

**5-day Training Workshop on
“Coordinated Preparation of High Resolution National
Foundation Spatial Data (NFSD) for Gram Panchayat and Ward
Level Mapping”**

**Organised by
Odisha Space Application Centre (ORSAC), Bhubaneswar**

**Venue & Date
Hotel New Marrion, Bhubaneswar
18-22 December 2018**

Overview of NSDI and State SDIs – Towards Preparation of High Resolution National Foundation Spatial Data (NFSD)

PS Acharya, CEO NSDI
DST, New Delhi

ORSAC, Bhubaneswar
18-22 December 2018

Workshop Objectives

Understanding and learning –

- Assessment of GIS Applications, Geospatial Data Requirement, and Workflow needs of Line Departments in planning and decision-making at PRI/ ULB levels
- Geospatial Data Management through surveying available data, identifying data gaps, providing and sharing base maps (NFSD) – concepts of SDI, NFSD, Data Life Cycle Management
- Strategies, methods and techniques for high resolution NFSD preparation to support PRI/ ULB level mapping for meeting data gaps and data updation to support GIS applications through NSDI and State SDI Geo-portals

Presentation Outline

- Concepts of SDI, NFSD, Data Life Cycle Management
- Status of implementation of NSDI and State SDIs
- End User Need Assessment with examples
- Discussion on Need Assessment Proforma
- Conclusion

Urban Local Body (City Governance) Mandate

- 74th Constitutional Amendment
- Twelfth Schedule (44 sectors)
- Identified sectors (indicative)
 - Urban planning including town planning
 - Regulation of land use and construction of building
 - Roads and bridges
 - Water supply for domestic, industrial and commercial purposes
 - Public health, sanitation conservancy, and solid waste management
 - Urban forestry, protection of the environment and promotion of ecological aspects
 - Public amenities including street lighting, parking lots, bus stops and public conveniences

User requirements/Applications (Indicative)

S. No.	Department/ Programme	Application	Application Query	Data Required
	Department of Education.	Opening of New Primary School	Show all villages for which a primary school doesn't exist within a radius of 1.5 Kms (Buffer Analysis).	Village Boundary Dataset, Primary Schools Point Dataset, Census Data for Attribute Data
	Health and Family Welfare Dept.	Villages with Primary Health Centres	Show all villages where Primary Health Care Centres are available	Village Boundary, Village Settlements and Medical Facilities (part of Census) Attributes.
	Minor Irrigation Department	Taluk wise Minor Irrigation Tanks	Show all the Minor Irrigation Tank Locations based on the Taluk Selected.	Taluk Boundary, Minor Irrigation Tanks (Point Data), Attribute Data
	Department of Education (District Primary Education Programme)	Opening of new school in villages	Show villages without schools and whose population is > 300.	Spatial Data: Village Boundary & Village Settlements Attribute Details: Educational Facilities & Population
	Department of Education	Construction of new rooms for schools.	Show schools and whose population is > 600 and rooms < 6.	Spatial Data: Village Boundary & Village Settlements Attribute Details: Educational Facilities

Problems to be addressed

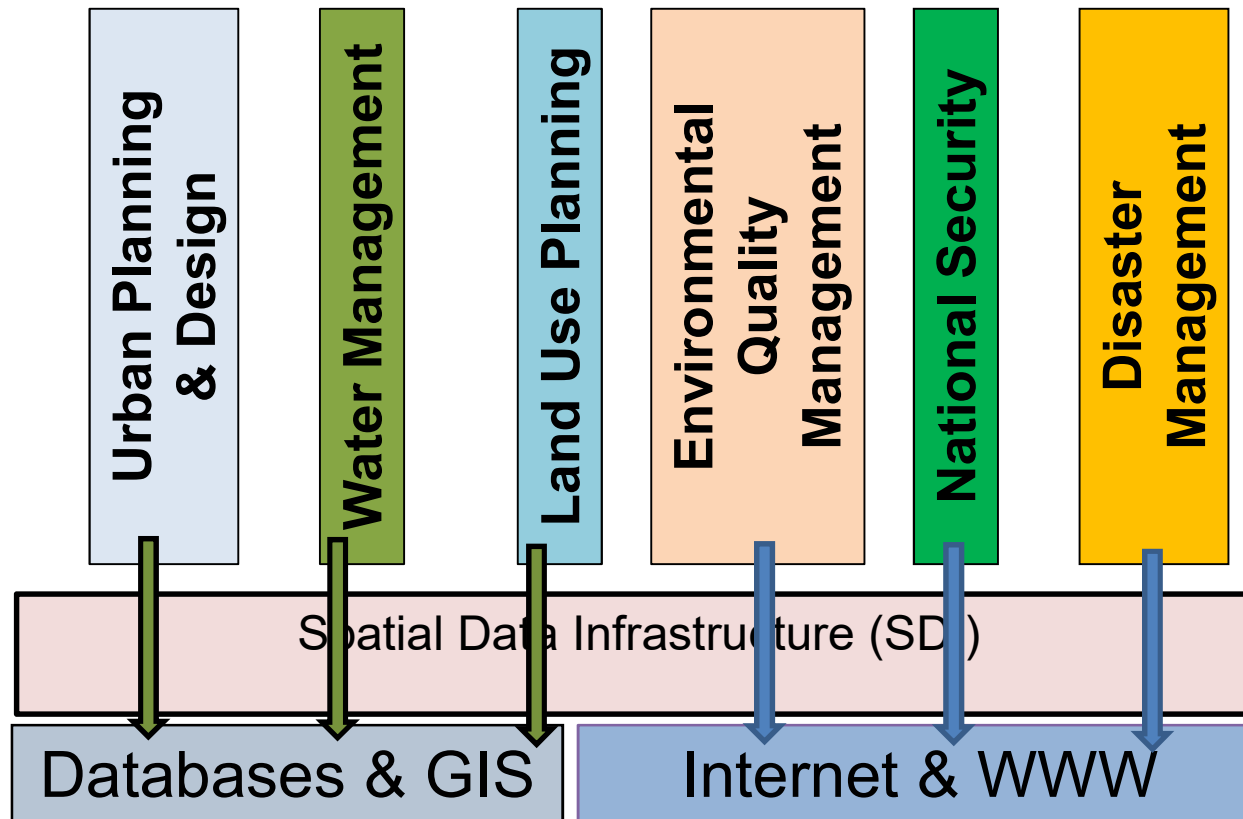
- Inaccessibility to up-to-date and GIS-processable data
- Inefficient data search/ discovery mechanism
- Lack of data sharing and standardisation
- Inadequate integration of data with end user workflows
- Non-availability of decision support tools
- Inadequate technical capacity amongst departmental staff and end users

What is a Spatial Data Infrastructure (SDI)?

Combination of policies, technologies and people necessary to promote sharing of spatial data through all levels of government, private and non-profit sectors, and the academic community

- GSDI Cookbook

SDI – Foundation for Business Process Integration







I&FC Geo-Portal



Delhi Development Authority



Property Survey Form



Revenue Planning Tool



NDMC Planning Tool



राष्ट्रीय स्वास्थ्य मिशन

**Applications suggested by Almora District under
Uttarakhand SDI through Govt. Order
(OM No. 4876/S.P.A./G.P.S.Cell/2017-18 Dated- 22/01/2018)**

1. Police Department
2. Primary Health Centre
3. Public Works Department
4. Tourism Department
5. District electoral Department
6. District Supply Department
7. Uttarakhand Renewable Energy Development Agency
8. Forest Department
9. Child development Department
10. Agriculture Department
11. Irrigation Department.
12. Panch Jal Nigam
13. Rural Work Department
14. District industries centre
15. Jila Panchayat Department
16. Abkari Department

17. Dairy Development
18. Electricity Department
19. Swajal Vibhag-
20. District Employment Exchange office
21. **District Disaster Management Department**
22. District Sports Department
23. D.R.D.A.
24. Jila Yuva Kalyan And Prantiya Rakhshak Dal
25. Minor Saving Department
26. Education Department
27. Fisheries Department
28. Silk Department
29. Jal Sansthan
30. P.M.G.S.Y. Almora
31. Co-operative Department
32. Panch Sthaniya Almora

NSDI – Summary of Achievements

- Establishment and sustenance of the NSDI mechanism for coordinated management of geo-data nationwide
- Enrollment/ enablement of stakeholders - availability of teams of trained staff/ experts on use of (i) geo-data standards (ii) provision of geo-data services and (iii) geospatial contract management in national and state level agencies
- NSDI and State SDI Data Nodes/ Portals for accessibility to standards-based data and metadata services
- Institutionalization of GI standards-making – BIS LITD-22, linkage with ISO/ OGC/ OGC-India
- NSDI Aspirations – shared vision and goals
- Policies, decisions, training, capacity building

NSDI Action Plan (2017-18 and 2018-19)

