpower)	1400	Hectare		1	
1.7	Procurement of Satellite Imagery for illicit Opium Cultivation Area	7500	Hectare		1	
	Total Cost (Excluding Applicable Taxes)					

Format for Financial Bid (Implementation and 5th Year Support)

Item No	Item	Quantity	Unit	Unit Rate (Rs)	Duration (In yr.)	Amount (Rs)
1	**GIS based Surveys (for 5 years)**					
1.1	Field Measurement UAV survey (legal opium cultivation)	15000	Hectare		1	
1.2	Field Measurement Survey (legal opium cultivation)	15000	Hectare		1	
1.3	Test Measurement UAV survey (legal opium cultivation)	4500	Hectare		1	
1.4	Test Measurement Survey (legal opium cultivation)	4500	Hectare		1	
1.5	UAV Survey in illicit Opium Cultivation area	7500	Hectare		1	

1.6	Plough back area survey through Remote sensing devices for exigencies including but not limited to diseases, flood, hailstorm, insect infestation and other bad weather conditions etc. (including manpower)	1500	Hectare		1	
1.7	Procurement of Satellite Imagery for illicit Opium Cultivation Area	7500	Hectare		1	
	Total Cost (Excluding Applicable Taxes)					

(Note: the above bill of quantities is indicative in nature, payment will be made on actual pro rata basis. The Bidder shall be entirely responsible for proposing the Solution which satisfies all features, functions and performance, SLA as described in this document. The Bidder shall be responsible for design, development, and implementation of the proposed solution, as well as providing comprehensive support to the Purchaser. The RFP contains indicative technical requirements for GIS based monitoring of Opium cultivation cycle, Bidders are expected to use their technical expertise to size the system adequately and reflect the same in the technical and commercial offer so that performance criteria of system are met.)

Name of the Firm (with seal):

Signature of Authorised signatory:

Name of the Authorised signatory:

Address:

Phone no.:

Date:

19. Annexures- Draft of MSA

Enclosed as separate document. This should be considered as draft only and CBN has full discretion to update the same at time of signing of contract at a later stage.



Draft Contract only (subject to change)

Contract Agreement

This AGREEMENT is made the *[day]* day of the month of *[month]*, *[year]*, between, on the one hand, *[name of Employer]* (hereinafter called the "Employer") and, on the other hand, *[name of Service Provider]* (hereinafter called the "Service Provider").

[***Note**: In the text below text in brackets is optional; all notes should be deleted in final text*. *If the Service Provider consist of more than one entity, the above should be partially amended to read as follows:* "…(hereinafter called the "Employer") and, on the other hand, a joint venture consisting of the following entities, each of which will be jointly and severally liable to the Employer for all the Service Provider's obligations under this Contract, namely, *[name of Service Provider]* and *[name of Service Provider]* (hereinafter called the "Service Provider").]

WHEREAS

(a) the Employer has requested the Service Provider to provide certain Services as defined in the General Conditions of Contract attached to this Contract (hereinafter called the "Services");

(b) the Service Provider, having represented to the Employer that they have the required professional skills, and personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract at a contract price of……;

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents shall be deemed to form and be read and construed as part of this Agreement, and the priority of the documents shall be as follows:
    a. the Special Conditions of Contract
    b. the General Conditions of Contract
    c. Scope of Work or Terms of Reference with all SLAs
    d. Letter of Acceptance
    e. Price Bid
    f. Service Provider Bid
    g. Published RFP
2. The mutual rights and obligations of the Employer and the Service Provider shall be as set forth in the Contract, in particular:
    a. the Service Provider shall carry out the Services in accordance with the provisions of the Contract; and
    b. the Employer shall make payments to the Service Provider in accordance with the provisions of the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of India on the day, month and year indicated above.

For and on behalf of the Employer:

Signed: *[insert signature]*

in the capacity of *[insert title or other appropriate designation]*

Name of the Party:

Address:

in the presence of *[insert identification of official witness]*

For and on behalf of the Service Provider:

Signed: *[insert signature of authorized representative(s) of the Service Provider]*

in the capacity of *[insert title or other appropriate designation]*

Name of the Party:

Address:

in the presence of *[insert identification of official witness]*

1. General

1.1 Tenets of Interpretation

Unless where the context requires otherwise, throughout the contract:

1. The heading of these conditions shall not affect the interpretation or construction thereof.
2. Writing or written includes matter either whole or in part, in digital communications, manuscript, typewritten, lithographed, cyclostyled, photographed, or printed under or over signature or seal or digitally acceptable authentication, as the case may be.
3. Words in the singular include the plural and vice-versa.
4. Words importing the masculine gender shall be taken to include other genders, and words importing persons shall include any company or association or body of individuals, whether incorporated or not.
5. Terms and expression not herein defined shall have the meanings assigned to them in the contract Act, 1872 (as amended) or the Sale of Goods Act, 1930 (as amended) or the General Clauses Act, 1897 (as amended) or of INCOTERMS, (current edition published by the International Chamber of Commerce, Paris) as the case may be.
6. Any reference to ‘Services’ shall be deemed to include the incidental Works/ Goods also.
7. Any generic reference to GCC shall also imply a reference to SCC as well.
8. In case of conflict, provisions of SCC shall prevail over those in GCC.
9. Any reference to ‘Contract’ shall be deemed to include all other documents (inter-alia GCC, SCC) as described in contract agreement.
10. Any reference to any legal Act, Government Policies or orders shall be deemed to include all amendments to such instruments, from time to time, till date.
11. GCC-clause 5.13 (Book Examination clause) shall not apply unless invoked explicitly in the contract.

1.2 Definitions

1. "Allied Firm" are all business entities that are within the 'controlling ownership interest' (ownership of or entitlement to more than twenty-five percent of the company's shares or capital or profits) or 'control'(including the right to appoint a majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder agreements or voting agreements) of the principal firm acting alone or together or through one or more juridical persons. All successor firms or assigns of the principal firm shall be considered as allied firms.
2. "bid" (including the term 'tender', 'offer', 'quotation' or 'proposal' in specific contexts) means an offer to supply goods, services or execution of works made as per the terms and conditions set out in a document inviting such offers.
3. "Bidder" (including the term 'Bidder', 'consultant' or 'service provider' in specific contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a Tender Process.

4. "Bill of Quantities" (including the term Price Schedule or BOQ) means the priced and completed Bill of Quantities forming part of the bid.
5. "Contract" (including the terms 'Purchase Order' or 'Supply Order' or 'Withdrawal Order' or 'Work Order' or 'Consultancy Contract' or 'Contract for Services', 'rate contract' or 'framework contract' or 'Letter of Award - LoA' (letter or memorandum communicating to the contractor the acceptance of his bid) or 'Agreement' or a 'repeat order' accepted/ acted upon by the contractor in specific contexts), means a formal legal agreement in writing relating to the subject matter of procurement, entered into between the Procuring Entity and the contractor on mutually acceptable terms and conditions and which are in compliance with all the relevant provisions of the laws of the country.
6. "Contractor" (including the terms 'Supplier' or 'Service Provider' or 'Consultant' or 'Firm' or 'Vendor' or 'Successful Bidder' in specific contexts) means the person, firm, company, or a Joint Venture with whom the contract is entered into and shall be deemed to include the contractor's successors (approved by the Procuring Entity), agents, subcontractor, representatives, heirs, executors, and administrators as the case may be unless excluded by the terms of the contract;
7. "Contract Manager" means the Procurement Officer or any other officer or a third-party agency who has been assigned the authority to take all actions on behalf of the Procuring Entity during the execution of the contract by the contractor.
8. "Day", "Month", "Year" shall mean calendar day/ month or year (unless reference to financial year is clear from the context).
9. "Drawing" means the drawing or drawings stipulated in or annexed to the Specifications or the Tender Document/ Contract.
10. "Equipment" means the contractor's machinery and vehicles brought temporarily to the Site for the performance of Service.
11. "General Conditions" means the General Conditions of Contract, also referred to as GCC.
12. "Goods" (including the terms 'Stores', 'Material(s)' in specific contexts) includes all articles, material, commodity, livestock, medicines, furniture, fixtures, raw material, consumables, spare parts, instruments, machinery, equipment, industrial plant, vehicles, aircrafts, ships, railway rolling stock assemblies, sub-assemblies, accessories, a group of machines comprising an integrated production process or such other categories of goods or intangible, products like technology transfer, licenses, patents or other intellectual properties (but excludes books, publications, periodicals, etc., for a library), in specific contexts), procured or otherwise acquired by a Procuring Entity. Any reference to Goods shall be deemed to include specific small work or some services that are incidental or consequential to the supply of such goods.
13. "Government" means the Central Government or a State Government as the case may be and includes agencies and Public Sector Enterprises under it, in specific contexts.
14. "Inspection" means activities such as measuring, examining, testing, analysing, gauging one or more characteristics of the goods or services or works, and comparing the same with the specified requirement to determine conformity.
15. "Intellectual Property Rights" (IPR) means the rights of the intellectual property owner concerning a tangible or intangible possession/ exploitation of such property by others. It

includes rights to Patents, Copyrights, Trademarks, Industrial Designs, Geographical indications (GI).

