सत्यमेव जयते

Panchayati Raj

SVAMITVA SCHEME

Survey Of Villages And Mapping With Improvised Technology In Village Areas

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Introduction

i. Scheme Type : Central Sector Scheme (CSS)

ii. The Ministry of Panchayati Raj - Nodal Ministry for implementation of the scheme.

- In the States, the Revenue Department will be the Nodal Department and will implement scheme with the support of Panchayati Raj Department
- Survey of India - Technology Partner for implementation.

iii. The Scheme is divided into two Phases

- **Phase I** - Pilot Scheme : Rs 79.65 Crores (April 2020-March 2021) covering drone survey of approx. 1 lakh villages of Haryana, Karnataka, Madhya Pradesh, Maharashtra, Uttarakhand , Uttar Pradesh and CORS establishment in Punjab and Rajasthan
- **Phase II**: Complete survey of remaining villages (three Year)

Coverage of Scheme : Four years (April 2020 – March 2024) covering 6.2 lakh villages

Objectives

- Provide an integrated property validation solution for rural India
- Leveraging property as a financial asset by the citizens of rural India
- Creation of accurate land records for rural planning.
- Determination of property tax
- Creation of survey infrastructure and GIS map that can be leveraged by any other department for their use.
- Reduce property disputes and legal cases

Brief outline of the Scheme components

S. No	Scheme Component	Brief Description
1	**Establishment of** Continuously Operating Reference Stations (**CORS) network**	Reference stations to provide a virtual base station that allows access long-range high-accuracy Network RTK corrections. Supports in • Establishing Ground Control Points • Ground truthing • Demarcation of lands
2	**Large Scale Mapping (LSM) using Drone**	Rural inhabited (abadi) area would be mapped by Survey of India using drones, to generate high resolution and accurate maps to confer ownership property rights. Based on these maps or data, property cards/title deeds would be issued to the rural household owners.
3	**IEC Activities**	Awareness program to sensitize the rural population about the surveying methodology and its benefits
4	**Enhancement of Spatial Planning Application "Gram Manchitra"**	The digital spatial data/maps created under drone survey shall be leveraged for creation of spatial analytical tools to support preparation of GPDP.
5	**Online Monitoring System**	Online Monitoring and reporting dashboard would monitor the progress of the activities.
6	**Program Management Unit** i. National Programme Management Unit (NPMU) ii. State Programme Management Unit (SPMU)	The scheme will be implemented through the regular departmental mechanisms, which will be assisted by Programme Management Units at the National and State level.

CORS (*Sample Images*)

