

**Ministry of Rural Development
Government of India**

GEOMGNREGA

**(GIS implementation of Mahatma Gandhi National
Rural Employment Guarantee Act)**

Standard Operating Manual (Pilots & Wave-1)

In partnership with

National Remote Sensing Centre, ISRO

&

CGARD, NIRD & PR

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Standard Operating Procedure

For GIS Implementation in Mahatma Gandhi NREGA

Executive Summary

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) aims at livelihood security of people in rural areas by guaranteeing hundred days of wage-employment in a financial year to a rural household whose adult members volunteer to do unskilled labour work. The Mahatma Gandhi NREGA sponsors various schemes for helping rural people below the poverty-line for creation of wage employment and productive assets. As per the information available with NREGASoft, around 30 lakh assets are created annually during a financial year under Mahatma Gandhi NREGA. Ministry of Rural Development proposes to use GIS solutions to visualize, analyse and explore such asset related data and also manage them more effectively along with better understanding of their impact/outcome.

Government agencies like Department of Land Revenue, PMKSY, etc., have taken advantage of information technology and widely used it to store and maintain asset information.

Remote Sensing (RS) and Geographical Information System (GIS) can be effectively used to collect, store and analyse Mahatma Gandhi NREGA assets (Watershed locations, farm ponds, percolation tanks, check dams, road layer, irrigation channels, etc.). With the use of GIS in the area of asset management, it is possible to visualise and understand the geographical context of an asset and improve the efficiency of asset management. Spatial location is a major common aspect of all the asset data and GIS can map all the assets along with information for visualisation and proper decision making.

The Mahatma Gandhi NREGA GIS Solution intends to provide a single and integrated view of asset information system pan rural India. GIS enabled portal (e-Governance) will act as a gateway to facilitate and coordinate the exchange and sharing of geospatial data between stakeholders from various jurisdictional levels in the spatial data community. This will facilitate to search, locate and publish geospatial data wherein end users can access, share and publish (with appropriate log-in authenticity) in response to the needs of diverse user groups. The GIS enabled portal will maintain, process, store, distribute and improve the utilisation of geospatial data for planners, decision makers and public.

Scope of Work

An interactive web GIS-based management System will maintain entire information of MGNREGA assets. The system will allow users to create new data, update existing data related to assets, generate queries, spatial query such as buffer, reports, maps, etc. This will help the Department in possessing a valuable digital database (both spatial and non-spatial) for the entire country. Properly defined customised queries will also be made available for day-to-day planning and management of the MGNREGA assets.

The broad scope of work for Mahatma Gandhi NREGA Geographical information system is

- **Geo-referencing of satellite images and scanned images** (assigning real world coordinates)
- **GIS Mapping** - Creation of Digital data (Assets) for pan rural India for specified works as specified in schedule I of MGNREGA Act.
- Design and Development of **Centralised GIS Data Model** (Spatial and Non-Spatial Layers) to store spatial and attribute information.
- Facilitate periodic capturing / updation / maintenance of existing asset information using **Mobile GIS platform**
- Geotagging of images and integrating with respective assets

- Publishing of the asset information using **Web Mapping Service (WMS)** for citizens to visualise and give feedback in a crowd-sourcing architecture.

Audience & Stakeholders

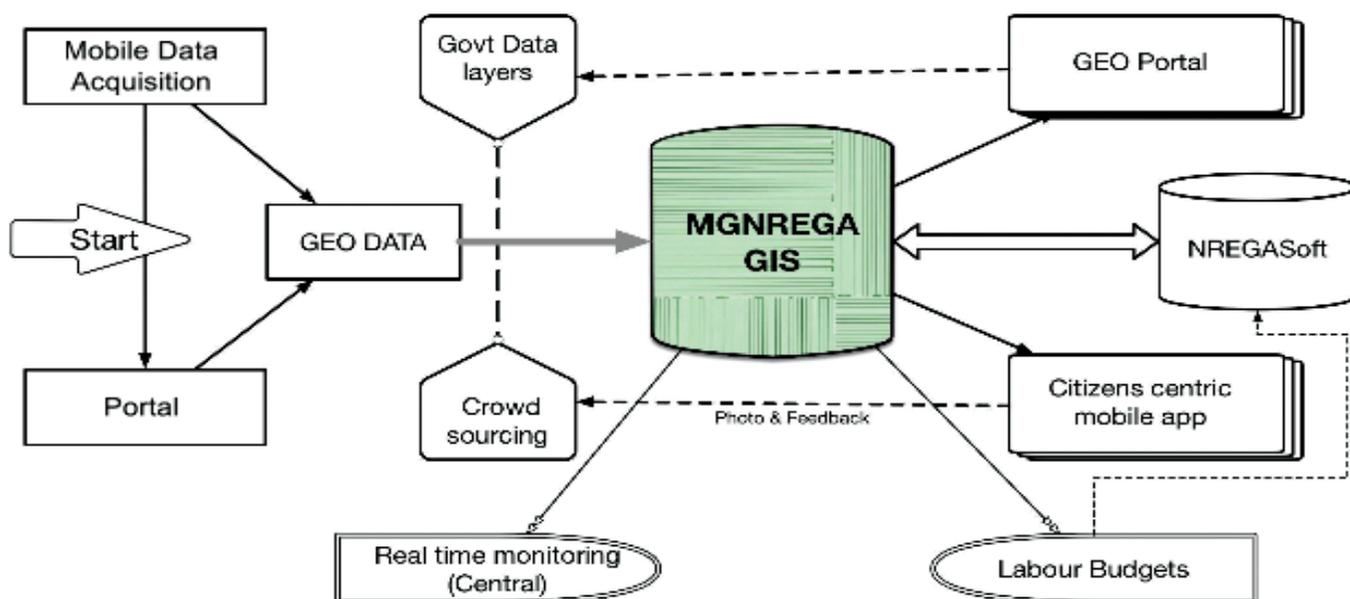
- 1. Mahatma Gandhi NREGA workers:** They will be able to get information about work availability in the near locations, work site location information, real time transparent attendance, and payment information.
- 2. Citizens:** By enabling Geo Portal for MGNREGA assets, the solution will generate demands, suggestions, critiques and data for both citizen and agency involved. This will enhance concurrent social audit by citizen and facilitate feedback information on work, quality validation, etc. to the DPC/ State Government who are implementing the program.
- 3. Central Government/State Government/PRI/Other PIAs/District Programme Coordinators/Programme Officers:** Incorporation of geo-fencing of assets will allow setting up of triggers for these set of stakeholders. When the Government Officer with appropriate GPS enabled simple device enters (or exits) the boundaries defined by the MGNREGA asset, a text message or email alert is sent. All stakeholders can see the geographical location of assets on a map in the web management system. The Geo-NOC will enable audit and easy management assets.

With an integrated real time Geospatial database of the rural assets a composite map of the village can be seen with data from Census, Land Records, IWMP, Schools and all other Ministries. This will help in integrated planning for works (labour budgets), optimised convergence plans and facilitate effective monitoring of implementation of works and creation of assets.

Strategy

There are two dependencies for the implementation of the GIS Project. Software and State Rollout. Software are demarcated as Phases and Rollout is demarcated as Waves. Both Phases and Waves are independent tracks.

GIS Solution Phases



Roles and Responsibilities

NRSC, ISRO

1. An exclusive Bhuvan–MGNREGA Geo-portal for DoRD will be developed and deployed, with geotagged assets data and report generating tools.
2. A customised Android Mobile App for geo-tagging of completed assets will be developed and provided for field level usage.
3. Standard Operating Procedure (SOP) will be provided by Bhuvan, in consultation with NIC-DoRD and DoRD for Moderation/ Validation of Geotagged content on the Bhuvan platform
4. Work towards realisation of an operational interface for exchange of data/ services with NIC-DoRD with regard to the MGNREGA and 14th Finance Commission's requirements.
5. Preparation of User Manuals and imparting training for ToT participants.

Ministry of Rural Development

1. DoRD will provide specific requirements of the project to realise Bhuvan-MGNREGA Geo-portal
2. Facilitate the integration of NREGASoft data with Bhuvan geoportal, including sustained flow to Bhuvan
3. Coordination with State Agencies for required Data Flow including moderation and capacity building
4. Resolve issues with regard to Data Quality, with stakeholders, from time to time.
5. Jointly review/monitor the implementation/roll out of GIS under MGNREGA with NRSC.

NIC- DoRD

DORD is the nodal organisation/focal point for interaction with NIC for the following activities:

1. Provide initial data dump of all work-ids and corresponding names
2. Ensure Data Push from NREGASoft to Bhuvan-MGNREGA on a regular basis, as required by the project
3. Enable smooth data services between NIC-DoRD and Bhuvan including data logging for completeness and trigger for incomplete transaction
4. Provide necessary requirements for formulation of Mobile App, as required by MORD
5. Provide services of the administrative units (State, district, block, panchayat, village) year-wise, for mapping the assets
6. Provide service covering location codes including Unicode representation of local place names
7. Provide list of work categories, sub categories, work type and asset details
8. Provide asset IDs in NREGASoft for all completed assets.
9. Share the user database comprising of role (spatial enumerator or moderator), credentials, user ID, area of responsibility, mobile number, IMEI number of device, for mapping the assets.
10. Share the domain and subdomain relations

C-GARD NIRD&PR

1. C-GARD, NIRD&PR will provide short term and long term opportunities in skills development in the form of regular Academic Programmes, seminars, workshops and open house presentations and Exhibitions for GIS implementation of Mahatma Gandhi NREGA.
2. C-GARD, NIRD will also undertake user interaction and stakeholders symposia at regular (annual/biannual) intervals for promotion of openness and transparency in implementation and operations.
3. Training and capacity building upto GRS, Technical Assistant and PO level through SIRDs and Development of Citizen Centric Mobile Application to be integrated with the GIS solution of MGNREGA. NRSC will provide easy to and fro data exchange for implementation of CAMA.
4. The C-GARD will setup the PMU for GIS implementation, initially for two years. This PMU will be manned by sufficient number of consultants and executives. The C-GARD will also setup the help desk.

Roll out

There are three simultaneous streams of roll outs viz.

1. Roll out phases for software development
2. Roll out waves for GIS implementation
3. Roll out stages for training and capacity building

Roll out phases for software development

Phase-I

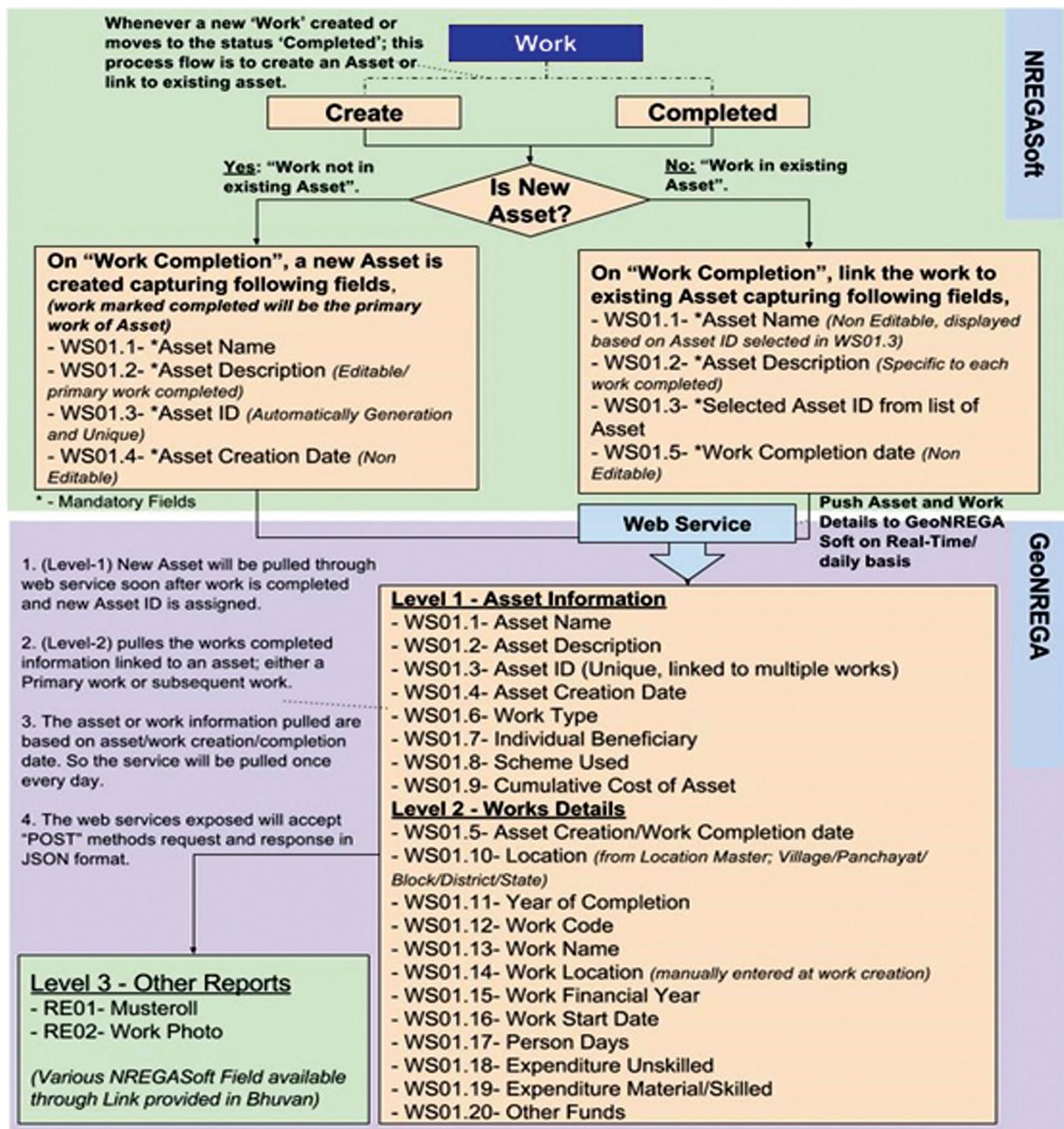
Mobile based Geo-tagging of approximately 30 lakhs assets, annually, along with photographs, created under Mahatma Gandhi NREGA w.e.f 1st April 2016.

1. Information on Assets that are identified as completed by the respective State authority, will be pushed to Bhuvan platform along with work details from the NREGASoft on regular basis as part of operational mechanism.
2. Through Bhuvan Mobile Platform, completed assets will be Geo-tagged along with photograph by Gram Rozgar Sahayak/Technical Assistant/Junior Engineer.
3. After moderation/validation by Programme Officer at the Block level, the assets will be displayed on Bhuvan Web Platform in public domain. Towards this a moderation interface will be provided on Bhuvan Platform for respective level of functionaries.

Phase-II

- **Citizen centric Mobile Application** for crowd-sourcing of information to create visibility and feedback mechanism to strengthen social audit mechanism.
- This phase will expand the GIS Application with comprehensive Geoprocessing of MGNREGA works by **covering all stages of MGNREGA** from initiation of work, muster roll, measurement of work to closure of work for better monitoring of MGNREGA functionaries performance and creation of assets, better tracking and better reporting of location-specific events through time and location stamping to improve the bottom line. This will integrate textual and spatial records and help in easy verifications of contours and boundaries of MGNREGA asset to perform various spatial correlation and MIS functions.

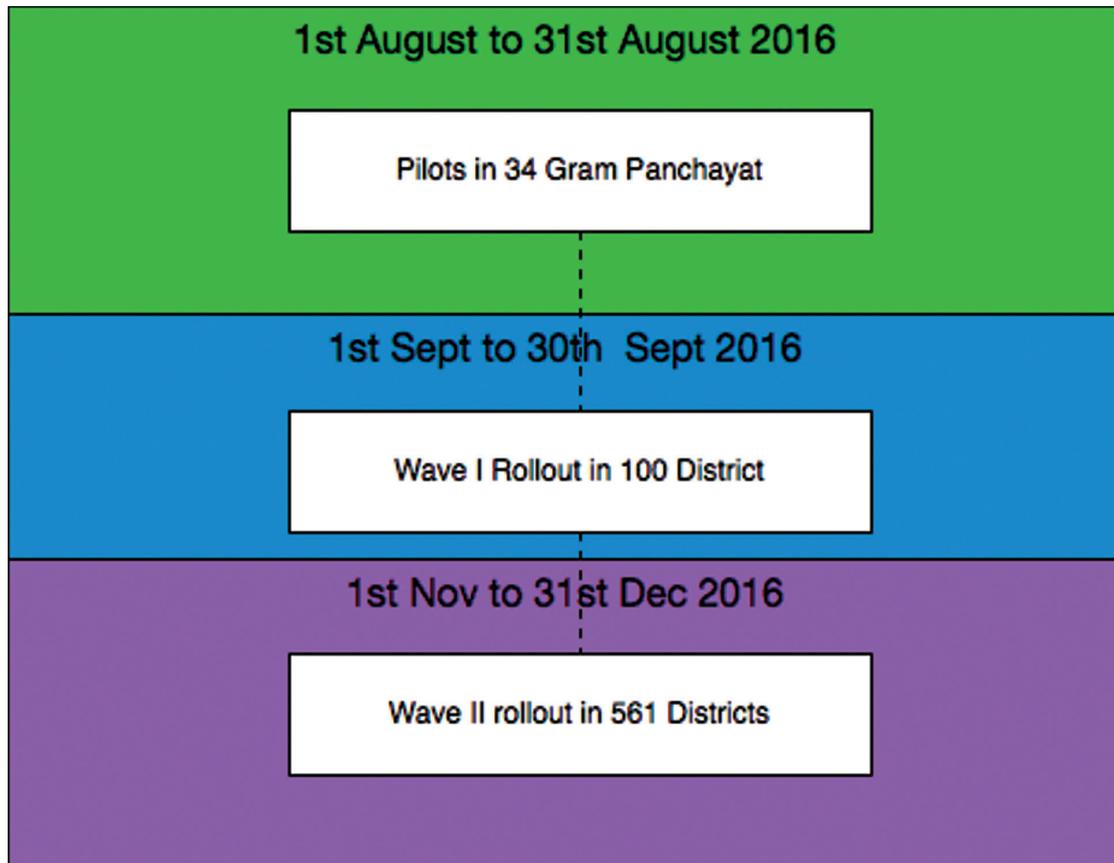
Data Flow Diagram



Phase-III

- **Publish e-Government Interoperability Frameworks** to create single window-access to spatial/non spatial data for full integration of geospatial data with various existing databases of Government.
- Creation of Common Asset Register at Panchayat level consisting of assets from all Ministries
- Integration of GIS Asset data with Decision Support System for **integrated National Resource Planning** at District level.

Rollout Waves for GIS implementation



Rollout Phases Summary

1. The rollout is spread into two Waves, i.e. Wave I and Wave II. Wave I are the selected Districts of the State which are geared and predisposed towards GIS implementation at the early stage. Hence these GIS Districts are called as GIS Pioneering Districts (GPD). A total of 100 Districts have been selected across all States as GPDs. These GPDs will be nominated by State Government based on the site readiness both in terms of resources, connectivity and manpower preparedness. No mobile hardware will be supplied to the District and States will have to manage locally. The preferable method is Bring your own device (BYOD) concept. However, the mobile device so used, should match the hardware specifications prescribed in this document.
2. These GPDs are further divided into Districts where Pilots will be conducted. These Pilot GPDs are called as GIS Pioneering Testing Site District (GPTSD). Each of GPTSD will in turn choose one Gram Panchayat from their District which will become testing sites for the GIS Implementation. These Gram Panchayat will be called as GIS Pioneering Testing Site Gram Panchayats (GPTSG) and its corresponding block will be called as GIS Pioneering Testing Site Block (GPTSB). Thus there will be 34 GPTSDs with 34 Gram Panchayat Testing Sites.
3. The Wave I be launched in 100 GPDs (all Gram Panchayats) after successful completion of pilots in 34 testing sites. Wave I will thus include all Gram Panchayats one that is chosen as Testing sites (GPD 1) and also those chosen under GPD 2. This stage will mark the Project as '**GO-LIVE**'. The GIS Project will be inaugurated and launched on this day.
4. After successful implementation in Wave-I in each of the GPD, implementation of Wave- II will be done in all GPs of the remaining 561 districts as per the timelines prescribed by the Ministry.