Sl. No.	Tasks	2017-18				2018-19			
		Q1 (Apr-Jun)	Q2 (Jul-Sep)	Q3 (Oct-Dec)	Q4 (Jan-Mar)	Q1 (Apr-Jun)	Q2 (Jul-Sep)	Q3 (Oct-Dec)	Q4 (Jan-Mar)
1	National Data Registry			5 GIS applications				10 GIS applications	
2	Data Nodes at Central Agencies and State SDIs	1 (CPCB)			1(MoSPI) 2 State SDIs			1 (IMD) 2 State SDIs	
3	Geospatial Cloud and Data Centre for hosting geospatial data/ information services of Central Agencies, State SDIs, and Applications		1 PoC Demo to complete		1 (Sol) 2 State SDIs			5 Central Agencies 4 State SDIs	
4	GIS Data Asset development, maintenance, publication				3 Central Agencies 2 State SDIs			5 Central Agencies 4 State SDIs	
5	Application development (Urban Governance, Railways, Disaster Management, Water Resources, Environment, Mining)				12 GIS applications			12 GIS applications	
6	International linkages - OGC/ GSDI/ BRICS/ UNGGIM – OGC-India Plugfest Event				4 project coordination meetings			4 project coordination meetings	
7	National Geospatial Policy – Compliance Framework/ Regulatory Authority				1 Policy to be approved			Compliance mechanism established	
8	Training Modules/ kits and Capacity Building				4 modules/ kits 5 Training Workshops			4 modules/ kits 5 Training Workshops	
9	Research & Development – 1-Interoperability, 2-3D SDI				5 projects launched in Area 1			10 projects in Area 1 and 5 in Area 2	
10	Standards Development and Utilisation				2 standards tested/ adopted			4 standards tested/ adopted	

NSDI Progress during 2017-18 and 2018-19 (so far)

- Maintenance of NSDI Geoportal/ Data Nodes/ State SDI Nodes – Odisha User Conference, Jharkhand Geoportal operational
- National Data Registry (NDR) – System Integrator identified
- NFSD (Admin Bndy, HARSAC, State Governments Odisha/ Karnataka/ MP), Haryana Transport Network, Hydrography Network etc.,
- Boundary Harmonisation - “Coordinated Preparation and Maintenance of Geospatial Data Assets” Workshops at HIPA, Gurgaon (19-23 Mar 2018)
- OGC-NSDI Interoperability Plugfest Engineering Report, Formulation of BIS standards (co-branding)

NSDI Progress (contd..)

Geospatial Cloud PoC RFP floated on CPPP (two bids, being evaluated)

Training-cum-review workshops covering NDR, Geospatial Cloud; Ontology and RESTful Web Services; FME at IITKgp, Ahmedabad University; KSCST

Edited Volume on “Geospatial Infrastructure, Technologies and Applications – India Case Studies” edited by Prof. N. L. Sarda et al (Springer)

SDI for Urban Governance Applications – Call for Proposal (last date: 31 March 2018), NRDMS evaluation completed, selected projects under process of sanction

Concept Paper on “NSDI 2.0 – Establishment of Application Infrastructure and Hosting Application and Solution Services”

Indian Standards framed/ co-branded

IS 16439:2016 – Metadata standard for Geospatial Information

IS 16626:2017 – Geography Markup Language (GML)

IS 16699: 2018 - Web Map Server Interface (WMS)

IS 16966 – GI – Location-based Services – Reference Model (ISO 19132:2007)

IS 16967 – GI - Location-based Services – Tracking And Navigation (ISO 19133:2005)

IS 16968 – GI – Location-based Services – Multi-modal Routing and Navigation (ISO 19134:2007)

IS 16970:2018 – GI – Rules for Application Schema (ISO 19109:2005)

CONTENTS OF OSM

Annexure 'B'

Sl.NO	CATEGORY/LAYER		SUB DETAILS
1.	GENERAL		Latitude/Longitude Name of State/District/Administrative index Topo sheet Number/Year of Survey/Edition No./Index to topo sheets Magnetic variation from true North direction Map reference Bar scale/Representative Factor
2.	ADMINISTRATIVE BOUNDARIES	Names Boundary Boundary Pillars	Administrative/Locality or tribal International to village, Forest, all boundary pillars, village trijunctions
3.	COMMUNICATIONS/ROADS	Roads Tracks Railways Embankments Other Lines	All Roads All Tracks, pass, footpath All gauges with stations, tunnels Light railways or tramway, All embankments, Road/rail/tank
4.	HYDROLOGY	Stream/Canals Dams Rivers & Banks Wells, Water Features	All streams/canals All earthwork dams All rivers with details, banks, islands All wells/tube wells/springs All Tanks (excluding overhead tanks), Lightship, buoys, anchorages
5.	SETTLEMENT/ CULTURAL DETAILS	Towns or Villages Offices Settlements	Village inhabited, deserted and forts Huts, Tower, Antiquities Religious places, tombs/grave All post/telegraphic/Police stations hut All Bungalows
6.	TRANSMISSION LINE		
7.	RELIEF/HYPSOGRAPHY	Contours Sand Features Ice Forms Heights Benchmarks	Contours with sub features All sand features Ice forms (all features) Spot height, Approximate height Bench marks (Geodetic tertiary, canal)
8.	VEGETATION	Plantations, Trees	All trees, Vine on trellis, grass, scrub.
9.	FOREST		Reserved/Protected

* Contours & heights will not be available in restricted zones as per MOD's instructions.

↑ / Catalogs

Filter by Ministry/Department ▾

- + Ministry of Science and Technology ×

Filter by Sector ▾

- Agriculture (2)
- Environment and Forest (2)
- Governance and Administration (2)
- Information and Communications (2)
- Infrastructure (2)
- Transport (2)
- All (1)
- Defence (1)
- Social Development (1)

☰ **Displaying 1 - 3 of 3 Catalog(s)** [Reset All](#) [Share Widget](#)

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Web Map Service (WMS) From Survey Of India OSM Data And Bhuvan For Andhra Pradesh

Ministry of Science and Technology, Department of Science and Technology (DST), NSDI India GEO Portal, National Spatial Data Infrastructure (NSDI)

This is a OGC compliant Web Map Service (WMS) created by Survey of India from Open Series Map (OSM) Data on 1:50,000 scale and Panchromatic imagery of Bhuvan for Andhra pradesh . These rich data sets can be integrated with any other OGC compliant Web Services to make it more meaningful and solve real life problems. The whole OSM map data is organised in 8 themes which can be made on /off with the tools provided in layer menu. The transparency of the Bhuvan imagery can be changed by the user as per the requirement using the tool available under layer menu of the India geo-portal. This facilitates the user to have the map and imagery for his specific interest. This WMS is for viewing and not meant for download as the map is served as an image.

Keywords: [Web Map Service](#), [andhra pradesh](#), [Bhuvan](#), [Survey of India](#)

6676 Views 338 Downloads **1 x WMS** [Subscribe](#)

Last Updated 10 months 1 week ago

Suggest a Dataset

Geo-information Services on India Water Portal (only WMS)

The screenshot displays the India-WRIS WebGIS interface. The browser address bar shows the URL: `india-wris.nrsc.gov.in/WMSServicesApp.html?UType=R2VuZXJhbA==?UName=`. The page features a navigation menu with links for About WRIS, Accessibility, Tools, Metadata, WRIS Wiki, and Help. The main header includes the India-WRIS logo and the text "India-WRIS WebGIS Water Resources Information System of India".

The interface is divided into several sections:

- Map Services Legend:** A sidebar on the left lists various map services: Base Map, Water Infrastructure, Water Data, Water Status, Water Extremes, and Natural Resources. The "Base Map" is currently selected.
- Map Viewer/ Geo-Visualization:** A map of India is displayed with a scale bar indicating 500 km and 300 miles.
- India-WRIS WMS enabled ArcGIS REST based Map Services Catalogue:** A central panel providing detailed information about the services.

India-WRIS map services are WMS enabled ArcGIS REST based services, published under ArcGIS Server. ArcGIS REST (WMS enabled) based services are identified by some unique numbers (E.g.: 7 for States Boundary), unlike Geo Server where services are identified by some unique string names (E.g.: 'sde:states' for States Boundary).

Buttons: WMS Properties, ArcGIS REST Properties, WMS for Desktop/ Web GIS

WMS url: Used to consume map services through QGIS (Quantum GIS), Arc Catalog, OpenLayers, Leaflet, ArcGIS APIs for Flex/ JS (JavaScript) ...

WMS layers: Used to consume map services through OpenLayers, Leaflet, ArcGIS APIs for Flex/ JS (JavaScript) ...

ArcGIS REST url: Used to consume map services through ArcGIS APIs for Flex/ JS (JavaScript) ...