16. "Joint Venture" means a Joint Venture or a Consortium (that is an association of several persons, or firms or companies - also referred to as JV/C)
17. "Materials" means all supplies, including consumables, used by the contractor for service performance or use by his staff.
18. "Parties": The parties to the contract are the "Contractor" and the "Procuring Entity", as defined in this clause.
19. "Performance Security" (includes the terms 'Security Deposit' or 'Performance Bond' or 'Performance Bank Guarantee' or other specified financial instruments in specific contexts) means a monetary guarantee to be furnished by the successful Bidder or Contractor in the form prescribed for the due performance of the contract.
20. "Procurement" or "public procurement" (or 'Purchase', or 'Government Procurement/ Purchase' including an award of Public-Private Partnership projects, in specific contexts) means the acquisition of Goods/ Services/ works by way of purchase, lease, license or otherwise, either using public funds or any other source of funds (e.g. grant, loans, gifts, private investment etc.) of goods, works or services or any combination thereof, by a Procuring Entity, whether directly or through an agency with which a contract for procurement services is entered into, but does not include any acquisition without consideration. The term "procure"/ "procured" or "purchase"/ "purchased" shall be construed accordingly.
21. "Procuring Entity" means the entity in The Procuring Organization procuring Goods, Works, or Services.
22. "Procurement Officer" means the officer signing the Letter of Award (LoA) and/or the contract on behalf of the Procuring Entity.
23. "Service(s)" (including the term 'non-consultancy services' or 'Outsourcing of Services' in specific contexts) are defined by exclusion as services that cannot be classified as Consultancy Services. Services (non-Consultancy) involve routine, repetitive physical, procedural, and non-intellectual outcomes for which quantum and performance standards can be tangibly identified and consistently applied and are bid and contracted on such basis but does not include the appointment of an individual made under any law, rules, regulations, or order issued in this behalf. Any reference to Services shall be deemed to include the supply of goods or performance of consultancy service or small works, which are incidental or consequential to such services.
24. "Special Conditions" means Special Conditions of Contract, which override the General Conditions, also referred to as SCC.
25. "Specification" or "Technical Specification" means the drawing/ document/ standard or any other details governing the construction, manufacture or supply of goods or performance of services that prescribes the requirement to which goods or services have to conform as per the contract.
26. "Signed" means ink signed or digitally signed with a valid Digital Signature as per IT Act 2000 (as amended from time to time). It also includes stamped, except in the case of Letter of Award or amendment thereof.;

27. "Sub-Contractor" means a person or corporate body with an agreement with the contractor to carry out a specific part of the contract that may or may not include working on the Site.
28. "Temporary Works" means works designed, constructed, installed, and removed by the contractor needed during the Services' performance.
29. "Variation" means an instruction given by the Contract Manager, which varies the scope, quantum or performance standards of the Service performed.
30. "Tender"; "Tender Document"; "Tender Enquiry" or "Tender Process": 'Tender Process' is the whole process from the publishing of the Tender Document till the resultant award of the contract. 'Tender Document' means the document (including all its sections, appendices, forms, formats, etc.) published by the Procuring Entity to invite bids in a Tender Process. The Tender Document and Tender Process may be generically referred to as "Tender' or 'Tender Enquiry', which would be clear from context without ambiguity.
31. "Works" refer to any activity involving construction, fabrication, repair, overhaul, renovation, decoration, installation, erection, excavation, dredging, and so on, which make use of a combination of one or more of engineering design, architectural design, material and technology, labour, machinery, and equipment.

1.3 Document Conventions

All words and phrases defined in GCC-clause 1.2 are written as ‘Capitalised word’ and shall have the defined meaning. The rest of the words shall be as per grammar, inter-alia ‘Services’ shall indicate definition as given in the GCC while ‘services’ shall have usual dictionary meaning.

1.4 Applicable Law

This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Laws of India for the time being in force.

Irrespective of the place of delivery, or the place of performance or the place of payments under the contract, the contract shall be deemed to have been made at the place from which the Letter of Award (LoA, or the contract Agreement, in the absence of LoA) has been issued. The courts of such a place shall alone have jurisdiction to decide any dispute arising out or in respect of the contract.

1.5 Language

Unless otherwise stipulated in the tender documents, the contract shall be written in the Official Language or English. All correspondence and other contract documents, which the parties exchange, shall also be written/ translated accordingly in that language. For purposes of interpretation of the contract, the English documents/ translation shall prevail.

1.6 Notice and Communications

Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, e-mail, telex, telegram, or facsimile to such Party at the address specified by the Party.

All communications under the contract shall be served by the parties on each other in writing, in the contract's language, and served in a manner customary and acceptable in business and commercial transactions.

The effective date of such communications shall be either the date when delivered to the recipient or the effective date mentioned explicitly in the communication, whichever is later.

No communication shall amount to an amendment of the terms and conditions of the contract, except a formal letter of amendment of Contract, so designated.

Such communications would be an instruction or a notification or an acceptance or a certificate from the Procuring Entity, or it would be a submission or a notification from the Service Provider. A notification or certificate which the contract requires must be communicated separately from other communications.

The Contract Manager shall direct the order in which the several components of the Services shall be provided, and the contractor shall execute without delay all orders given by the Contract Manager from time to time. Still, the Service Provider shall not be relieved thereby from responsibility for the due performance of the Services in all respects.

Persons Signing the Communications

For all purposes of the contract, including arbitration, thereunder all communications to the other party shall be signed by:

1. The person who has signed the contract on behalf of the Service Provider shall sign all correspondences. A person signing communication in respect of the contract or purported to be on behalf of the contractor, without disclosing his authority to do so, shall be deemed to warrant that he has authority to bind the contractor. If it is discovered at any time that the person, so signing has no authority to do so, the Procuring Entity reserves its right, without prejudice to any other right or remedy, to terminate the contract for default in terms of the contract and avail any or all the remedies thereunder and hold such person personally and/ or the Service Provider liable to the Procuring Entity for all costs and damages arising from such remedies.
2. Unless otherwise stipulated in the contract, the Contract Manager signing the contract shall administer the contract and sign communications on behalf of the Procuring Entity. Beneficiaries of Services and the Paying Authorities mentioned in the contract shall also administer respective functions during Contract Execution.

Address of the parties for sending communications by the other party

For all purposes of the contract, including arbitration, thereunder the address of parties to which the other party shall address all communications and notices shall be:

1. The address of the Service Provider as mentioned in the contract, unless the Service Provider has notified change by a separate communication containing no other topic to the Procuring Entity. The Service Provider shall be solely responsible for the consequence of an omission to notify a change of address in the manner aforesaid, and

2. The address of the Procuring Entity shall be the address mentioned in the contract. The contractor shall also send additional copies to officers of the Procuring Entity presently dealing with the contract.
3. In case of the communications from the contractor, copies of communications shall be marked to the Contract Manager and the Procuring Entity's officer signing the contract, and as relevant also to interim/ ultimate Beneficiaries of Services and the Paying Authorities mentioned in the contract. Unless already specified before the contract's start, the Procuring Entity and the contractor shall notify each other if additional copies of communications are to be addressed to additional addresses.

1.7 The Entire Agreement

This Contract and its documents as mentioned in the Contract Agreement constitutes the entire agreement between the Procuring Entity and the Service Provider and supersedes all other communications, negotiations, and agreements (whether written or oral) of the Parties made before the date of this Contract. No agent or representative of either Party has the authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not outlined in this Contract.

1.8 Severability

If any provision or condition of this Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of this Contract.

1.9 Parties

The parties to the contract are the contractor and the Procuring Entity, as defined in the Contract Agreement above and as nominated in the contract.

1.10 Effectiveness of the Contract

This Contract shall come into effect on the date the Contract is signed by both parties or such other later date as may be indicated so by the Procuring Entity.

1.11 Modifications/ Amendments, Waivers and Forbearances

a) Modifications/ Amendments of Contract

1. If any of the contract provisions must be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the Procuring Entity, and no modified provisions shall be applicable unless such modifications have been done. No variation in or modification of the contract terms shall be made except by a written amendment signed by the Procuring Entity. Requests for changes and modifications may be submitted in writing by the Service Provider to the Procuring Entity. At any time during the currency of the contract, the Procuring Entity may suo-moto or, on request from the contractor, by written order, amend the contract by making alterations and modifications within the general scope of the Contract.