State Wave Rollout Strategy

S No.	States / UTs	No Of Districts	No Of Panchayats	Pilots	Wave I			Wave II
				GPD	GPD	GPD II	Total	
1	2	3	4	5	6	7	8	9
1	ANDHRA PRADESH	13	13084	1	1	1	2	11
2	ARUNACHAL PRADESH	20	1827	1	1	2	3	17
3	ASSAM	27	2644	1	1	2	3	24
4	BIHAR	38	8529	1	1	3	4	34
5	CHHATTISGARH	27	10971	1	1	2	3	24
6	GOA	2	190	1	1	1	2	0
7	GUJARAT	33	14330	1	1	4	5	28
8	HARYANA	21	6314	1	1	2	3	18
9	HIMACHAL PRADESH	12	3251	1	1	1	2	10
10	JAMMU & KASHMIR	22	4206	1	1	2	3	19
11	JHARKHAND	24	4422	1	1	2	3	21
12	KARNATAKA	30	6019	1	1	3	4	26
13	KERALA	14	941	1	1	2	3	11
14	MADHYA PRADESH	51	22827	1	1	4	5	46
15	MAHARASHTRA	34	28670	1	1	5	6	28
16	MANIPUR	9	3133	1	1	1	2	7
17	MEGHALAYA	11	6206	1	1	1	2	9
18	MIZORAM	8	876	1	1	1	2	6
19	NAGALAND	11	1200	1	1	1	2	9
20	ODISHA	30	6211	1	1	3	4	26
21	PUNJAB	22	13110	1	1	2	3	19
22	RAJASTHAN	33	9896	1	1	3	4	29
23	SIKKIM	4	176	1	1	1	2	2
24	TAMIL NADU	31	12524	1	1	3	4	27
25	TELANGANA	9	8831	1	1	1	2	7
26	TRIPURA	8	1178	1	1	1	2	6
27	UTTAR PRADESH	75	59177	1	1	6	7	68
28	UTTARAKHAND	13	7997	1	1	1	2	11
29	WEST BENGAL	20	3347	1	1	2	3	17
30	ANDAMAN AND NICOBAR	3	83	1	1	1	2	1
31	DADRA & NAGAR HAVELI	1	11	1	1	0	1	0
32	DAMAN & DIU	2	10	1	1	1	2	0
33	LAKSHADWEEP	1	10	1	1	0	1	0
34	PUDUCHERRY	2	10	1	1	1	2	0
Total Count		661	262211	34	34	66	100	561

Roll out stages of training and capacity building

Training and capacity building are an integral part of the GIS implementation primarily because of the IT based dependence. Therefore, change management for creating and updating Assets through GIS based mobile application requires detailed training manual and handholding support. To this effect a complete training and capacity building plan has been prepared. Once the GIS Solution is developed, as per the MoU between MoRD and NRSC, NRSC will develop the detailed training manual for the usage of the mobile application, validation of the data and then usage of the web GIS portal. CGARD NIRD will be the apex organisation which has the capability of both GIS technology and operations, will coordinate and eventually execute the training to all the relevant functionaries. MoRD will provide necessary operational guidelines, funds and support to NIRD for effecting the complete training. The training program under GIS Implementation has been simplified and structured into 6 stages to ensure that all the functionaries given sufficient training are made aware about the operations of the software and its usage.

1. Stage 1: National Workshop on GIS Implementation in MGNREGA:

A one day National Level GIS Workshop will be held inviting all respective Principal Secretaries/ Secretaries (in charge of MGNREGA), MGNREGA Commissioners, State GIS Nodal Officer (SGNO) and District Collectors, District GIS Nodal Officers (DGNO) of districts selected under Wave-I i.e GPD 1 and GPD 2. This workshop will orient all the State Government about the various facets of Assets creation and Geo-tagging. This will be jointly conducted by MoRD, NIRD and NRSC. The detailed operating Manual will also be released which will be prepared by NRSC.

2. Stage 2: GIS MGNREGA Regional Resource Person (GMRRP) Training:

One day Training of Trainers programme will be organised by NIRD & NRSC for training the GIS MGNREGA Regional Resource Persons (GMRRP). These RRP will be selected by SIRD. These RRP will inturn give training at the State Levels for MSE / GAS.

Secondly, as detailed in the Roll Out plan, before the GO-LIVE Stage, the solution will be tested and Pilots conducted in the 34 Gram Panchayats of GPDs called as GIS Pioneering Testing Sites Gram Panchayats (GPTSG). Each of the GPTSG have a corresponding GIS Pioneering Testing Site Block (GPTSD). These MSE (GRS / Technical Assistants/ Others) and GAS (PO at Block level) functionaries from GPTSG and GPTSD are called as GIS Pioneering District Testers (GPDT). These GPDTs will also be trained in the same workshop at NIRD. They will be required to bring their own mobile phone under Bring Your Own Device (BYOD) plan during the training session organised at NIRD Hyderabad. NRSC will prepare a Training Manual for the users.

3. Stage 3: GIS MGNREGA Block Champion Training for Wave I:

GPD 1 and GPD 2 will nominate one resource person from each of the Block who will be designated as GPDC (GIS Pioneering District Champions). GMRRP along with NRSC and GPDT will impart training to GPDC, DGSNO & SGNO at the regional level in the SIRDs as per the detailed plan attached with this document.

4. Stage 4: GIS MGNREGA Block Level Training for Wave I:

GIS Pioneering District Champions (GPDC) will in-turn train all the MGNREGA Spatial Emulators (MSE) i.e. GRS/ Technical Assistants & GIS Asset Supervisor (GAS) i.e. PO at block level of their respective District either at the District or at the block level.

5. Stage 5: GIS MGNREGA Block Champion Training for Wave II:

State GMRRP along with NRSC and GPDT will impart training to GPDC, DGSNO & SGNO at the regional level in the SIRDs as per the detailed plan attached with this document for all Districts covered under Wave II.

6. Stage 6: GIS MGNREGA Block Level training for Wave II:

The GPDCs of Wave II will in turn give training to all MSE and GAS for their respective block either at the block or district level.

Training Calendar

Stage	Name	Date	Organiser	Participants	Number	Duration
Stage 1	National Workshop on GIS Implementation in MGNREGA	26.07.2016	MoRD	State Principal Secretaries/ Secretaries MGNREGA	34	1 Day
				Commissioner MGNREGA	34	
				Wave I Districts	100	
				SGNO	34	
				DGNO	100	
				NIRD and SIRD	50	
				NRSC	10	
				MORD	50	
Subtotal	412					
Stage 2	GIS MGNREGA Regional Resource Person (GMRRP) Training	28 & 29 July 2016	CGARD NIRDPR& NRSC	SIRD & State Nominations	35	1 Day
				GPTSG MSE	34	
				GPTSB GAS	34	
				Sub Total	103	
Stage 3	GIS MGNREGA Block Champion Training for Wave I	1st August to 5th August 2016	NRSC, RRP & GPDT in 11 SIRD & NIRD	District Champions (One Per Block of each District of Wave I)	Each State will work out the calendar	1 Day Per Batch
				DGNO		
Stage 4	GIS MGNREGA Block Level Training for Wave I	8th August to 30 August 2016	GIS Champions	MSE & GAS of Wave I	Each State will work out the calendar	1 Day per batch
Stage 5	GIS MGNREGA Block Champion Training for Wave II	8th August to 30 August 2016	NRSC, RRP & GPDT in 11 SIRD & NIRDPR	Block Champions (One Per Block of Each District of Wave II)		
Stage 6	GIS MGNREGA Block Level training for Wave II	1st Sept to 30 Oct 2016	GIS Champions	MSE & GAS of Wave II	Each State will work out the calendar	1 Day per batch

Training Modules

The Training Module will have two components, one in which the Trainees are exposed to the Geospatial Technology Basic Concepts, Tools, Techniques, Processes/ Methodology, data capturing, integration of data, positional data through GPS/ Smartphone, asset geo-tagging, etc and in the use of Geographic Information System (GIS), Satellite Remote Sensing, Global Position System etc. The second aspect is rigorous hand holding in practical applications in Mobile Data Collection, Use of Mobile Data Capturing for Asset Geotagging and other applications related to the project. The training programme will include theory, hand holding and practical demonstration and usage of the Mobile for field data capturing.

- Basics about GIS and GEO Tagging, handling geo information over web
- Asset Creation on NREGASoft
- Use of Bhuvan Mobile Application
- Use of Bhuvan Mahatma Gandhi NREGA geoportal
- Moderation/Validation of the uploaded photographs on Bhuvan platform
- Use of satellite images & handling geo information over web

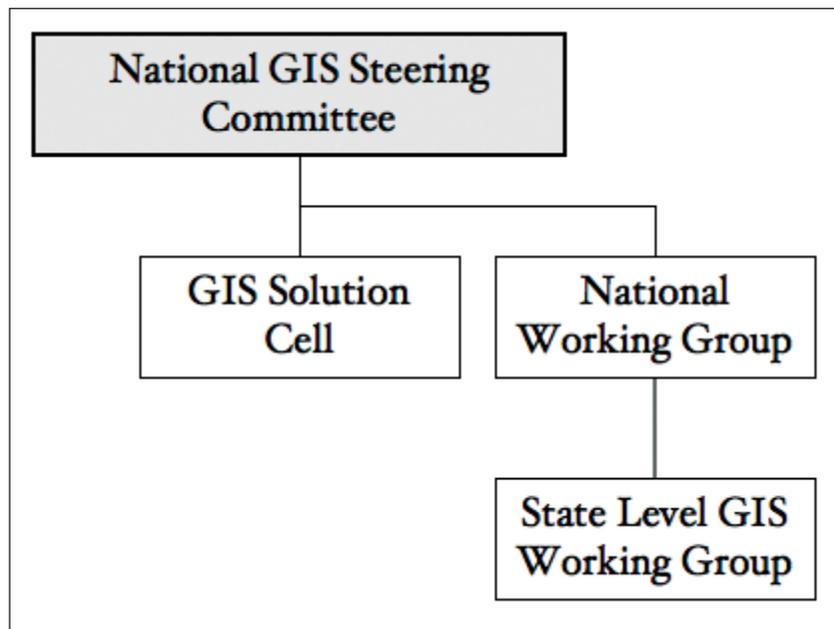
Organisation & Team

The implementation of the GIS will be governed at the Central and the State level.

Central Level

The Programme Division Mahatma Gandhi NREGA will steer the complete implementation of the GIS Solution for Mahatma Gandhi NREGA. To ensure effective and timely rollout of the Mahatma Gandhi NREGA GIS Solution following monitoring mechanism will be set up:

Diagrammatic Representation of Governance Structure



1. National Level Steering Committee:

Headed by Secretary Rural Development and co-chaired by Secretary Space. This committee will:

1. Keep oversight of the project
2. Suggest and decide changes and mid-course corrections
3. Resolve mutual differences between various implementing agencies and stakeholders

This committee will meet one in every quarter or as per the requirements of the project. Program Division PMU will provide necessary secretarial support.

2. GIS Solution Cell:

This will be headed by Joint Secretary MGNREGA. The committee members will consist of Deputy Director NRSC, STD NIC DoRD, and Director General, NIRD&PR. The committee will:

- a. See the progress of the solution implementation
- b. Review of the timelines and implementation issues
- c. Resolve all the issues pertaining to development and deployment of the solution

This committee will meet on a fortnightly basis or as decided by the chairman. The Program Division PMU will provide necessary Secretarial Support.

3. National Working Group:

This committee will be headed by Joint Secretary MGNREGA. The members will consist of Commissioner MGNREGA from each State, and State GIS Nodal Officers.

- a. This committee will take stalk of the implementation at the State level
- b. Feedback from the States requiring solution changes
- c. Monitoring and directions to the state for implementation

The committee will meet on a monthly basis over Video Conferencing or as decided by the Chairman of the Committee. Program Division PMU will provide necessary secretarial support.

4. Monitoring of Implementation of GIS:

To execute the same, MoRD will augment the Section handing the GeoMGNREGA Project with requisite technical outsourced manpower who are specialised in GIS. A total of Senior Consultant with 10 re more years of experience in GIS will be the technical resource person and will be assisted by a GIS Project Executive with 3 to 5 years of offhand experience of GIS implementation in the Government Projects. These will be hired on the contractual basis.

As the implementation of the GIS Solution is of phenomenal scale but the timelines are very short, it entails coordinated activities among NRSC, ISRO, NIRD&PR, NIC and State Governments. Therefore, appropriate manpower support for coordination and implementation is vital. In this regard, NIRD&PR C-GARD was requested to examine the requirements. NIRD&PR has submitted the proposal. Accordingly, CGARD, NIRD&PR will augment GeoMGNREGA Project with Program Management Unit with 14 outsourced technical staff with varied specialised and program Management skills. Following will be the role of the PMU:

- a. These initial work will be very vital in the faster rollout of the programme. Each of the GPD will then undergo roll out under Wave-I to be followed with Wave-II. PMU will ensure effective monitoring of the implementation with strict adherence to timelines.
- b. Preparation of PERT and GANTT Chart for each of the District
- c. A team of 2 or 3 persons from PMU will be associated with group of states. (Six State groups can be formed i.e., Northern, Southern, Western, Eastern, Middle, North-East States).
- d. The Technical manpower at PMU would be used to verify the data uploaded from the field and coordinate with state level implementing agency in resolving any inaccuracies.
- e. **Software & Hardware Deployment:**

Each of the executive will be entrusted with the job of:

1. Identification and documentation of GPD from each of the State
2. Deployment and activation of mobile devices in the Gram Panchayats

3. Deployment and initiation of mobile application up to the Gram Panchayat-level.
4. Installation of the Software in the Mobile devices
5. Troubleshooting of any problems in the installation, upgradation and maintenance.
6. All operative issues relating to the Mobile hardware like anti-virus, Operating system upgrade, installation of third party applications will be handled by the PMU.
7. All exception reports from the GP will be compiled and presented to the respective decision making authority.
8. All training and orientation material will be managed and effectively distributed in a timely manner to each of the GPD.
9. Training & handholding Support:

PMU will organise periodic training on GIS application to the functionaries in centre and state governments. The support desk will be setup and manned by PMU resource persons.

State Level

State Level GIS Working Group:

Each State will setup GIS Working Group headed by Principal Secretary/Secretary looking after Mahatma Gandhi NREGA as the chairman. The committee will:

1. Decide the rollout strategy
2. Conduct meeting with District Collectors/ DM DGNO and other officials of the State
3. Monitor the progress of the implementation
4. Resolve issues arising out in the field level
5. Keep an oversight of the quality of the photographs
6. Setup and review the asset creation, correct Geo-tagging issues and publishing details on the portal
7. Submit the report to the Program Division MGNREGA of the proceedings of the meeting and provide details as and when required by the MoRD
8. Review the training schedule and suggest improvement

The committee will meet every month or as frequently as decided by the chairman. SGNO will provide the secretarial Support for the committee.

Following will be implementing agencies and their designations at the State Level:

i. Level 1:

There will be designated MGNREGA Spatial Enumerator (MSE) for each Gram Panchayat who will capture the asset photographs with GPS location of completed assets. The Gram Rozgar Sahayak (GRS)/ Technical Assistant (TA) will be designated by the respective State Government considering the local conditions and requirements. There can be multiple MSEs under one GP.

ii. Level 2:

State shall designate officers above GRS/TA as GIS Asset Supervisor (GAS) who will validate and approve the asset photograph. The Programme Officer (PO) or any other concerned officer at the Block level will be designated by the respective State Government considering the local conditions and requirements.

iii. Training & Hand Holding:

Each of the GPDs will nominate one suitable person from each of the block to be trained as GPD Champions (GPDC) which in-turn will train all the GRS/Technical Assistants working as MSE (MGNREGA Spatial Enumerators) and GAS (GIS Asset Supervisor). These GPDCs will be given training at the level of SIRD. As they are from the block level, not only they would be able to provide the training, but they will also provide handholding support, validation of GIS data & Asset photographs, user account management, etc.

iv. Coordination level 1:

State will designate District GIS Nodal Officer (DGNO) for each district. DGNO will be responsible for coordination of issues relating to the district.

v. Coordination Level 2:

Each State will immediately nominate State GIS Nodal Officer (SGNO) under Commissioner Mahatma Gandhi NREGA, who will be responsible for coordination and rollout. All issues pertaining to geo coordinates, assets mapping and photograph validation in a State will be rectified at this level.

Mobile Hardware

Based upon the experience of various State Governments during the implementation of GIS solution in their state the following minimum mobile device hardware specifications is suggested. These specifications should be subjected to the requirements of mobile application to be deployed to ensure matching of specification to that of requirement.

** No device or grant will be provided for the mobile devices by the Central Government. Each MSE need to use their own mobile device as per 'Bring Your Own Device' (BYOD) concept. The device should have minimum specifications as specified.*

CPU	1.3 GHz
OS	Android 4.4
Display	TFT capacitive touch screen 3.5"
Connectivity	GPRS, GPS and A-GPS, Wi-Fi
3G enabled	Yes
Rear Camera	5 MP
RAM	2 GB RAM
Internal memory	8 GB
External Storage compatibility	16 GB

GIS Pioneer Districts Test Sites

State	District	Block	Panchayat	DGNO
West Bengal	North 24parganas	Rautara	Habra-I	Arunabha Das
Kerala	Wayanad	SulthanBathery	Meenangadi	P G Vijayakumar
Maharashtra	Nagpur	Nagpur Rural	Dawlameti	Smt. Manisha Jaybhaye
Jharkhand	Ranchi	Namkum	Rampur	RavikarShhyam
Chhattisgarh	Balod	Gurur	Bhulandabari	OmprakashSahu
Gujarat	Patan	Sami	Mandavi	Sanket Joshi
Telangana	Ranga Reddy	Ibrahimpattanam	Cherlaptelguda	Haritha
Uttarakhand	Haridwar	Laksar	AkbarpurUd	AmritRathi
Punjab	Mansa	Mansa	Moosa	Mandeep Singh
Odisha	Keonjhar	KeonjharSadar	Bauripada	SibanandaTripathy
Assam	Goalpara	Balijana Block	BalijanaGp	NavidAnjumulHoque
Sikkim	South Sikkim	Namchi	Kitam-ManpurGp	Manoj Pradhan
Mizoram	Champhai	Khawzawl	Khawzawl Iv	Cc Lalchhuangkima
Tamil Nadu	Kancheepuram	Lathur	Nerkunapattu	S.Thanikachalam
Himachal Pradesh	Sirmour	Sangarh	Redli	VivekDhiman
Meghalaya	RiBhoi	Umsning	Mawrong	Shri D Hynniewta
Nagaland	Kohima	Jakhama	Viswema	Arensosang Jamir
Arunachal Pradesh	West Kameng	Dirang	Yewang	Tasso Gambo
Bihar	Nalanda	Noor Sarai	JagdishpurTiyari	Ravindra Ram
Madhya Pradesh	Sehore	Ashta	Jatakheri	HiralalVerma
Haryana	Yamunanagar	Radaur	Khurdban	Hakam Singh Rana
Rajasthan	Jhalawar	Jhalara-Patan	Durgpura	IndrajeetNimesh
Andhra Pradesh	Chittoor	Kuppam Mandal	Kuppam	M. Venugopal Reddy
Tripura	West Tripura	Bamutia	Bhagalpur	PijushDebbarma
Karnataka	Chitradurga	Hosdurga	Baguru	Basavaraj .Y
Manipur	Imphal East	Imphal East Ii	Top Dusara	N.Moonildro Singh
Uttar Pradesh	SantKabeer Nagar	Khalilabad	Meerganj	Vinay Kumar Srivastava
Andaman & Nicobar	South Andaman	CD Block Prothrapur	Beodnabad	Shri Shashi Babu

Add New Asset/Existing Asset

- . MUSTER ROLL**
 - [Issue Muster Roll \[Edit\] \[Del\]](#)
 - [Generate E- Muster Roll \[Delete\]](#)
 - [Update TADA](#)
- . FUND ENTRY**
 - [Receive Fund \[Edit/Delete\]](#)
 - [Fund Transferred From P.O \[Edit/Delete\]](#)
 - [Generate Release Order](#)
 - [Funds Refunded By PO \[Edit/Delete\]](#)
 - [Cash Book Summary \(Edit/ Report\)](#)
- . Expenditure**
 - [Administrative Expenditure\[Delete\] \[Edit\]](#)
- . Payment of Anticipated Expenditure for previous and current FY**
 - [Payment of Muster Rolls](#)
 - [Payment of Bills](#)
- . Upload**
 - [Upload Circulars](#)

- [Play Ground \[Edit\]](#)
- [Food Grain \[Edit\]](#)
- [Upload Work Photo](#)
- [Revised Tech./Financial Sanction](#)
- [NF Update Estimated Output](#)
- [Approve Work Priority](#)
- [Add Activity for IAY Houses Work](#)
- . Manage Works**
 - [Suspend Resume Delete](#)
 - [Merge New Work Code](#)
 - [Complete Work for Urban/Non Exist Panchayat](#)
- . Work Closure**
 - [Complete](#)
 - [Create Asset ID for Complete Works\[Delete\]](#)
 - [Partial Closure](#)
- . Quick Work Edit**
 - [Work Start Date](#)
- . WORK ALLOCATION**
 - [Allocation \[Edit\] \[Delete\]](#)

- User can login from GP, PO, BP, ZP and other implementing agency login for work completion and asset marking.

