



National Awards for e-Governance 2018-19

<http://punarvas.ap.gov.in/NPP>

Project Code: NAeG/18-19/00144

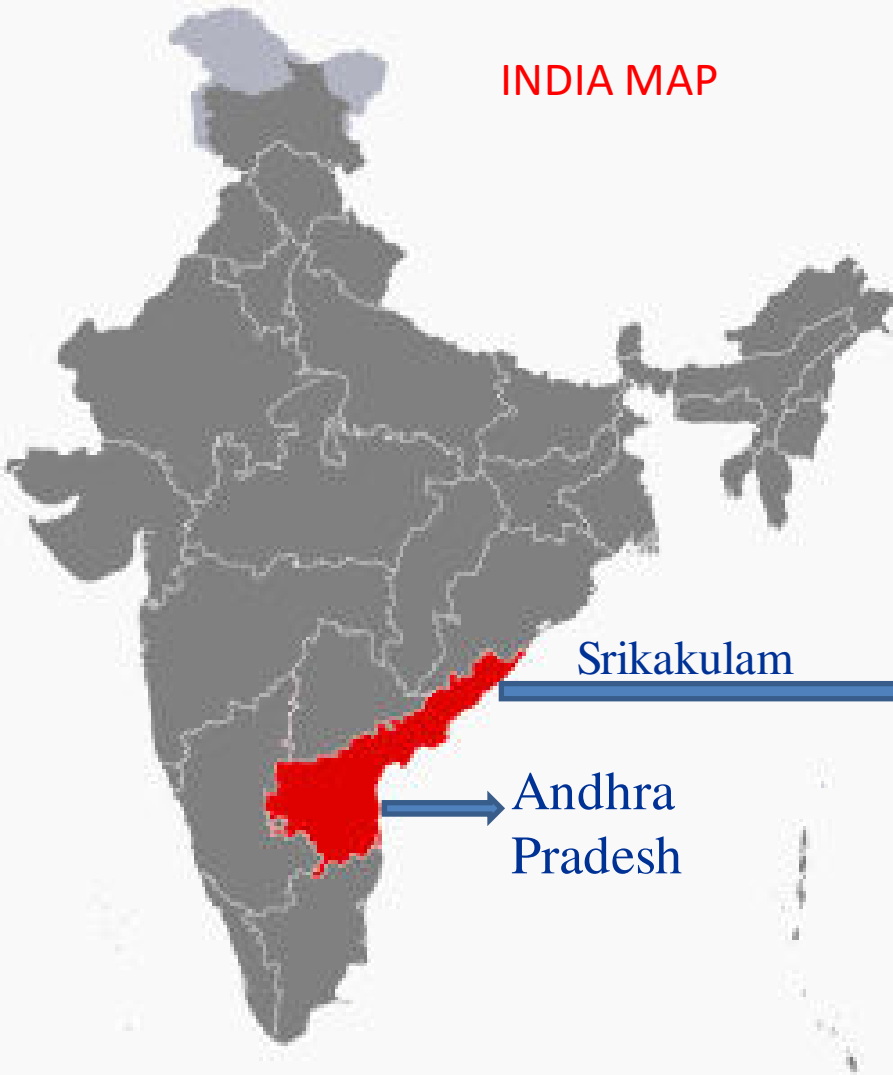
**Sri. KVN Chakradhar Babu, I.A.S.,
Joint Collector, Srikakulam
Andhra Pradesh**



OVERVIEW

- ❖ Introduction
- ❖ Legislative changes
- ❖ IT Support to new Act
- ❖ Hardware & Software support
- ❖ Previous and Present system
- ❖ Social Impact assessment module
- ❖ Land Compensation module

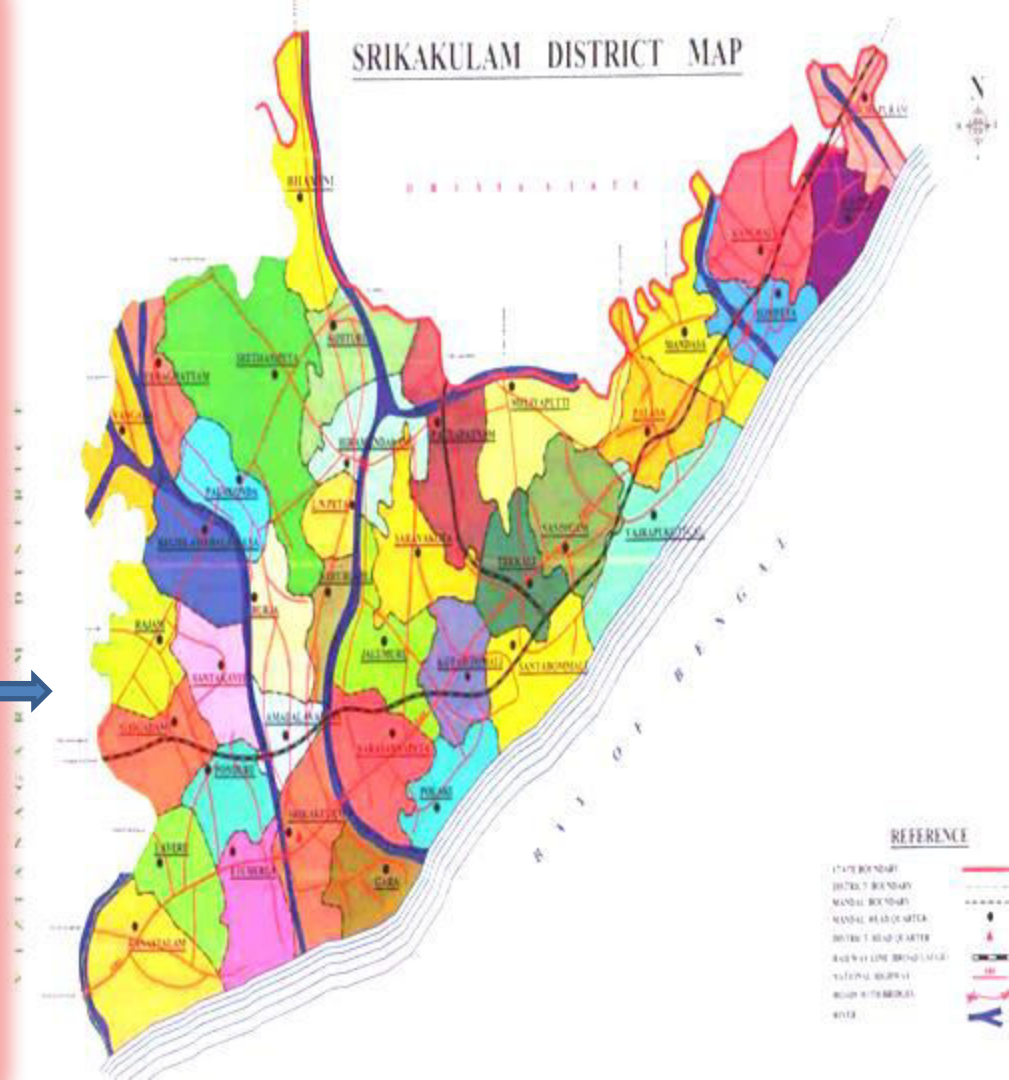
INDIA MAP



Srikakulam

Andhra Pradesh

SRIKAKULAM DISTRICT MAP



REFERENCE

- STATE BOUNDARY
- DISTRICT BOUNDARY
- MANDAL BOUNDARY
- MANDAL HEAD QUARTER
- DISTRICT HEAD QUARTER
- RAJYAWATI LINE BOUNDARY
- NATIONAL HIGHWAY
- STATE HIGHWAY
- ROAD