2. If the Service Provider does not agree to the suo-moto modifications/ amendments made by the Procuring Entity, he shall convey his views within 14 days from the date of amendment/ modification. Otherwise, it shall be assumed that the Service Provider has consented to the amendment.
3. Any verbal or written arrangement abandoning, modifying, extending, reducing, or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Procuring Entity unless and until the same is incorporated in a formal instrument and signed by the Procuring Entity, and till then the Procuring Entity shall have the right to repudiate such arrangements.

b) Waivers and Forbearance

The following shall apply concerning any waivers, forbearance, or similar action taken under this Contract:

1. Any waiver of a Procuring Entity's rights, powers, or remedies under this Contract must be in writing, dated, and signed by an authorized representative of the Procuring Entity granting such waiver and must specify the terms under which the waiver is being granted.
2. No relaxation, forbearance, delay, or indulgence by Procuring Entity in enforcing any of the terms and conditions of this Contract or granting of an extension of time by Procuring Entity to the contractor shall, in any way whatsoever, prejudice, affect, or restrict the rights of Procuring Entity under this Contract, neither shall any waiver by Procuring Entity of any breach of Contract operate as a waiver of any subsequent or continuing breach of Contract.

1.12 Changes in Law and Regulations

Unless otherwise stipulated in the contract, if after the last deadline for the bid submission (Techno-commercial), any law, regulation, ordinance, order or bye-law having the force of law is enacted, promulgated, abrogated, or changed in India (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/ or the contract Price, then such Delivery Date and/ or Contract Price shall be correspondingly increased or decreased, to the extent that the contractor has thereby been affected in the performance of any of its obligations under the contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable.

1.13 Contractor's Obligations and restrictions on its Right

1) Changes in Constitution/ financial stakes/ responsibilities of a Contract's Business

The contractor must proactively keep the Procuring Entity informed of any changes in its constitution/ financial stakes/ responsibilities during the execution of the contract and seek its approval.

2) Obligation to Maintain Eligibility and Qualifications

The contract has been awarded to the contractor based on specific eligibility and qualification criteria. The contractor is contractually bound to maintain such eligibility and qualifications during the execution of the contract. Any change which would vitiate the basis on which the contract was awarded to the contractor should be pro-actively brought to the notice of the Procuring Entity within 7 days of it coming to the Contractor's knowledge. These changes include but are not restricted to:

A. Change regarding declarations made by it in its bid related to Eligibility Declaration

B. Change in its qualification criteria submitted in its bid.

3) Restriction on Potential Conflict of Interests

A. Neither the contractor nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

i. during the term and currency of this Contract, any business or professional activities in India that would conflict with the activities assigned to them under this Contract.

ii. after the termination of this Contract, such other activities as may be stipulated in the contract.

B. During the term and currency of this Contract and after its termination, the contractor, and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing goods, works, or Services (other than the subject Service of this Contract and any continuation thereof) for any project resulting from or closely related to the subject Services of this Contract.

4) Consequences of breach by Constituents of a Contractor

Should the contractor or any of its partners or its Subcontractors or the Personnel, omit to act or commit a default or breach of GCC-clause 1.13 (a) to 1.13 (g), either directly or implicitly the Contractor shall remedy such breaches within 21 days, keeping the Procuring Entity informed. However, at its discretion, the Procuring Entity shall be entitled, and it shall be lawful on his part, to treat it as a breach of contract and avail any or all remedies thereunder. The decision of the Procuring Entity as to any matter or thing concerning or arising out of GCC-clause 1.13 (a) to 1.13 (g) or on any question whether the contractor or any partner of the contractor firm has committed a default or breach of any of the conditions shall be final and binding on the contractor.

A. In the case of Joint Venture/ Consortium

In the event of default or breach of GCC-clause 1.13 (a) to 1.13 (g) by any member, in the execution of his part of Contract, the Procuring Entity shall be so notified within 30 days by the Lead Member, or in the case of the Lead Member being the defaulter, by the member nominated as Lead Member of the remaining Joint Venture. Within 60 days of the said notice, the Lead Member shall assign the work of the defaulting member to any other equally competent party acceptable to the Procuring Entity to ensure the execution of that part of the contract. Failure to comply with the above

provisions or if the Lead Member himself defaults shall be lawful for the Procuring Entity to terminate the contract for default and avail any or all remedies thereunder.

5) Assignment and Sub-Contracting

A. the contractor shall not, save with the previous consent in writing of the Procuring Entity, sublet, transfer, or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever.

B. The contractor shall notify the Procuring Entity in writing all subcontracts awarded under the contract if not already stipulated in the contract. In its original bid or later, such notification shall not relieve the contractor from any of its liability or obligation under the terms and conditions of the contract. Subcontract shall be only for bought out services and incidental goods/ works. Subcontracts must comply with and should not circumvent Contractor's compliance with its obligations under GCC-clause 1.13 (a) to 1.13 (g), based on which Contract is awarded to him.

C. If the contractor sublets or assigns this Contract or any part thereof without such permission, the Procuring Entity shall be entitled, and it shall be lawful on his part, to treat it as a breach of contract and avail any or all remedies thereunder.

6) Obligation to Indemnify Procuring Entity

A. For breach of IPR Rights

i. The contractor shall indemnify and hold harmless, free of costs, the Procuring Entity and its employees and officers from and against all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which may arise in respect of the Services provided by the contractor under this Contract, as a result of any infringement or alleged infringement of any patent, utility model, registered design, copyright, or other Intellectual Proprietary Rights (IPR) or trademarks, registered or otherwise existing on the date of the contract arising out of or in connection with:

a. any design, data, drawing, specification, or other documents or Services provided or designed by the contractor for or on behalf of the Procuring Entity.

b. The sale by the Procuring Entity in any country of the services/ products produced by the Services delivered by the contractor, and

c. The delivery of the Services by the contractor or the use of the Services at the Procuring Entity's Site.

ii. Such indemnity shall not cover any use of the Services or any part thereof other than for the purpose indicated by or to be reasonably inferred from the contract, neither any infringement resulting from the use of the Services or any part thereof, or any service/ products produced thereby in association or combination with any other service, equipment, plant, or materials not delivered by the contractor.

iii. If any proceedings are brought, or any claim is made against the Procuring Entity arising out of the matters referred above, the Procuring Entity shall promptly give the contractor a notice thereof. At its own expense and in the Procuring Entity's name, the contractor may conduct such proceedings and negotiations to settle any such proceedings or claim, keeping the Procuring Entity informed.

iv. If the contractor fails to notify the Procuring Entity within twenty-eight (28) days after receiving such notice that it intends to conduct any such proceedings or claim, then the Procuring Entity shall be free to conduct the same on its behalf at the risk and cost to the contractor.

v. At the contractor's request, the Procuring Entity shall afford all available assistance to the contractor in conducting such proceedings or claim and shall be reimbursed by the contractor for all reasonable expenses incurred in so doing.

B. For Losses and Damages Caused by Contractor

i. The contractor shall indemnify and keep harmless the Procuring Entity, from and against, all actions, suit proceedings, losses, costs, damages, charges, claims, and demands of every nature and description brought or recovered against the Procuring Entity because of any act or omission or default or negligence or trespass of the contractor, his agents, or employees despite all reasonable and proper precautions may have been taken, during the execution of the Services. The contractor shall make good at his own expense all resulting losses and/ or damages to:

   a. the Services themselves or

   b. any other property of the Procuring Entity or

   c. the lives, persons, or property of others

ii. In case the Procuring Entity is called upon to make good such costs, loss, or damages, or to pay any compensation, including that payable under the provisions of the Workmen's Compensation Act or any statutory amendments thereof; the amount of any costs or charges including costs and charges in connection with legal proceedings, which the Procuring Entity may incur about it, shall be charged to the contractor. All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the actual loss or damage sustained and whether or not any damage shall have been sustained.

iii. The Procuring Entity shall have the power and right to pay or to defend or compromise any claim of threatened legal proceedings, or in anticipation of legal proceedings being instituted consequent on the action or default of the contractor, to take such steps as may be considered necessary or desirable to ward off or mitigate the effect of such proceedings, charging to Contractor, as aforesaid, any sum or sums of money which may be paid and any expenses whether for reinstatement or otherwise which may be incurred and the propriety of any such

payment, defence or compromise, and the incurring of any such expenses shall not be called in question by the contractor.