Govt. of India
Ministry of Rural Development
Department of Rural Development
29-Jul-2015

Mahatma Gandhi National Rural Employment Guarantee Act

Complete Work Back

State: DemoStateCHANDIGARH District: DemoDistrictCHANDIGARH Block: DemoBlockCHANDIGARH Panchayat: DemoPanchayatCHANDIGARH

Note:
All designation will shown in measured by whom dropdownlist !
If there no any name in dropdownlist then you can add by staff detail link for that level !
If you want add designation then send the designation name and level!
Any maintained work completed should be treated as part of Asset!

Work Category	Drought Proofing
Search work	
Work Code	वृक्षारोपण कार्य (0601001001/DP/3)

Work Code	0601001001/DP/3 ~~~~~ वृक्षारोपण कार्य									
Work Start Date	01/04/2015									
Labour										
Distinct Number of Muster Rolls used										
S.No.	Financial Year	Muster Roll	Amount	Payment Date						
No Data To Display										
Total Expenditure on labour (in Rs.)		0								
Material										
Skilled			Bill Voucher							
S.No.	Financial Year	Payment Through	Bill No./Msr_no/Voucher_No	Amount	Payment Date	S.No.	Financial Year	Bill No.	Amount	Payment Date
No Data To Display						1	2015-2016	01	25600	
Total Expenditure on Material		25600								
Total Administrative Expenditure (in Rs.)		0			Total Expenditure(in Rs.) =25600					
Work Completion Date/Asset Creation Date:					DDMMYYYY					
Actual benefited area:		200			Ha. area will be covered					
Measured by whom:					--Select--					
Whether Completion Certificate has been issued?					<input type="radio"/> Yes <input checked="" type="radio"/> No					
Whether New Asset/Existing Asset?					<input checked="" type="radio"/> New Asset <input type="radio"/> Existing Asset					
Asset Name:										

- Click on “Complete” link under work closure option. (Refer following screen shot for option placement).
- Select the work code which has to be marked as ‘completed

Any completed work would either be part of existing asset, for which Asset ID has already been assigned or it would be marked as a fresh Asset and new Asset ID would be tagged.

S. No	Field Name	Description
1	New Asset	Choose “New asset” radio button, the work will be Marked as primary asset under MGNREGA. New asset will be generated after SAVE button is opted.
2	Existing Asset	In this, work would be treated as part of any existing primary asset and it will not be treated as primary asset. As the user select “existing asset”, a list of primary assets and their IDs for the Block will be available in drop down, and user has to select primary asset from the list. No new asset ID will be generated for secondary asset.
3	Asset Name	In case of “new asset,” asset name will be asked. User Has to fill asset name and it is a mandatory field. Asset name will not be prompt for existing asset.
4	Asset description	User has to fill short description about the asset (Primary/secondary).

Note: Work completion date will be Asset creation date and after saving data Asset Id will Display on screen.

Add asset ID for the work completed in Previous Year

- Option to create asset id for completed works is available in all data entry login of stakeholders.
- Create asset ID for ‘complete works’ link under work closure option.
- Click in the link below screen will appear.



Govt. of India
Ministry of Rural Development
Department of Rural Development
29-Jun-2016

The Mahatma Gandhi National Rural Employment Guarantee Act

Create Asset ID [Back](#) [Home](#)

State : DemoStateCHANDIGARH District : DemoDistrictCHANDIGARH Block : DemoBlockCHANDIGARH Panchayat: DemoPanchayatCHANDIGARH

Work Category :	Anganwadi/Other Rt
Search Work :	<input type="text"/>
Select work Code:	Anganbadi/Other Rural Infrastructur
Whether New Asset/Existing Asset?	<input checked="" type="radio"/> New Asset <input type="radio"/> Existing Asset
Asset Name:	<input type="text"/>
Asset Description:	<input type="text"/>
<input type="button" value="Save"/>	

Any completed work would either be part of existing asset, for which Asset ID has already been assigned or it would be marked as a fresh Asset and new Asset ID would be tagged.

S. No	Field Name	Description
1	New Asset	Select ‘New asset’ radio button, the work will be marked as primary asset under MGNREGA. New asset will be generated after SAVE button is opted.
2	Existing Asset	In this work would be treated as part of any existing primary asset and it will not be treated as primary asset. As the user select ‘existing asset’, a list of primary assets and their IDs for the Block will be available in drop down, and user has to select primary asset from the list. No new asset ID will be generated for secondary asset.
3	Asset Name	In case of ‘new asset’, asset name will be asked. User has to fill asset name and it is a mandatory field. Asset name will not be prompt for existing asset.
4	Asset description	User has to fill short description about the asset (Primary/secondary).

Delete secondary work from asset ID

- Delete option of works under asset ID is provided to handle any wrong association of work under an asset ID. User can delete any secondary work ID and allocate new asset ID from the option as mentioned above.
- Click 'Delete' link under work closure option.
- Click on the link, below screen will appear

- **MUSTER ROLL**
 - Issue Muster Roll [Edit] [Del]
 - Generate E- Muster Roll [Delete]
 - Update TADA
- **FUND ENTRY**
 - Receive Fund [Edit/Delete]
 - Fund Transferred From P.O [Edit/Delete]
 - Generate Release Order
 - Funds Refunded By PO [Edit/Delete]
 - Cash Book Summary (Edit/ Report)
- **Expenditure**
 - Administrative Expenditure[Delete] [Edit]
- **Payment of Anticipated Expenditure for previous and current FY**
 - Payment of Muster Rolls
 - Payment of Bills
- **Upload**
 - Upload Circulars

- Play Ground [Edit]
- Food Grain [Edit]
- Upload Work Photo
- Revised Tech./Financial Sanction
- MF Update Estimated Output
- Approve Work Priority
- Add Activity for IAY Houses Work
- **Manage Works**
 - Suspend Resume Delete
 - Merge New Work Code
 - Complete Work for Urban/Non Exist Panchayat
- **Work Closure**
 - Complete
 - Create Asset ID for Complete Works[Delete]
 - Partial Closure
- **Quick Work Edit**
 - Work Start Date
- **WORK ALLOCATION**
 - Allocation [Edit] [Delete]

Govt. of India
 Ministry of Rural Development
 Department of Rural Development
 15-Jul-2016

The Mahatma Gandhi National Rural Employment Guarantee Act

Delete Asset ID [Back](#) [Home](#)

State : DemoStateCHANDIGARH District : DemoDistrictCHANDIGARH Block : DemoBlockCHANDIGARH Panchayat: DemoPanchayatCHANDIGARH

Note:
 Primary Asset Id will deleted iff all secondary work code Release/Delete associated with the asset ID!
 If user selects 'Yes' to delete Primary Asset ID then All secondary work code will be selected to remove asset id

Search Asset ID/Work Code :

Asset ID :

Are you want Delete Primary asset ID? Yes No

Primary Work Code 0601001001/AV/8

Select Secondary Asset ID which want to be Delete

S.No	Work Code	Work Name	Asset ID	Asset Description	Select All
1	0601001001/AV/10	Aanganwadi Other Rural Infrastructure, DemoPanchayatCHANDIGARH	06000000073	1682	<input type="checkbox"/>
2	0601001001/AV/12	Aanganwadi Other Rural Infrastructure, DemoPanchayatCHANDIGARH	06000000073	1683	<input type="checkbox"/>
3	0601001001/AV/4	Aanganwadi Other Rural Infrastructure, DemoBlockCHANDIGARH	06000000073	1681	<input type="checkbox"/>
4	0601001001/CP/1	Road Side plantation	06000000073	1684	<input type="checkbox"/>

[Delete](#)

S. No	Field Name	Description
1	Asset ID	User has to select the asset ID from the list. Asset ID can search by asset ID or work code.
2	Do you want Delete Primary asset ID? (YES/NO):	By default 'No' is selected. If 'YES' will be selected, asset ID from primary work and secondary work will be removed as soon as 'Delete' button will be clicked. If user selects 'Yes' to delete primary asset ID then all secondary work code will be selected to remove asset ID. As of now it is disabled.
3	Primary work code	Asset ID of primary work code cannot be deleted until all the secondary assets get deleted. User can select the option to delete the asset ID from primary asset work, but it will first remove the asset ID of the secondary work of the asset and then primary work's asset will be removed.
4	Secondary work code	User can select the secondary work code to delete the asset ID.

Authorizing MGNREGA users

Introduction

URL-<http://bhuvan.nrsc.gov.in/governance/nrega/register>

Following are the user levels and their corresponding roles-

User level	Role	Role Name	Jurisdiction	Access Details
Level 1	Data Collection	Spatial Enumerator (MSE) i.e Gram Rozgar Sahayak (GRS)/ Technical Assistant (TA)	Panchayat	provision to download the respective area asset details and log in to portal to view their uploaded asset details
Level 2	Moderation	GIS Asset Supervisor (GAS) i.e Programme Officer (PO)	Block	moderate mandal level details and statistics of data collection details
Coordination level 1	Coordination	District GIS Nodal Officer (DGNO)	District	Summary of mandal level assets and moderation status
Coordination level 2	Coordination	State GIS Nodal Officer (SGNO)	State	Summary of district level collection and moderation status
Central Level	Monitoring	Central Team	Country	Summary of state wise collection and moderation

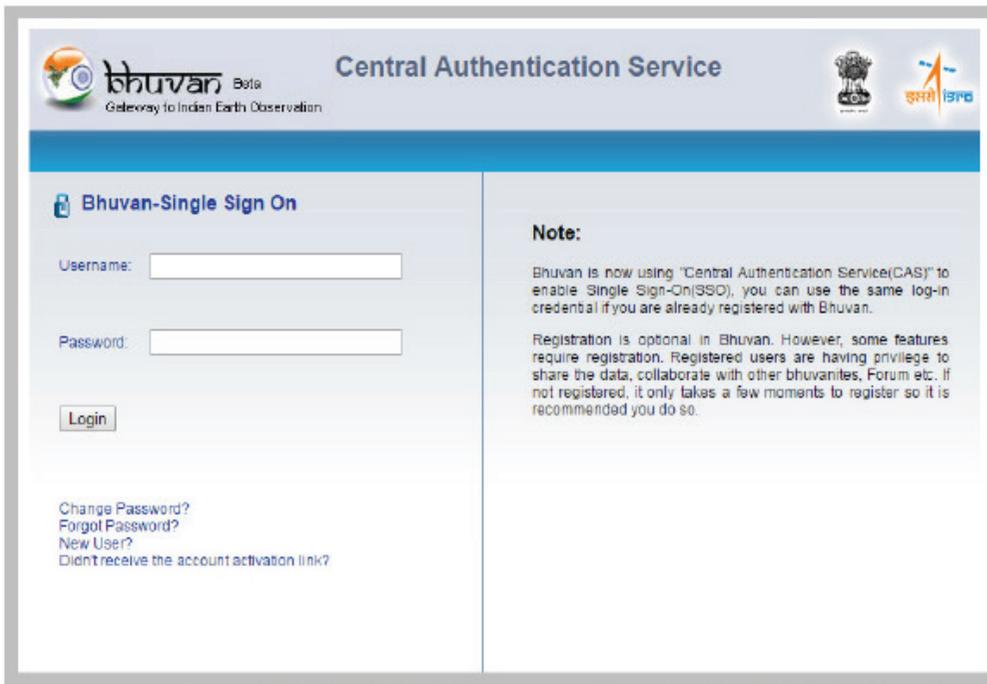
State-level authority can approve District-level and Block-level authority. Block-level authority can approve Panchayat-level authority.

Pre-requisites for approval are below:

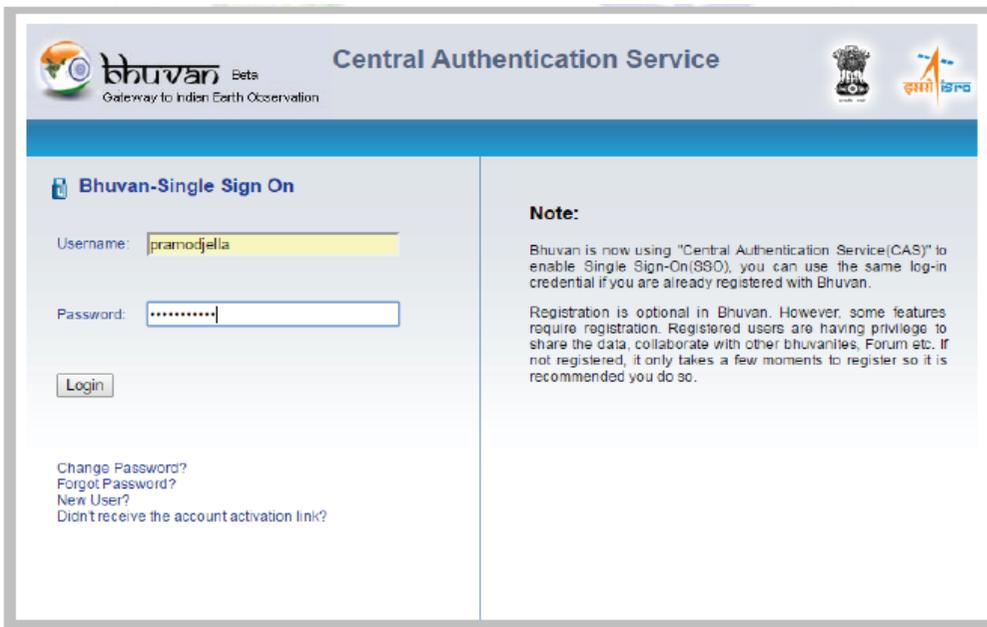
- District-level, Block-level should have BHUVAN user account.
- Panchayat-level authority should have a Bhuvan account and have also installed Bhuvan and or ID App in their mobile phone and fill their profile with device ID same as Bhuvan account user name.

MGNREGA user account activation process for District/ Block/Panchayat authority

1. Login to <http://bhuvan.nrsc.gov.in/governance/nrega/register>



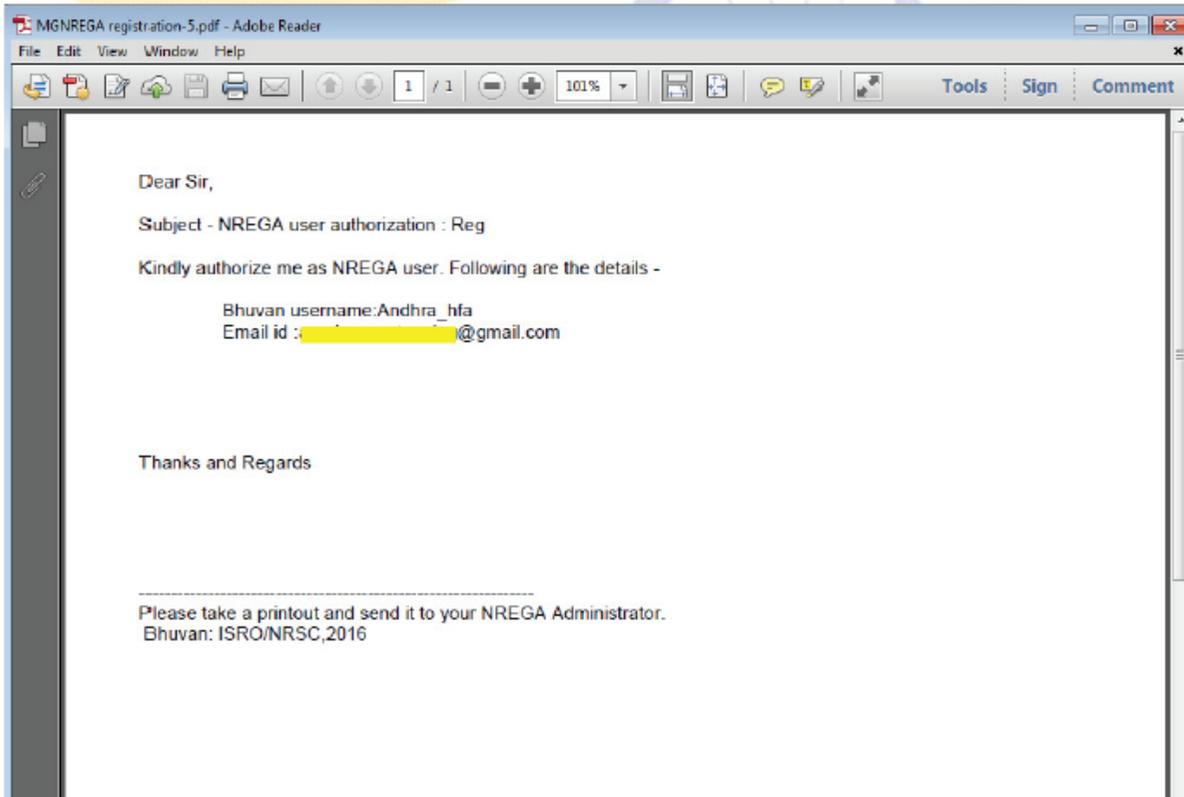
2. Login with BHUVAN user name and password.



3. You will see the following screen with a message 'You are not authorised. Should you like to be NREGA user? Please download this form and send it to your NREGA administrator.'

You are not Authorized. Should you like to be NREGA user please download [this \(MGNREGA registration\) form](#) and send it to your NREGA Administrator.

4. MGNREGA registration.pdf will be downloaded with the following content.

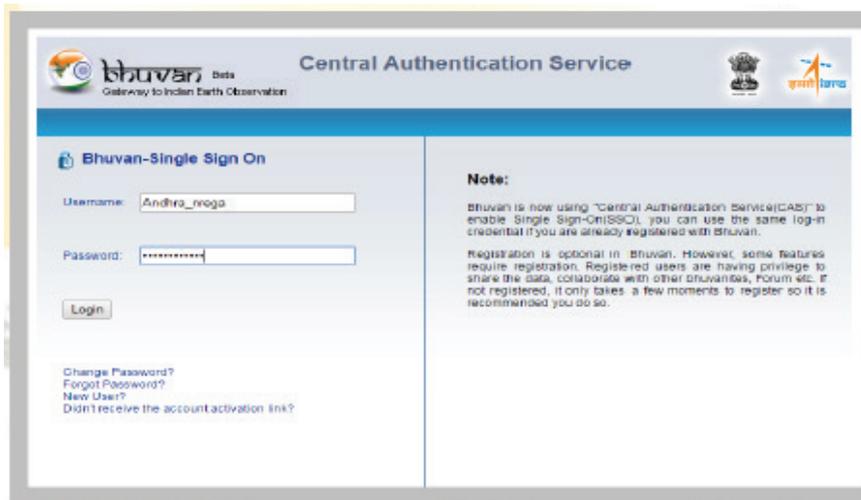


Steps to authorise District-level Authority and Block-level Authority By State-level Authority

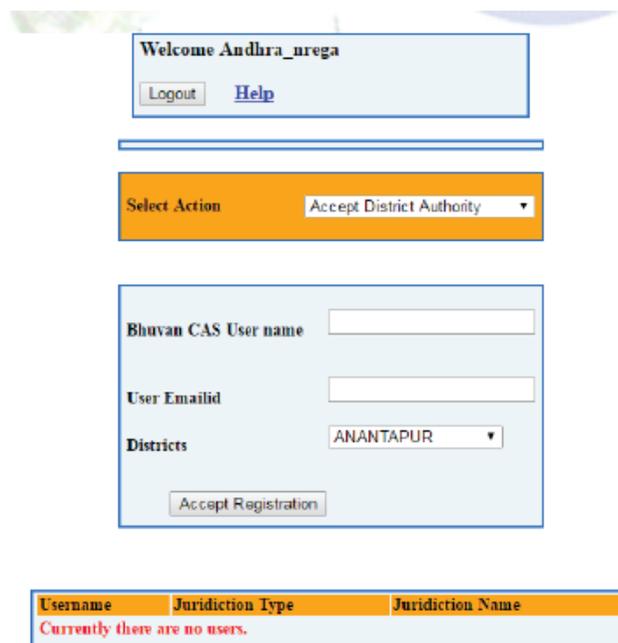
Both District Level and Block Level Authority should send the downloaded MGNREGA Registration.pdf to their the respective state level authority.