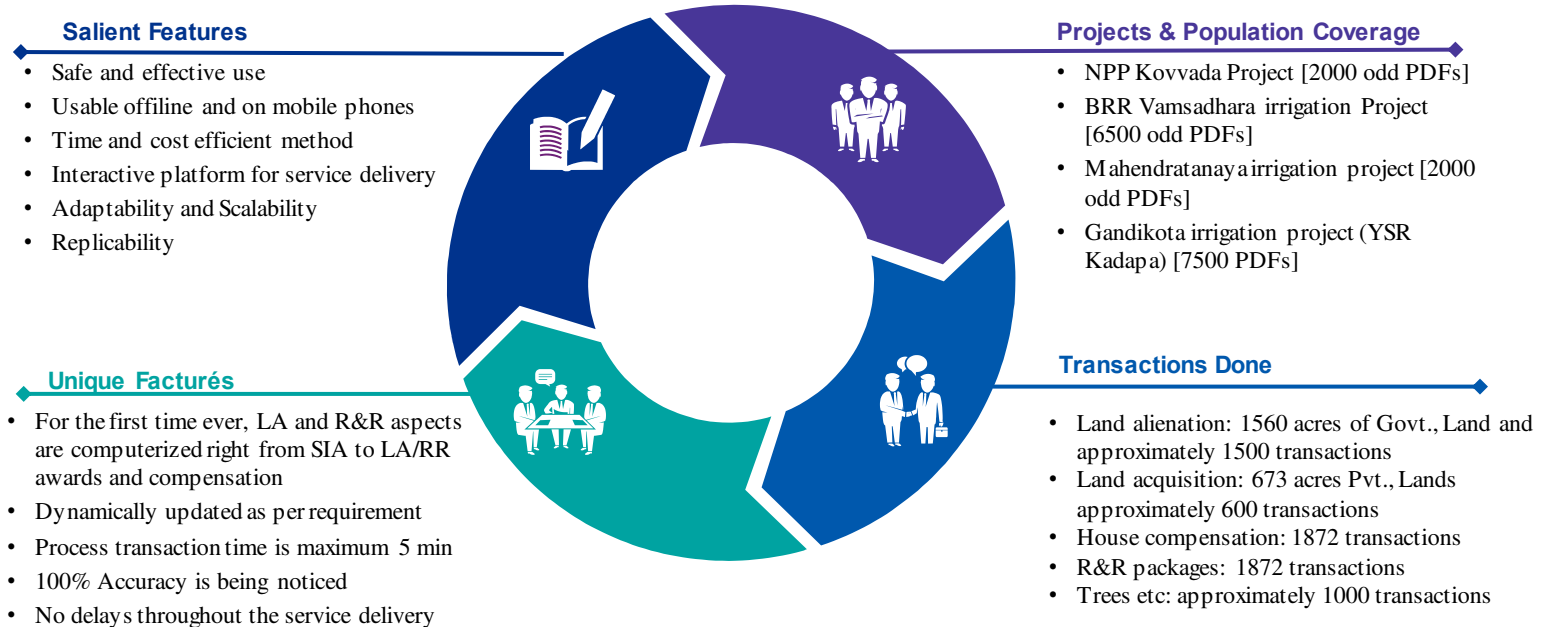


INTRODUCTION

- ❖ The main objective of the Web based software with GIS integration is to computerise all the important activities under land acquisition and R&R process as per provisions of RFCTLARR act 2013
- ❖ It provides the data storage, retrieval, decision support systems.
- ❖ It also provides the Aadhar based biometric authentication of beneficiaries and GIS data of the assets being acquired.
- ❖ The compensation paid to each beneficiary is also enumerated and disbursed through digital payments in a transparent manner.
- ❖ Need to eliminate the discretions, delays and data asymmetry [the 3Ds which generally plague the LARR processes]
- ❖ Change in legislation, brought Accountability, Transparency and Right to fair compensation

PROJECT PUNARVAS IN NUTSHELL

First end-to-end web based application for implementing the LA and R&R provisions of RFCTLARR Act 2013 - with built in technologies for Aadhar based biometric authentication, GIS mapping, drones and satellite imagery.



Department of Land Acquisition and Resettlement & Rehabilitation



SALIENT FEATURES

- ❖ Scalable
- ❖ Open Source tools
- ❖ Web based application with remote server connection through generic database
- ❖ Interoperable J2EE / Java Platform
- ❖ Android App for D2D surveys and individual authentication

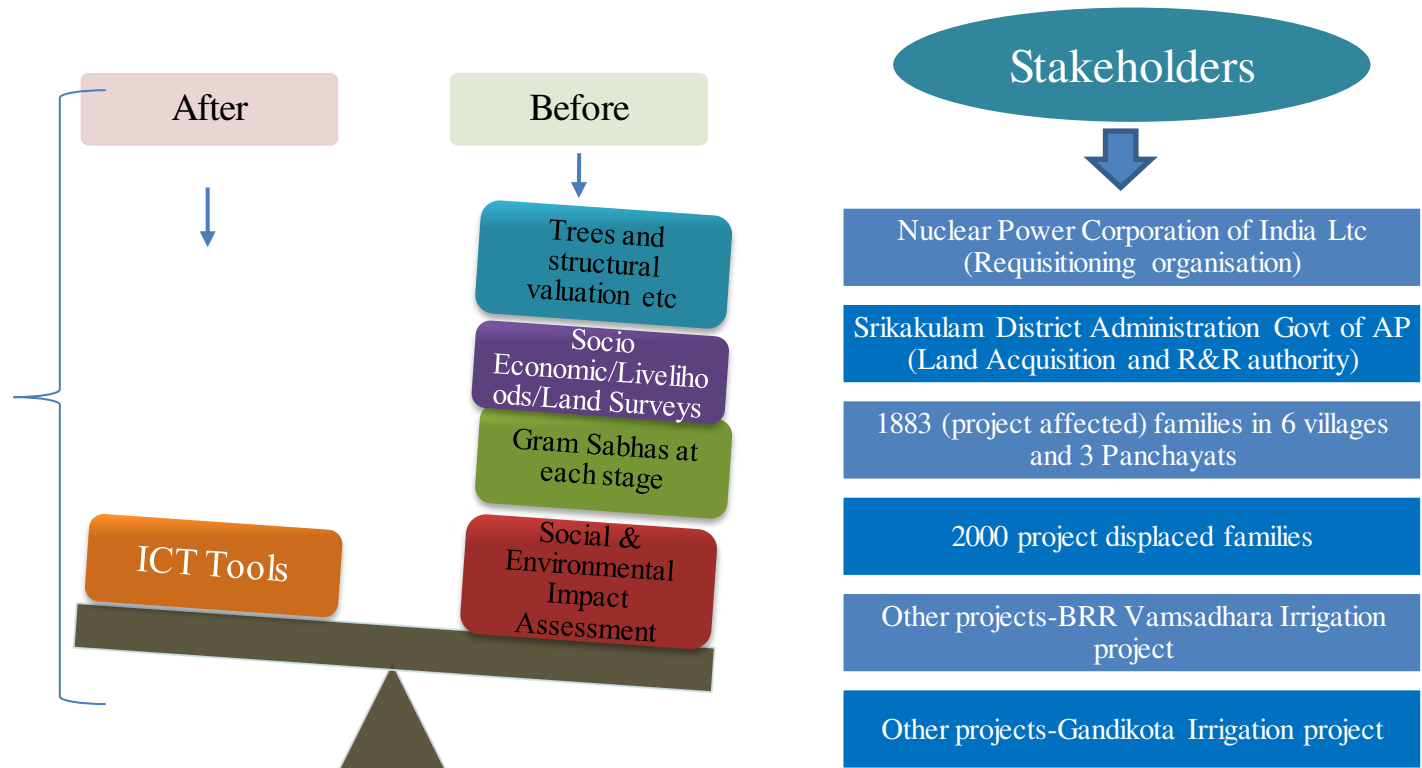


ADOPTABILITY

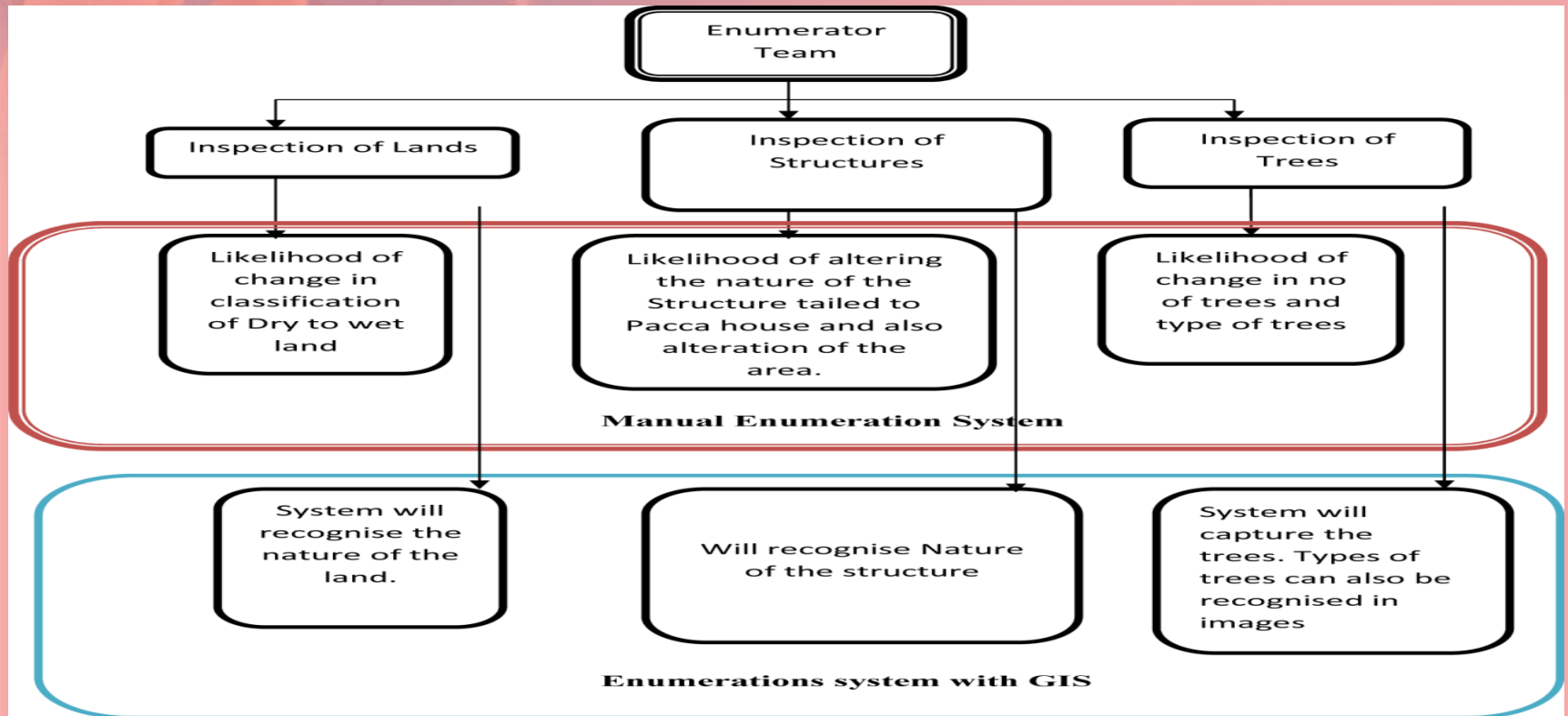
- ❖ NPP Kovvada project - 2000 odd PDFs
- ❖ BRR Vamsadhara irrigation Project - 6500 PDFs
- ❖ Mahendranaya irrigation project - 2000 odd PDFs
- ❖ Gandikota irrigation project - 7500 PDFs
- ❖ Bhavanpadu Port – Work Commenced