7) Confidentiality, Secrecy and IPR Rights

A. IPR Rights

All deliverables, outputs, plans, drawings, specifications, designs, reports, and other documents and software submitted by the contractor under this Contract shall become and remain the property of the Procuring Entity and subject to laws of copyright and must not be shared with third parties or reproduced, whether in whole or part, without the Procuring Entity's prior written consent. The contractor shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Procuring Entity, together with a detailed inventory thereof. The contractor may retain a copy of such documents and software but shall not use it for any commercial purpose.

B. Confidentiality

All documents, drawings, samples, data, associated correspondence or other information furnished by or on behalf of the Procuring Entity to the contractor, in connection with the contract, whether such information has been furnished before, during or following completion or termination of the contract, are confidential and shall remain the property of the Procuring Entity and shall not, without the prior written consent of Procuring Entity neither be divulged by the contractor to any third party, nor be used by him for any purpose other than the design, procurement, or other services and work required for the performance of this Contract. If advised by the Procuring Entity, all copies of all such information in original shall be returned on completion of the contractor's performance and obligations under this contract.

C. If the contract declares the subject matter of this Contract as coming under the Official Secrets Act, 1923 or if the contract is marked as "Secret", the contractor shall take all reasonable steps necessary to ensure that all persons employed in any connection with the contract, have acknowledged their responsibilities and penalties for violations under the Official Secrets Act and any regulations framed thereunder.

D. Obligations of the contractor

i. Without the Procuring Entity's prior written consent, the contractor shall not use the information mentioned above except for the sole purpose of performing this contract.

ii. The contractor shall treat and mark all information as confidential (or Secret – as the case may) and shall not, without the written consent of the Procuring Entity, divulge to any person other than the person(s) employed by the contractor in the performance of the contract. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for such performance for this contract.

iii. Notwithstanding the above, the contractor may furnish to its holding company or its Subcontractor(s) such documents, data, and other information it receives from the Procuring Entity to the extent required for performing the contract. In this event,

the contractor shall obtain from such holding company/ Subcontractor(s) an undertaking of confidentiality (or secrecy – as the case may be) similar to that imposed on the contractor under the above clauses.

iv. The obligation of the contractor under sub-clauses above, however, shall not apply to information that:

a. the contractor needs to share with the institution(s) participating in the financing of the contract.

b. now or hereafter is or enters the public domain through no fault of Contractor.

c. can be proven to have been possessed by the contractor at the time of disclosure and which was not previously obtained, directly or indirectly, from the Procuring Entity; or

d. otherwise lawfully becomes available to the contractor from a third party that has no obligation of confidentiality.

v. The above provisions shall not in any way modify any undertaking of confidentiality (or Secrecy - as the case may be) given by the contractor before the date of the contract in respect of the contract or the Tender Document or any part thereof.

vi. The provisions of this clause shall survive completion or termination for whatever reason of the contract.

E. Protection and Security of Personal Data

i. Where the contractor is processing Personal Data, as a Data Processor or otherwise for the Procuring Entity, the contractor shall:

a. Process the Personal Data only as per instructions from Procuring Entity (which may be specific instructions or instructions of a general nature) as set out in this Contract or as otherwise notified by Procuring Entity.

b. Comply with all applicable laws.

c. Process the Personal Data only to the extent, and in such manner as is necessary for the discharge of the contractor's obligations under this Contract or as is required by Law or any Regulatory Body.

d. Implement appropriate technical and organisational measures to protect Personal Data against unauthorized or unlawful Processing and accidental loss, destruction, damage, alteration, or disclosure. These measures shall be appropriate to the harm which might result from any unauthorized or unlawful Processing, accidental loss, destruction, or damage to the Personal Data and having regard to the nature of the Personal Data which is to be protected.

e. Take reasonable steps to ensure the reliability of its staff and agents who may have access to the Personal Data.

f. Obtain prior written consent from the Authority to transfer the Personal Data to any sub-contractor for the provision of the Services.

g. Not cause or permit the Personal Data to be transferred, stored, accessed, viewed, or processed outside of India without the prior written consent of the Procuring Entity.

h. Ensure that all staff and agents required to access the Personal Data are informed of the confidential nature of the Personal Data and comply with the obligations set out in this clause.

i. Ensure that none of the staff and agents publishes or disclose any personal data to any third parties unless directed in writing to do so by the Procuring Entity.

j. Not disclose Personal Data to any third parties in any circumstances other than with the written consent of the Procuring Entity or compliance with a legal or regulatory obligation imposed upon the Procuring Entity.

ii. Notify the Procuring Entity (within five Working Days) if it receives:

a. a request from an employee of Procuring Entity to have access to his or other employees' Personal Data; or

b. a complaint or request relating to the Procuring Entity' obligations under the law.

iii. The provision of this clause shall apply during the contract Period and indefinitely after its expiry.

1.14 Performance Bond/ Security

1) Within fourteen days (or any other period mentioned in Tender Document or Contract) after the issue of Letter of Award (LoA or the contract, if LoA is skipped) by the Procuring Entity, the contractor shall furnish to the Procuring Entity, performance security, valid up to 01 year (or any other period mentioned in Tender Document or Contract) after the date of completion of all contractual obligations by the contractor, including the Defect Liability obligations.

2) The amount of Performance security shall be as stipulated in Tender Document or Contract (or if not specified @ 5% of the contract Price) denominated in Indian Rupees or the currency of the contract and shall be in the following form:

Bank Guarantee issued by a scheduled commercial bank in India, in the prescribed form provided

3) If the contractor, having been called upon by the Procuring Entity to furnish Performance Security, fails to do so within the specified period, it shall be lawful for the Procuring Entity at its discretion to annul the award and enforce Bid Securing Declaration (in lieu of forfeiture of the Bid Security), besides taking any other administrative punitive action like 'banning/barring' etc.

4) If the contractor during the currency of the Contract fails to maintain the requisite Performance Security, it shall be lawful for the Procuring Entity at its discretion at its discretion

A. to terminate the Contract for Default besides availing any or all contractual remedies provided for breaches/ default, or

B. without terminating the Contract:

i. recover from the contractor the amount of such security deposit by deducting the amount from the pending bills of the contractor under the contract or any other contract with the Procuring Entity or the Government or any person contracting through the Procuring Organisation or otherwise howsoever, or

ii. treat it as a breach of contract and avail any or all availing any or all contractual remedies provided for breaches/ default.

5) In the event of any amendment issued to the contract, the contractor shall furnish suitably amended value and validity of the Performance Security in terms of the amended contract within fourteen days of issue of the amendment.

6) The Procuring Entity shall be entitled, and it shall be lawful on his part,

A. to deduct from the performance securities or to forfeit the said security in whole or in part in the event of:

i. any default, or failure or neglect on the part of the contractor in the fulfilment or performance in all respect of the contract under reference or any other contract with the Procuring Organisation or any part thereof

ii. any default, or failure or neglect on the part of the contractor in the fulfilment or performance in all respect of the contract under reference or any other contract with the Procuring Organisation or any part thereof

B. and in either of the events aforesaid to call upon the contractor to maintain the said performance security at its original limit by making further deposits, provided further that the Procuring Entity shall be entitled, and it shall be lawful on his part, to recover any such claim from any sum then due or which at any time after that may become due to the contractor for similar reasons.

7) Subject to the sub-clause above, the Procuring Entity shall release the performance security without any interest to the contractor on completing all contractual obligations, including the Defect Liability obligations, if any. Alternatively, upon the contractor submitting a suitable separate Defect Liability Security for the duration of Defect Liability obligations, the original Performance Guarantee Security shall be released mutatis mutandis.

8) No claim shall lie against the Procuring Entity regarding interest on cash deposits or Government Securities or depreciation thereof.

1.15 Labour codes, other Regulations and Related Obligations

The contractor's status shall be that of an independent contractor and Primary Employer of staff deployed during the contract by him or his sub-contractors or other associates. The contractor, its employees, agents, and subcontractors performing under this Contract are not employees or agents of the Procuring Organisation or Procuring Entity or Central or State Government or their

agencies/ Enterprises, simply by Services delivered under this Contract. The Contractor shall follow and comply to all applicable laws related to labour laws and other regulations and laws as applicable in India.

1.16 Insurances

1) The contractor (a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Subcontractors', as the case may be) own cost but on terms and conditions approved by the Procuring Entity, insurance against the risks, and for the coverage, as stipulated in the contract or any applicable law including Labour Codes; and at the Procuring Entity's request, shall provide evidence to the Procuring Entity showing that such insurance has been taken out and maintained and that the current premiums have been paid.

2) The contractor at his cost shall provide, in the joint names of the Procuring Entity and the contractor, insurance cover from the start date to the date of completion of the contract, in the amounts and deductibles as per the instructions of the contract manager and the contract for the following events which are due to the contractor's risks:

- **A.** loss of or damage to Equipment, materials for which advances have been paid.
- **B.** loss of or damage to property of the Procuring Entity in connection with the contract; and
- **C.** Personal injury or death.
- **D.** Penalties and demands by labour regulatory authorities.