1. Login with your BHUVAN username and password.

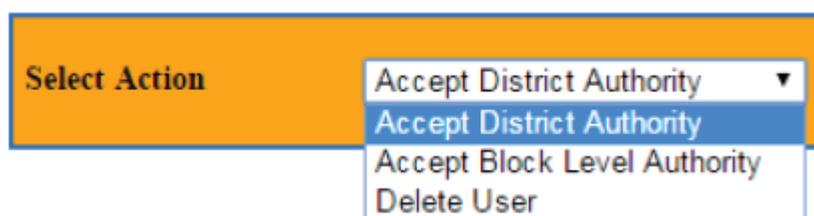
<http://bhuvan.nrsc.gov.in/governance/nrega/register>



2. After Login as State-level authority.



3. You have options to authorise District/Block-level Authority or delete the already authorized District/Block-level authority.



4. Currently there is no user authorised by you.

Username	Jurisdiction Type	Jurisdiction Name
Currently there are no users.		

5. Select action for accepting District Authority. Give the user name and E-mail ID provided to you by your District Supervisor. Choose the District to be assigned with and click on 'Accept Registration'.

Select Action

Bhuvan CAS User name

User Emailid

Districts

Username	Jurisdiction Type	Jurisdiction Name
Currently there are no users.		

6. If the user name and E-mail ID entered by you is wrong you will get above message.

RECORD NOT Found in Bhuvan-Central Authentication Service. Please ask the user to register with Bhuvan and share their email id and username with you.

7. If correct user name & E-mail ID is given, you will get the screen below and list of users approved by you will be shown as a list with their user name, jurisdiction type and Jurisdiction name.

Welcome Andhra_nrega

[Logout](#) [Help](#)

Previous RECORD added succesfully.

Select Action

Bhuvan CAS User name

User Emailid

Districts

Username	Jurisdiction Type	Jurisdiction Name
bhuvan	District	ANANTAPUR

8. In order to authorize a block level authority select action “Accept Block Level Authority”. And provide username and email id shared by block level authority for approval and select the block to be assigned and then click accept registration.

Select Action

Bhuvan CAS User name

User Emailid

Blocks

9. After successful registration of Block Level Authority. List of users approved by you shown as a list with user name, jurisdiction type and jurisdiction name.

Welcome Andhra_nrega

Logout [Help](#)

Previous RECORD added succesfully.

Select Action

Bhuvan CAS User name

User Emailid

Districts

Accept Registration

Username	Jurisdiction Type	Jurisdiction Name
pramodjella	Block	Agali

10. You will have access to delete the users approved by you. Select action as Delete user and select the user you want to delete.

Select Action

Select User

Delete User

Username	Jurisdiction Type	Jurisdiction Name
bhuvan	District	ANANTAPUR
pramodjella	Block	Agali

11. After Delete User operation, the following screen appears with list of current users approved by you.

Welcome Andhra_nrega

[Help](#)

Previous Request for user deletion is processed successfully.

Select Action

Select User

Username	Jurisdiction Type	Jurisdiction Name
pramodjella	Block	Agali

Steps to authorize Panchayat Level Authority By Block Level Authority

Block Level Authority should have BHUVAN user account and account and should be approved by respective state level authority as MGNREGA user.

Prerequisites are below:

- **Panchayat Level Authority** – should have a Bhuvan account. And have also installed Bhuvan Andorid App in thei rmobile phone and *fill their profile with device id same as Bhuvan account username.*

1. Block Level Authority can login with their Bhuvan username and password and the following view will be shown.

Welcome pramodjella

[Help](#)

Select Action Accept Panchayat Authority ▼

Bhuvan CAS User name

User Emailid

Panchayat AGALI ▼

Unique Mobile Id ▼

Username	Jurisdiction Type	Jurisdiction Name
Currently there are no users.		

2. Provide the username and email id of the panchayat level authority. The moment you enter the Username automatically “unique Mobile Id” drop-down will appear if the official has installed Bhuvan android App in their mobile phone and fill their profile with device id same as Bhuvan account username. If not list will be empty.

Finally assign the respective panchayat from drop down list to the corresponding authority and then click on accept registration.

Welcome pramodjella

[Logout](#) [Help](#)

Select Action [Accept Panchayat Authority](#) ▼

Bhuvan CAS User name

User Emailid

Panchayat [HULIKERADEVARAHALLI](#) ▼

Unique Mobile Id ▼

[Accept Registration](#)

Username	Jurisdiction Type	Jurisdiction Name
Currently there are no users.		

3. As seen above user 'sonal' has a registered profile through mobile App, thus unique Mobile Id is visible. Click on Accept registration.

Welcome pramodjella

[Logout](#) [Help](#)

Previous RECORD added succesfully.

Select Action [Accept Panchayat Authority](#) ▼

Bhuvan CAS User name

User Emailid

Panchayat [AGALI](#) ▼

Unique Mobile Id ▼

[Accept Registration](#)

Username	Jurisdiction Type	Jurisdiction Name
sonal	Panchayat	KODIHALLI

4. To delete any user, please select action as delete user. Select the user any you wish to delete from the list of authorised users by you.

Welcome pramodjella

[Help](#)

Previous RECORD added succesfully.

Select Action Delete User ▼

Select User sonal ▼

Username	Jurisdiction Type	Jurisdiction Name
sonal	Panchayat	KODIHALLI

5. After clicking on delete user button, the following screen will be shown with message Previous request for user deletion is processed successfully and the list of all currently authorised users by you are shown.

Welcome pramodjella

[Help](#)

Previous Request for user deletion is processed succesfully.

Select Action Accept Panchayat Authority ▼

Bhuvan CAS User name

User Emailid

Panchayat AGALI ▼

Unique Mobile Id ▼

Username	Jurisdiction Type	Jurisdiction Name
Currently there are no users.		

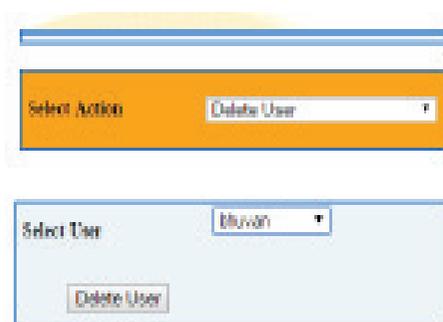
6. Same user can be assigned to multiple jurisdictions of same jurisdiction type.

Username	Jurisdiction Type	Jurisdiction Name
sonal	Panchayat	KODIHALLI
sonal	Panchayat	AGALI

Note: 1. District and panchayat level authority have only permission for moderation under their jurisdiction. They do not authority to approve anyone. If they login, following message will be shown.



2. same user can be assigned to multiple jurisdictions of same level. For Example as shown below user “bhuvan” is assigned to two different districts.



Username	Jurisdiction Type	Jurisdiction Name
bhuvan	District	EAST GODAVARI
bhuvan	District	ANANTAPUR
pramodjella	District	ANANTAPUR
sandeep491	Block	Dhamavaram

If you delete user e.g. “bhuvan”, he will be unauthorised from all, and all MGNREGA user accounts pertaining to him removed.

Username	Jurisdiction Type	Jurisdiction Name
pramodjella	District	ANANTAPUR
sandeep491	Block	Dhamavaram

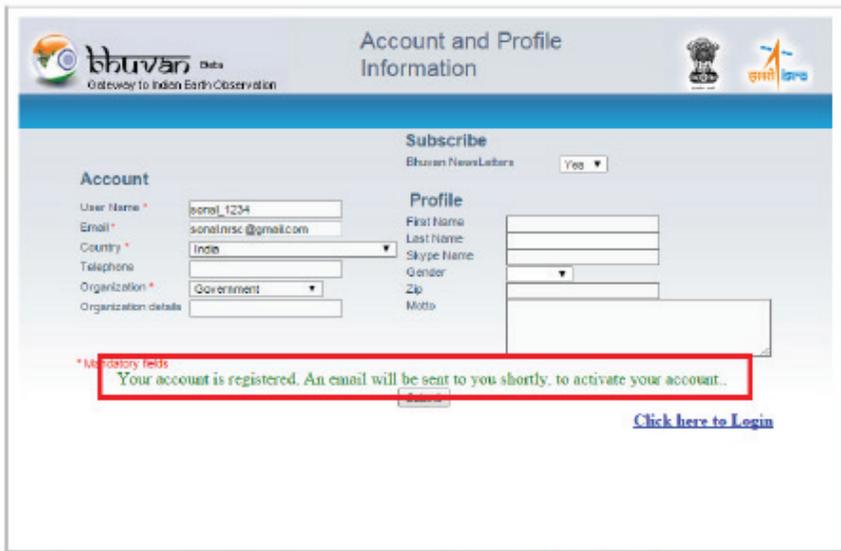
Creating Bhuvan user Account

1. User can register by clicking on the new user link of the Login screen. This Login screen is common to all Bhuvan applications.

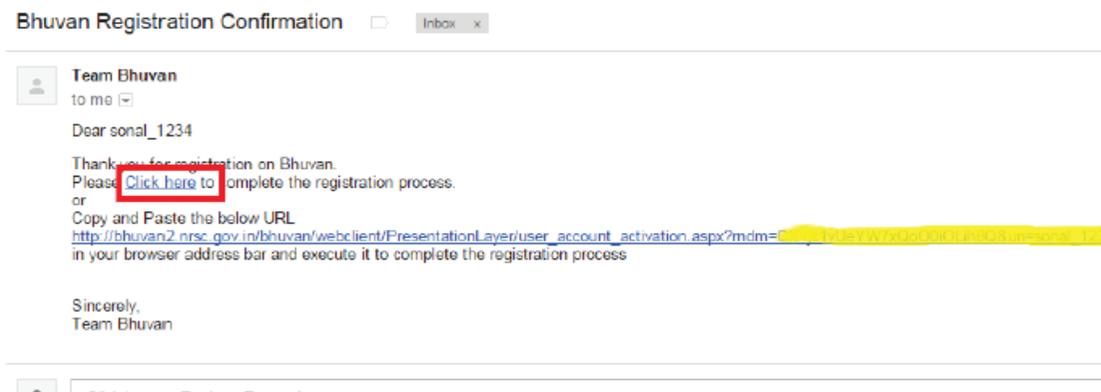
2. On click of new user following screen appears where user has to give his user name, Email id, Country and organization details. Filling other details is optional.

Note: For user name only alphabets, numbers, period (.), and underscore (_) are allowed.

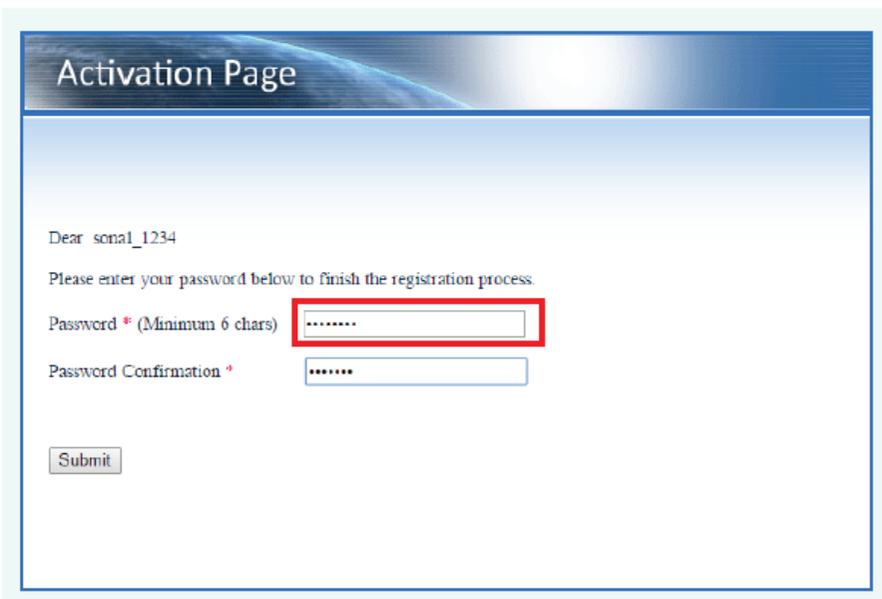
3. Once the form is submitted. Following message appears. After that check your email id for activation link.



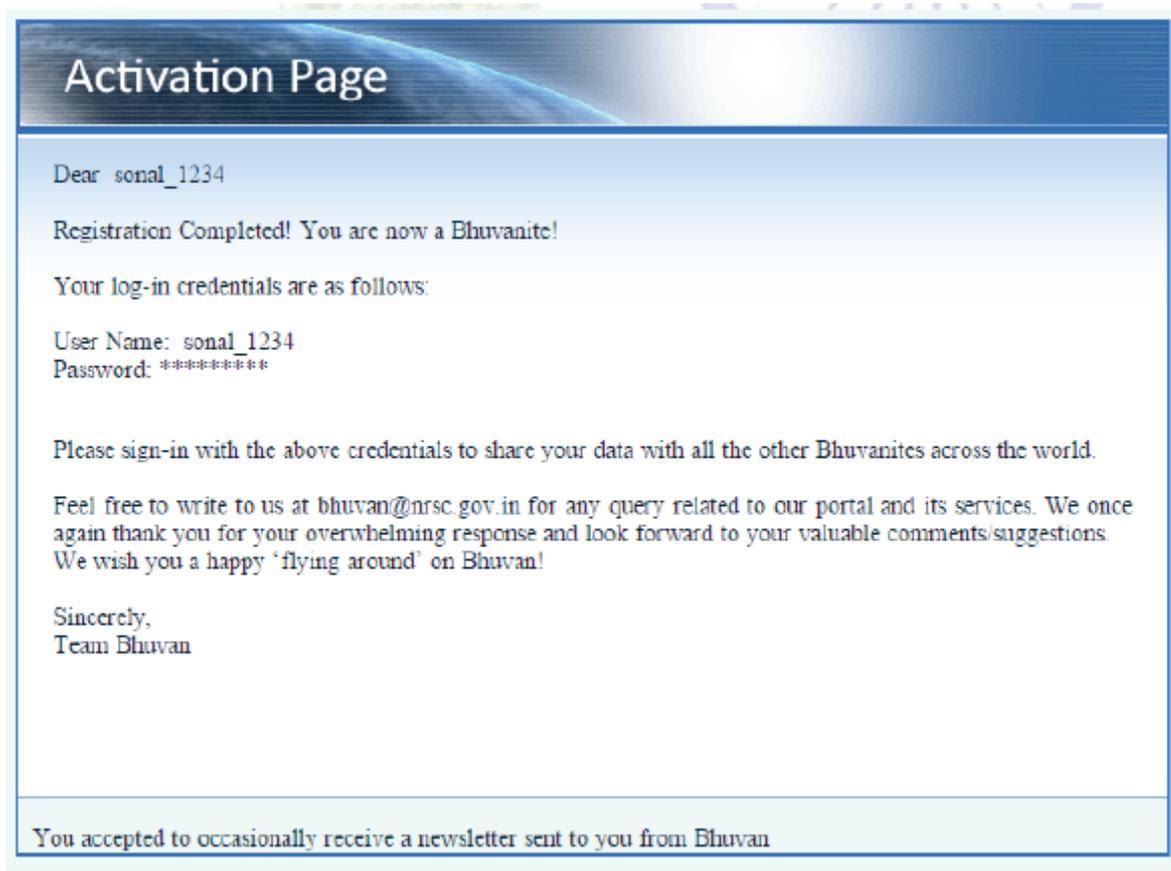
4. Following is the snapshot of mail which will be received at your email-id. Click on the link highlighted below.



5. Following window appears where you can give your password, to complete registration process.

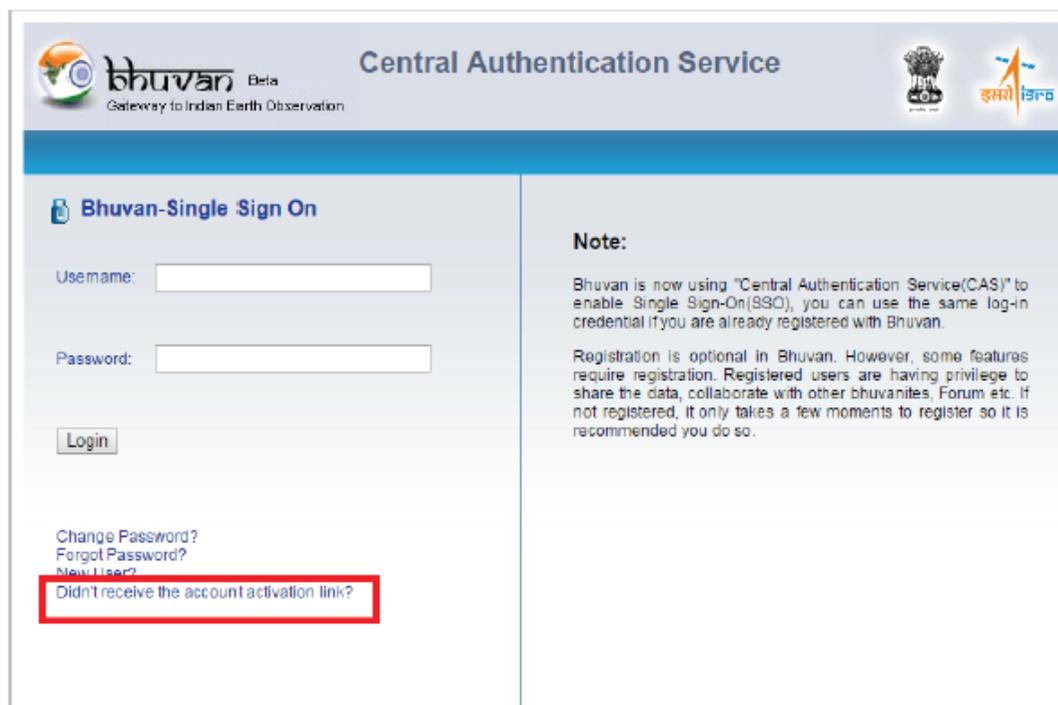


6. After successfully submitting the form the following screen appears. Now you can use your user name and password for Sign-into any Bhuvan application.