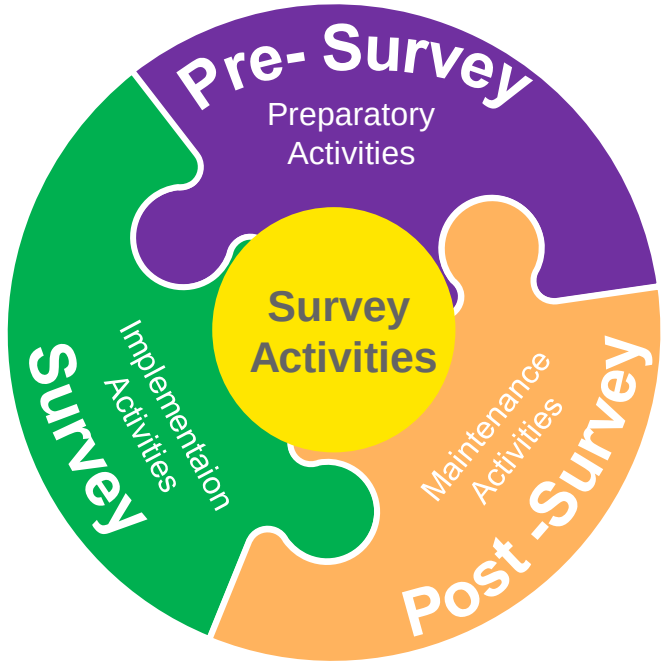




Survey Methodology

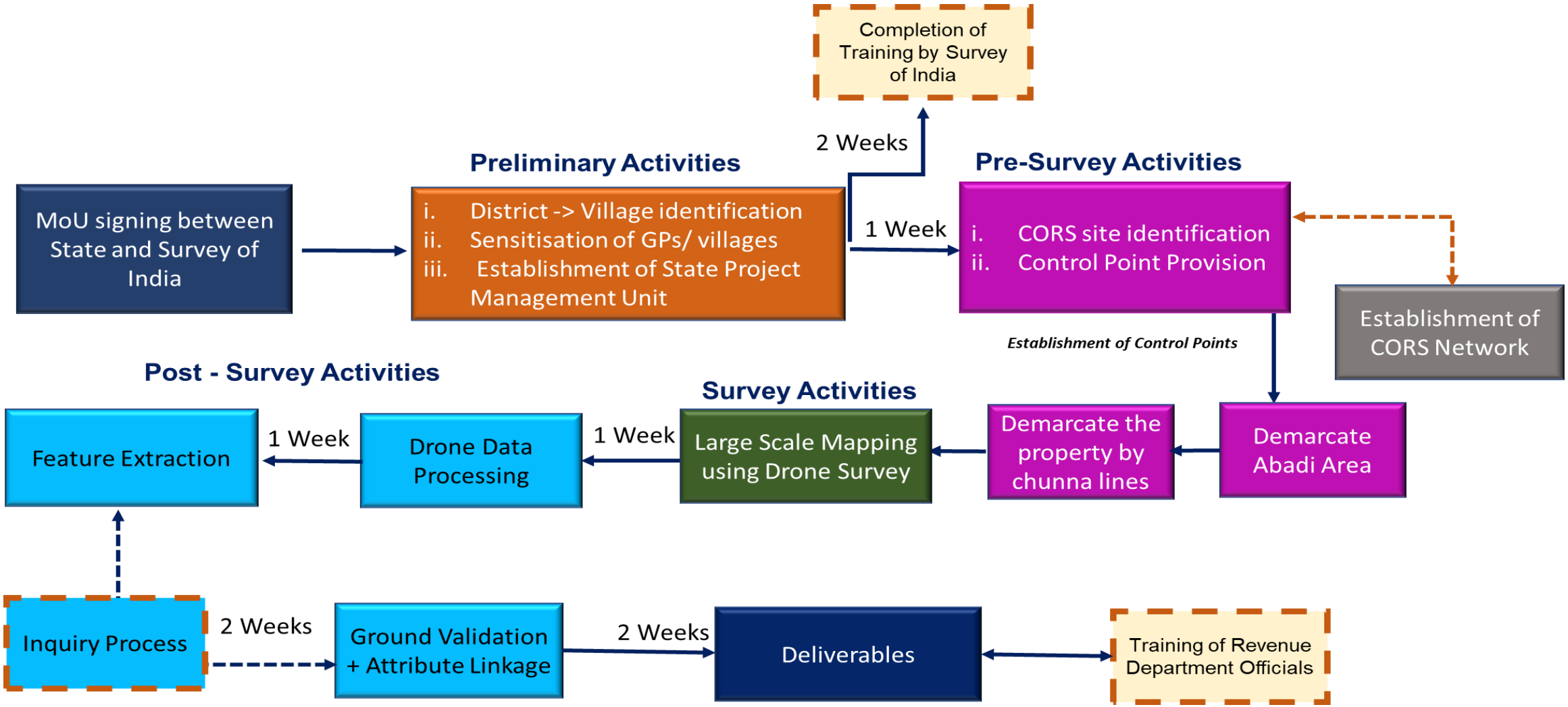
Main activities for conducting Drone survey to demarcate inhabited rural areas :

i. **Marking of boundaries** on ground after due notice
ii. Laying out Standard Operating Procedures **(SOP)** for various situations
iii. **Survey by drones** after securing all due permissions by Survey of India (SOI)
iv. **Processing of data** captured through drone survey
v. Production of **high quality maps**
vi. Dispute resolution



Survey Methodology would be detailed in subsequent sessions

Implementation Process Flow



Timelines depicted are indicative

Activity Mapping (1/4)

S.No	Activities	Responsibility
1.	Signing of MoU between State Government and Survey of India	**State Revenue Department** **Survey of India**
2	Identify and prepare cluster of Village for Mission Mode Drone Survey	**State Revenue Department** **Survey of India**
3	Establishment of CORS network	*(applicable to Rajasthan & Punjab State)*
3.1	Tendering for outsourcing CORS network construction and installation	**Survey of India**
3.2	SOI selects the suitable site with the help of State Government. The State Revenue Department would facilitate required permission from owner for creation or establishment of CORS network with physical security of stations.	**State Revenue Department** **Survey of India**
3.3	Facilitation of field survey activities with support from local authorities for safety/security of field teams & equipment, hiring of field vehicles, hiring of local labours, accommodation for field teams etc.	**State Revenue Department**
3.4	Construction, installation and Commissioning of CORS station by outsourced agency	**Survey of India**
3.5	Establishment of Control Centres.	**Survey of India**
3.6	Operation and Maintenance of CORS Network	**Survey of India**

Activity Mapping (2/4)