3) Insurance policies and certificates for insurance shall be delivered to the Contract Manager for approval before the Start Date. All such insurance shall provide compensation payable in Indian Rupees to rectify the loss or damage incurred.

4) Alterations to the terms of insurance shall not be made without the approval of the Contract Manager.

5) Both parties shall comply with any conditions of the insurance policies.

1.17 Permits, Approvals and Licenses

Whenever the delivery of Services and incidental Goods/ Works requires the contractor to obtain permits, approvals, and licenses from local public authorities, it shall be the contractor's sole responsibility to obtain these and keep these current and valid. Such requirements may include but not be restricted to licences or environmental clearance if required. If requested by the contractor, the Procuring Entity shall make its best effort to assist the contractor in complying with such requirements in a timely and expeditious manner, without any dilution of the Contractor’s responsibility in this regard.

1.18 Defaults, Breaches, Termination, and closure of Contract

1) Termination due to Breach, Default, and Insolvency

A. Defaults and Breach of Contract

In case the contractor undergoes insolvency or receivership; neglects or defaults or expresses inability or disinclination to honour his obligations relating to the performance of the contract or ethical standards or any other obligation that substantively affects the Procuring Entity's rights and benefits under the contract, it shall be treated as a breach of Contract. Such defaults could include inter-alia:

i. Default in Performance and Obligations: if the contractor fails to deliver any or all of the Services or fails to perform any other contractual obligations (including Code of Integrity or obligation to maintain eligibility and Qualifications based on which contract was awarded) within the period stipulated in the contract or within any extension thereof granted by the Procuring Entity.

ii. Insolvency: If the contractor being an individual or if a firm, any partner thereof, shall at any time, be adjudged insolvent or shall have a receiving order or order for the administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or enter into any assignment or composition with his creditors or suspend payment or if the firm be dissolved under the Partnership Act, or

iii. Liquidation: if the contractor is a company being wound up voluntarily, or by order of a Court or a Receiver, Liquidator or Manager on behalf of the Debenture-holders is appointed, or circumstances shall have arisen which entitle the Court or Debenture- holders to appoint a Receiver, Liquidator or Manager

B. Notice for Default:

As soon as a breach of contract is noticed, a show-cause 'Notice of Default' shall be issued to the contractor, giving two weeks' notice, reserving the right to invoke contractual remedies. After such a show-cause notice, all payments to the contractor would be temporarily withheld to safeguard needed recoveries that may become due on invoking contractual remedies.

C. Terminations for Default

i. Notice for Termination for Default: In the event of unsatisfactory resolution of 'Notice of Default' within two weeks of its issue as per sub-clause above, the Procuring Entity, if so decided, shall by written Notice of Termination for Default sent to the contractor, terminate the contract in whole or in part, without compensation to the contractor.

ii. Such termination shall not prejudice or affect the rights and remedies, including under sub-clause below, which have accrued and/ or shall accrue to the Procuring Entity after that.

iii. Unless otherwise instructed by the Procuring Entity, the contractor shall continue to perform the contract to the extent not terminated.

iv. All Defect Liability obligations, if any, shall continue to survive despite the termination.

D. Contractual Remedies for Breaches/ Defaults or Termination for Default

If there is an unsatisfactory resolution within this period, the Procuring Entity shall take one, or more of the following contractual remedies.

i. Temporary withhold payments due to the contractor till recoveries due to invocation of other contractual remedies are complete.

ii. Call back any loaned property or advances of payment, if any, with a levy of interest at the prevailing rate (MIBID - Mumbai Interbank Bid Rate).

iii. Recover liquidated damages and invoke denial clause for delays.

iv. Encash and/ or Forfeit performance or other contractual securities.

v. Prefer claims against insurances, if any.

vi. Terminate Contract for default, fully or partially including its right for Risk-and-Cost Procurement as per following sub-clause.

vii. Risk and Cost Procurement: In addition to termination for default, the Procuring Entity shall be entitled, and it shall be lawful on his part, to procure Services similar to those terminated, with such terms and conditions and in such manner as it deems fit at the “Risk and Cost” of the contractor. Such Risk and Cost Procurement must be contracted within six months from the breach of Contract. The contractor shall be liable for any loss which the Procuring Entity may sustain on that account provided the procurement, or, if there is an agreement to procure, such agreement is made. The contractor shall not be entitled to any gain on such procurement, and the manner and method of such procurement shall be in the entire discretion of the Procuring Entity. It shall not be necessary for the Procuring Entity to notify the contractor of such procurement. It shall, however, be at the discretion of the Procuring Entity to collect or not the security deposit from the firm/ firms on whom the contract is placed at the risk and cost of the defaulted firm.

Note: Regarding the Services that are not readily available in the market and where procurement difficulties are experienced, the period for making risk procurement shall be nine months instead of six months provided above.

viii. Initiate proceedings in a court of law for the transgression of a law, tort, and loss, not addressable by the above means.

E. Limitation of Liability

Except in cases of criminal negligence or wilful misconduct, the aggregate liability of the contractor to the Procuring Entity, whether under the contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the contractor to indemnify the Procuring Entity concerning IPR infringement.

2) Termination for Default/ Convenience of Procuring Entity and Frustration

A. Notice for Determination of Contract

i. The Procuring Entity reserves the right to terminate the contract, in whole or in part for its (the Procuring Entity's) convenience or frustration of Contract as per sub-clause below, by serving written 'Notice for Determination of Contract' on the contractor at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Procuring Entity or the frustration of the contract. The notice shall also indicate inter-alia, the extent to which the contractor's performance under the contract is terminated, and the date with effect from which such termination shall become effective.

ii. Such termination shall not prejudice or affect the rights and remedies accrued and/ or shall accrue after that to the Parties.

iii. Unless otherwise instructed by the Procuring Entity, the contractor shall continue to perform the contract to the extent not terminated.

iv. All Defect Liability obligations, if any, shall continue to survive despite the termination.

v. The Services and incidental goods/ works that can be delivered or performed within thirty days after the contractor's receipt of the notice of termination shall be accepted by the Procuring Entity as per the contract terms. For the remaining Services and incidental goods/ works, the Procuring Entity may decide:

a. To get any portion of the balance completed and delivered at the contract terms, conditions, and prices; and/ or

b. To cancel the remaining portion of the Services and incidental goods/ works and compensate the contractor by paying an agreed amount for the cost incurred by the contractor, if any, towards the remaining portion of the Services and incidental goods/ works

B. Frustration of Contract

i. Notice of Frustration Event: Upon a supervening cause occurring after the effective date of the contract, including a change in law, beyond the control of either party whether as a result of the Force Majeure clause or within the scope of section 56 of the Indian Contract Act, 1872, that makes it impossible to perform the contract within a reasonable timeframe, the affected party shall give a 'Notice of Frustration Event' to the other party giving justification. The parties shall use reasonable efforts

to agree to amend the contract, as may be necessary to complete its performance. However, if the parties cannot reach a mutual agreement within 60 days of the initial notice, the Procuring Entity shall issue a 'Notice for Determining the contract' and terminate the contract due to its frustration as in the sub-clause above.

ii. However, the following shall not be considered as such a supervening cause:

a. Lack of commercial feasibility or viability or profitability or availability of funds

b. If caused by either party's breach of its obligations under this Contract or failure to act in good faith or use commercially reasonable due diligence to prevent such an event.

3) Closure of Contract

The contract shall stand closed upon

A. Successful performance of all obligations by both parties, including completion of Defect Liability obligations and final payment.

B. Termination and settlements after that, if any, as per clause 1.18.1 or 1.18.2 above.

1.19 Force Majeure

1) On the occurrence of any unforeseen event, beyond the control of either Party, directly interfering with the delivery of Services arising during the currency of the contract, such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the affected Party shall, within a week from the commencement thereof, notify the same in writing to the other Party with reasonable evidence thereof. Unless otherwise directed by the Procuring Entity in writing, the contractor shall continue to perform its obligations under the contract as far as reasonably practicable and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. If the force majeure condition(s) mentioned above be in force for 90 days or more at any time, either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days' notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other, save and except those which had occurred under any other clause of this Contract before such termination.

2) Notwithstanding the remedial provisions contained in GCC-clause 1.22 and 1.18, none of the Party shall seek any such remedies or damages for the delay and/ or failure of the other Party in fulfilling its obligations under the contract if it is the result of an event of Force Majeure.