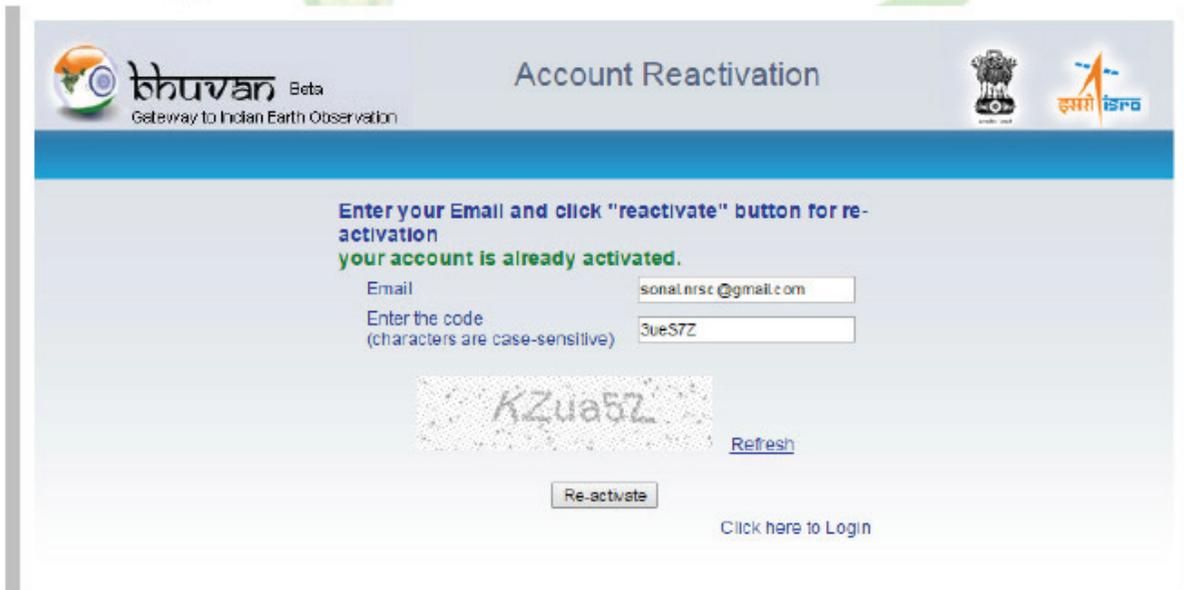


Other Steps-Account Reactivation

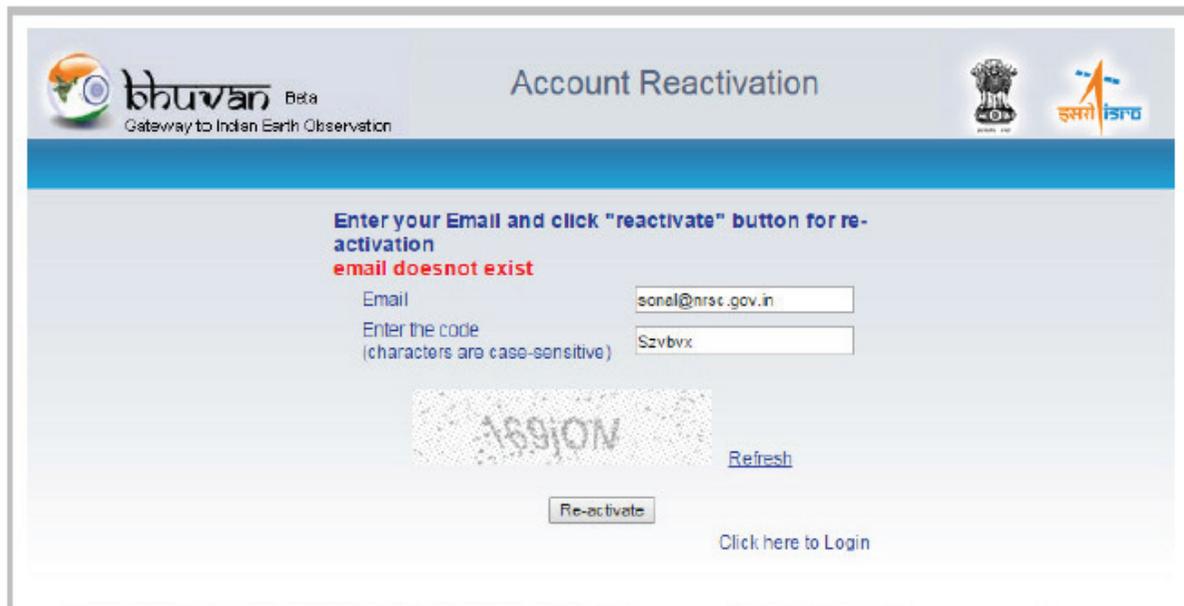
7. In case you do not receive activation link-It is likely that you have entered wrong/different email id during registration. Please verify the same by clicking on-'Didn't receive the account activation link ?' of the login screen.



8. On clicking of the link mentioned in step7. Following screen appears, enter your email id and submit. It will give the status of your registered email id. In case account not-activated It will re-send the activation link.



The screenshot shows the 'bhuvan Beta Gateway to Indian Earth Observation' website. The page title is 'Account Reactivation'. The main heading reads: 'Enter your Email and click "reactivate" button for re-activation your account is already activated.' Below this, there are two input fields: 'Email' with the value 'sonalnrsc@gmail.com' and 'Enter the code (characters are case-sensitive)' with the value '3ue57Z'. A CAPTCHA image displays 'KZua5Z' with a 'Refresh' link below it. At the bottom, there is a 'Re-activate' button and a 'Click here to Login' link.



The screenshot shows the 'bhuvan Beta Gateway to Indian Earth Observation' website. The page title is 'Account Reactivation'. The main heading reads: 'Enter your Email and click "reactivate" button for re-activation email doesnot exist'. Below this, there are two input fields: 'Email' with the value 'sonal@nrsc.gov.in' and 'Enter the code (characters are case-sensitive)' with the value 'Szvbx'. A CAPTCHA image displays '169j0M' with a 'Refresh' link below it. At the bottom, there is a 'Re-activate' button and a 'Click here to Login' link.

Other Steps-Forgot Password

9. In case you forgot your password click on the “Forgot Password” link to get a new password.

Bhuvan Beta
Gateway to Indian Earth Observation

Central Authentication Service

Bhuvan-Single Sign On

Username:

Password:

Login

[Change Password?](#)
[Forgot Password?](#)
[New User?](#)

Didn't receive the account activation link?

Note:

Bhuvan is now using "Central Authentication Service(CAS)" to enable Single Sign-On(SSO), you can use the same log-in credential if you are already registered with Bhuvan.

Registration is optional in Bhuvan. However, some features require registration. Registered users are having privilege to share the data, collaborate with other bhuvanites, Forum etc. If not registered, it only takes a few moments to register so it is recommended you do so.

10. By clicking the above link the following screen appears, where you can give or email id or user name for placing the password reset request. On entering your valid user name/e mail id, an email is sent to your registered mail id. It may take few minutes to receive the mail. So need not submit the request multiple times.

Bhuvan Beta
Gateway to Indian Earth Observation

Password Request

Enter your email or Login name and click "send mail button" to recover your password

Your Password has been reset and will be sent to your email-id shortly. Login using the same.

Email/User Name

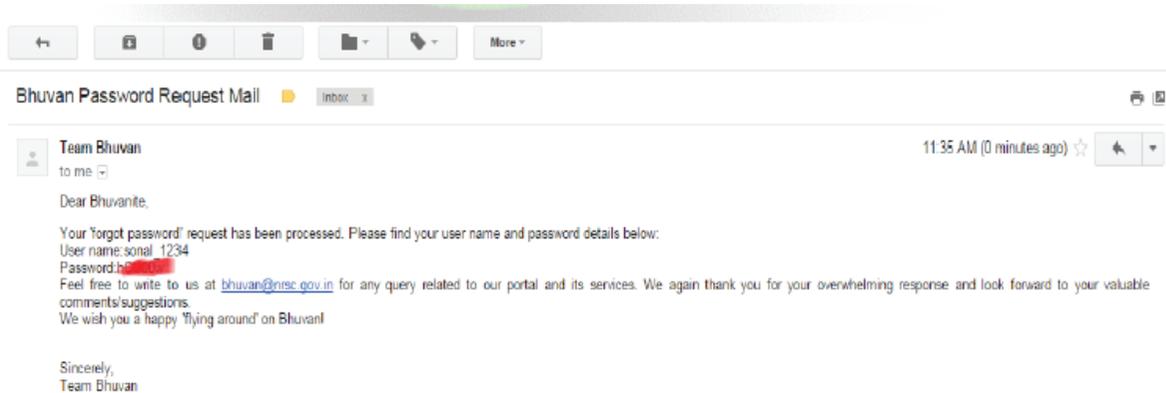
Enter the code (characters are case-sensitive)

[Refresh](#)

send mail

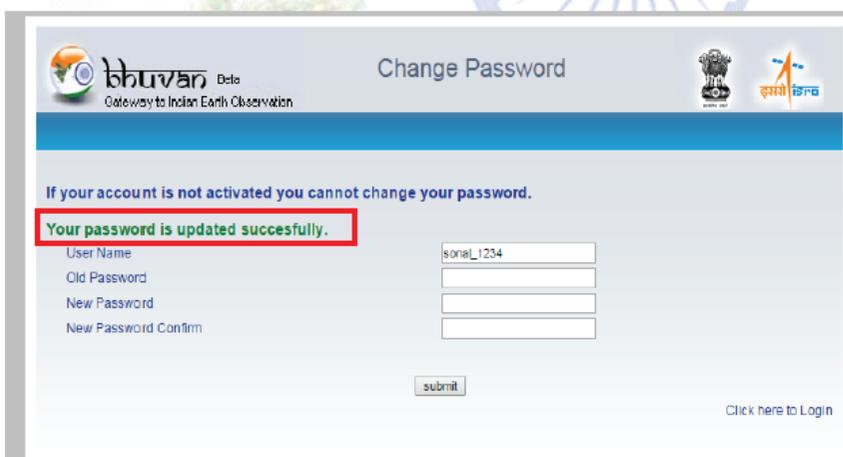
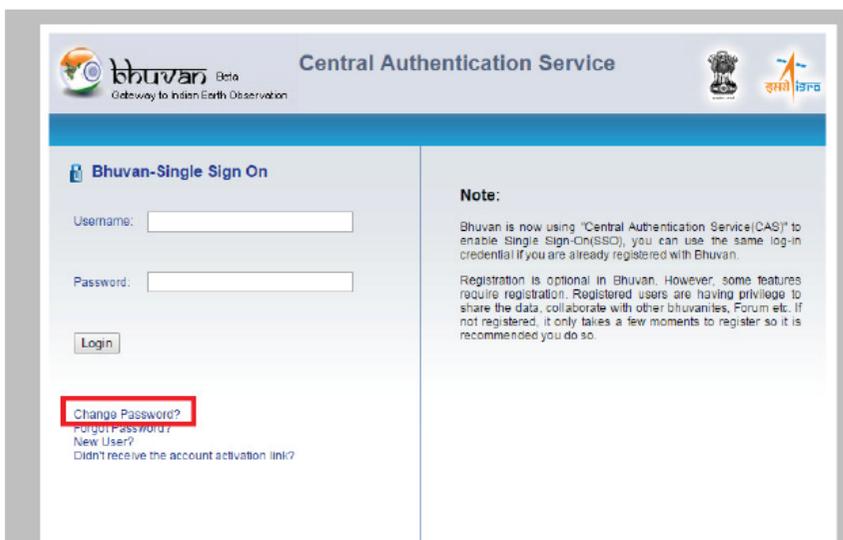
11. Following is the snap shot of email received for “forgot password” request. The same can be used for sign-into Bhuvan. It is recommended that the user changes his password from the default system-generate done.

Note- Do not add extra space while entering the password in log-inform. It is suggested to explicitly type the password in the form provided (login screen) instead of using copy-paste of the password from mail.



Other Steps-Change Password

12. In order to change password, click on “change password” link of the login screen as below and by entering the existing user name and password, the password can be changed successfully.



Location based services to geo-tag Assets

1 Introduction

The Mahatma Gandhi National Rural Employment Guarantee Act aims at enhancing the livelihood security of the people in rural areas by guaranteeing hundred days of wage-employment in a financial year to a rural household, whose adult members volunteer to do unskilled manual work. Towards this, an location based service mobile app is developed by National Remote Sensing Centre of India Space Research Organisation, Government of India.

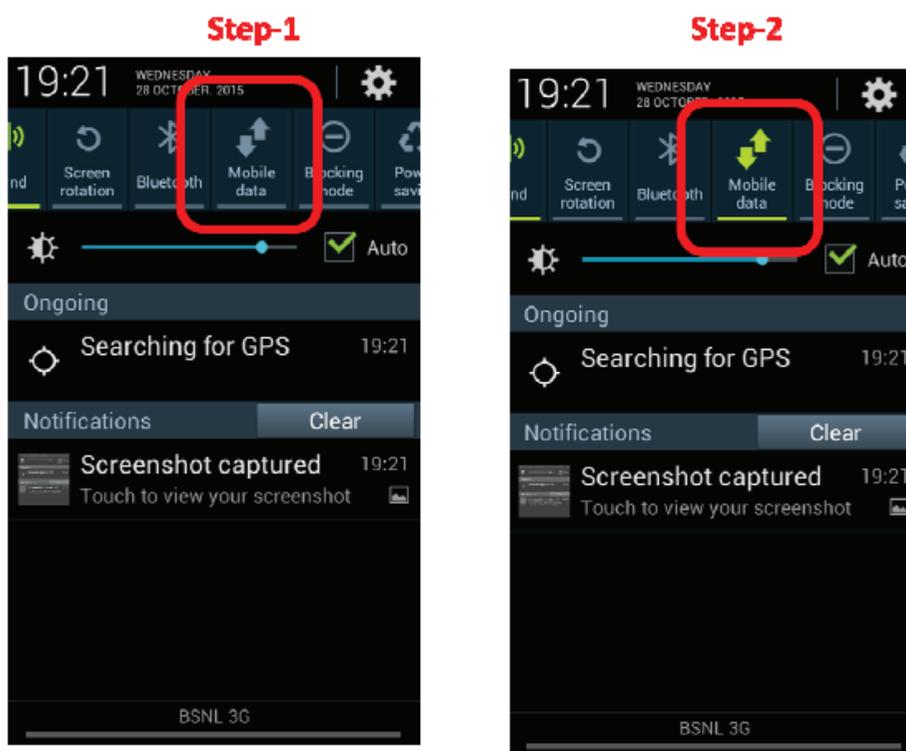
Bhuvan's Geo-MGNREGA App is a user-friendly mobile and server based solution which enables data collect or to systematically record generated assets with spatial position (Longitude, Latitude and Attribute the status) ,Time stamped with geo-tagged photograph. This mobile app will provide a platform to control crowd sourcing to build spatial database on Bhuvan Geo-platform.

2 Data connectivity

The mobile data connectivity is required to download the mobile application (Bhuvan's Geo-MGNREGA app), also essential to upload the collected data to Geo-MGNREGA server, device registration and Assets data download in the mobile device. The following are the step to enable mobile data.

Step-1: Tap the Home screen from top and swipe down. The user gets pop-down screen, which has provision to switch-on the mobile data connectivity.

Step-2: Tap on the Mobile Data button to switch-on.



The Internet connectivity to the mobile also can be through WiFi

3 Download and Installation of Mobile app

There are simple steps to download and install the Geo-MGNREGA mobile app. The user can download the mobile app from Bhuvan Geo-platform using web browser in mobile. Key-in the URL as mentioned below and click on enter key. The installation procedure requires enabling of unknown source application in the android settings. The unknown source can be disabled, once the app is installed.

http://bhuvan3.nrsc.gov.in/bhuvanapp/bhuvanapp_nrega.php

The bhuvan MGNREGA_v1.apk file starts download into download folder in the internal storage. On double click over the file (apk file), the app gets installed.

The following are the steps to download and install the application.

Step-1: Open web browser in the mobile.

Step-2: Key-in the URL (given above)

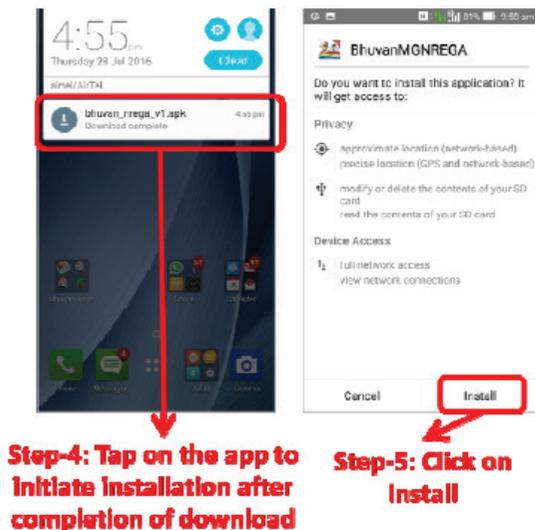
Step-3: Tap on the top of the screen and scroll down to get drop down screen and user can visualized own load status.

Step-4: On completion of download, user can tap on the download complete Icon to initiate action for installation of the app.

Step-5: A confirmation box appears to start installation.

Step-6: Click on Install to start installation

Step-7: Click on Done to complete installation process

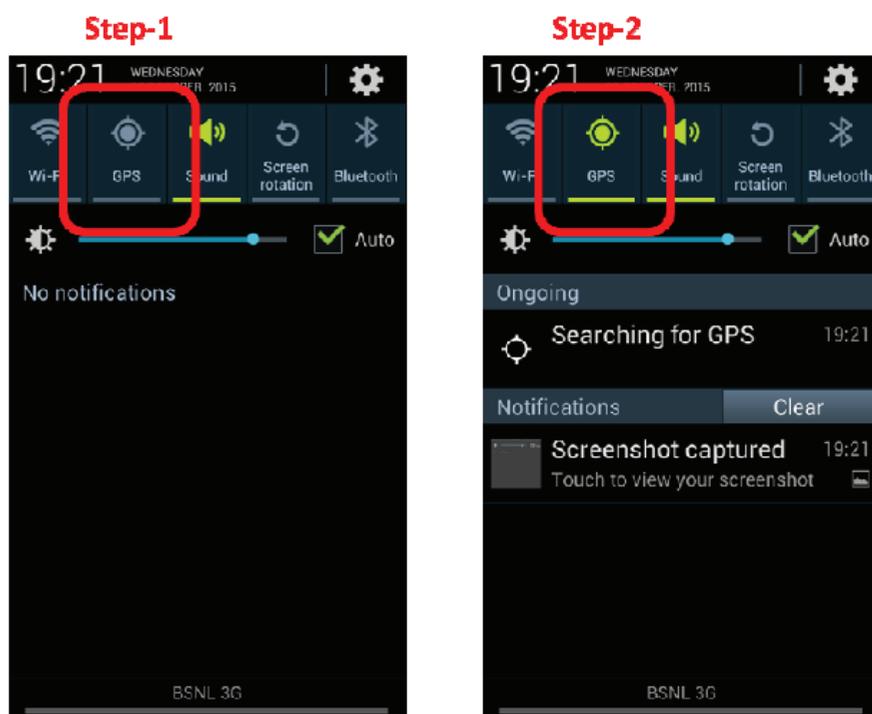


4 Mobile GPS

The Mobile GPS is used to automatically acquire location information in the form of longitude and latitude, the GPS receiver in the mobile must be switched-on before open the mobile app. The following are the step to enable GPS receiver receive data.

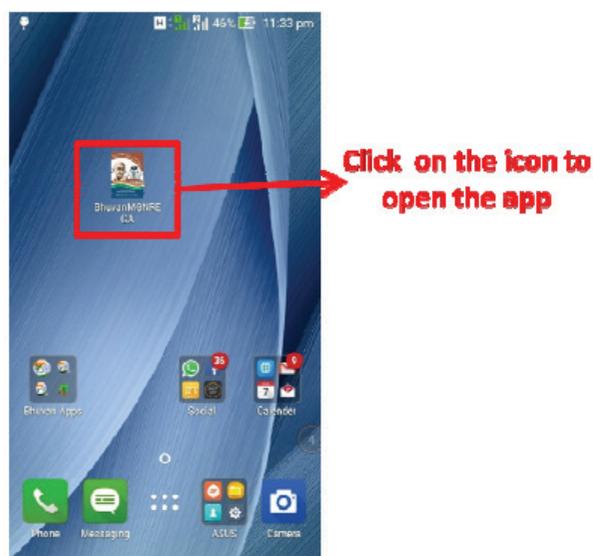
Step-1: Tap the Home screen from top and swipe down. The user gets pop down screen, which has provision to switch-on the mobile GPS receiver

Step-2: Tap on the GPS button to switch-on.



