

## AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

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### VI. NAME OF CATEGORY- 'INNOVATIVE USE OF GIS TECHNOLOGY IN e-GOVERNANCE'

#### 1. Coverage – Geographical and Demographic :-

(i) Comprehensiveness of reach of delivery centres,

Entire State

(ii) Number of delivery centres

Web based Appliation

(iii) Geographical

(a) National level – Number of State covered

1

(b) State/UT level- Number of District covered

24

(c) District level- Number of Blocks covered

260

Please give specific details:-

(iv) Demographic spread (percentage of population covered)

The data is made available through web based GIS application. Therefore, may be used by Forest Officers, common man, researchers, administrators, planners and decision makers etc.

**2. Situation Before the Initiative (Bottlenecks, Challenges, constraints etc with specific details as to what triggered the Organization to conceptualize this project):**

It was the challenge to digitize and generate the data required for planning, implementation and monitoring of forestry and other related operations by systemic collection, storage and retrieval of MIS and Geo-spatial data through a computer based communication network. It was required

- to collect the available data digitize, update and geo-reference
- to generate the data which was not available specially on the natural resources and administrative boundaries
- to generate the action plan for the development using the geo-spatial tools

**3. Scope of Services (Relevance of application for e-governance, extent to which service is delivered through GIS)**

The solution was designed as the Jharkhand Forest Management Information System on a web-GIS based platform to facilitate the users for (i) basic GIS functions of display, zoom in and out, pan for all the available geo-database (ii) print the maps and desired geo-database (iii) query on the desired thematic layers (iv) creation of buffers based on location and features (iv) search by latitude/longitude (v) distance measurement (vi) extract information about any point, line, area feature (vii) search by Region, Circle, Division, Range, Beat, Sub-Beat and Compartment name (viii) multi layer search etc.

**4. Strategy Adopted**

**(i) The details of base line study done,**

- to collect the available data digitize, update and geo-reference
- to generate the data which was not available specially on the natural resources, Forest administrative Boundary, Boundary Pillars and administrative boundaries
- to generate the action plan for the development using the geo-spatial tools

(ii) Problems identified,

Lack of geospatial data at Village level for the citizens as well as Government/Non Government Organizations

(iii) Roll out/implementation model,

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(iv) Communication and dissemination strategy and approach used.):

Disseminated through workshops, advertising, word of mouth, Information to Govt. Departments, Media, Publication

**5. Technology Platform used-**

**(i) Description,**

The application is hosted on the ArcGIS Server.

(1) Windows 2008 Server (2) IIS 7 Web Server (3) Oracle 10g (4) ArcGIS Server Advance Enterprise (5) Dot Net Framework 3.5 (6) Microsoft Vb.net

**(ii) Interoperability**

The GIS layers used in the web service are interoperable with any other GIS software

**(iii) Security concerns**

All the security norms has been followed as the service has been hosted in the server of State Data Center, Govt. of Jharkhand. Web data access is open to service for the user.

**(iv) Any issue with the technology used**

Technology used has no issues so far

**(v) Service level Agreements(SLAs) (Give details about presence of SLA, whether documented, whether referred etc. #)**

Not required

**6. Demonstrate Innovation in use of GIS Technology for e-Gov** (Give details of technology used - Architecture, Platform, Open Source tools, Front-end development, Remote Sensing & Mobile Technology integration, SMS & email)

Supports Web services including map, image, globe, locator, geo-processing, KML, WMS, WCS and WFS.

- (1) Windows 2008 Server
- (2) IIS 7 Web Server
- (3) Oracle 10g
- (4) ArcGIS Server Advance Enterprise 9.3.1
- (5) ArcInfo 9.3.1
- (6) Dot Net Framework 3.5
- (7) Microsoft Vb.net (Front end development)

Moderate resolution and high resolution satellite data has been used for the generation of GIS layers. Apart from this base maps also have been used for digitization of different GIS layers viz., road, railway, settlements.

The service can be integrated with SMS and e-mail Further, development of mobile based application is under development .

**7. Interoperability & security** ( Give details about ability to leverage sharing amongst stakeholders in accordance with map policy, Token services, SSL)

OGC WMS Service has been created in ArcGIS server, which can be used by stakeholders.