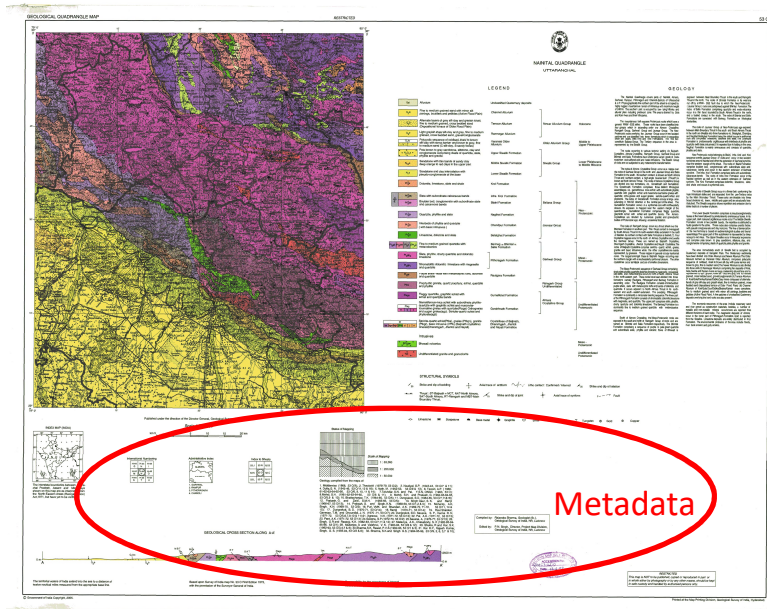
ArcGIS REST url (for OpenLayers ArcGIS93Rest): Used to consume map services through OpenLayers ArcGIS93Rest ...

ArcGIS REST layers: Used to consume map services through OpenLayers ArcGIS93Rest, ArcGIS APIs for Flex/ JS (JavaScript) ...

Map Services	Title/ Abstract/ Description/ WMS name	WMS url	WMS layers
Districts Headquarters/ Capitals	Districts Headquarters/ Capitals	http://india-wris.nrsc.gov.in/ArcGIS/services/	4
Cities Extent	Cities Extent	http://india-wris.nrsc.gov.in/ArcGIS/services/	2
Towns Extent	Towns Extent	http://india-wris.nrsc.gov.in/ArcGIS/services/	1

The Windows taskbar at the bottom shows the system clock as 00:28 on 19-03-2018.

Improvement in Data Search and Discovery

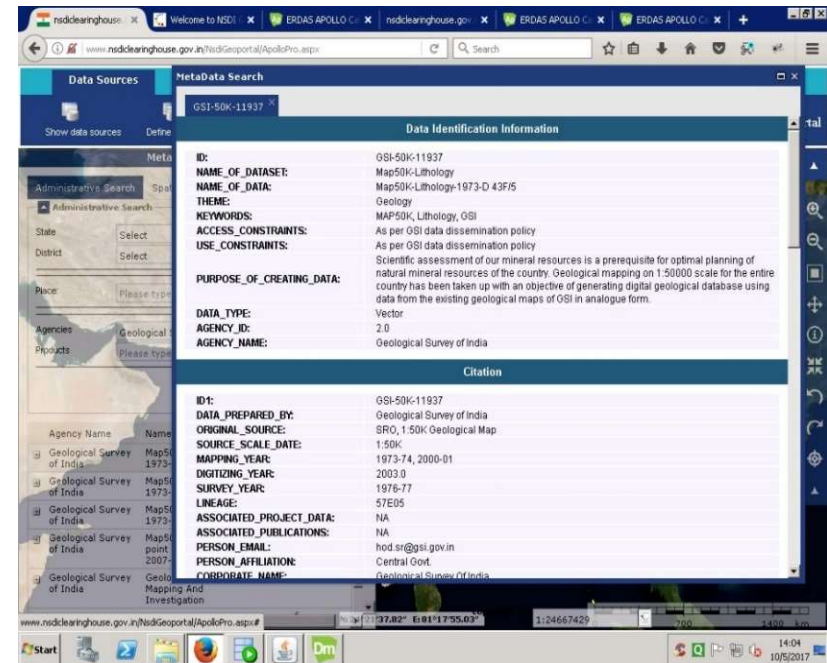


Inaccessible, non-standardised, non-discoverable and non-searchable geospatial metadata in analogue map sheets of NSDI Partnering Agencies e.g. Geological Survey of India (GSI), Survey of India (SOI); Forest Survey of India (FSI) etc.



- NSDI/ BIS standard IS 16439 : 2016 on Geospatial Metadata
- Data Nodes at NSDI Partnering Agencies for metadata compilation
- Improved search capabilities in India Geoportal

Accessible, standardised, discoverable and searchable geospatial metadata in India Geoportal of NSDI uploaded by the Partnering Agencies



State Geo-portals, Metadata, and RFP/ Tender Documents (in NSDI Geoportal Homepage at https://nsdiindia.gov.in)

The screenshot shows the NSDI Geoportal homepage. The browser address bar displays <https://nsdiindia.gov.in/nsdi/nsdiportal/index.jsp>. The page content includes a 'Welcome to NSDI' header, a 'NSDI Vision' section with two points, and a list of recent RFPs and tenders. A sidebar on the right contains a 'Login Here' button and a list of state geoportals. Annotations with red arrows and circles highlight specific features: 'RFP/ Tender Documents' points to the RFP list; 'State Geo-portal Access' points to the state geoportal list; and 'Metadata Access' points to a map titled 'what is where'.

RFP/ Tender Documents

State Geo-portal Access

Metadata Access

what is where

NSDI Vision

1. National Infrastructure for the availability and access to organised spatial data.
2. Use of the infrastructure at Community, Local, State, Regional and National Levels for sustained economic growth.

Recent RFPs and Tenders:

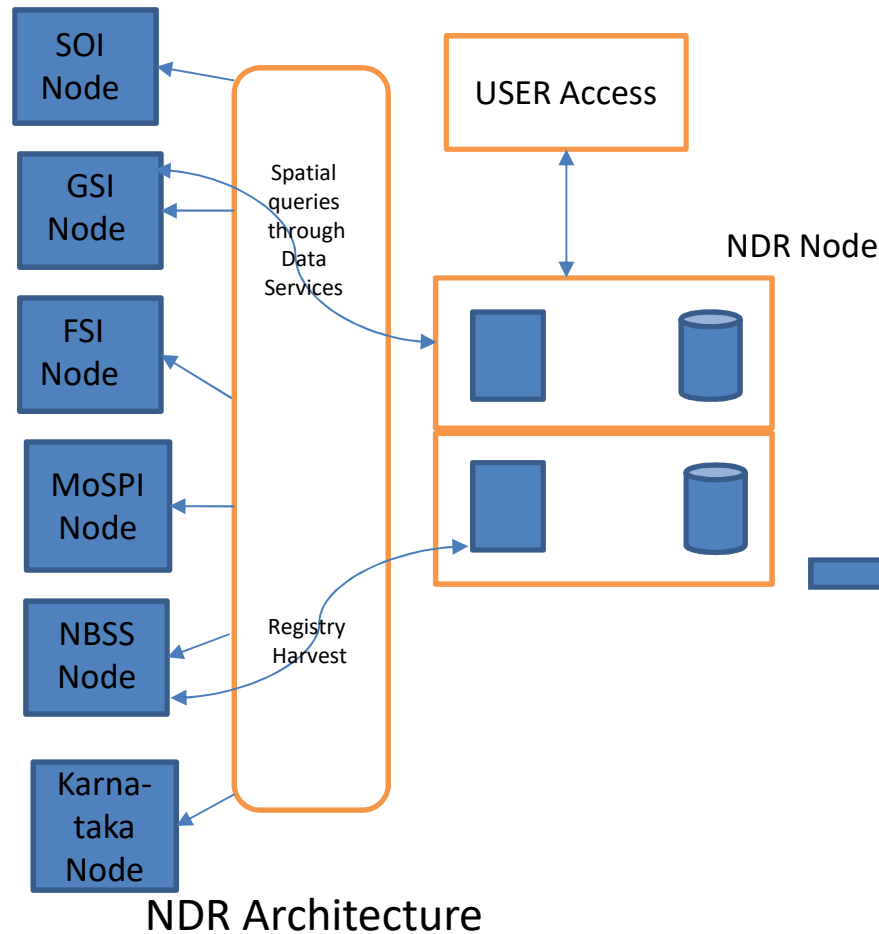
- "RFP For PoC on Geospatial Cloud Data Center"**
Pre-bid Meeting at Khosla Hall, NSDI on 9th February 2018 at 1100 hrs
- "Revision of the Bid Submission Date for RFP for PoC on Cloud Data Centre for NSDI"**
- "Supply, Installation & Commissioning of Blades Servers, Blade Chassis, SAN Storage and Other Necessary Accessories as a Bundle of Solution for Geospatial Services of NSDI"**
[Extension Notice](#)
[Corrigendum](#)
[Corrigendum](#)
- NDR**
[Corrigendum to RFP for Setting up NDR](#)
[Format for Submission of Financial Bid For NDR](#)
[NDR Evaluation Result Stage - I](#)
[Return of EMD and Other Documents](#)

State Geoportals:

- Login Here
- Draft Content Standard
- Working Groups Reports
- Nodal Officers' Contact List
- NSDI Passionate Saga
- Kendriya Vidyalya Locations
- NSDI Movies
- NDRE Locations India
- Jharkhand Geoportal
- Karnatka Geoportal
- Haryana Geoportal
- Odisha Geoportal
- Uttarakhand Geoportal
- West Bengal Geoportal
- Know Tsunami
- National Geospatial Policy

(Section II)

Faster Multisource Data Access through National Data Registry (NDR)



NDR Applications (Query/ DSS)

Streams wider than 4 meters within soil type MH310 but not within the Bhilwara geological supergroup and are falling within the Open Forest



RFP for PoC on Geospatial Cloud-based Data Centre for SOI/ NSDI

Request for Proposal (RFP)
For
PoC on Geospatial Cloud based Data Center
RFP No. 2/8/2016/NSDI

@gov.in Welcome to NSDI GeoPortal
https://nsdiindia.gov.in/nsdi/nsdiportal/index.jsp

Welcome to NSDI

India is fast moving into being an information and knowledge society - es Information Technology and 'transparent' e-governance. [Know More.](#)

NSDI Vision

1. National Infrastructure for the availability and access to organis
2. Use of the infrastructure at Community, Local, State, Regi economic growth.

new ["RFP For PoC on Geospatial Cloud Data Center"](#)
Pre-bid Meeting at Khosla Hall, NSDI on 9th February 2018 at 110

new ["REvision of the Bid Submission Date for RFP for PoC on C Data Centre for NSDI"](#)

["Supply, Installation & Commissioning of Blades Servers, Blade Chassis Storage and Other Necessary Accessories as a Bundle of Solution for Spatial Services of NSDI"](#)

[Extension Notice](#)
[Corrigendum](#)
[Corrigendum](#)

NDR
[Corrigendum to RFP for Settingup NDR](#)
[Format for Submission of Financial Bid For NDR](#)
[NDR Evaluation Result Stage - I](#)
[Return of EMD and Other Documents](#)

National Spatial Data Infrastructure New Delhi

January, 2018

Document Cost- Rs. 2000(Rupees two thousand only)

- Uttarakhand Geoportal
- West Bengal Geoportal
- Know Tsunami
- National Geospatial Policy

Data Management at the State Level

- Karnataka SDI – Phase II, applications demonstrated in Watershed, Health sectors; Proposal on SDI for urban governance received for app development
- Kerala SDI – Incubated by DST R & D projects, Geo portal developed, NSDI participated in State Level Workshops, KSDI participation in IIT Kgp Workshops
- West Bengal SDI – Geoportal prototype already in operation, NRDMS District Centres Staff trained on use of the geoportal and updation of metadata; RFP document further revised for publication after approval
- NE SDI – Geo-portal prototype demonstrated, Nagaland and Mizoram SDI proposals under process, Arunachal Pradesh proposal submitted
- Haryana – Geo portal developed, HIPA Workshop on coordinated preparation of GIS data assets on 19-23 Mar 2018, publication of harmonized bndy data
- Uttarakhand – Geo-portal developed, District GIS Cells set up for data updation using Geo-portal
- J & K – Hardware procured, Software under procurement, RFP process on for vendor selection for development of geo-portal

Data Management at the State Level (Contd..)

- Govt. of NCT of Delhi – Delhi Geospatial Act in place, SOI 1:2,000 scale maps put to application development in Postal Zone Delineation, Forest Monitoring, GSDL advised on data updation
- Odisha SDI – State Data Sharing Policy approved by Odisha State Cabinet, Vendor identified, Geo-portal Development on-going
- Jharkhand SDI – Vendor identified, Geo-portal development on-going
- State SDI proposals for Punjab, MP, Chhatishgarh, Uttar Pradesh in pipeline
- National Workshop on “State SDIs and their Applications” at KSCST Bengaluru on 8-9 June 2017 (proposed)

Odisha Geoportal (KamakshyaNagar Block, Dhenkanal)

The screenshot displays the Odisha Spatial Data Infrastructure (SDI) Geoportal interface. The browser window shows the URL `osdi.orsac.gov.in/OSDI/MapView/`. The application header includes a user greeting "Welcome admin" and navigation links for "Home" and "Logout".

The main map area shows a cadastral map of KamakshyaNagar Block, Dhenkanal, with various land parcels labeled with numbers such as 923, 926, 929, 930, 931, 932, 932/2318, 943/2459, 970, 970/2341, 971, 969, 973, 975, 976, 977, 978, 979, 980, 981/2479, and 968/2482. A scale bar at the bottom right indicates a scale of 1:589, with markings for 0, 20, and 40 units.

The "Layers" panel on the left side of the map viewer is open, showing a list of layers under the "Dhenkana Cadastral" category. The layers are:

- CDP Layers
- GPS
- Boudh Cadastral
- Dhenkana Cadastral
 - Anno odapada
 - Anno kankadahada
 - Anno kamakshyanagar
 - Anno parjang
 - Anno hindol
 - Anno gondia
 - Anno dhenkanal
 - Anno bhuban
- bhuban
- dhenkanal
- gondia
- hindol
- kamakshyanagar
- kankadahada
- odapada
- parjang

The Windows taskbar at the bottom shows the system tray with the date and time "19:49 01-05-2018" and the language set to "ENG INTL".



HARSAC Village Boundary Compared (Jhajjar District)