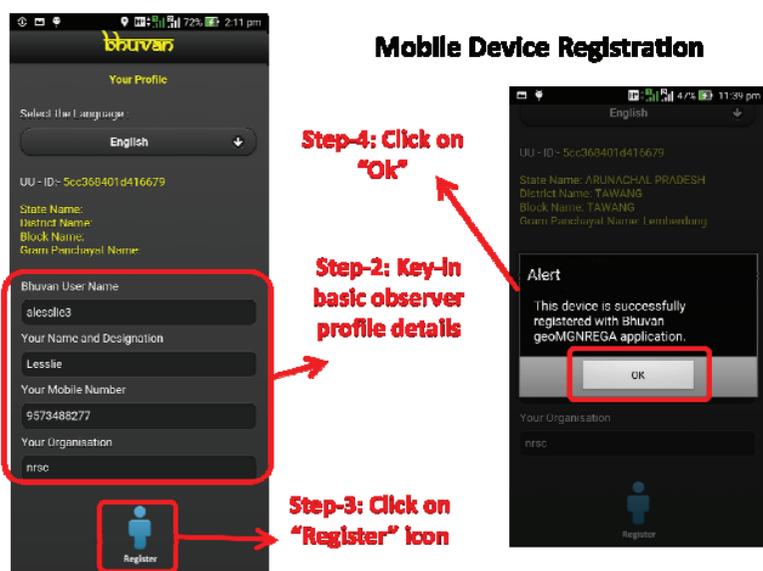
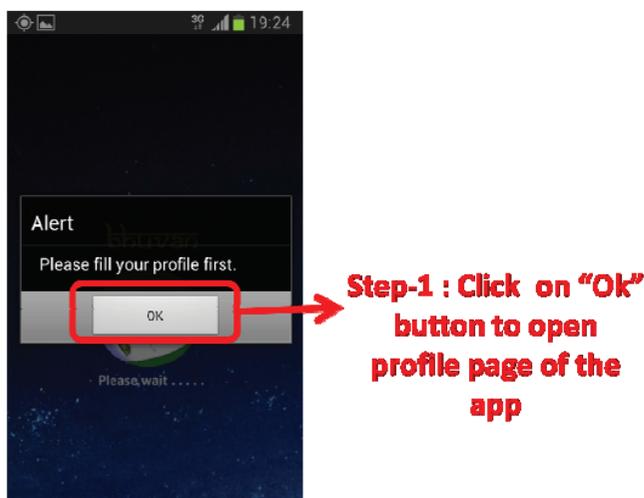
5 Open Bhuvan MGNREGA

The Bhuvan MGNREGA mobile application can be seen in the list of apps can be brought to home screen by tap on the icon for 2 seconds. The user needs to tap on the icon to open the app in the mobile device.



6 User Profile/Registration

The profile page consists of basic observers' parameter details such as Bhuvan UserID, Name, Mobile number and Organisation. The profile filling is One Time Registration Activity by the observer. These parameters are tagged with each observation. The ID can be used for query/search of individual points from the geo-spatial database. This can be used to monitor day-to-day activities of an observer on Bhuvan geo-platform. Along with above said parameters, user will be selecting the State, District, Block and Gram Panchayat to download Asset data of the Gram Panchayat to be used for geo-tagging. The user needs to click on Register icon. This operation needs internet connectivity through mobile data or WiFi.



To editing the profile parameters user can follow steps.

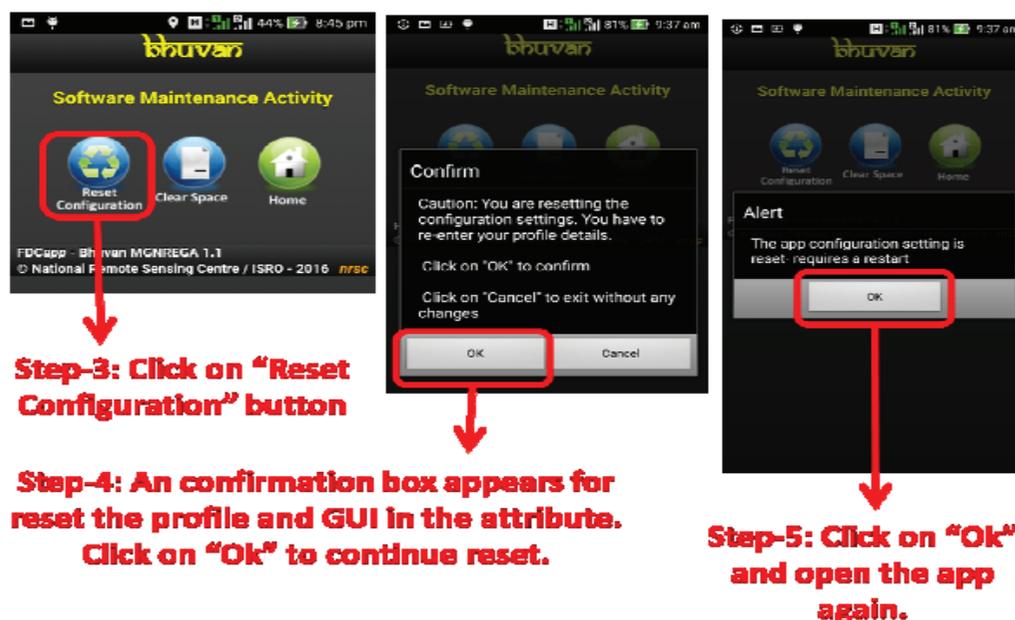
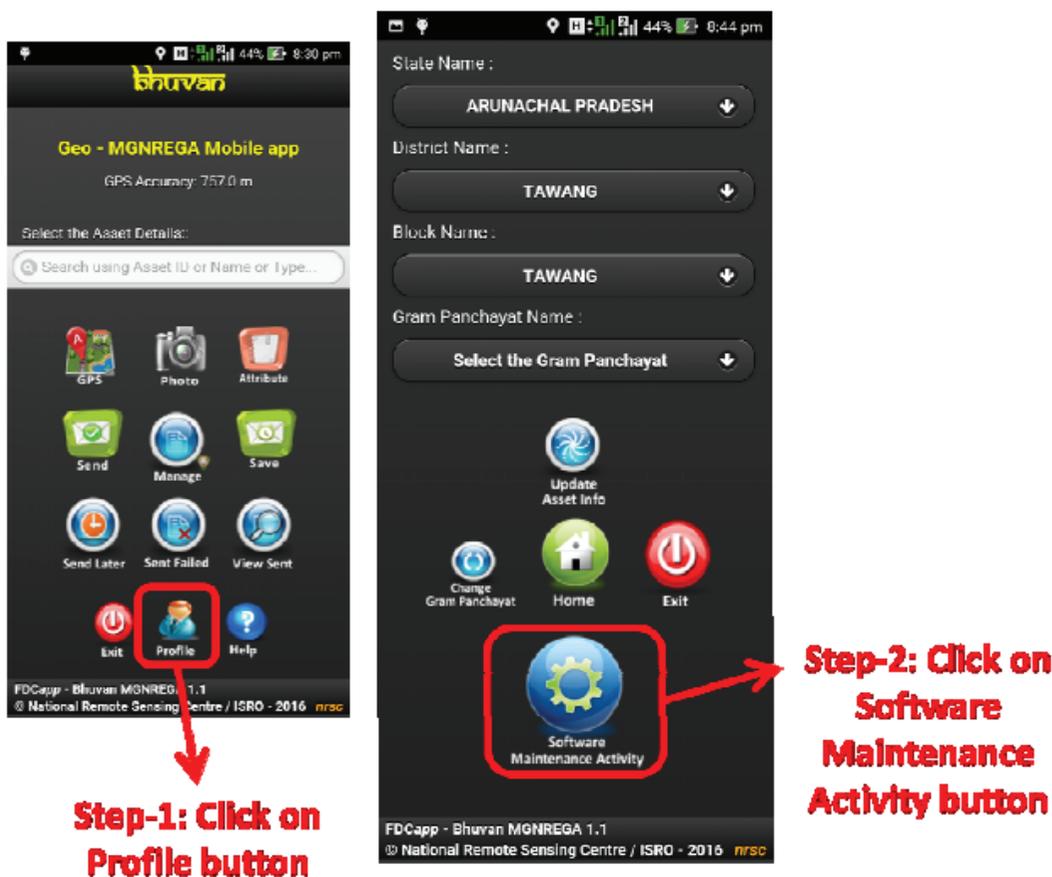
Step-1: Click on Profile icon in the main page of the app.

Step-2: Click on “Software Maintenance Activity” icon.

Step-3: Click on “Reset Configuration” icon.

Step-4: Click on “Ok” to reset the software database, provision to re-enter the User profile and download beneficiary data. The step closes the software and user has to open the app manually. To re-enter the profile parameters follow steps of earlier session.

Step-5: Click on “Ok”.



7 Data collection overview points

The Internet connectivity is not required during data collection process. The internet connection or Wi-Fi with internet is necessary only to upload the data from mobile to the Bhuvan MGNREGA server and filling user profile. In case of unavailability of internet in field, the collected information can be saved in the mobile and it can be uploaded to Bhuvan MGNREGA server using send later option.

For operational convenience the users can collect data, save and view for any corrections in attributes using send later of manage option. The uploaded data will be systematically stored in the Bhuvan MGNREGA server at NRSC.

The user is advised to ensure GPS is switched-on with high accuracy mode before opening the App.

The step by step procedure for using the app is given below. There are four main tasks in this app are 1) GPS capture, 2) Taking photograph of the building (two photographs of the club), 3) Adding information about the house construction and 4) Sending the collected information to Bhuvan MGNREGA server, either immediately or later.

8 Data collection and Upload

The step by step procedure for using the app is given below. There are four main tasks in this app are 1) Select appropriate asset, 2) GPS capture, 3) Taking photograph of the work (two photographs), 4) Adding information if any about the work and 5) Sending the collected information to Bhuvan MGNREGA server, either immediately or later.

8.1 Selection of work detail:

Step1: The user has to select the work code for which the observation needs to be collected. The work name or work code or asset ID can key-into fetch list of work code.

Step-2: Key-in the any one of three mentioned parameters in list view box.

Step-3: A list of assets appears which matches with key-word and select the appropriate work.

Step4: All the parameters of the selected work is displayed in the confirmation box.

Step5: Click on “OK” to confirm the selected work details match with field parameters.

Step-6: Click on “Cancel” to re-select appropriate work detail.

Step-7: The selected work name appears above photo icon.



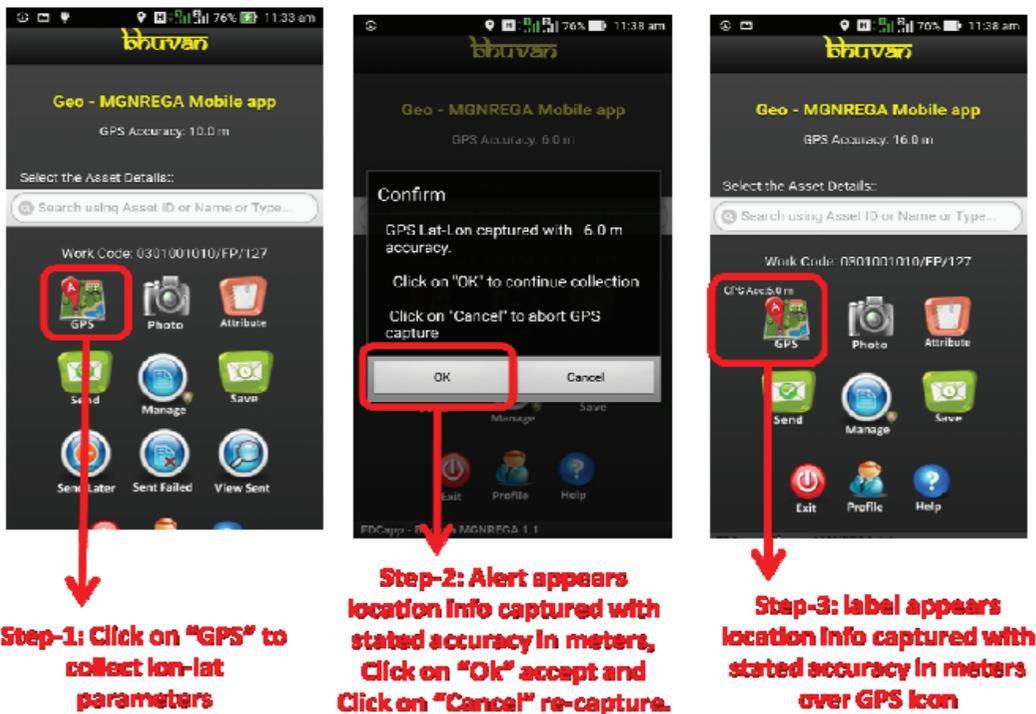
8.2 Location Data Capture

The App has provision to capture the location information in the form of longitude and latitude and user must ensure GPS accuracy is below 10 meters.

Step-1: Stand on the observation site, ensure GPS accuracy is below 10m, its value is stable and Click on “GPS” icon.

Step-2: A confirmation box appears for accepting with respect to GPS accuracy.

Step-3: A label appears with captured accuracy in meters over the GPS icon.



8.3 Photograph capture and preview:

The user can capture and upload two photographs of the work/asset.

Step 1: Click on the “Photo” icon to activate your mobile camera for taking photographs.

Step-2: Focus object to be captured and click on Camera icon.

Step-3: Click on save icon to save the captured photograph. While photographs capture, the longitude and latitude of the location is captured with direction in Which the camera is held.

Step-4: Click on blue icon to visualize captured photograph.

Step-5: Key-in the text about the captured photograph.

Step-6: Click on the same blue icon to close the preview.

Repeat the steps 1 to 6 to capture second photograph.



Step-1: Click on Photo icon



Step-2: Click on Camera button

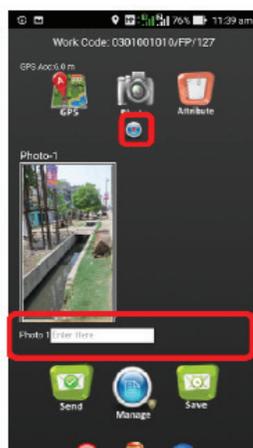


Step-3: Click on Save button

Step-4: Click on blue icon to visualize captured photograph

Step-6: Click on blue icon to close visualize of captured photograph

Click on Photo icon for second photograph



Step-5: Key-in text about the photograph



Another blue icon appears for second photograph

8.4 Attribute filling:

The user can upload additional information about the location by tapping “Attribute” icon and its is option.

Click on Attribute icon to collect field observations



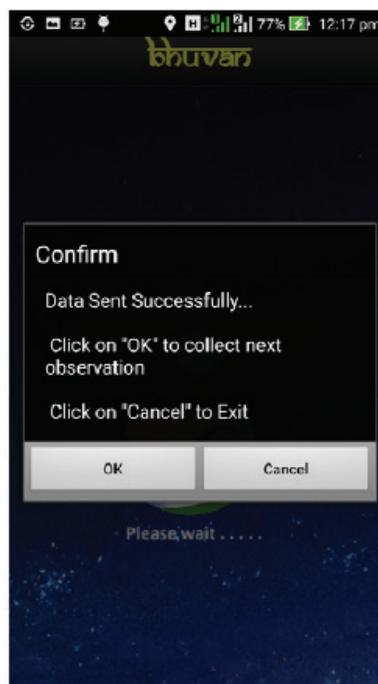
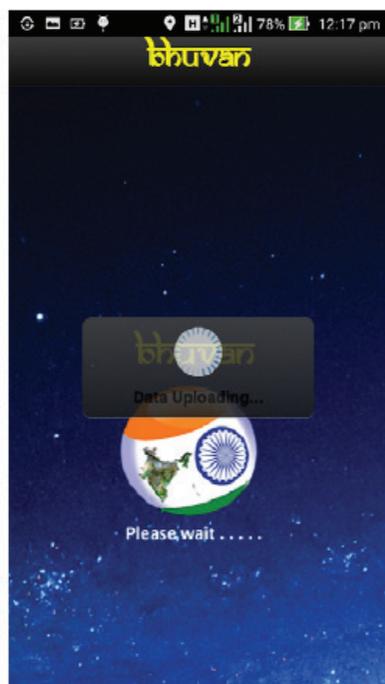
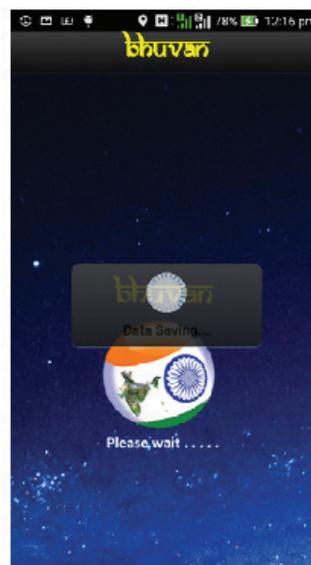
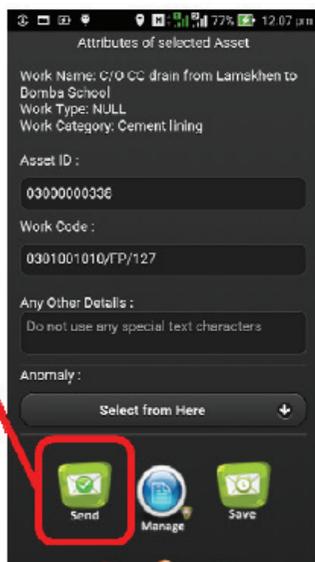
The select Asset/Work details appears

Key-in option to enter here any other details is provided. Anomaly can be reported by selecting yes in drop down option.

Step 3. Once the user is satisfied with the information collected and ready for uploading the information to Bhuvan MGNREGA server, user may tap the “Send” icon. This will upload all the information collected. User is advised to ensure that mobile data is switched-on before tapping the “Send” icon. The User has to wait for confirmation message “Data sent successfully” on successful upload. For any communication failure, a failure message appears and automatically the data is organised in Send Failed option.

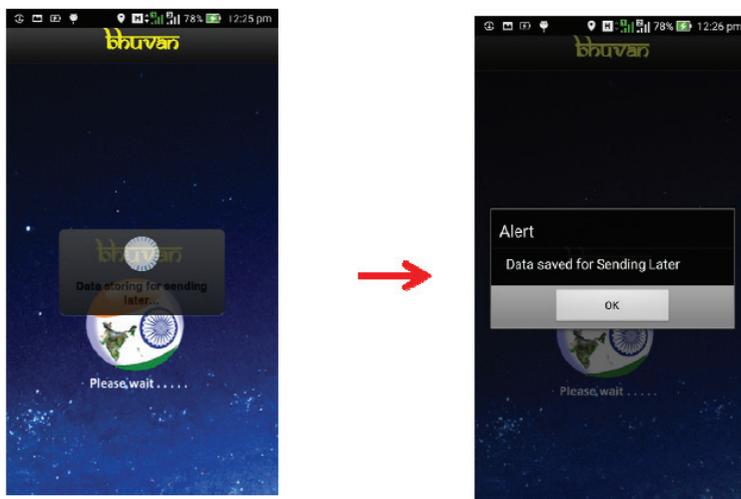
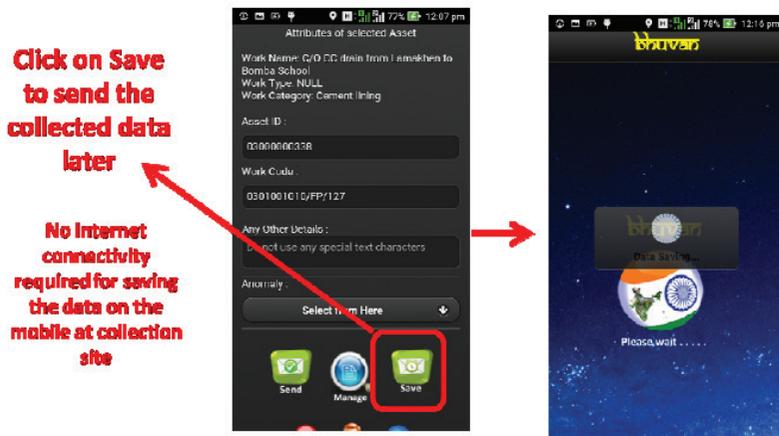
**Click on “Send”
Icon to send
collected data
from collection
site**

**Internet connectivity
required in the
mobile at collection
site**



9. Save data for Sending Later

In case of unavailability of Internet connectivity in the collection site, the user is advised to tap “Save” icon. This will store the collected data in the mobile. Once the Internet connectivity is available, user may follow the steps to upload The data to Bhuvan MGNREGA server using Send Later option. The Wi-Fi facility of the internet modem (like Broadband at home or office) can also be used to connect for internet facility in the mobile and upload the data.