PROJECT PUNARVAS: A RELIABLE ALTERNATIVE

- An end-to-end web based solution is rolled out for every aspect of the LARR process
- Time & energy efficient and cut short various tedious processes
- Taking all stakeholders (regardless economical or educational backwardness) on Board.
- Pictorial and video graphic representations and user friendly outputs
- Increased transparency
- Procedural justice to increase accountability



PREVIOUS & PRESENT SYSTEM



CHALLENGES FACED

Lack of awareness among LA & R&R staff and conventional work culture

Information asymmetry amongst field staff

Policy changes with the promulgation of new LARR act and new Land alienation Policy

Lack of Awareness among population affected

Vested interests and elements that hinder smooth process

Lack of systematically maintained land records

Measures Taken

Workshops and trainings conducted for all officers concerned

Trainings done by the officers to the field level staff under guidance of the central monitoring cell via engineering students

Capacity Building done effectively

Intensive triggering and effective use of the web application

NEFT based transaction & Aadhar authentication minimized malpractices

Debugging and Updating and Aadhar seeding of records using re-survey

Methods Adopted (Baseline Study Done) Implementation Model

All the previous LA notifications and the enjoyment survey details

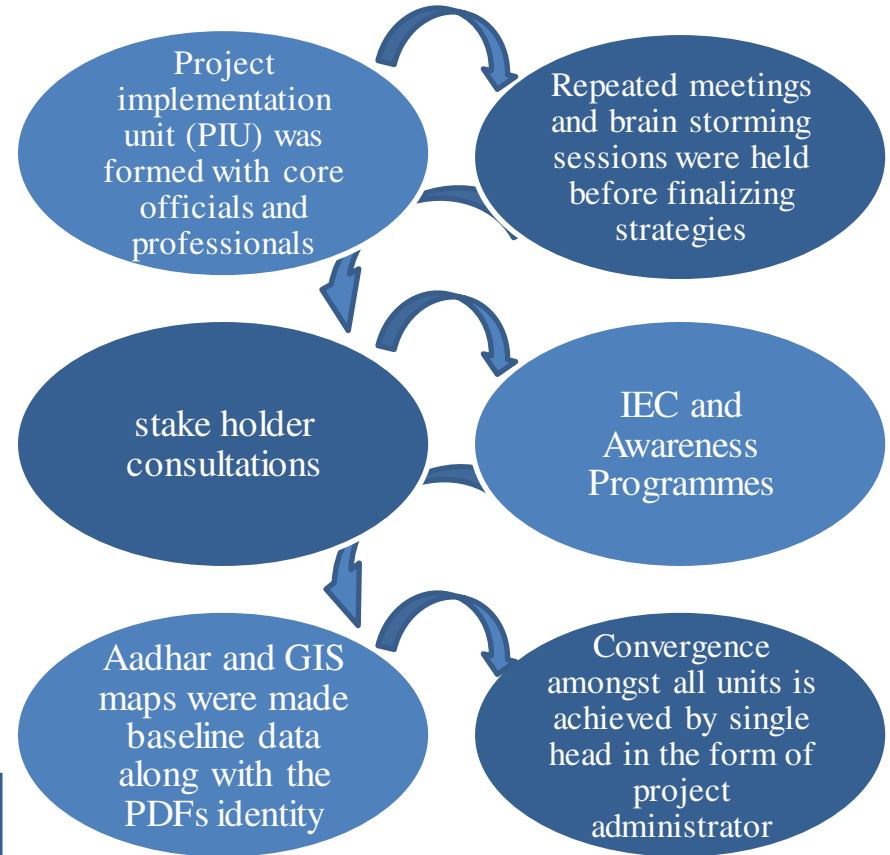
All the households are numbered on ground and on the GIS based satellite maps and unique ID is generated for every PDF

Similarly every feature like house, cattle shed, thatched huts, trees, community facilities etc were captured

Aadhar based survey of all the households, their ration cards for identity and bank accounts for transparency in financial transactions

Lands were surveyed with all field bunds and features verified

Nature and type of encroachments, usage, title, extent etc were frozen alongwith photo and aadhar based details of each individual



LEGISLATIVE CHANGES

- ❖ PDF friendly elaborate R&R provisions
- ❖ New provisions like SIA/EIA, SIMP, SES & R&R award etc.,
- ❖ Fair compensation, multiple levels of stake holder consultations, transparency and responsibility have taken primacy at each stage of the implementation of LARR in public projects.
- ❖ In big projects involving billions of investments, thousands of acres of land to be acquired and affecting thousands of families – Any time and cost overruns levy heavy penalties

Payment Deliveries of ICT Initiatives

Exgratia compensation to Poor people

Land compensation to the Poor who were issued D-Pattas

Land compensation to the Private land owners under 11(1) notification

Structure compensation to all the 1872 structures falling under the project

Trees compensation to all the forest and horticulture species

R&R benefits to each of the 2000 odd PDFs and equal number of PAFs



INNOVATIVE USE OF TECHNOLOGY

Project structure enumerated through satellite image based drone survey beside physical verification

Authentication only via Aadhar based biometrics

Automatic computerized record keeping and report generation

Usage of ICT Technology

Cartosat-2 and GIS mapped drones from NRSC/ APSAC to freeze the spatial and geographic data with date and time stamps

Aadhar based biometric authentication through USB 2.0 based Finger print devices

NEFT based digital CBS banking transactions

LARR processes were designed right from SIA to LA/ R&R awards and integrated into single application

Aadhar based biometric authentication of the beneficiaries and individualist profiling of entitlements and compensation

Logic to limit the extents and payment particulars and to enforce the entitlements as per state acts

Tab / Mobile version of the software for conducting surveys/ door to door evaluation and to capture various details from the field