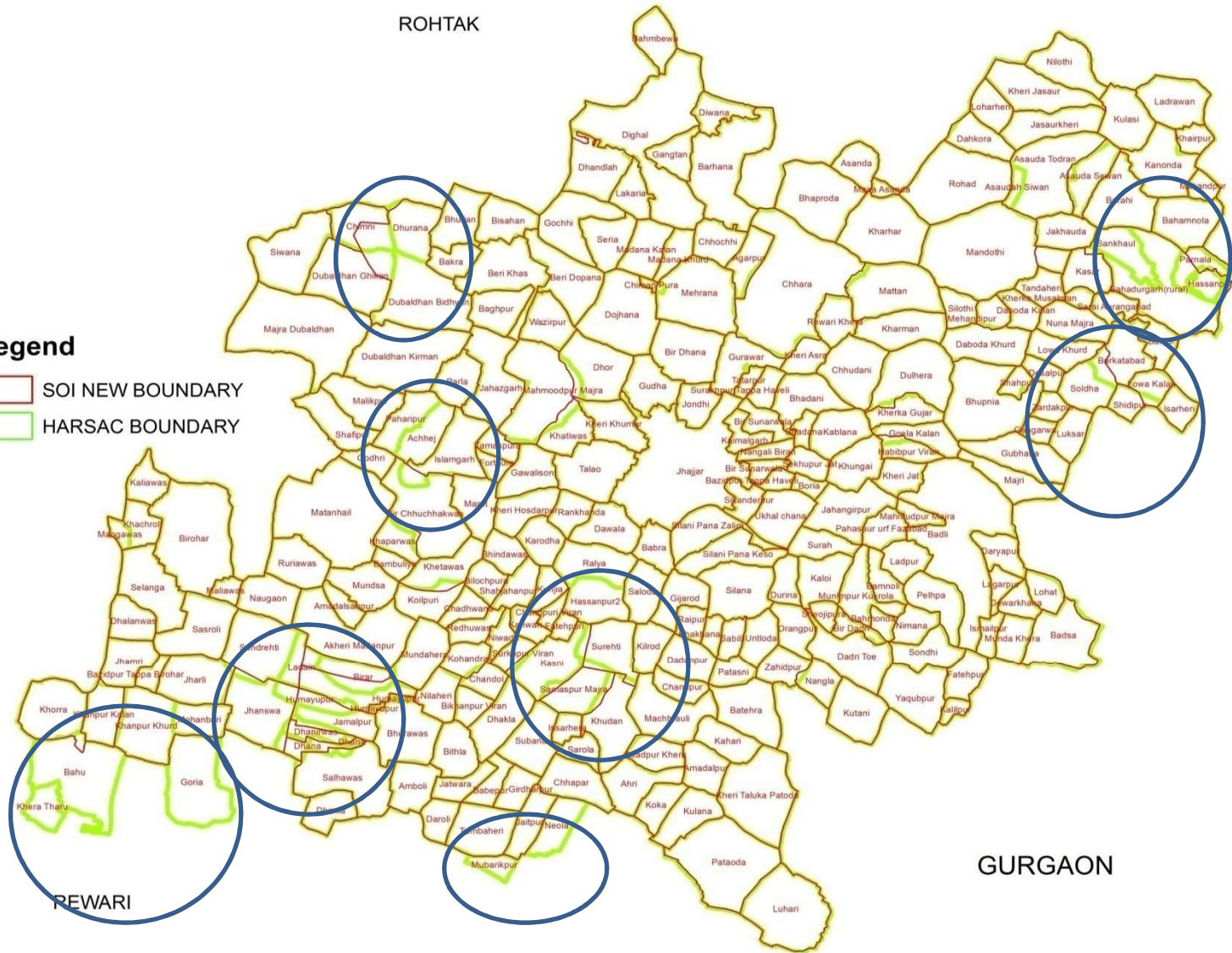
JHAJJAR

SONIPAT

ROHTAK

Legend

-  SOI NEW BOUNDARY
-  HARSAC BOUNDARY



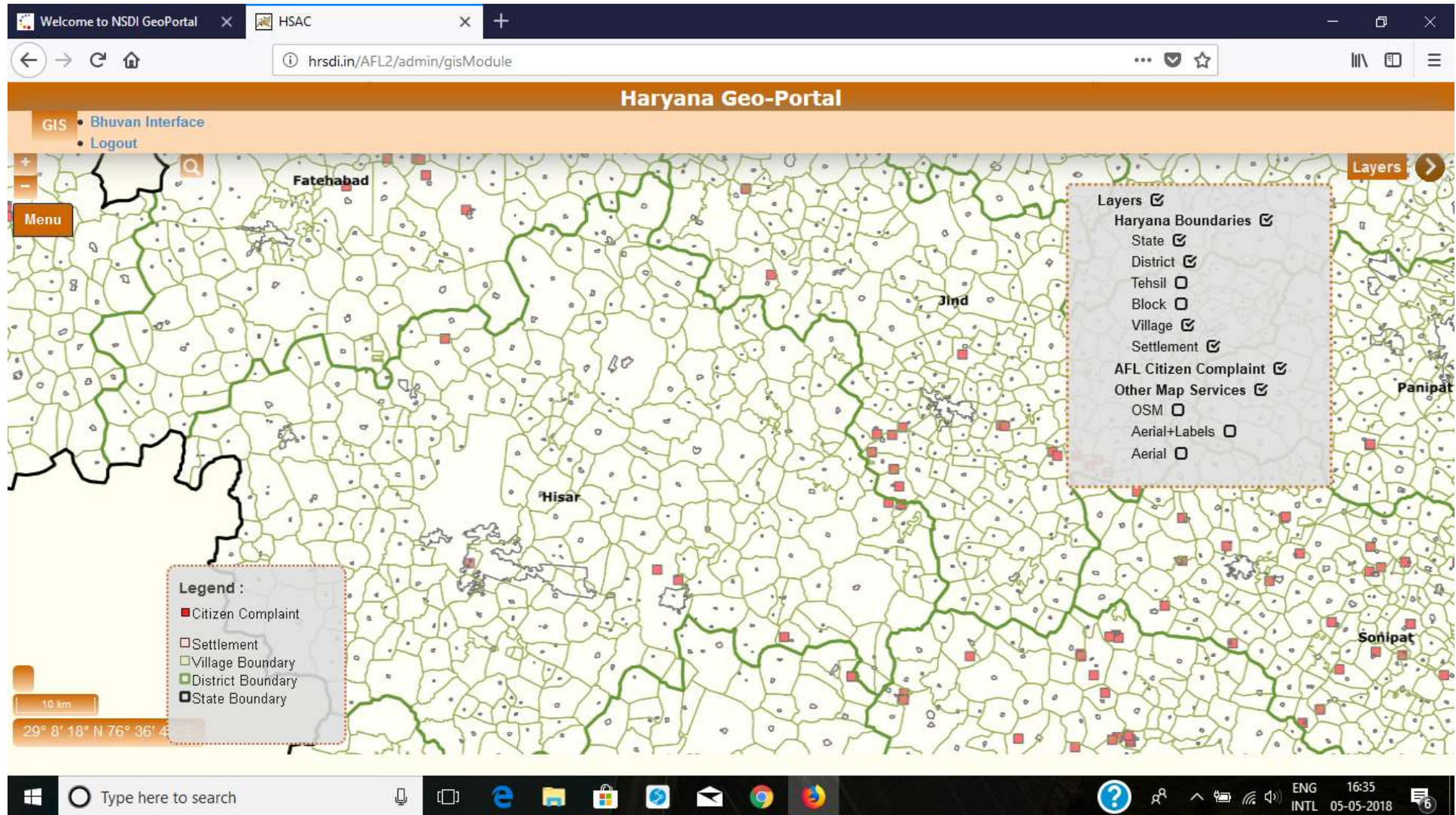
REWARI

GURGAON

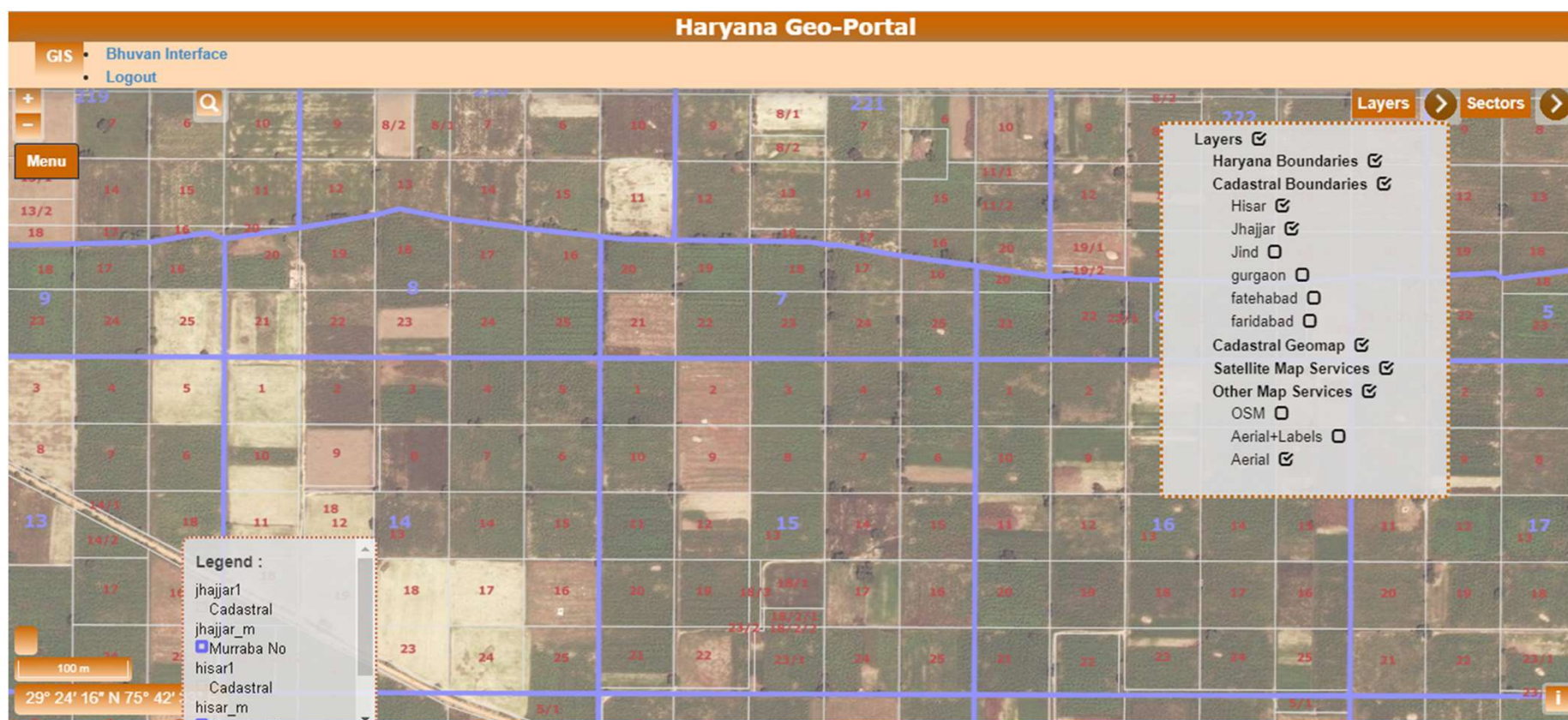
Two parts of Village boundary overlaid on Cartosat ortho-rectified image Humayupur