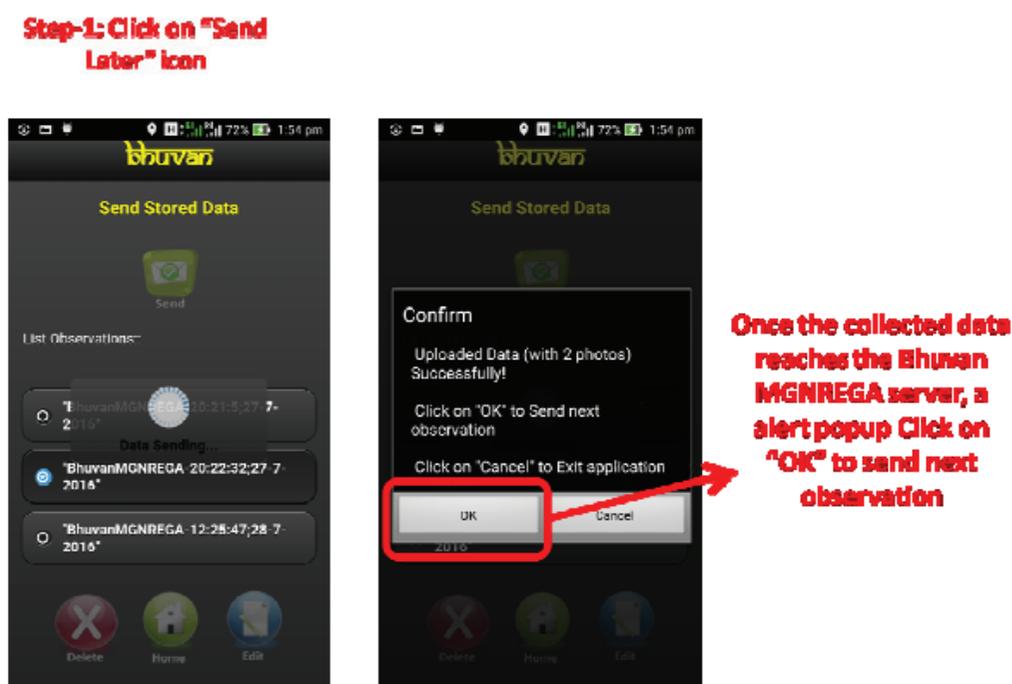
10. Managing your data

In order to upload the saved data to Bhuvan MGNREGA server, user can also edit (before sending) or delete the attribute values in send later or sent failed, and visualize the sent observations click on Manage icon.



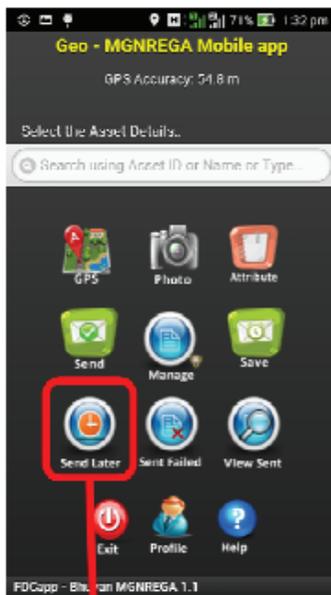
10.1 Send Data from Send later

Tap “Send Later” icon. This will list all the data collected and stored in the mobile. Select the data that needs to be uploaded and then tap “Send” icon to Upload the data to Bhuvan MGNREGA server. Wait for confirmation message. The “Data sent successfully” message appears once the data is uploaded successfully.

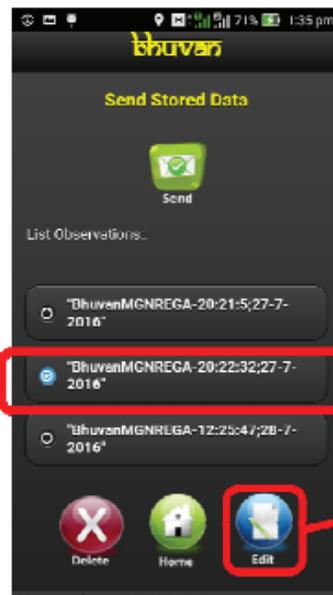


10.2 Editing of Attributes in Send later option

The app provides facility for the user to edit the data in Send Later option. The Editing is possible only for attribute values. The user cannot editing GPS value, change photographs and change the time stamp of the observation captured.

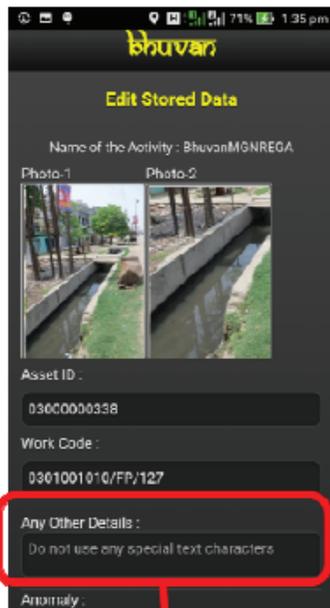


Step-1: Click on "Send Later" icon

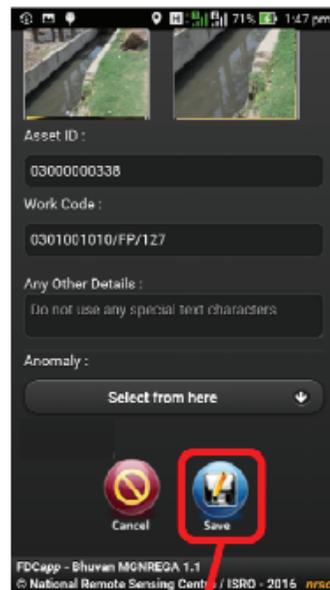


Step-2: Click on one observation to select from List of observations

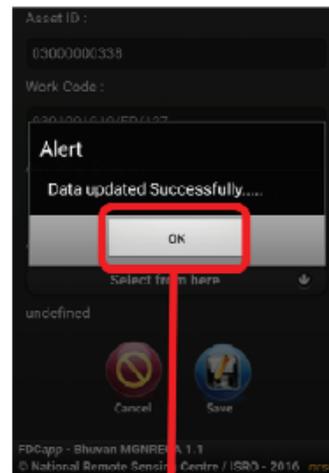
Step-3: Select the observation to edit and Click on "Edit" icon



Step-4: Make changes in attribute value



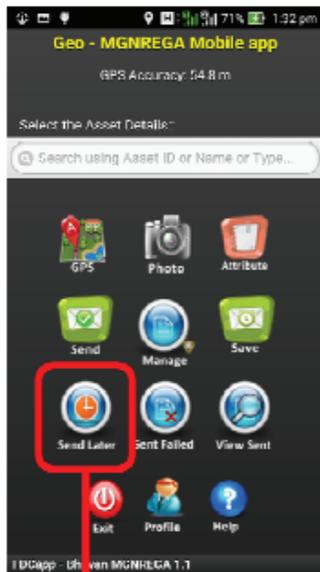
Step-5: Click on "Save" after changes



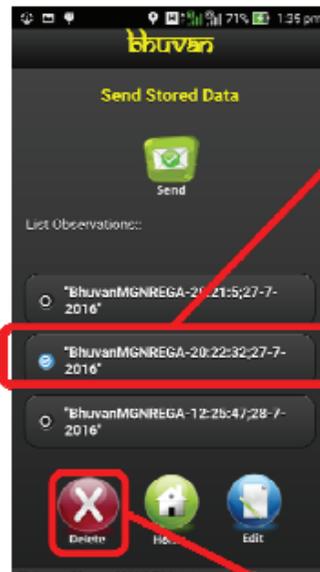
Step-6: Click on "OK" to complete editing process

10.3 Deletion of observation in Send later option

The app provides facility for the user to delete the data in Send Later option. The data once deleted can not be retrieved back. The following are the steps to delete the data.

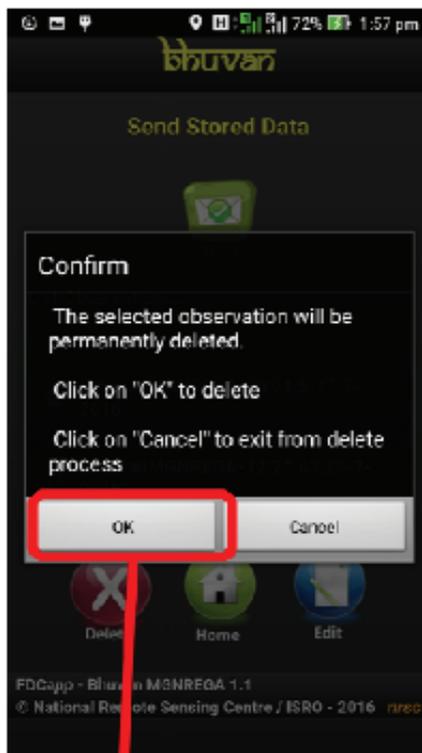


Step-1: Click on "Send Later" icon

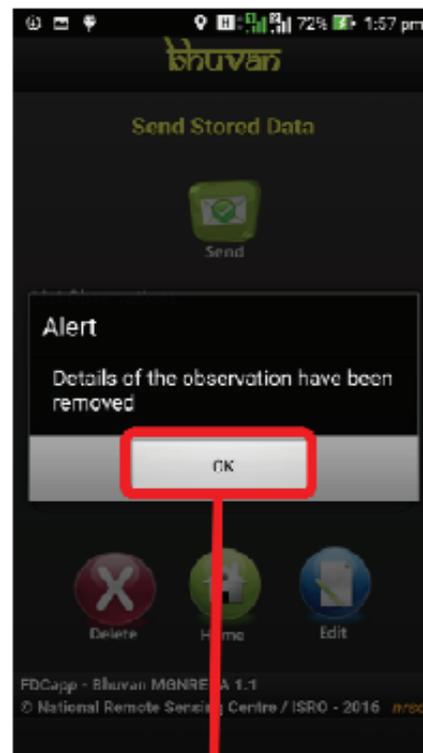


Step-2: Click on one observation to select from List of observations

Step-3: Click on "Delete" icon to delete the observation from mobile



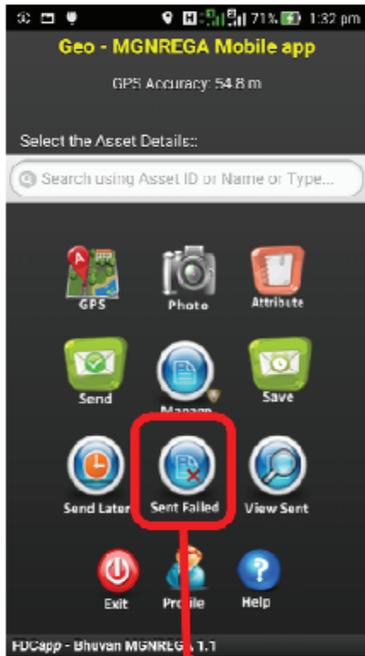
Click on "OK" icon to re-confirm deleting process



Click on "OK" icon to complete the deletion process

10.4 Data in Sent Failed option:

The Sent Failed option also has all the facilities in send later option. There are provision to edit, delete and send the observation to Bhuvan MGNREGA server.



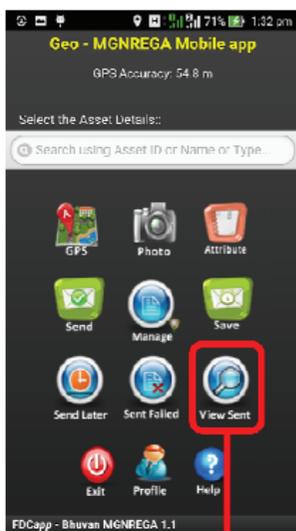
Click on "Sent Failed" Icon

The steps followed are same when compared to Send Later option.

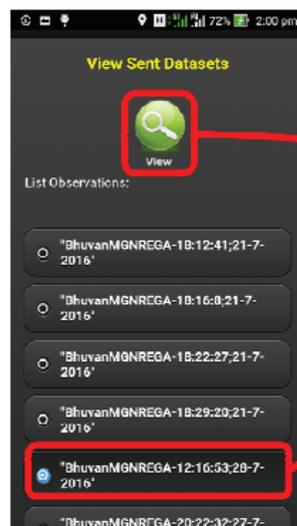
1. Sending of observations – refer steps of session 10.1.
2. Editing of attributes – refer steps of session 10.2.
3. Deleting of observations – refer steps of session 10.3.

10.5 View Sent observation

The user can visualize the observation which are sent to Bhuvan MGNREGA server.

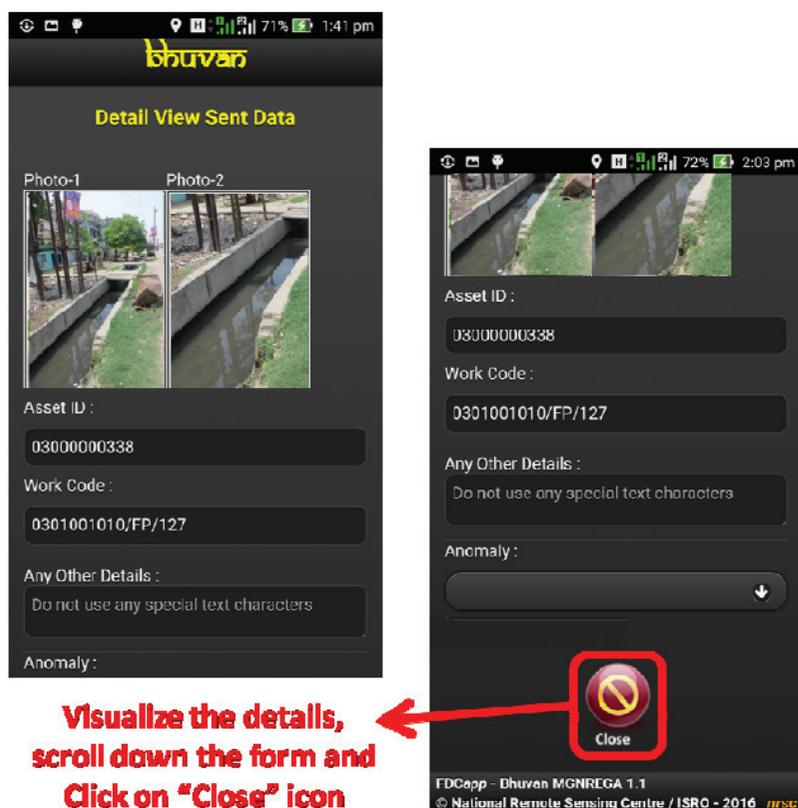


Step-1: Click on "View Sent" Icon



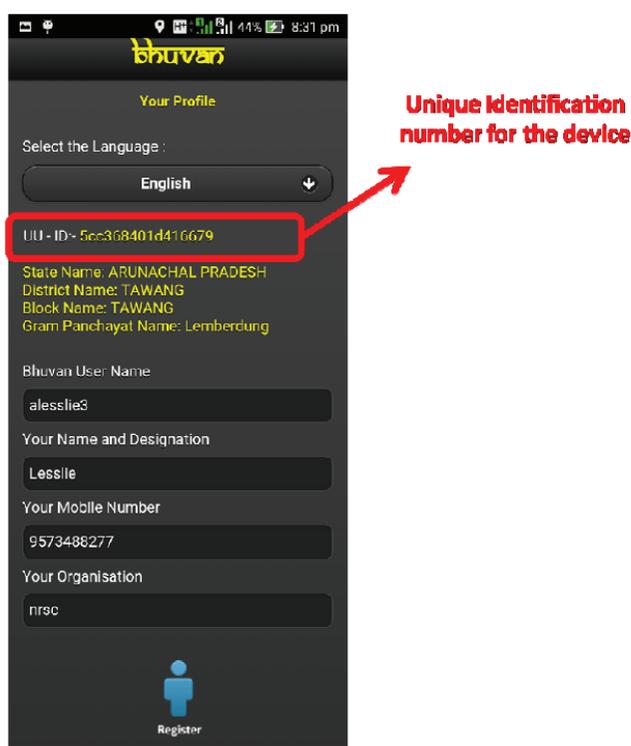
Step-3: Click on "View" Icon

Step-2: Click on one observation to select from List of observations



11 How to know your device UUID?

The details of how a UUID is generated are determined by the device manufacturer and are specific to the device's platform or model. It is a random 64-bit integer as a string and it is generated on the device's first boot.



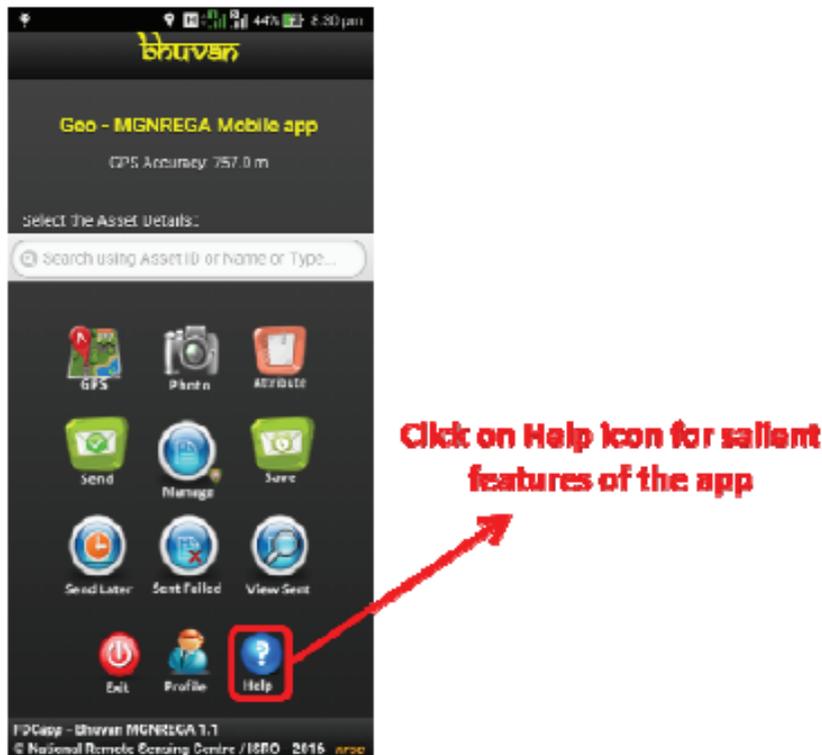
12 Software maintenance activity

The software maintenance activity consists of reset of configuration information and clearing disk storage space.



13 Help in the mobile

There is a help in the mobile app which give salient features in the Bhuvan MGNREGA app.



Bhuvan-MGNREGA Geoportal

Bhuvan–MGNREGA Web Application

This web-based application allows users to visualize the geo-tagged locations. And it also allows authorized users to moderate the collected geo-tagged points before it is made visible to the public and get the summary of the points geo-tagged in the irrespective jurisdiction.