**8. Scalability** (Give details with respect to technology (Platform, Hardware & software) & data (high and low Geographical and Demographic scale

High end server has been used for hosting the application

**9. Sustainability & adaptability** ( Give details w.r.t architecture/ technology, updation of spatial data, training, human resource, research, local language )

To make the service sustainable the provision for updation of data by Forest department has been made. This will provide the relevant information to the citizens. Browser based edit facility has been provided for up-dation of Spatial Data using ArcGIS server.

For adaptability by Govt. departments, who are service providers a training cell has been established at JSAC for training to Govt. departments as per their requirement.

## **10. Adaptability Analysis**

### **(i) Measures to ensure adaptability and scalability**

Adapatability is measured at two levels (i) Govt. level (ii) Citizen level. At government level the adaptability is measured as per the participation of the Govt. department in updation of the GIS layers. The citizen level adaptability will be measured based on the use of web services reflected by the number of users visited the website.

### **(ii) Measures to ensure replicability**

Standard procedures has been followed for hosting the web Service. Further the GIS layers are kept in the open shape file format.

**(iii) Restrictions, if any, in replication and or scalability**

No restriction issues has been observed.

**(iv) Risk Analysis**

Different kind of risk scenario has been analyzed. Accordingly, measures have been taken

**11. Accountability** (Give details in regard to roles, responsibility, facility for audit trails )

Database administrator and network administrator daily review the log files in state data center

**12. New Models of service delivery** ( Give details about Public/ private/ NGO/ academic linkages/ citizens)

The service has been designed following the concept of Geo-citizen.

**13. Citizen Centricity** (Give specific details on the following#)

**(i) Impact on effort, time and cost incurred by user,**

The database is helpful for citizen in making decision based on the GIS maps. For example ground water prospect map is being made available through citizen may find out the site for drilling for exploitation of ground water. Action plans are also made available through which citizen may take appropriate decision.

**(ii) Feedback/grievance redressal mechanism,**

Feedback received from any user is being incorporated.

**(iii) Audit Trails,**

It is being audited by Internal Audit Team for updation of technical details.

**(iv) Interactive platform for service delivery,**

All the GIS layers can be used in an interactive manner for service delivery

**(v) Stakeholder consultation**

A series of workshops were organized for Forest Departments were invited for discussion and consolation.

**14. Efficiency Enhancement** (Give specific details about the following #)

**(i)** Volume of transactions processed,

Users from different areas are using the application.

**(ii)** Coping with transaction volume growth

The high end server is deployed

**(iii)** Time taken to process transactions,

The output map may be generated in minutes time period.

**(iv)** Accuracy of output,

The GIS layers are presented at 1:50,000 scale.

**(v)** Number of delays in service delivery

Based on the speed of the internet connection

**15. User convenience** (Give specific details about the followings #)

**(i)** Service delivery channels (Web, email, SMS etc.)

Web

**(ii)** Completeness of information provided to the users,

Information is complete

**(iii)** Accessibility (Time Window),

The service is web based therefore it is open all the time

**(iv)** Distance required to travel to Access Points

An internet connection is only required. At home the service can be accessed.

**(v)** Facility for online/offline download and online submission of forms,

Maps can be composed and saved for future use. Direct print facility is also available.

**(vi)** status tracking

Enabled

**16. Result Achieved/ Value Delivered** to the beneficiary of the project-(share the results, matrices, key learning's, feedback and stakeholders statements that show a positive difference is being made etc):

**(i) To organization**

Government and Non Government organizations are now using the data for planning and decision making.

**(ii) To citizen**

Citizen can find out the land suitability for water availability, Forest Cover etc.

**(iii) Other stakeholders**

Researchers, academicians, administrators, students are other stakeholders.

17. Extent to which the Objective of the Project is fulfilled-(benefit to the target audience i.e.G2G, G2C, G2B, G2E or any other, size and category of population/stakeholder benefited etc):

The project is fulfilling the objectives at all the levels especially at govt. and for citizens

18. Comparative Analysis of earlier Vs new system with respect to the BPR, Change Management, Outcome/benefit, Change in legal system, rules and regulations

New system is Geospatially smart

19. Other distinctive features/ accomplishments of the project:

- Manage forest land
- Oversee diversion of forest land for non-forestry purposes
- Settlement of land disputes
- Settlement of encroachments
- Maintenance and upkeep of forest boundaries

# This is just an indicative list of indicators. Applicant can add on more information based on suitability of the project nominated.