Active Fire Location (AFL) Points with Village Boundaries in Haryana

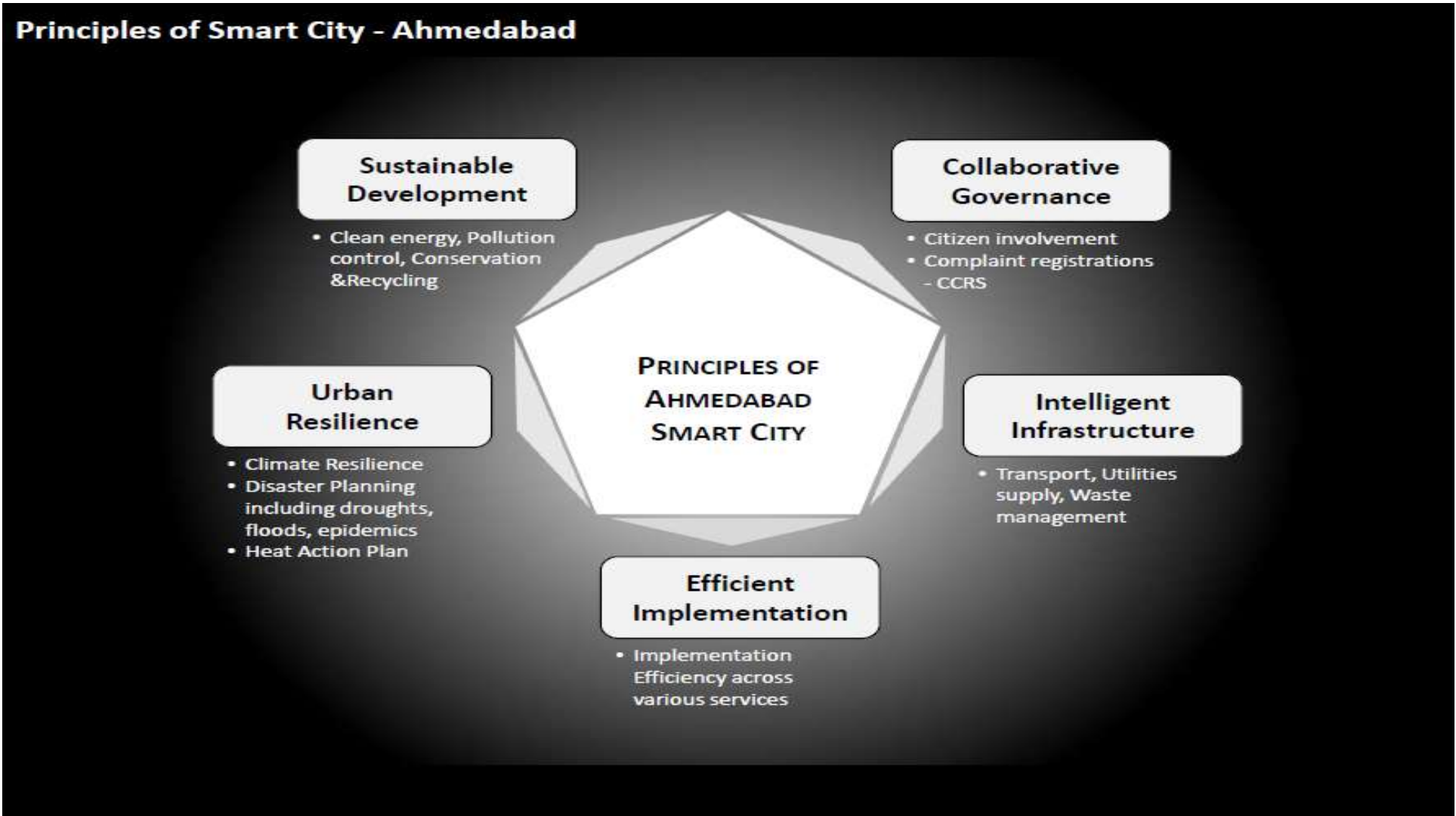


Improved land management through State Spatial Data Infrastructures (SSDI)



Haryana Geoportal – showing WMS access to the cadastral boundaries and the aerial image in the background

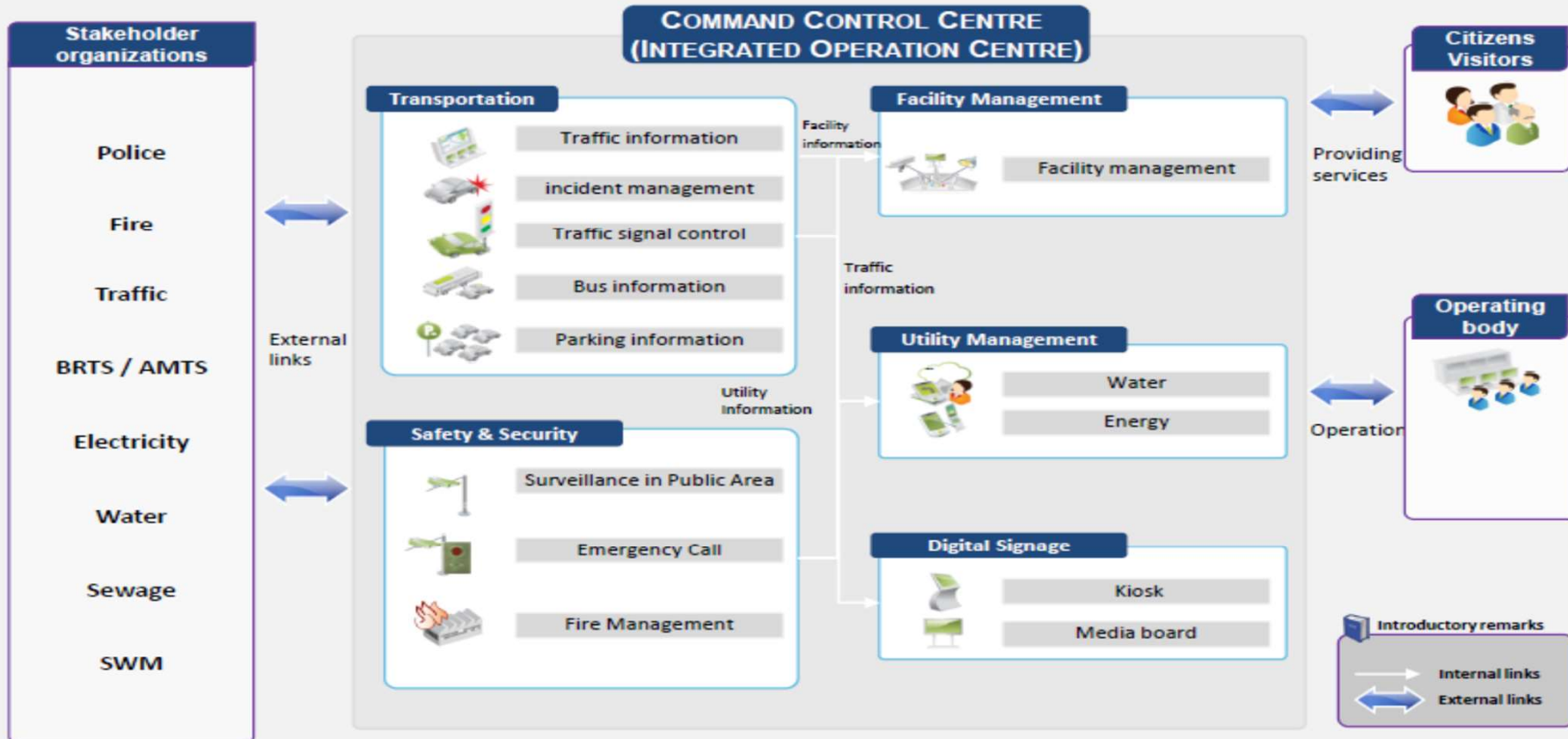
Applications and R & D



Principles of Smart City - Ahmedabad

Applications and R & D (contd..)

Command Control Centre & OFC Network



Command Control Centre and OFC Network (proposed)
Ahmedabad Smart City Proposal

Applications and R & D (contd..)

The screenshot shows a web browser window displaying a 3D city model interface. The browser address bar shows the URL `drsaresearchlab.com/3DCityDB-Web-Map/`. The page title is "Ontology Based Disaster Event Simulation with Semantic Query Support and Visualization on City Model" (Sponsored by NRDMS, Department Of Science & Technology, Govt. of India). The interface includes a navigation bar with "Home" and "Please Click on any Geographic Feature in the City Model to get Semantic Details". A search bar is visible with the text "Show / Hide Semantic Query". The main area shows a 3D city model with red buildings and a road labeled "Mahilpalpur A-Block Road" and "Delhi Gurgaon Road". A query window is open, showing a query: "Building nearby TransportationComplex". The results window displays a list of UUIDs.