District level initiative immediately adopted to other projects in the state



IT SUPPORT TO NEW ACT

Cartosat2 and GIS mapped drones from NRSC/ APSAC

JSP / J2EE based web application and used Struts framework

QGIS based image processing

PostgreSQL based database

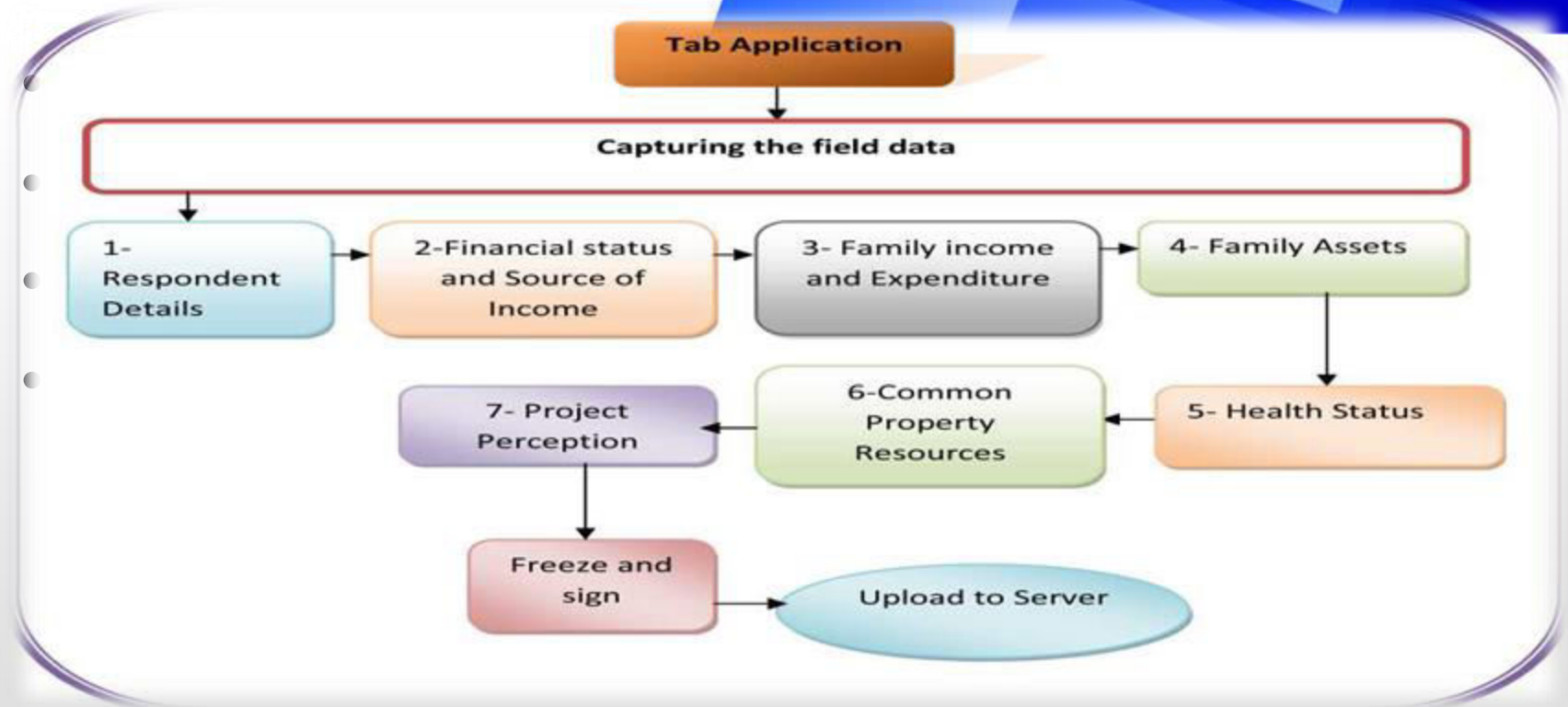
UIDAI /SRDH supported beneficiary screening using aadhar

Android based mobile application

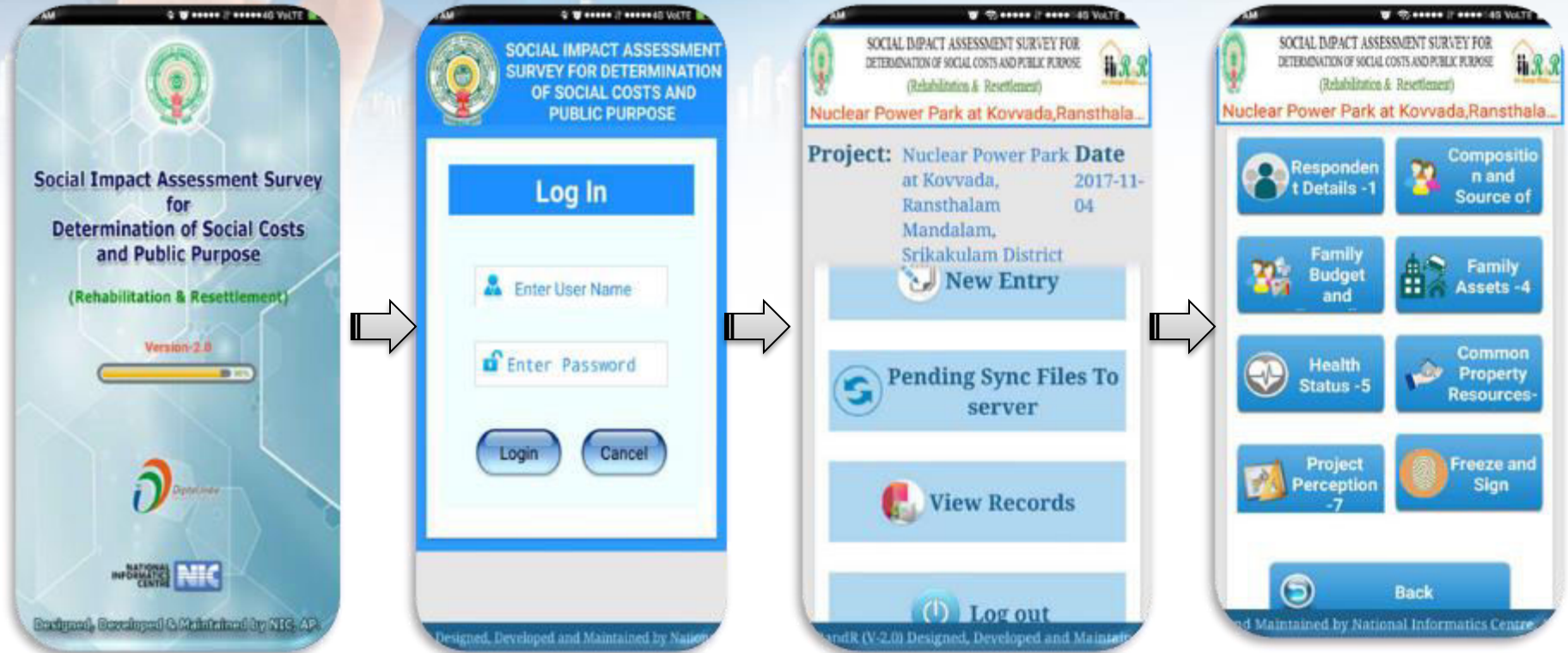
Aadhar based biometric authentication through USB 2.0 based Finger print devices

NEFT based digital CBS banking transactions

S.I.A. MODULE



ANDROID APPLICATION



The Screens shows the Opening page, Login and Menu after login page of the application

SOCIAL IMPACT ASSESSMENT SURVEY FOR DETERMINATION OF SOCIAL COSTS AND PUBLIC PURPOSE (Rehabilitation & Resettlement)
Nuclear Power Park at Kovvada, Ransthala...

Family Particulars Quit

Basic Details

Village : Jeerukovvada

Panchayat : MARUVADA

Habitation Name : JEERUKOVVADA

Select identity : Aadhar Ration Card No

Aadhar Card : 405196389660

Name of the Head of Household (HH) : P. Lakshmi


Centre, Andhra Pradesh, Hyderabad.



SOCIAL IMPACT ASSESSMENT SURVEY FOR DETERMINATION OF SOCIAL COSTS AND PUBLIC PURPOSE (Rehabilitation & Resettlement)
Nuclear Power Park at Kovvada, Ransthala...

Family Particulars Quit

Gender : Female

House Holder Photo: 

Residential Address

House No : 1-20

Street/Ward : Mahayana street

Mobile No : 9689654238

Centre, Andhra Pradesh, Hyderabad.



SOCIAL IMPACT ASSESSMENT SURVEY FOR DETERMINATION OF SOCIAL COSTS AND PUBLIC PURPOSE (Rehabilitation & Resettlement)
Nuclear Power Park at Kovvada, Ransthala...

Family Particulars Quit

Residential Address

House No : 1-20

Street/Ward : Mahayana street

Mobile No : 9689654238

Landline No :

Adhaar Card No : 405196389660

Voter ID Card No :

and Maintained by National Informatics Centre



SOCIAL IMPACT ASSESSMENT SURVEY FOR DETERMINATION OF SOCIAL COSTS AND PUBLIC PURPOSE (Rehabilitation & Resettlement)
Nuclear Power Park at Kovvada, Ransthala...