S.No	Activities	Responsibility
4	Large Scale Mapping Using Drone	
4.1	Procurement of Drone	Survey of India
4.2	Pre- Survey Activities	
4.2.1	Obtaining Permissions or Clearances for drone flying from DGCA, MoD, MHA etc	Survey of India
4.2.2	Scanning the available rural habited maps and providing to Survey of India	State Revenue Department
4.2.3	Legal Notification of Abadi area survey	State Revenue Department
4.2.4	Organise the Gram Sabha to intimate the schedule of the survey	State Panchayati Raj Department
4.2.5	Provide support to sensitize the villagers about the project work and its intended benefits leveraging **RGSA funds**	State Panchayati Raj Department
4.2.6	Marking of property boundaries with Chunna lines with owners before the drone flying in the area	State Revenue Department Gram Panchayat
4.2.7	Mission planning for drone flying using available maps/satellite imagery data	Survey of India

Activity Mapping (3/4)

S.No	Activities	Responsibility
4.3	Survey Activities	
4.3.1	Provisioning of Ground Control Points for flying	Survey of India
4.3.2	Acquisition of Aerial images using Professional Survey Grade Unmanned Aerial Vehicle/ Drone for Large Scale Mapping	Survey of India
4.3.3	Drone data processing and Feature extraction: Ortho Rectified Images, and extraction of topographical features	Survey of India
4.3.4	Attribute entry and linking: The attributes collected/ provided (by State Government) shall be linked with their respective features, thereby creating a digital spatial library of all the features and their respective information. The data entry in the attributes table shall be carried out by Survey of India in coordination with SPMU.	State Revenue Department Survey of India
4.3.5	Numbering of properties / structures within rural inhabited (abadi)/Lal dora/area as per numbering system provided by the State government.	State Revenue Department Survey of India
4.3.6	Ground-Truthing and validation of topographical features as derived from ortho- rectified images	Survey of India Gram Panchayats
4.3.7	Ground-Truthing, validation of Land Parcel maps	State Revenue Department Survey of India

Activity Mapping (4/4)

S.No	Activities	Responsibility
4.4	Post – Survey Activities	
4.4.1	Issue of notification of Joint verification of ownership	State Revenue Department
4.4.2	Property ownership Adjudication	State Revenue Department
4.4.3	Issue of notification for providing results of adjudication	State Revenue Department
4.4.4	Inquiry Officer with the help of Gram Panchayat Resolve post survey objections received from property owners. These may be related to correction in owner name, property boundaries, joint holding etc. For unresolved objections / disputes, the final decision shall rest with the District Magistrate / Collector	State Revenue Department Gram Panchayat
4.4.5	Post Objection - Finalisation/ correction and validation of maps	State Revenue Department Survey of India
6	Final Deliverables	Survey of India
7	Updation of property tax and asset register of Gram Panchayat	Gram Panchayat
8	Issuance of property cards to Property Owner	State Revenue Department
9	Training and Capacity building to nominated officials at State Revenue Department	Survey of India
10	Regular updation of maps.	State Revenue Department

IEC Activities *(Indicative)*

- Sensitization of local population about the surveying methodology and its benefits
- Communication materials in the form of manuals, flip books, poster, role plays, puppet shows, billboards, pamphlet distribution and public announcements in villages
- Wall Paintings
- Short films on the survey and innovations by Panchayats
- Use of social media, audio visual media, community radio, special programmes/features on television channels
- Cultural activities
- Exhibitions
- Mobile vans to disseminate information about scheme

Cost towards IEC may be utilised from RGSA funds in collaboration with PR Dept (under applicable components), as per felt need

Monitoring & Implementation (1/3)

i. National Steering Committee

- Provide strategic direction and guidance to the engagement.
- Decide on policy level issues that need to be addressed from time to time

ii. Survey of India:

- Establish Project Wing - Nodal Officer for execution of the project in the State.
- Prepare detailed Annual Plans(in accordance with the Scheme Guidelines) for appraisal and approval by the National Steering Committee (NSC).

iii. State Steering Committee (SSC)

- Provide operational guidance on the project
- Participate in all meetings and periodically review the progress of the project.
- Responsible for vetting the deliverables and recommending acceptance of deliverables to the NSC

Monitoring & Implementation (2/3)

iv. District-level Monitoring and Review Committee (DMRC)

- Review the progress of implementation of the Project
- Submit report to the State Steering Committee.
- Monitoring and oversight of the IEC funds granted.

v. State Programme Management Unit:

- Manage and monitoring of various activities under Scheme
- Support State Revenue Department, District officials, GP functionaries and Survey of India.