Ontology Based Disaster Event Simulation with Semantic Query Support and Visualization on City Model
(Sponsored by NRDMS, Department Of Science & Technology, Govt. of India)

Please Click on any Geographic Feature in the City Model to get Semantic Details

http://www.opengis.net/cit + Object Property

UUID_e965fb76-b413-4758-a767-7c3708a6d1fa + Datatype Property

Logical Relation +

Add Region Remove Region

Query

Building nearby TransportationComplex

Reset all Execute

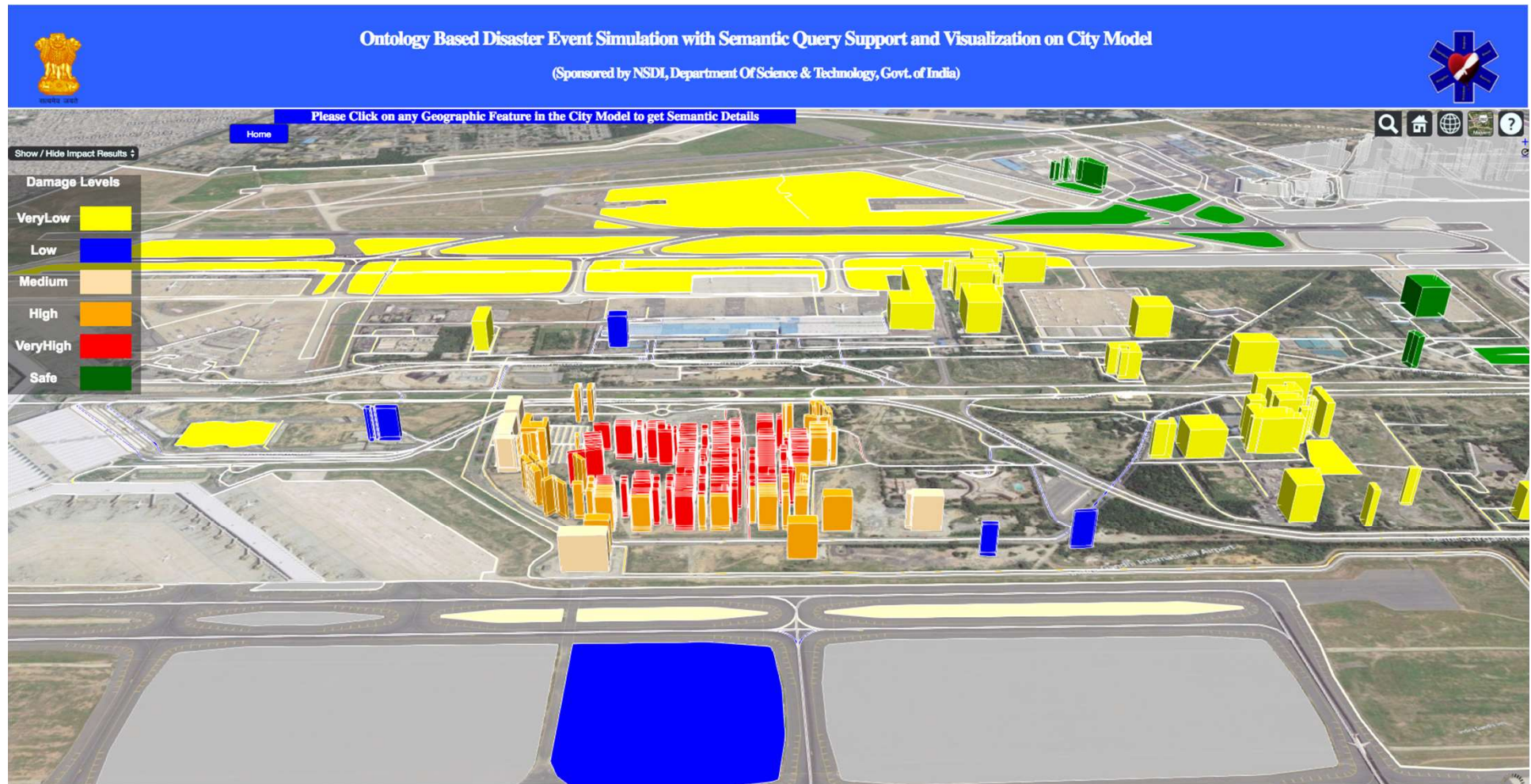
UUID_e965fb76-b413-4758-a767-7c3708a6d1fa

- UUID_9f1a79c5-4374-4442-b790-a74b46cf2680
- UUID_cf113db3-1783-40a4-aa38-801d7fb32ec9
- UUID_21ec011f-76cd-489f-8e7c-7d628793ae68
- UUID_40e7246c-9c05-4335-a753-e2e1b3e424b0
- UUID_8339e23d-4d35-4e5a-b847-41a30b89248d
- UUID_1feb8ea8-d5f1-4686-8926-c9c04cb5932e
- UUID_b57e3146-4ef2-48cf-8d5b-815f41340fad
- UUID_5126489a-9a68-4b5a-82bf-1f9f38b15bf6
- UUID_00a1d4e4-a829-47e7-b4bd-b77951a2dc12
- UUID_c4f7cf0d-e09a-459c-ba59-1d1fd324742a
- UUID_6817fe5d-8b4c-4180-ad34-2c26c634757b
- UUID_1b537d68-1fab-4a9a-bdc0-a52a6bc1787d
- UUID_ac31a1f2-ba3e-4764-a797-0cfccfd7ff4
- UUID_644329e2-a540-4ff0-b8ec-bb4f31edf401
- UUID_aaab11cc-681f-4524-9ed2-27040f19f046
- UUID_8d91915d-13b0-43e5-a505-46240d3ae2c7
- UUID_4d6557dd-7d93-4cb7-a63f-e4dc88c45dcc
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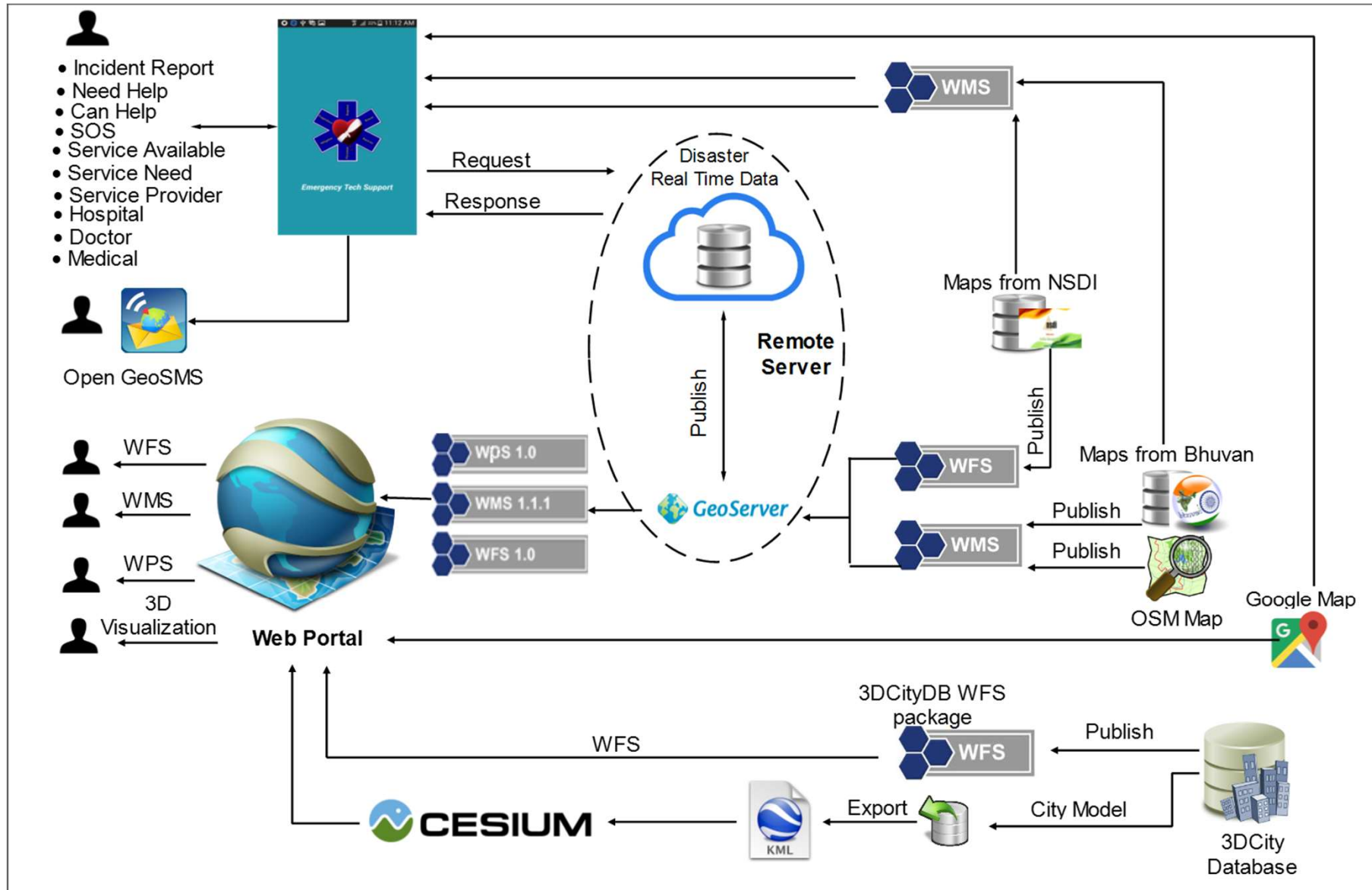
Spatio-semantic querying on 3D CityGML data

Applications and R & D (contd..)