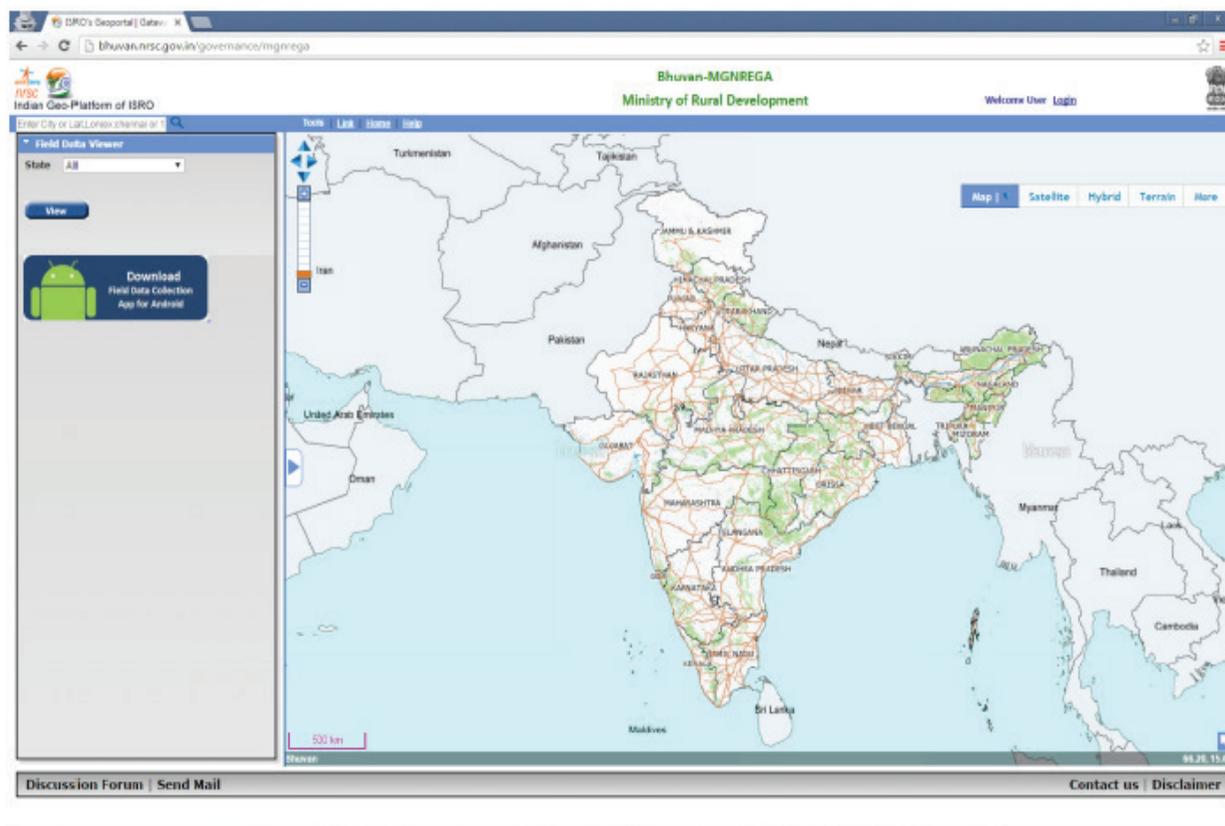
Following are the authorised users access details –

User level	Role	Role Name	Jurisdiction	Access Details
Level2	Moderation	GIS Asset Supervisor (GAS) i.e. Programme Officer (PO)	Block	Moderate mandal level details and statistics of data collection details
Coordinationlevel 1	Coordination	District GIS Nodal Officer (DGNO)	District	Summary of mandal level assets and moderation status
Coordinationlevel 2	Coordination	State GIS Nodal Officer (SGNO)	State	Summary of district level collection and moderation status
Central Level	Monitoring	Central Team	Country	Summary of state wise collection and moderation

Following are the steps to access this web application-

STEP: 1

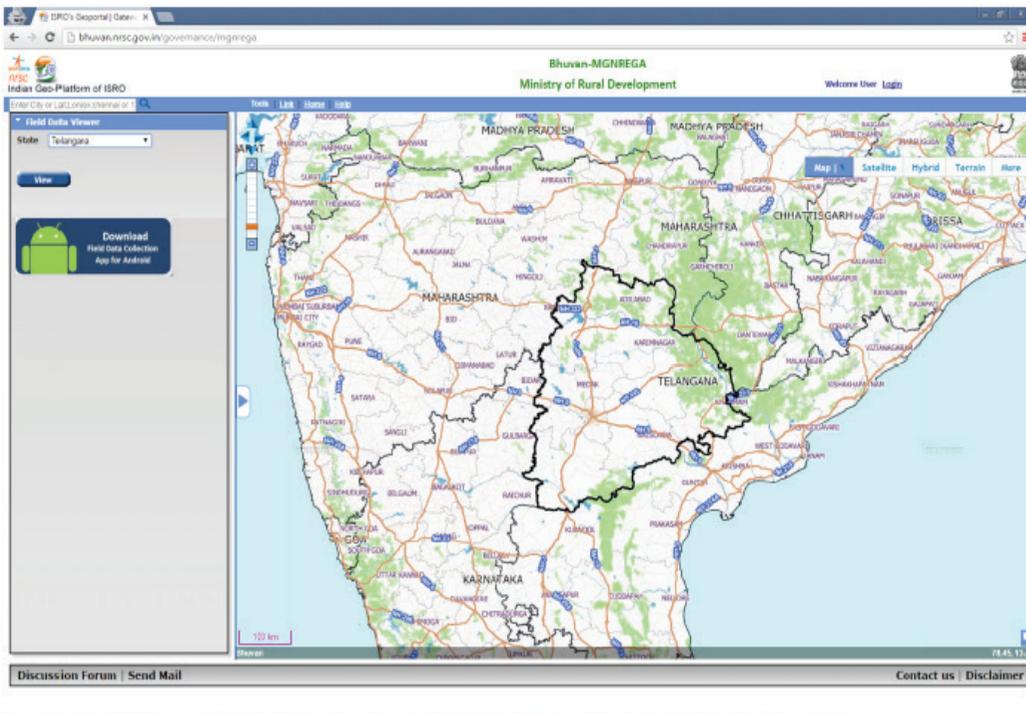
Visit the URL for Bhuvan-MGNREGA application-<http://bhuvan.nrsc.gov.in/governance/mgnrega>



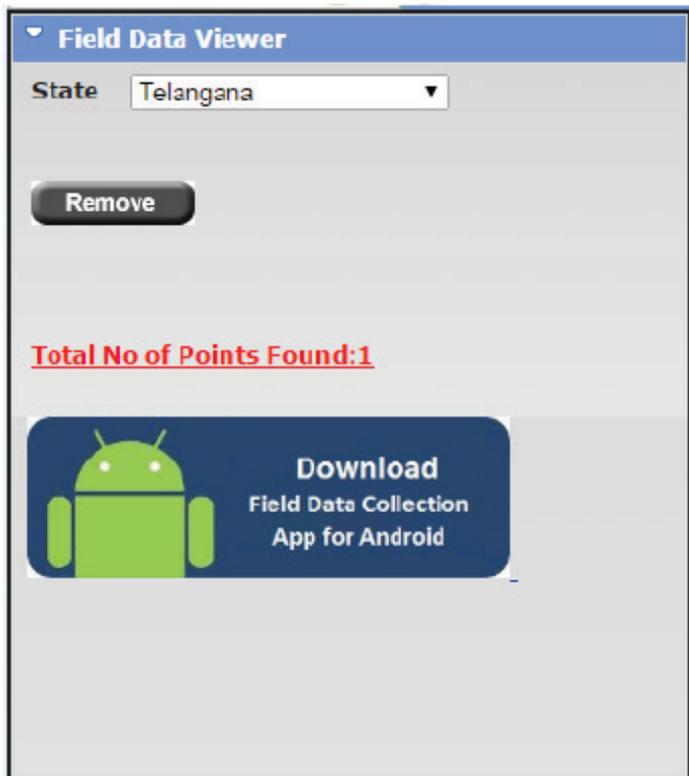
Select the state from drop down.eg:

State

The map will be zoomed toTelangana state.



After selecting the state click on view button, it will display the total number of geo-tagged points in that state. Only points accepted by the moderators will be shown to the public. Thus in below snapshot it shows one points.



STEP: 2

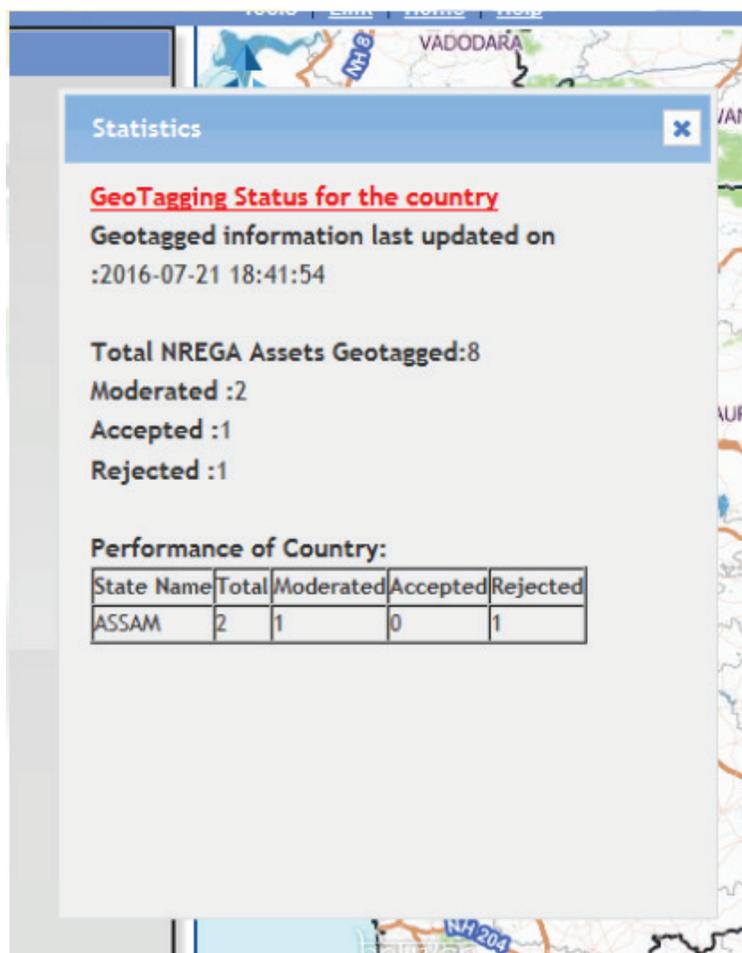
To see all the data, the authorized user should login. There are different types of logins Central, State, District and Block.

Moderation privileges are given only to the Block level.

Below procedure is explained for user with central login id.

STEP: 3 (Central User)

The central user will be able to see the state-wise statistics.



Statistics

GeoTagging Status for the country
Geotagged information last updated on :2016-07-21 18:41:54

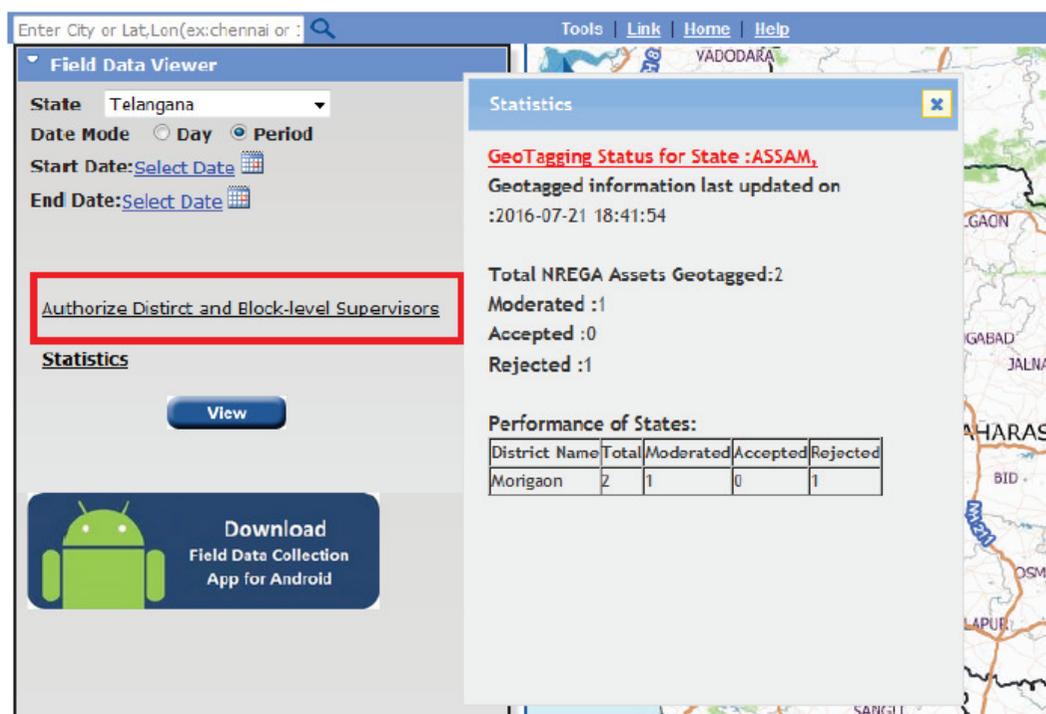
Total NREGA Assets Geotagged:8
Moderated :2
Accepted :1
Rejected :1

Performance of Country:

State Name	Total	Moderated	Accepted	Rejected
ASSAM	2	1	0	1

STEP: 4 (State User)

The state user will be able to see the district-wise statistics for the state. Also user will be able to have option for authorizing District and Block level users for the concerned state.



Enter City or Lat,Lon(ex:chennai or :

Tools | [Link](#) | [Home](#) | [Help](#)

Field Data Viewer

State:

Date Mode: Day Period

Start Date: [Select Date](#)

End Date: [Select Date](#)

[Authorize District and Block-level Supervisors](#)

Statistics

GeoTagging Status for State :ASSAM,
Geotagged information last updated on :2016-07-21 18:41:54

Total NREGA Assets Geotagged:2
Moderated :1
Accepted :0
Rejected :1

Performance of States:

District Name	Total	Moderated	Accepted	Rejected
Morigaon	2	1	0	1

[View](#)

[Download Field Data Collection App for Android](#)

STEP: 5 (District User)

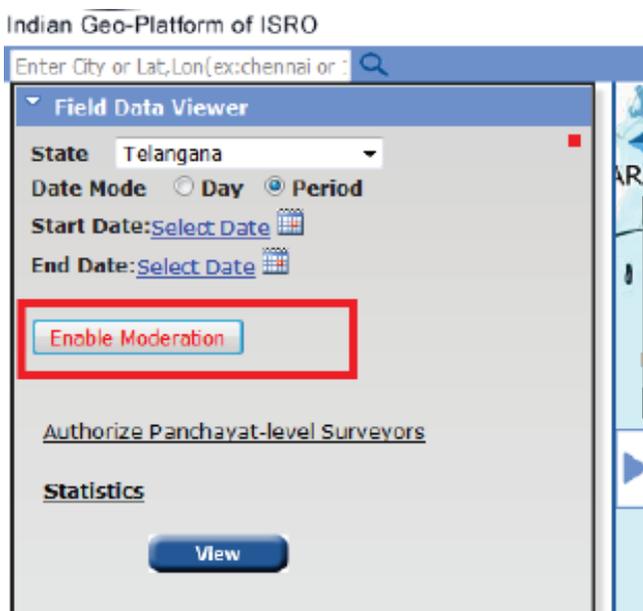
The district user will be able to see the block-wise statistics for the district.



STEP: 6 (Block User)

The block user will be able to see the block-wise statistics for the state. Also user will be able to have option for authorizing Panchayat level users for the concerned block. Moderation privileges are also given to this user.

After login to the page we will get a new button named 'Enable Moderation'.



Statistics will be seen as below

Statistics

GeoTagging Status for Block :Agali,MAYONG,

Geotagged information last updated on :2016-07-21 18:41:54

Total NREGA Assets Geotagged:2
 Moderated :1
 Accepted :0
 Rejected :1

Performance of Blocks:

Panchayat Name	Total	Moderated	Accepted	Rejected
Baghjap	2	1	0	1

STEP: 7 (Block User: Moderation)

To perform moderation operation click on 'Enable Moderation' icon to moderate the points.

Field Data Viewer

State:

Date Mode: Day Period

Start Date: [Select Date](#)

End Date: [Select Date](#)

Block:

Accepted Points Rejected Points

Validated Date Created Date

[Disable Moderation](#)

[Authorize Panchayat-level Surveyors](#)

Statistics

[View](#)

Select any point by clicking on it. After selecting the point a popup will display the information of house along with the photos.

User has an option to accept, edit or reject any point.

1. To reject the geo-tagged asset, click on reject button on bottom of popup. After clicking on reject button a new box will open i.e. 'Reason for reject'. Enter the reason for rejection and select the reject button. Point will be rejected successfully.
2. To accept the geo-tagged asset, click on accept button on bottom of popup. Another popup will open. Click ok button to accept the point. Click cancel button if not. If user clicks on ok button the point is accepted. Another popup will open and gives the message like accepted successfully. And the point will disappear from the map for further moderation.
3. To Edit the point, user can click on Edit button and then click on 'save'.



Acronyms & Definitions

Acronym	Full	Description
GIS	Geographic Information System	Database for spatial and non spatial data
MoRD	Ministry of Rural Development	A branch of the Government of India, is entrusted with the task of accelerating the socio-economic development of rural India
NRSC	National Remote Sensing Centre	Monitoring using satellite data, Spatial and thematic maps, part of Indian Space Research Organisation
CGARD	Centre for Geo-informatic Applications in Rural Development	Design and develop Geomatics Applications for Rural Development Sector and develop the skill and knowledge levels in Geomatics technology and tools among the development functionaries from the Government
NIRD	National Institute for Rural Development	Indian institute for research in rural development
ISRO	Indian Space Research Organisation	The space agency of the Indian government
GPD	GIS Pioneer Districts	First District where GIS will be implemented
GPDTS	GIS Pioneer District Testing Site	First Gram Panchayat selected within GPD for PILOT execution of GIS application
GPDT	GIS Pioneer District Tester	Gram Panchayats functionaries working MSE and GAS in GPDTS
GPDC	GIS Pioneer District Champion	Nominate by GPD, one resource person from each Block, he/she will in-turn train all the GRS/ Technical Assistants/ PO of their respective District
GPSTD	GIS Pioneer Testing Site District	
GPTSB	GIS Pioneering Testing Site Block	
GPTSG	GIS Pioneering Testing Site Gram Panchayat	
RRP	Regional Resource Persons	Selected by SIRD/NIRD, to be first trained in MGNREGA GIS under Training of Trainers(ToT) in Stage-2.
PMU	Programme Management Unit	PMU is a group to ensure effective implementation and monitoring
MSE	MGNREGA Spatial Emulator	At Gram Panchayat level, who will capture the asset photographs with GPS location
GAS	GIS Asset Supervisor	At Block level, who will validate and approve the asset photograph
DGNO	District GIS Nodal Officer	At District Level, coordinate and monitor the implementation
SGNO	State GIS Nodal Officer	At State Level, Coordinate and monitor the implementation
NREGASoft		MIS for MGNREGA
NIC	National Informatics Centre	
SIRD	State Institute of Rural Development	Autonomous Institute under State Government for Training & Research in Rural Development
GRS	Gram RojgarSevak	At Gram Panchayat level, official manages the MGNREGA work
PO	Program Officer	At Block level, official manages the MGNREGA work.
PERT	Program Evaluation Review Technique	To find the critical path for project management.
GANTT		Horizontal chart bar chart to monitor the progress of program.

TA	Technical Assistant
PILOT	GIS Implementation in small group of people from selected pioneer districts.
WAVE -I	GIS Implementation in one district selected in each state, comprising a total of 34 districts
WAVE-II	GIS Implementation of all other Districts after Wave-I
PHASE-I	Rollout phase, development of Bhuvan mobile and web applications, and integrating with NREGASoft
PHASE-II	Rollout phase, Development of Citizen centric Mobile Application
PHASE-III	Rollout phase, Publish e-Government Interoperability Frameworks to create single window-access to spatial / non spatial data for full integration
Stage-1	Training for National Level GIS Orientation Workshop
Stage-2	Training for Regional Resource Persons
Stage-3	Training for GIS MGNREGA Block Champion Training for Wave I
stage-4	Training for GIS MGNREGA Block Level Training for Wave I
Stage-5	Training for GIS MGNREGA Block Champion Training for Wave II.
State-6	Training for GIS MGNREGA Block Level training for Wave II