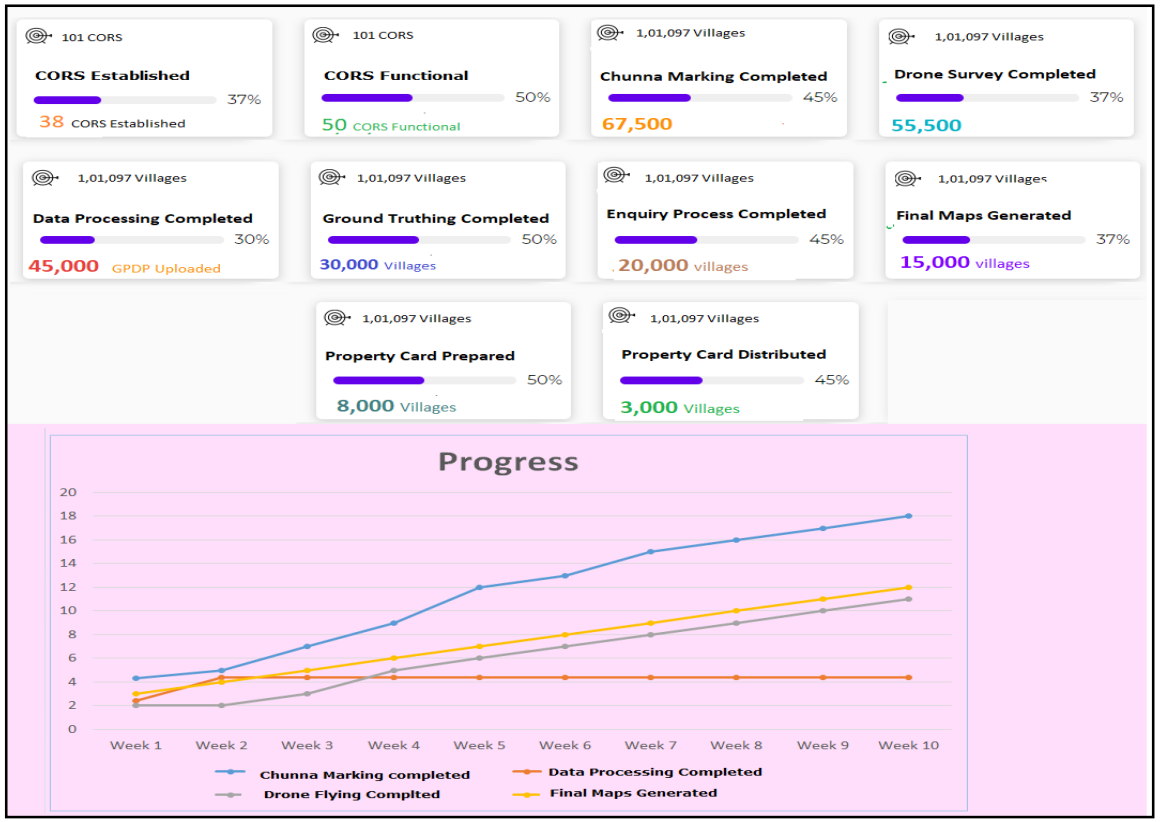
Monitoring & Implementation (3/3)

SVAMITVA Monitoring Dashboard

i. Monitor progress of the scheme on the Key Performance Indicators (KPIs) at National, State, District and Village level on drill down for each KPI.

ii. Stakeholders would report scheme progress on the Dashboard.

iii. Appraisal of States and Survey of India would be done based on the progress reported on the dashboard.



Deliverables by Survey of India

i. CORS Network RTK service of ≤ 5 cm horizontal accuracy for five (05) years.

ii. Accurate geo-referenced digital maps

iii. Geodetic network with co-ordinates and sketches of the control points

iv. Metadata of features. Raw data of the ground survey work.

v. Proper indexed map with proper sheet number on the following scales:

   a. Vertical Accuracy 0.2 m for all areas (Rural abadi area/lal dora)

   b. Village Lal Dora/Abadi on 1:500 (Ortho Rectified Images at 5 cm GSD (Ground Sampling Distance); ± 5 cm Horizontal accuracy

vi. Mosaic map of Village. Spatial and non-spatial data dictionary with feature codes, feature type (line, points and polygon) along with feature description and symbols.

vii. GIS data base prepared on 1:500 scale on UTM projection and WGS-84 datum.

viii. DEM of ≤ 20 cm vertical accuracy for the surveyed area.

ix. Hard copy maps on 1:500 scale (04 No's each) for a village on good quality 90 GSM paper along-with pdf copy for future printing purposes.

x. Training courses for technical staff of at various levels in IISM, Hyderabad.



Panchayati Raj

THANK YOU