1.20 Ownership and Intellectual Property Rights

1) Further, the Implementation Partner shall be obliged to ensure that all approvals, registrations, licenses, permits and rights which are, inter-alia, necessary for use of the Deliverables, applications, services etc. provided by the Implementation Partner under this Agreement shall be acquired in the name of the Purchaser, prior to termination of this

Agreement and which shall be assigned by the Purchaser to the Implementation Partner for the purpose of execution of any of its obligations under the terms of this Agreement. However, subsequent to the term of this Agreement, such approvals etc. shall endure to the exclusive benefit of the Purchaser.

2) Pre-existing work: All intellectual property rights existing prior to the Effective Date of this Agreement shall belong to the Party that owned such rights immediately prior to the Effective Date. Subject to the foregoing, the Purchaser will also have rights to use and copy all process, specifications, reports and other document drawings, manuals, and other documents provided by Implementation Partner as part of the Scope of Works under this Agreement for the purpose of this Agreement on non-exclusive, non-transferable, perpetual, royalty-free license to use basis.

3) Third Party Products: If license agreements are necessary or appropriate between the Implementation Partner and third parties for purposes of enabling / enforcing/implementing the provisions hereinabove, the Implementation Partner shall enter into such agreements at its own sole cost, expense and risk. However, the Implementation Partner shall use all commercially reasonable endeavours to pass through to Purchaser any third party's warranties relating to such Third-Party Products. In the event that such warranties cannot be passed through to or enforced by Purchaser, the Implementation Partner will enforce such warranties on Purchaser's behalf and account to Purchaser for so doing.

4) Commercially-Off-The-Shelf Software (COTS): For all COTS products whose source code and IPR vest with the COTS owner, the licenses for such COTS shall be in the name of Purchaser. Purchaser shall retain exclusive and irrevocable intellectual property rights to the customized enhancements of the COTS/ application, forms and the compilations of the Project in perpetuity and nothing herein shall or will be construed or deemed to grant to the Implementation Partner any right, title, license, sub-license, proprietary right or other claim against or interest in, to or under (whether by estoppels, by implication or otherwise) to the aforesaid rights.

5) Ownership of documents: The Purchaser shall own all Documents provided by or originating from the Purchaser and all Documents produced by or from or for the Implementation Partner in the course of performing the Services. Forthwith upon expiry or earlier termination of this Agreement and at any other time on demand by the Purchaser, the Implementation Partner shall deliver to the Purchaser all Documents provided by or originating from the Purchaser and all Documents produced by or from or for the Implementation Partner in the course of performing the Services, unless otherwise directed in writing by the Purchaser at no additional cost. The Implementation Partner shall not, without the prior written consent of the Purchaser store, copy, distribute or retain any such Documents.

6) The ownership of all IPR rights in any and all documents etc. (including all training materials) made during the Term for implementation of the Project under this Agreement will lie with Purchaser.

7) All the rights of material including but not limited to assets/data/information/portal created/collected by agency under this assignment, shall remain with the department i.e., the Central Bureau of Narcotics. All such material/ data/ information/ portal/ source code created/collected during the project shall be facilitated for hand-over as required by department post completion of the project at no extra cost to the department. Any data created during the usage will be the property of the department and will continue to remain perpetually. Any data created including survey and satellite images etc. during the usage will be the property of the department and will continue to remain perpetually. Personal information received by the vendor through this project shall be considered confidential information and vendor will not use or share the same with any third party, other than for the phase-wise activities listed under the scope of this project.

8) Notwithstanding anything contained herein, the Implementation Partner may use in its business activities the ideas, concepts and know-how which are retained in the unaided memories of its employees who have worked in the project under this Agreement. The foregoing does not permit intentional memorization of the any information for the purpose of evading obligations contained in this Agreement.

1.21 Warranty

1) The Implementation Partner represents, warrants and covenants that: (a) the Implementation Partner is the lawful owner or licensee of the materials used in the performance of the Services and delivery of the Deliverables, (b) the bespoke development and such materials have been lawfully developed or acquired by the Implementation Partner, and (c) the Implementation Partner has the rights to the bespoke development and such materials, including the rights of access to and use of the bespoke development, which it grants under this Agreement, without the consent of any other person or entity. The Implementation Partner represents, warrants and covenants that during the Warranty Period it will promptly provide the Purchaser with any and all maintenance modifications, enhancements, upgrades, updates and related Documentation which the Implementation Partner makes available to any other person or entity.

2) Warranty for Software: The Implementation Partner represents, warrants, and covenants that on the Acceptance Date and for the Warranty Period, the Software will be free of material programming errors and will operate and conform to the respective Software's Documentation including, inter alia, FRS and SRS and other manuals. The Implementation Partner also represents, warrants and covenants that the medium on which the Software is contained when delivered to the Purchaser will be free from defects in material or workmanship and shall be free from any viruses, bugs etc. b) The Implementation Partner represents warrants and covenants that the technical documentation delivered to the Purchaser for the software will be sufficient to allow a reasonably knowledgeable information technology professional to maintain and support such Software. The Implementation Partner represents, warrants and covenants that the user Documentation for the software will accurately describe in terms understandable by

a typical end user the functions and features of the software and the procedures for exercising such functions and features.

3) Warranty for Services – The Implementation Partner represents, warrants and covenants that all services under this Agreement will be performed with promptness and diligence and will be executed in a workmanlike and professional manner, in accordance with the practices and high professional standards used in well-managed operations performing services similar to the services under this Agreement. The Implementation Partner represents, warrants and covenants that it shall use adequate numbers of qualified individuals with suitable training, education, experience and skill to perform the services hereunder.

4) The representations, warranties and covenants provided by the Implementation Partner under this Agreement will not be affected by Purchaser's modification of any portion of the software so long as the Implementation Partner can discharge its obligations despite such modifications or following their removal by the Purchaser.

5) If during the Warranty Period of any component mentioned above, any of the warranties are found breached, the Implementation Partner shall promptly (but in no event more than 7 days), in consultation and agreement with the Purchaser, and at the Implementation Partner's sole cost make good such default, defect or deficiency as well as any damage to the Project caused by such default, defect or deficiency. Notwithstanding the foregoing, these are not the sole and exclusive remedies available to the Purchaser in case of breach of any warranty and are also not the sole and exclusive obligations on the Implementation Partner in case of breach of any warranty.

1.22 Liquidated Damages

The Procuring Entity shall, without prejudice to other rights and remedies under the contract, recover as damages for the shortfall in performance, but not as a penalty, 0.5% percent of the delivered price (including elements of GST & freight) of the defective Services, If the contractor fails to perform the Services as per Performance Standards and Quality, without having to prove actual loss incurred. Payment of liquidated damages shall not affect the Service Provider's liabilities. However, deduction on account of damages for delays and performance under this clause, put together shall be subject to a maximum of 10% of the entire value of Contract of Services. Penalties/ liabilities outside this clause shall be covered by respective provisions of the RFP.

1.23 Payment Terms

Payments in Indian Rupees will be made to the Service Provider according to the payment schedule mentioned in the RFP and after submission of invoice to the Purchaser. Unless otherwise stipulated in the contract, Prices shall be fixed and firm.

1.24 Taxes and Duties

The contractor shall be entirely responsible for all taxes, duties, fees, levies etc., incurred until delivery of the Services to the Procuring Entity. If applicable under relevant tax laws and rules, the Procuring Entity shall deduct from all payments and deposit required taxes to respective

authorities on account of GST Reverse Charge Mechanism; Tax Deducted at Source (TDS), and Tax Collected at Source (TCS) relating to Income Tax, labour cess, royalty etc. (a) The payment of GST and GST Cess to the contractor shall be made only on the latter submitting a GST compliant Bill/ invoice indicating the appropriate HSN code and applicable GST rate thereon duly supported with documentary evidence as per the provision of relevant GST Act and the Rules made there under. The delivery of Services shall be shown being made in the name, location/ state, and GSTIN of the beneficiary of the Services only, the location of the procurement office of the procuring entity has no bearing on the invoicing. While claiming reimbursement of duties, taxes etc. (like GST) from the Procuring Entity, as and if permitted under the contract, the contractor shall also certify that in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the contractor) shall refund to the Procuring Entity, the Procuring Entity's share out of such refund received by the contractor. The contractor shall also refund the appropriate amount to the Procuring Entity immediately after receiving the same from the concerned authorities. All necessary adjustment vouchers such as Credit Notes/ Debit Notes for any short/ excess delivery of Services or revision in prices or any other reason under the contract shall be submitted to the Procuring Entity in compliance with GST provisions. GST shall be paid as per the rate at which it is liable to be assessed or has been assessed provided the provision of Services is legally liable to such taxes and is payable as per the terms of the contract. Liquidated damages or any other recoveries should be shown as deductions on the invoice, and GST shall be applicable only on the net balance payment due. : Unless otherwise stated in the contract, statutory increase in applicable GST rate only during the original delivery period shall be to Procuring Entity's account. Any increase in the rates of GST beyond the original completion date during the extended delivery period shall be borne by the contractor. The benefit of any reduction in GST rate must be passed on to the Procuring Entity during the original and extended delivery period.