Family Particulars Quit

Bank Details

Name of The Bank : Andhra Bank

Account No : 147254787524856

IFSC Code : ABN0000212

Social Category : Other Backward Class

Sub Social Category :

Whether family is headed by : Yes

Developed and Maintained by National Informatics Centre

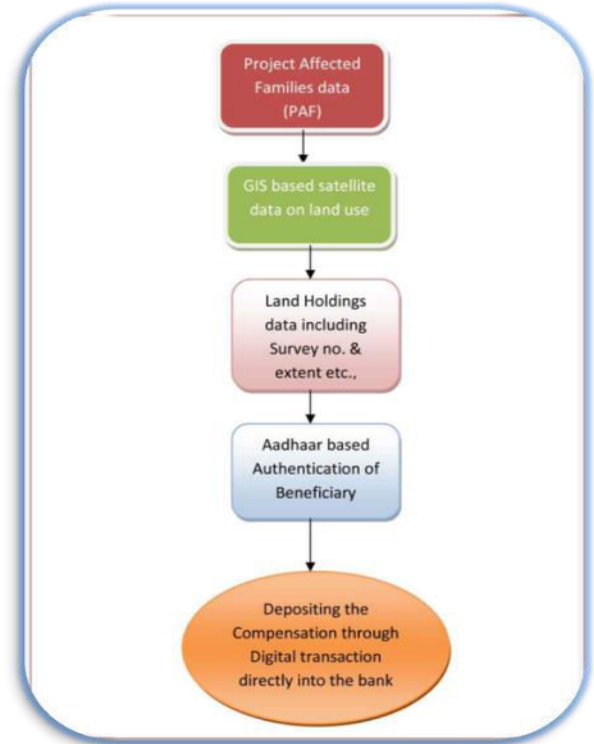
The Screens shows the capturing of respondent details

LAND COMPENSATION MODULE

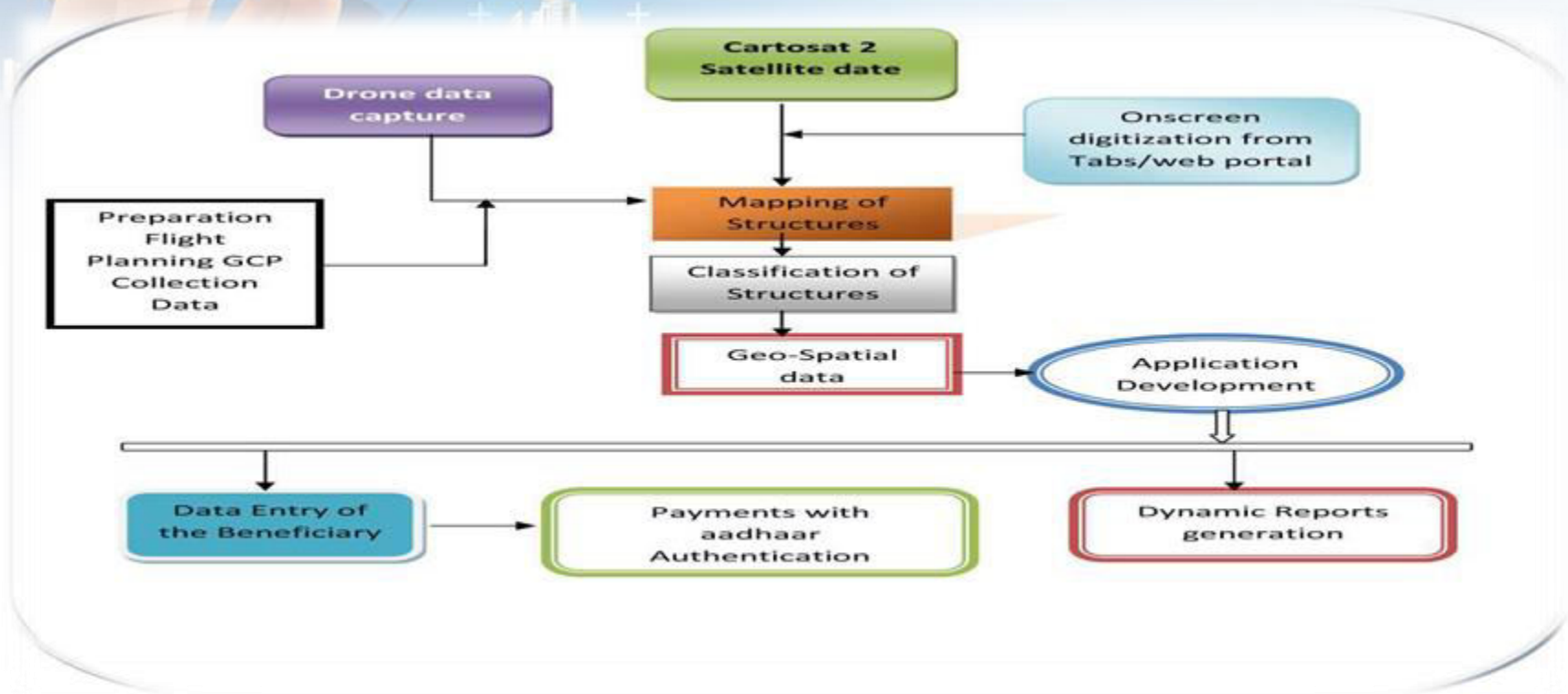
- Public consultations
- Agreement on the rate per acre of land
- Encroachers & Pattadars

- Evaluation of structures in the project affected places
- Drone survey to identify the number of structures and freeze the no. of structures
- Door to door survey to determine the structures and associated properties

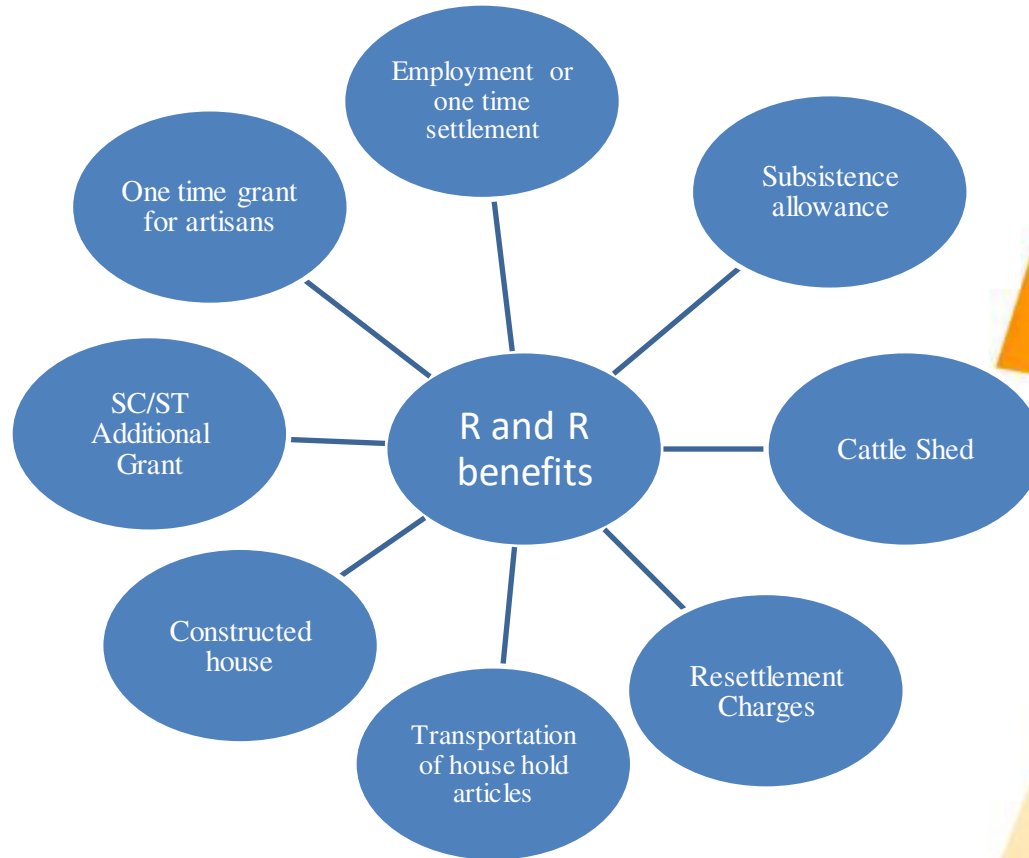
- Survey of trees to pay compensation
- Forest department
- Horticulture department