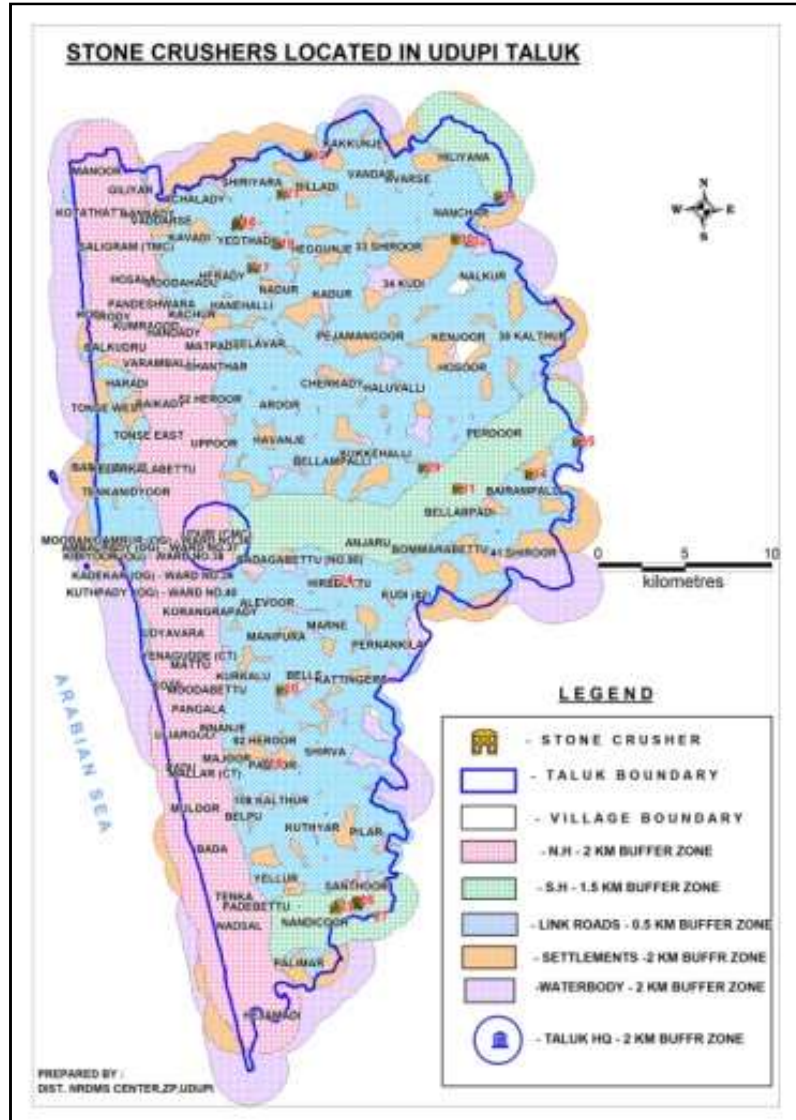
Ontology-based Disaster Event Simulation with Semantic Query Support

Applications and R & D (contd..)



Architecture for Disaster Management – Chennai Flood

Environment – Relocation of Stone Crushers



DR. M. T. REJU, I.A.S.
Deputy Commissioner & District Magistrate
Udupi District



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UDUPI - 576 104, Karnataka.
Date 05/07/2012

UDC PS 01/2012-13

To,

The Executive Secretary,
Karnataka State Council for Science and Technology,
Indian Institute of science Campus,
Bangalore 560 012.

Dear Sir,

This is to acknowledge the efficient work done Sri Vikram R, Project Associate, District NRDMS Center in evaluating and assessing the number of stone crushers in Udupi District. This work was taken up as per the directions of the Hon'ble Supreme Court to identify safer zones for Stone Crusher units in the district. This work entailed, detailed GIS Positioning and identification of all existing stone crushers, both formal and informal in the district of Udupi and involved mapping of all roads, habitats, temples, Schools, Rivers, and other infrastructure facilities. GIS analysis involved buffering around existing facilities to identify safe stone crusher zones.

Sri Vikram R, Project Associate, NRDMS Center, Udupi has completed this work efficiently and submitted the report in time, as advised to him. We appreciate his effort and interest in successfully submitting the report.

Thanking you,

Yours faithfully,

(Dr. M. T. Reju)
Deputy Commissioner,
Udupi District, Udupi

Identification of safe zones for location & relocation of stone crushing units based on State/Centre guidelines.

This work was taken up on the request from District Administration in six districts.

NSDI Capacity Building

- Building Geo-Information Capacity - R&D Projects in selected Thrust Areas – Geodesy, Urban Governance, Aspirational Districts using State SDIs
- GISE Lab IIT Bombay, Kumaon University, Kerala University – GI Science Courses
- 3-day training-cum-review workshop on “Geo-Spatial Data Modeling and Geo-Spatial Cloud for SDIs” on 22-24 August 2017 at the Department of Computer Science & Engineering (CSE), IIT Kharagpur
- 3-day training-cum-review workshop on “Service-oriented Architecture for Spatial Data Integration and Reasoning” on 15-17 November 2017 at the School of Engineering & Applied Sciences (SEAS), Ahmedabad University, Ahmedabad
- 5-day training workshop on “Coordinated Preparation of National Foundation Spatial Data (NFSD) for Gram Panchayat & Ward Level Mapping” organized by the State SDI team of Haryana Remote Sensing Application Centre (HARSAC), Hissar at the Haryana Institute of Planning & Administration (HIPA), Gurugram on 19-23 March 2018

IIT Kgp Training Programme Manual (covering NDR, Geospatial Cloud, App Development)

DST-WorkshopManual_IITKgp_Jul2016.pdf - Adobe Reader

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Bookmarks

- Introduction
- Spatial Data Modeling
- Integration of Geographic Data Models and Registry Service**
- API for Data access and Visualization
- Mobile Apps for GI Application
- Case Study: Accident Management System
 - Research Works in Geospatial Research Lab (GRL)

**Geospatial Data Modeling and
Mobile Apps for GI Applications**

Geospatial Research Laboratory
Spatial Informatics Group

Department of Computer Science and Engineering
Indian Institute of Technology Kharagpur
India- 721302

July, 2016

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Core elements of the NSDI 2.0 Concept

- Maintenance/ sustenance of NSDI and State SDI Data Nodes, spatial data catalogue (NDR)
- Data life cycle management (data asset updation – stages covering plan, acquire, process, analyse, preserve, publish/ share)
- Geospatial Cloud Platform for data processing
- Application/ solution service delivery
- Training and capacity building
- R & D (Interoperability, 3D SDI, VGI, SDSS)

Objectives

Development of web-enabled and secured geospatial databases of seamless GIS assets (processable base map/data) for 1000 panchayats and 10 towns/ cities spread across 10 selected States implementing State SDIs

Positioning a Geospatial Cloud as a single gateway for processing and sharing GIS enabled data, information, data products, applications, services, and solutions;

Utilising the above database and platform for preparing integrated plans and taking sound decisions at panchayats (Panchayati Raj Institutions) and wards (Urban Local Bodies) in various application areas like land, water, energy, biodiversity (flora and fauna), Urban Development etc.; and

Upgrading the existing research and training institutions to an organisational network for effective capacity building and development of human resources.

Outputs

Compilation/ calibration of available base data sets (1:10K and 1:2K) and coordinated fresh acquisition (wherever required for meeting identified application needs) to overcome data gaps – 1000 GPs and 10 towns,

National Data Registry containing metadata of all available and fresh geospatial data sets of the country;

A Geospatial Cloud Platform for collaborative mapping, sharing, and processing of data/ services/ applications/ products;

Supportive R&D activities for decision support systems and geo-data analytics for application development to be hosted on the above Platform; standards making and utilisation

Policies – National Geospatial Policy/ Act, National Geospatial Authority

Capacity building – 3 Training Hubs, 500 trained staff

Activities

Output 1: Overcoming existing data gaps at panchayats/ wards for provision of application/ solution services

- Identification of panchayat/ ward level applications
- Enumerating the data gaps vis-à-vis available data
- Coordinated preparation and sharing of standards-based high resolution (1:2K) geospatial foundation data (recci etc.) with user departments
- Establishment of the mechanism for data life cycle management
- Compilation of colateral thematic and attribute data
- Provision of map/ feature panchayat/ward data services from the State Geoportals

Output 2: Upgradation of National Data Registry

- Sensitisation of NSDI/ SSDI partners on NDR
- Establishment of local data registers in States
- Provision of registry/ catalogue services from State Geoportals
- Regular updation of NDR with registers/ catalogues from State Geoportals/ National Data Portal (data.gov.in)

Activities (contd..)

Output 3: Establishment of cloud-based geospatial data processing platform for provision of application/ solution services

- Demonstration of the proof-of-concept Geospatial Cloud
- Installation of NSDI 2.0 Private Cloud for NSDI/ State SDI 2D/ 3D data management
- Installation of incremental access to (Megharaj or MeitY-approved) Public Cloud for high-speed data processing
- Provision of application/ solution services to select set of Panchayats/ Wards

Output 4: Establishment and operation of proposed National Geospatial Authority (NGA)/ National Data Registry (NDR) and coordination of application service provision through 5 regional hubs

- Formulation of NGA/ NDR Ordinance/ Act
- Establishment of 5 coordinating regional hubs of NSDI (office space, manpower, terminals/ equipment)



Thank You