1.25 Defects Liability Period

The contractor warrants that the Services have been delivered as per description, scope/ quantum, performance standards and quality outlined in the contract. This Defect Liability shall be in effect for a period of 180 days from completing the Services. The contract shall be deemed alive during this period, even if final payment and/ or Performance Guarantee has been released. During the Defects Liability Period, upon discovering any deficiencies in outputs/ outcomes attributable to a shortfall in scope/ quantum, performance standards and quality of the performed Services, the Procuring Entity shall give written notice to the contractor. Upon receiving such notice, the contractor shall, within 21 days (or within any other period, if stipulated in the contract), expeditiously remedy or reperform the Services or parts thereof, free of cost, at the site. If the contractor, having been notified, fails to rectify/ replace the defect(s) within 21 days (or within any other period, if stipulated in the contract), it shall amount to breach of Contract, and the Procuring Entity shall proceed to take such remedial action(s) as deemed fit by it as detailed.

1.26 Dispute Resolution

1) Disputes and Excepted Matters

All disputes and differences between the parties hereto, as to the construction or operation of this Contract, or the respective rights and liabilities of the parties on any matter in

question; or any other account whatsoever, but excluding the Excepted Matters (detailed below); arising out of or in connection with the contract, within thirty (30) days from aggrieved Party notifying the other Party of such matters; whether before or after the completion/ termination of the contract, that cannot be resolved amicably between the Contract Manager and the contractor, shall be hereinafter called the "Dispute". The aggrieved party shall give a 'Notice of Dispute' indicating the Dispute and claims citing relevant Contractual clause to the designated authority requesting for invoking the following dispute resolution mechanism. The Dispute shall be resolved without recourse to courts through dispute resolution mechanisms detailed subsequently, in the sequence as mentioned below, and the next mechanism shall not be invoked unless the earlier mechanism has been invoked or has failed to resolve it within the deadline mentioned therein.

A. Adjudication

B. Conciliation

C. Arbitration

2) Excepted Matters

Matters for which provision has been made in any Clause of the contract shall be deemed as 'excepted matters' (matters not disputable/ arbitrable), and decisions of the Procuring Entity, thereon shall be final and binding on the contractor. The 'excepted matters' shall stand expressly excluded from the purview of the sub-clauses below, including Arbitration. However, where the Procuring Entity has raised the dispute, this sub-clause shall not apply. Unless otherwise stipulated in the contract, excepted matters shall include but not limited to:

A. Any controversies or claims brought by a third party for bodily injury, death, property damage or any indirect or consequential loss arising out of or in any way related to the performance of this Contract ("Third Party Claim"), including, but not limited to, a Party's right to seek contribution or indemnity from the other Party in respect of a Third-Party Claim.

B. Issues related to the pre-award tender process or conditions.

C. Issues related to ambiguity in Contract terms shall not be taken up after a Contract has been signed. All such issues should be highlighted before the signing of the contract by the contractor.

D. Provisions incorporated in the contract, which are beyond the purview of The Procurement Entity or are in pursuance of policies of Government, including but not limited to:

i. Provisions of restrictions regarding local content and Purchase Preference to Local suppliers in terms of Make in India policy of the Government.

ii. Provisions regarding restrictions on Entities from Countries having land borders with India in terms of the Government's policies in this regard.

iii. Purchase preference policies regarding MSEs and Start-ups.

3) Adjudication

After exhausting efforts to resolve the Dispute with the Contract Manager executing the contract on behalf of the Procuring Entity, the contractor shall give a 'Notice of Adjudication' specifying the matters which are in question, or subject of the dispute or difference indicating the relevant contractual clause, as also the amount of claim item-wise to Head of Procurement or any other authority mentioned in the contract (hereinafter called the "Adjudicator") for invoking resolution of the dispute through Adjudication. During his adjudication, the Adjudicator shall give adequate opportunity to the contractor to present his case. Within 60 days after receiving the representation, the Adjudicator shall make and notify decisions in writing on all matters referred to him. The parties shall not initiate, during the adjudication proceedings, any conciliation or arbitral or judicial proceedings in respect of a dispute that is the subject matter of the adjudication proceedings. If not satisfied by the decision in adjudication, or if the adjudicator fails to notify his decision within the abovementioned timeframe, the contractor may proceed to invoke the process of Conciliation as follows.

4) Conciliation of disputes

A. Any party may invoke Conciliation by submitting "Notice of Conciliation" to the Head of the Procuring Organisation. Since conciliation is a voluntary process, within 30 days of receipt of "Notice of Conciliation", the Head of the Procuring Organisation shall notify a sole Conciliator if the other party is agreeable to enter Conciliation. If the other party is not agreeable to Conciliation, the aggrieved party may invoke Arbitration.

B. The Conciliator shall proactively assist the parties to reach an amicable settlement independently and impartially within the terms of Contract, within 60 days from the date of appointment of Conciliator.

C. If the parties reach an agreement on a dispute settlement, they shall draw up a written settlement agreement duly signed by the parties and conciliator. When the parties sign the settlement agreement, it shall be final and binding on the parties. The dispute shall be treated as resolved on the date of such agreement.

D. The parties shall not initiate, during the conciliation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.

E. Termination of Conciliation: Disputes shall remain alive if the conciliation is terminated as follows:

i. By written declaration of the conciliator, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of such declaration; or

ii. By a written declaration of any party to the conciliator to the effect that the conciliation proceedings are terminated, on the date of such declaration; or

iii. If the parties fail to reach an agreement on a settlement of the dispute, within 60 days of the appointment of Conciliator.

F. On termination of Conciliation, if the dispute is still alive, the aggrieved party shall be free to invoke Arbitration.

5) Arbitration Agreement

A. This Agreement

i. This Arbitration Agreement (hereinafter referred to as this "Agreement") relating to this Contract (hereinafter called the "Main Agreement" for this agreement) is made under the provisions of The Arbitration and Conciliation Act, 1996 as amended from time to time and the rules thereunder (hereinafter called The Arbitration Act). This Agreement shall continue to survive termination, completion, or closure of the Main Agreement for 120 days after that.

ii. Subject to aforesaid provisions, relevant clauses of the contract shall apply to the appointment of arbitrators and arbitration proceedings under this Agreement.

iii. The Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 provides parties to a dispute (where one of the parties is a Micro or Small Enterprise) to be referred to Micro and Small Enterprises Facilitation Council if the dispute is regarding any amount due under Section 17 of the MSMED Act, 2006. If a Micro or Small Enterprise, being a party to dispute, refers to the provisions in MSMED Act 2006, these provisions shall prevail over this Agreement.

B. Notice for Arbitration

i. Authority to Appoint Arbitrator(s): For this Arbitration Agreement 'The Appointing Authority', to appoint the arbitrator shall be Head of the Procuring Organisation named in the contract and includes if there be no such authority, the officer who is for the time being discharging the functions of that authority, whether in addition to other functions or otherwise.

ii. In the event of any dispute as per GCC-clause 12.1 above, if the Adjudicator fails to decide within 60 days as referred in above, or the Conciliation is terminated as referred in above then, parties to the contract, after 60 days but within 120 days of 'Notice of Dispute" shall request the Appointing Authority through a "Notice for Arbitration" in writing requesting that the dispute or difference be referred to arbitration.

iii. The "Notice for arbitration" shall specify the matters in question or subject of the dispute or difference indicating the relevant contractual clause, as well as the amount of claim item-wise.

C. Reference to Arbitration

After appointing Arbitrator(s), the Appointing Authority shall refer the Dispute to them. Only such dispute or difference shall be referred to arbitration regarding which the

demand has been made, together with counterclaims or set off. Other matters shall be beyond the jurisdiction of Arbitrator(s).