STRUCTURES EVALUATION MODULE



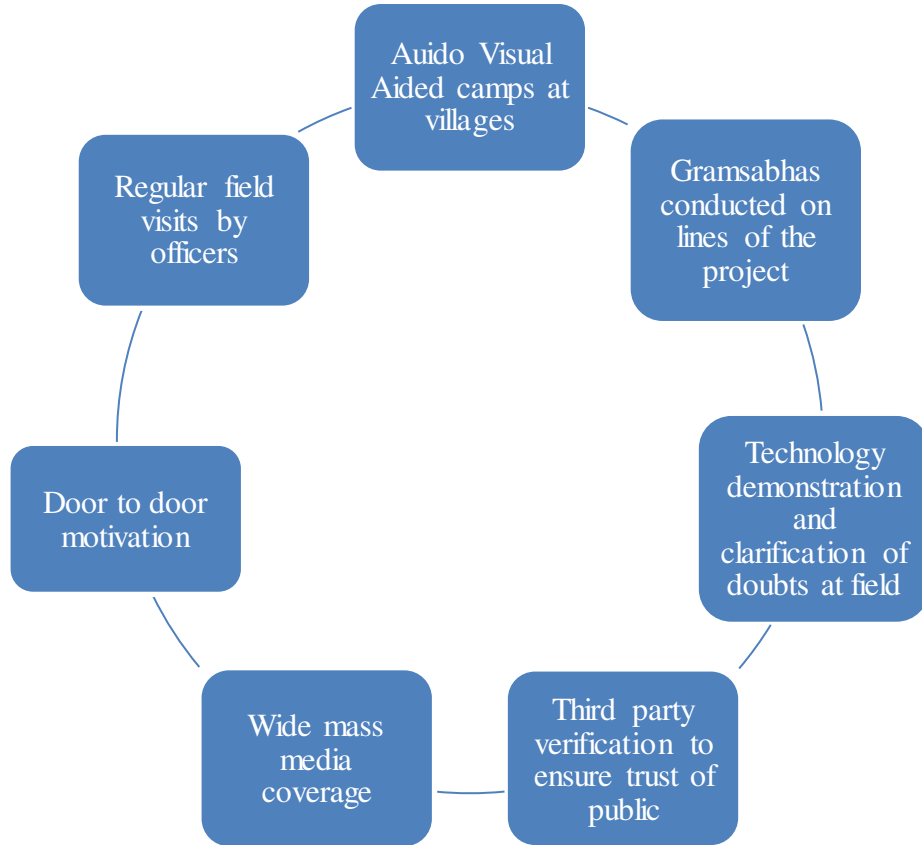
R&R MODULE - INDIVIDUAL



R&R MODULE COMMUNITY



AN EFFECTIVE INFORMATION EDUCATION & COMMUNICATION STRATEGY



GRAMA SABHAS

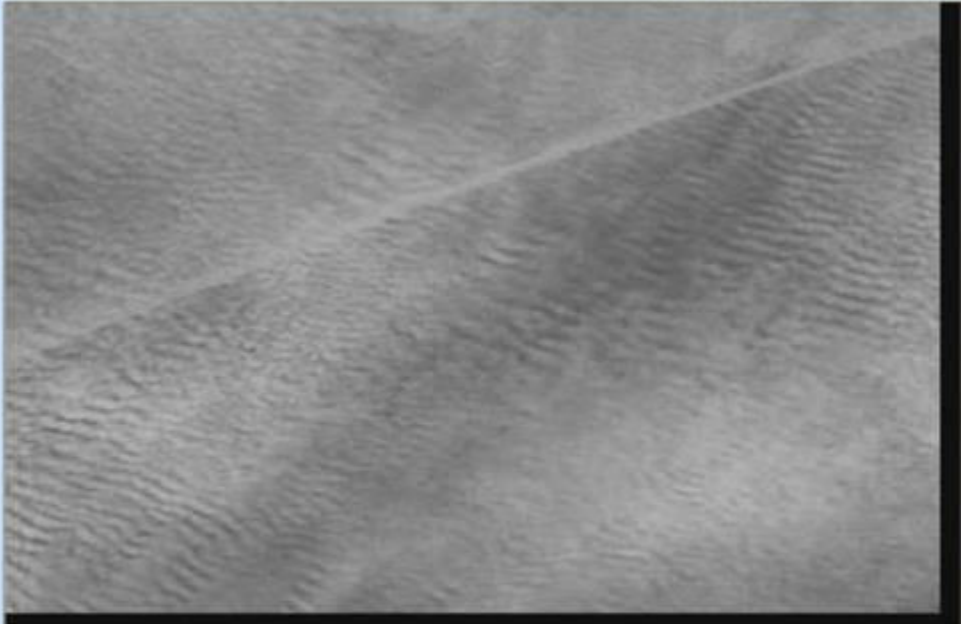


DRONE IMAGES



CARTOSAT-2 PAN IMAGE OVER KOVVADA REGION

Satellite: C2 Sensor: PAN Imaging Mode: PB Date Of Pass: 30-APR-2017 Strip: 1



Session No : 1
Segment No : 1
Strip No : 1
Scene No : 3

Orbit Information
Pass Type : PLD
Imaging Orbit : 55610
Dumping Orbit : 55610

Scene Corners
Top Left Latitude : 18.1475
Top Left Longitude : 83.6989
Top Right Latitude : 18.1489
Top Right Longitude : 83.7919
Bottom Right Latitude : 18.0633
Bottom Right Longitude : 83.7909
Bottom Left Latitude : 18.0528
Bottom Left Longitude : 83.6996

Scene Timings
Start : 04:08:57.777
End : 04:09:06.554
Center: NA

Other Information
Sat Heading Ang : 191.859
Img Heading Ang : 180.0649
Table : 1
Pitch : 10.6265
Roll : -1.9746
Yaw : -8.8682
Direction : F
StripId : 13535

Quality : Good

At Scene Centre
Center Latitude : 18.1056
Center Longitude : 83.7454
Satellite Altitude : 639.107356
Sun Elevation : 57.9258

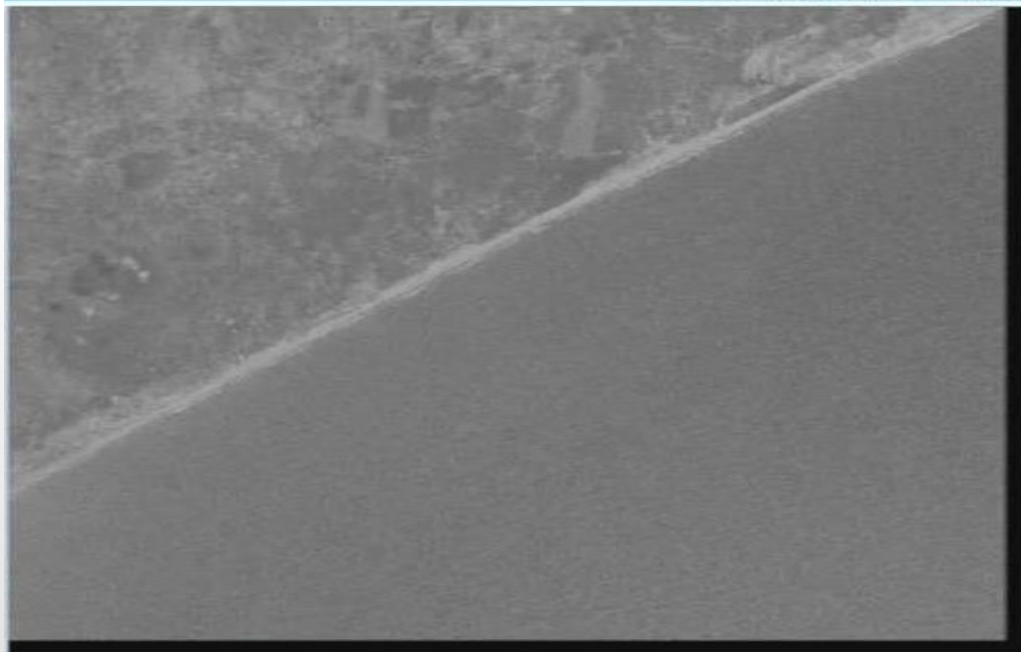
Ground Sampling Distance
Line : 0.789
Pteel : 0.82

Scene Extent
Line : 10.25

Grid Shift Close
Bright++ Bright-- contrast++ contrast--

Cartosat-2 PAN image on 05/May/2017

Satellite:C2 Sensor:PAN Imaging Mode:PB Date Of Pass:05-MAY-2017 Strip:1



Grid Shift Close
Bright++ Bright-- contrast++ contrast--

Session No : 1
Segment No : 1
Strip No : 1
Scene No : 3

-----Scene Corners-----
Top Left Latitude : 18.1588
Top Left Longitude : 83.6913
Top Right Latitude : 18.1472
Top Right Longitude : 83.799
Bottom Right Latitude: 18.0634
Bottom Right Longitude: 83.7986
Bottom Left Latitude : 18.0722
Bottom Left Longitude: 83.6913

Quality : Good

-----At Scene Centre-----
Center Latitude : 18.1104
Center Longitude: 83.7449
Satellite Altitude : 639.530694
Sun Elevation: 60.8219

-----Orbit Information-----
Pass Type : PLD
Imaging Orbit: 55684
Dumping Orbit: 55684

-----Scene Timings-----
Start: 04:19:36:626
End : 04:19:45:403
Center: NA

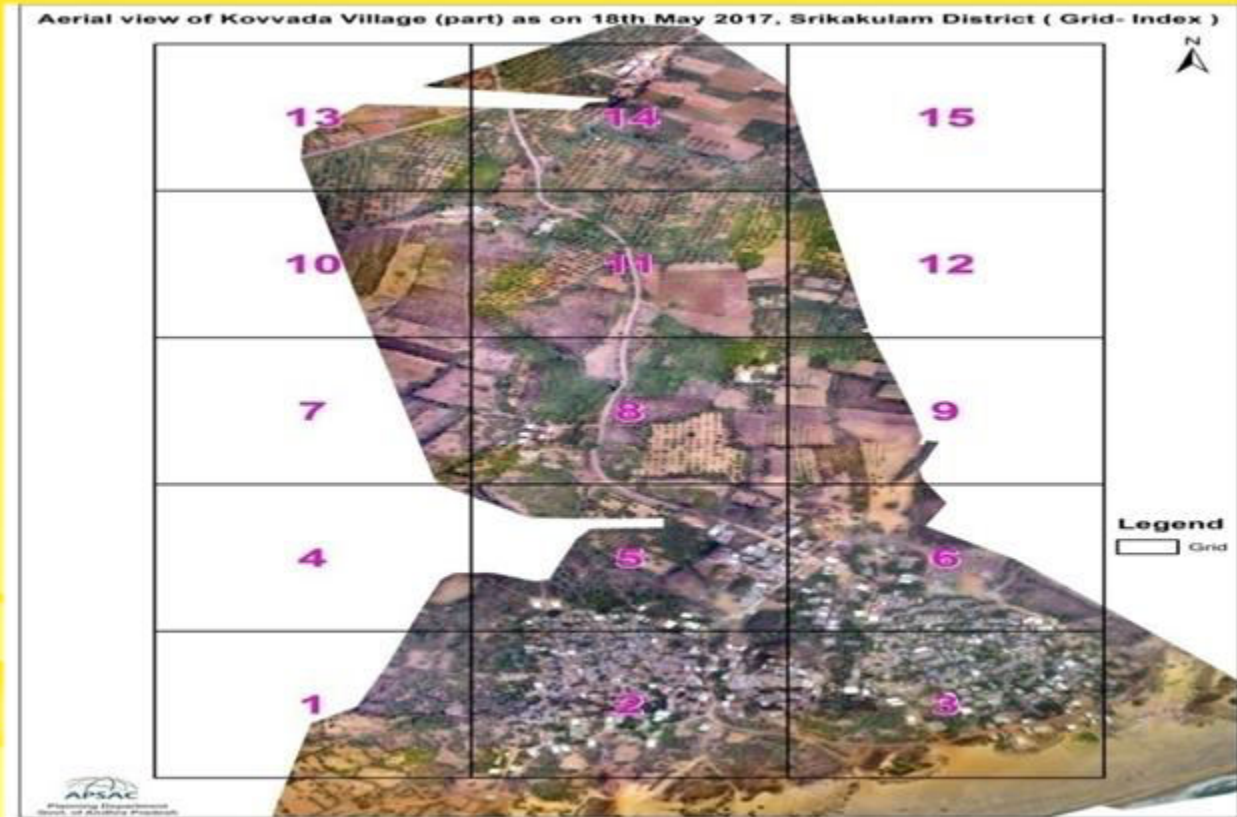
-----Other Information-----
Sat Heading Ang : 192.7274
Img Heading Ang : 180.1248
Table : 1
Pitch : 10.7961
Roll : 21.3815
Yaw : -4.2646

Direction : F
StripId: 13696

-----Ground Sampling Distance-----
Line : 0.793
Pixel: 0.955

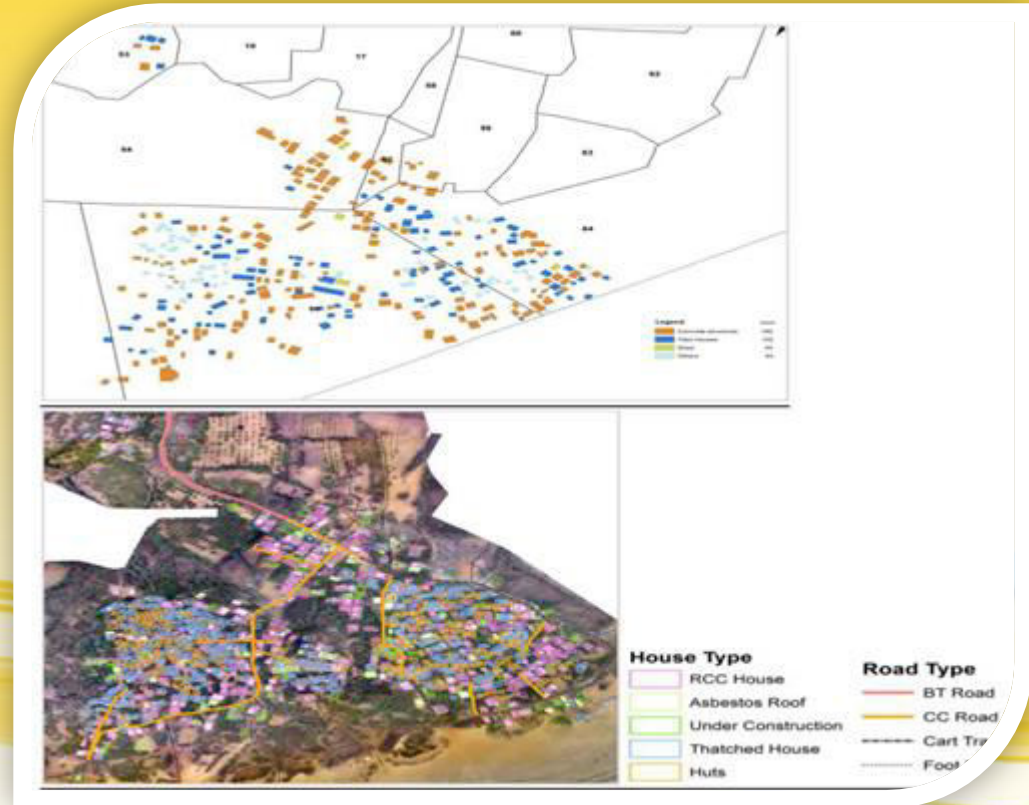
-----Scene Extent-----
Line : 10.306

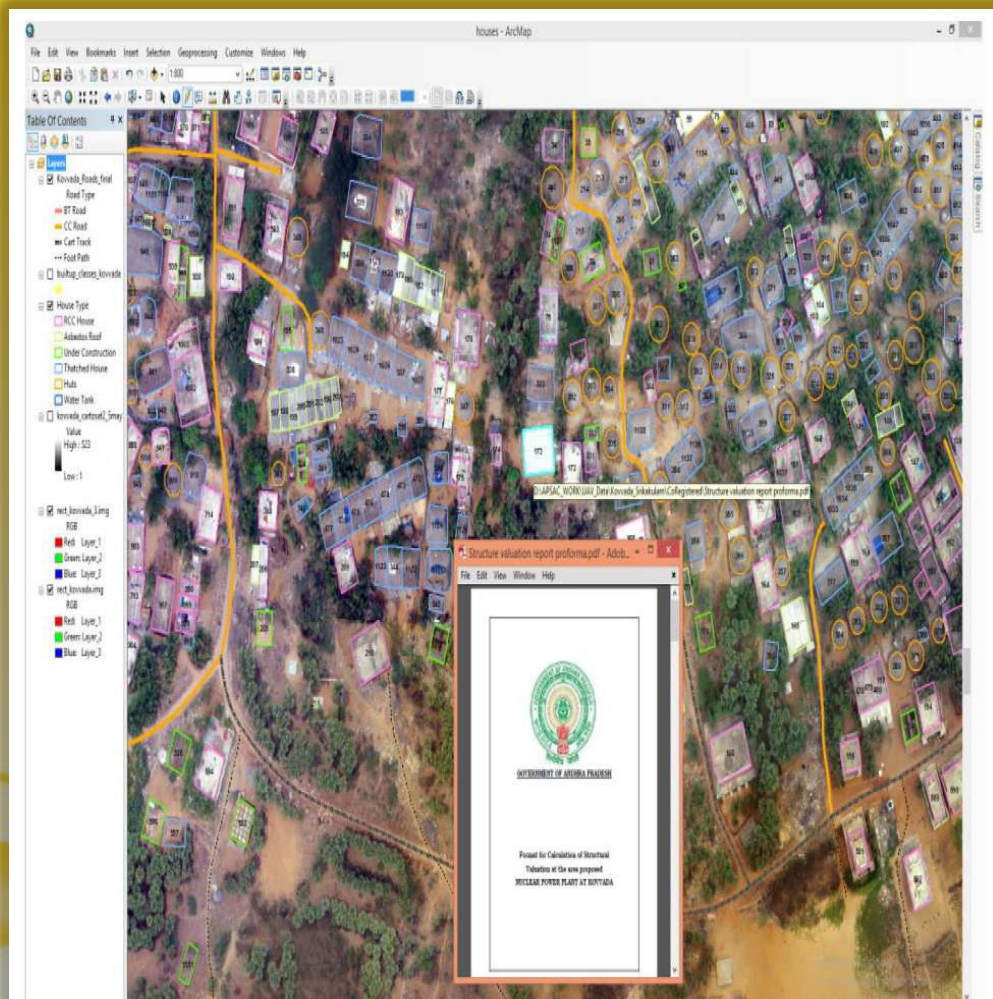
INDEX MAP IN PROPOSED NPP



STRUCTURES FREEZED

S.No	Type Structure	No. of Structures
1	Thatched Houses	782
2	RCC Houses	487
3	A C Sheet Houses	164
4	Under constructions	68
5	Panchayat bore wells	31
6	Open Wells	10
7	Govt., Buildings	8
8	Temples	8
9	Water Tanks	5
10	Tiled Houses	4
11	Barber Shops	3
12	Ratchabanda	2
13	Poultry Sheds	2
14	Airtel Compound wall	1
15	Tailor shop	1
	Total	1576