D. Appointment of Arbitrator

i. Qualification of Arbitrators:

a. In the case of retired officers of The Procuring organisation, he shall have retired in the rank of Senior administrative grade (or equivalent) and shall have retired at least 1 years prior and must not be over 70 years of age on the date of Notice for arbitration.

b. He/ they shall not have had an opportunity to deal with the matters to which the contract relates or who, in the course of his/ their duties as officers of the Procuring Organisation, expressed views on any or all of the matters under dispute or differences. A certification to this effect (as per Format 1.1.4) shall be taken from Arbitrators. The proceedings of the Arbitral tribunal or the award made by such Tribunal shall, however, not be invalid merely for the reason that one or more arbitrators had in the course of his service, an opportunity to deal with the matters to which the contract relates or who in the course of his/ their duties expressed views on all or any of the matters under dispute.

c. An Arbitrator may be appointed notwithstanding the total no. of arbitration cases in which he has been appointed in the past.

d. Not be other than the person appointed by The Appointing Authority and that if for any reason that is not possible, the matter shall not be referred to arbitration at all.

ii. Replacement of Arbitrators

If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or in the event of the arbitrator dying, neglecting/ unable or unwilling or refusing to act for any reason, or his award being set aside by the court for any reason, or in the opinion of The Appointing Authority fails to act without undue delay, the Appointing Authority shall appoint new arbitrator/ arbitrators to act in his/ their place in the same manner in which the earlier arbitrator/ arbitrators had been appointed. Such a re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator(s).

iii. Appointment of Arbitrator:

a. In cases where the total value of all claims in question added together does not exceed Rs 50,00,000/ - (Rupees Fifty Lakh only), the Arbitral Tribunal shall consist of sole Arbitrator. For this purpose, The Appointing Authority shall send to the contractor, within 60 days from the day of receipt of a written and valid notice for arbitration, a panel of at least four (4) names of retired officers, duly indicating their retirement dates.

b. The contractor shall be asked to nominate at least two names out of the panel for appointment as his nominee within 30 days from the dispatch date of the request by The Appointing Authority. The Appointing Authority shall appoint at least one out of them as the sole arbitrator within 30 days from the receipt of the names of the contractor's nominees.

c. In cases where the total value of all claims in question added together exceeds Rs 50,00,000/ - (Rupees Fifty Lakh only), the Arbitral Tribunal shall consist of three (3) retired Officers of the Procuring Organisation. For this purpose, The Appointing Authority shall send a panel of at least four (4) names of such Officer(s) empanelled to work as Arbitrators duly indicating their retirement date to the contractor within 60 days from the day when a written and The Appointing Authority receives valid demand for arbitration.

d. The contractor shall be asked to nominate at least 2 names out of the panel for appointment as his nominee within 30 days from the dispatch date of the request by The Appointing Authority. The Appointing Authority shall appoint at least one out of them as the contractor's nominee. It shall also simultaneously appoint the balance number of arbitrators either from the panel or outside the panel, duly indicating the 'Presiding Arbitrator' from amongst the 3 arbitrators so appointed, within 30 days from the receipt of the names of Contractor's nominees.

e. If the contractor does not suggest his nominees for the arbitral tribunal within the prescribed timeframe, The Appointing Authority shall proceed for appointment of the arbitral tribunal within 30 days of the expiry of such time provided to the Contractor.

iv. **Failure to appoint Arbitrators**

If The Appointing Authority fails to appoint an arbitrator within 60 (sixty) days, then subject to the survival of this Arbitration Agreement, in international commercial arbitration, the Supreme Court of India shall designate the arbitral institution for the appointment of arbitrators. In case of national arbitrations, the High Court shall designate arbitral institutions. The Arbitration Council of India must have graded these arbitration institutions. These arbitral institutions must complete the selection process within thirty days of accepting the request for the arbitrator's appointment.

v. **The Arbitral Procedure**

a. Effective Date of Entering Reference: The arbitral tribunal shall be deemed to have entered the reference on the date on which the arbitrator(s) have received notice of their appointment. All subsequent time limits shall be counted from such date.

b. Seat and Venue of Arbitration: The seat of arbitration shall be the place from which the Letter of Award or the contract is issued. The venue of arbitration shall be the same as the seat of arbitration. However, in terms of section 20 of The Arbitration Act, the arbitrator, at his discretion, may determine a venue

other than the seat of the arbitration without in any way affecting the legal jurisdictional issues linked to the seat of the arbitration.

c. If the Adjudication and/ or Conciliation mechanisms had not been exhausted before such reference to Arbitration, the Arbitrator should ask the aggrieved party to approach designated authority for such mechanisms before the Arbitration proceedings are started.

d. The claimant shall submit to the Arbitrator(s) with copies to the respondent his claims stating the facts supporting the claims along with all the relevant documents and the relief or remedy sought against each claim within 30 days from the date of appointment of the Arbitral Tribunal unless otherwise extension has been granted by Arbitral Tribunal.

e. On receipt of such claims, the respondent shall submit its defence statement and counterclaim(s), if any, within 60 days of receipt of the copy of claims, unless otherwise extension has been granted by Arbitral Tribunal.

f. No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original claim or defence thereof during arbitration proceedings subject to acceptance by the Tribunal having due regard to the delay in making it.

g. Statement of claims, counterclaims and defence shall be completed within six months from the effective reference date.

h. Oral arguments to be held on a day-to-day basis: Oral arguments as far as possible shall be heard by the arbitral tribunal on a day-to-day basis, and no adjournments shall be granted without sufficient cause. The arbitrator (s) may impose an exemplary cost on the party seeking adjournment without sufficient cause.

i. Award within 12 (twelve) months: The arbitral tribunal is statutorily bound to deliver an award within 12 (twelve) months from the date when the arbitral tribunal enters reference. The award can be delayed by a maximum of six months only under exceptional circumstances where all parties consent to such extension of time. The court's approval shall be required for further extension if the award is not made out within such an extended period. During the period of an application for extension of time is awaiting before the court, the arbitrator's proceedings shall continue until the disposal of the application.

j. Fast Track Procedure: The parties to arbitration may choose to opt for a fast-track procedure either before or after the commencement of the arbitration. The award in fast-track arbitration is to be made out within six months, and the arbitral tribunal shall be entitled to additional fees. The salient features of the fast-track arbitration are:

   - The dispute is to be decided based on written pleadings only.

- Arbitral Tribunal shall have the power to call for clarifications in addition to the written pleadings where it deems necessary.
- An oral hearing may be held only if all the parties request or the arbitral tribunal considers it necessary.
- The parties are free to decide the fees of the arbitrator(s) for fast-track procedure.

k. Powers of Arbitral Tribunal to grant Interim Relief: The parties to arbitration may approach the arbitral tribunal for seeking interim relief on the grounds available under section 9 of the act. The tribunal has the powers of a court while making interim awards in the proceedings before it.

l. Confidentiality: As provided in Section 42A of The Arbitration Act, all the details and particulars of the arbitration proceedings shall be kept confidential except in certain situations, like if the disclosure is necessary for the implementation or execution of the arbitral award.

m. Obligation During Pendency of Arbitration: Performance of the contract shall, unless otherwise directed by the Procuring Entity, continue during the arbitration proceedings, and no payment due or payable by the Procuring Entity shall be withheld on account of such proceedings, provided; however, it shall be open for Arbitral Tribunal to consider and decide whether or not the performance of the contract or payment therein should continue during arbitration proceedings.

vi. **The Arbitral Award**

a. In the case of the Tribunal, comprising of three members, any ruling on award shall be made by a majority of members of the Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.

b. The arbitral award shall state item-wise the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award can be inferred from it.

c. It is further a term of this arbitration agreement that where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made in terms of Section 31 (7) (a) of The Arbitration Act.

d. The award of the arbitrator shall be final and binding on the parties to this Contract.

e. A party may apply for corrections of any computational errors, typographical or clerical errors, or any other error of similar nature occurring in the award or interpretation of a specific point of the award to the Tribunal within 60 days of receipt of the award.

f. A party may apply to the Tribunal within 60 days of receiving the award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

vii. **Savings**

The Arbitral Tribunal shall decide any matter related to Arbitration not covered under this Arbitration Agreement as per the provisions of The Arbitration Act.

viii. **Cost of Arbitration and fees of the Arbitrator(s)**

a. The concerned parties shall bear the cost of arbitration in terms of section 31 (A) of The Arbitration Act. The cost shall inter-alia include fees of the Arbitrator. Further, the fees payable to the Arbitrator shall be governed by instructions issued on the subject by the Procuring Entity and/ or the Government from time to time, in line with the Arbitration and Conciliation Act, irrespective of the fact whether the Arbitrator is appointed by the Procuring Entity or the Government under this clause or by any court of law unless directed explicitly by Hon'ble court otherwise on the matter. A sole arbitrator shall be entitled to a 25% extra fee over such a prescribed fee.

b. The arbitrator shall be entitled to a 50 percent extra fee if the award is made within 6 months in terms of provisions contained in section 29(A) (2) of The Arbitration Act.

c. Besides the above, Arbitrator shall also be entitled to this extra fee in cases where Fast Track Procedure in terms of section 29 (B) of The Arbitration Act is followed.

E. Place of Arbitration

All disputes or arbitrations are subject to court of judicature, Gwalior, Madhya Pradesh coterminous with Central Bureau of Narcotics (Headquarters), Gwalior.

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