Integration of GIS mapped data and field survey data of each structure in the Project




NEW USER REGISTRATION

punarvas x SIAS for Determination of Social x +

← → ↻ Not secure | punarvas.ap.gov.in/NPP/login.do 🔍 ★ ⚙️ 📄 🔍 🍪 ⋮



Land Acquisition Project NPP Kovvada



एनपीसीआइएल
NPCIL

Welcome adminrk

- Registration
 - User Registration
 - Modify User Registration
 - View User Registration
 - Reset Password
- Beneficiary Details
- Land Alienation
- Land Acquisition
- Government Structures
- Payment Details
- Send SMS
- Reports

Registration Form

Office type: JOINT COLLECTOR OFFICE | District: SRIKAKULAM

Divisions * | Mandal | Village

Username *
Name *
Aadhaar Number *
Mobile Number *

Role * Approval Authority Operator


Designed, Developed and Hosted by National Informatics Centre APSC, Hyderabad

05:55
21-01-2019


CREATE BENEFICIARY

punarvas x SIAS for Determination of Social x +

Not secure | punarvas.ap.gov.in/NPP/login.do



Land Acquisition Project NPP Kovvada



Welcome adminsrk

- Registration
- Beneficiary Details**
 - Create Beneficiary
 - Edit Beneficiary
 - View Beneficiary
 - Delete Beneficiary
 - Freeze Beneficiary
 - UnFreeze Beneficiary
- Land Alienation
- Land Acquisition
- Government Structures
- Payment Details

Beneficiary Details

District: SRIKAKULAM | Mandal: -----select----- | Village: -----select----- | Habitation: -----select-----

Aadhaar Number * Check Beneficiary in SIA Survey

SIA Survey ID

IS head of the Family YES NO

Ration Card No

Name of the Beneficiary *

Gender * -----select-----

Relationship -----select-----

Father /Mother / Wife / Husband Name

Address

Caste Category -----select-----

Occupation -----select-----

Mobile Number

Bank Name * -----select-----

Branch Name

Bank Account Number *


IFSC Code *

Designed, Developed and Hosted by National Informatics Centre APSC , Hyderabad


REPORTS

punarvas x SIAS for Determination x Bangarayya

← → ↻ punarvas.ap.gov.in/NPP/login.do



Land Acquisition Project NPP Kovvada



Send SMS

Reports

- » Beneficiary list Village wise
- » List of Beneficiaries with Unfreeze Status
- » Consolidated Beneficiary Wise Land Details
- » Authentication Pending List
- » Authentication Completed List
- » Beneficiary Check List For Bank
- » Beneficiaries Authentication Statistics
- » Statistics on Land Ownership

Statistics of Beneficiaries as on 04-10-2017

Phase **LAND AWARD PHASE** ▼

Sl.No.	Village Name	Habitation	No. of Beneficiaries	No. of beneficiaries pending Authentication	No. of beneficiaries authentication completed
1	GUDEM	GUDEM	27	3	24
2	JEERUKOVVADA	JEERUKOVVADA	3	1	2
3	KOTAPALEM	ALLIVALASA	60	60	0
4	KOTAPALEM	KOTAPELAM	41	36	5
5	RAMACHANDRAPURAM	CHINNAKOVVADA	2	1	1
6	RAMACHANDRAPURAM	KOVVADAMATCHALASAM	5	0	5
7	RAMACHANDRAPURAM	RAMACHANDRAPURAM	74	11	63
8	TEKKALI	TEKKILI	59	3	56
Total			271	115	156

Designed, Developed and Hosted by National Informatics Centre APSC , Hyderabad

REPORTS STATISTICS ON LAND OWNERSHIP



Land Acquisition Project NPP Kovvada



- Reports**
- » Beneficiary list Village wise
- » List of Beneficiaries with Unfreeze Status
- » Consolidated Beneficiary Award Details
- » Authentication Pending List
- » Authentication Completed List
- » Beneficiary Check List For Bank
- » Beneficiaries Authentication Statistics
- » Statistics on Land Ownership
- Profile**
- Logout**

Statistics as per the type of land ownership

Phase -----select----- ▼

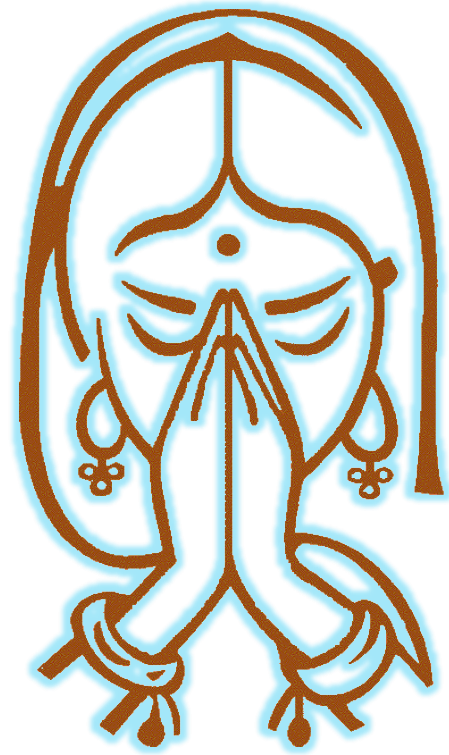
Sl.No.	Village Name	Habitation	D patta land		Earlier D patta land but now encroached		zeroyithi		Government land encroached		Government land	
			No.	Extent	No.	Extent	No.	Extent	No.	Extent	No.	Extent
1	GUDEM	GUDEM	88	0	88	0	88	2.400	88	60.990	88	0
2	GUDEM	GUDEM	80	0	80	7.930	80	0	80	40.380	80	0
3	GUDEM	GUDEM	34	0	34	2.250	34	0	34	21.310	34	0
4	GUDEM	GUDEM	6	0	6	0	6	0	6	1.830	6	0
5	GUDEM	GUDEM	6	0	6	3.820	6	0	6	1.910	6	0
6	JEERUKOVVADA	JEERUKOVVADA	23	0	23	18.780	23	0	23	4.000	23	0
7	JEERUKOVVADA	JEERUKOVVADA	4	0	4	10.440	4	3.500	4	0	4	0
8	JEERUKOVVADA	JEERUKOVVADA	1	0	1	3.000	1	0	1	0	1	0
9	KOTAPALEM	ALLIVALASA	43	0	43	0	43	0	43	20.490	43	0
10	KOTAPALEM	ALLIVALASA	68	0	68	0	68	0	68	39.790	68	0
11	KOTAPALEM	ALLIVALASA	8	0	8	0	8	0	8	3.150	8	0
12	KOTAPALEM	ALLIVALASA	8	0	8	1.750	8	0	8	3.400	8	0
13	KOTAPALEM	KOTAPELAM	45	0	45	0	45	0	45	28.580	45	0
14	KOTAPALEM	KOTAPELAM	7	0	7	2.860	7	0	7	0.360	7	0
15	KOTAPALEM	KOTAPELAM	71	0	71	1.290	71	0	71	36.860	71	0
16	KOTAPALEM	KOTAPELAM	45	0	45	3.000	45	0	45	18.680	45	0

Designed, Developed and Hosted by National Informatics Centre APSC , Hyderabad

CONCLUSION

- ❖ The system is made so generic that, it can readily be used for any other project which involves land acquisition and R&R.
- ❖ The open source tools and interoperability allows seamless migration in no time.
- ❖ Tab/ Mobile version allows for field work and comes very handy for various survey [during SIA , SES and others]
- ❖ And the web based application is used for the project implementation unit (PIU) and various departments involved in the LA and R&R Processes.
- ❖ As it is customised as the provisions of the RFCTLARR Act 2013, its ubiquitous use across the nation is beyond doubt.





THANK YOU

