

# AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

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

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

(i) Comprehensiveness of reach of delivery centres,

Services are being provided by 52,137 Anganwadi Centers and these Anganwadi Centers are supported by Supervisors at Sector level, CDPO at Block Level and DPO at District level.

(ii) Number of delivery centres

26 DPO (District), 336 CDPO (ICDS Projects) and 2000 Supervisors (Sector)

(iii) Geographical

(a) National level – Number of State covered

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

26

(c) District level- Number of Blocks covered

Please give specific details:-

There are 26 districts (which are increased to 33) and 336 functional ICDS Projects in the state of Gujarat, out of them all 26 districts and 336 ICDS Projects were covered under the GIS Based DSS.

(iv) Demographic spread (percentage of population covered)

Online Software has covered all the 52,137 AWCs, 336 ICDS Projects and 26 districts. Through these Anganwadi Centers more than 60 Lakh beneficiaries are given services and benefitted from the ICDS Scheme which is approx. 10% of the total population of Gujarat state.

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

The department envisaged a GIS based decision support system because of the operational challenges it faced in delivering quality services throughout the state.

1. There are 52,137 Anganwadi's in the state against the population of 63891303 . As per norms of Ministry of Women & Child Development, Govt. of India, at each population of 800 there will be an Anganwadi and at each population of 400 there will be a Mini Anganwadi. So that additional requirement of Approx. 20,000 Anganwadi.

However, it was difficult to find out where the population is dense and

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where an Anganwadi should be situated.

2. Another major constraint was the availability of information related to Infrastructure, Type, Area, Nutrition status of Children, Services which are being offered by the Anganwadi's on an individual basis.
3. To make all information related to Anganwadis available online and tag their attributes to the respective Anganwadi was the need of the hour for better planning and analysis.

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

Services are basically delivered through a single point center called Anganwadi. Hence it is essential that Anganwadis are well distributed across the state and are their positioning is complying with Government of India norms.

Therefore, the online software was made for the departmental users of various level (State, District, Block & Sector) to ensure equal distribution and identification of beneficiaries through these Anganwadi Centers.

### 4. Strategy Adopted

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

During the monitoring and supervision of Anganwadi centers it was observed that the some of Anganwadi was functioning well besides their availability of infrastructure and facility at their centers. Whereas in the other scenario some of Anganwadi was needed support in their work and they have all the required facility at their Anganwadi centers. In the other scenario, a village have one Anganwadi whereas other have much more. So it was realized that a system should be developed which have all the relevant information of Anganwadi's like- their population, facility available, type of Anganwadi, locality of Anganwadi, nature, type of population covered, type of area, etc. If it all the relevant information was available that time, then the distribution of Anganwadi was so much accurate and facility was also provided according to their requirement.

#### (ii) Problems identified,

Actual identification of location of Anganwadi Centers with respect to another known area.

#### (iii) Roll out/implementation model,

The mapping of each and individual Anganwadi Centers was done with the

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help of Supervisors by calling each one of them at BISAG. At the single place all the required information was collected and mapped on real time GIS Map.

The system was developed and implemented in phased manner in 2 two stages. Initially the Anganwadi Center from all the districts were mapped up to the village level and then it was being used at the higher level. In the second state again all Anganwadi Centers from all districts was mapped within the village level and at actual location on the GIS Map. After completion of mapping, its uses was started.

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

Through orientation of supervisor at BISAG and by issuing a general circular so that the all the relevant information should be ready well before the mapping on GIS Map.

### 5. Technology Platform used-

(i) Description,

Designing using ASP.Net controls and Ajax.  
As a database tool, Sql Server 2005

(ii) Interoperability

The system was built with the features to integrate other online systems which was developed under e-Bal Vikas. It should be linked with other systems of the state as well as Gol.

(iii) Security concerns

Good access control mechanisms.  
Authentication through user-id/password credentials.  
User must be able to fill & view data related to his/ her Anganwadi only.  
Administrator can also add, update or delete Anganwadi details

(iv) Any issue with the technology used

There is no issue related to the Technology used.

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

A proposal was asked from the BISAG for developing the GIS Based Decision Support System and accordingly they have submitted the same in September 2012. Before submission of the proposal from the BISAG, the development of GIS Based DSS was started and the work of mapping of Anganwadi's on the GIS Map up to the village level was done in 2012-13. As the system was implemented, it was felt that it has to be mapped on the actual location of Anganwadi's and then the second phase was started and mapping of Anganwadi's within the village level was done along with the detail

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information of Anganwadi's. Various consecutive consultation and discussion was held and it all was well documented and was circulated to all concerns.

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)

Designing has been done using ASP.Net controls and Ajax.As a database tool, Sql Server 2005 was used.

The use of GIS based decision support system has met the longstanding need of the department to have a tool which enables them to capture real time ground level information and use it for planning the distribution of services. Further, this enables the department to give the right amount of focus to the right areas and plan for several aspects of Anganwadis such as location, nutrition status of children, type and infrastructure. Thus, from a phase, where unavailability of the right information delayed decision making, the department could move to a phase where sound and prompt decision making is possible.

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

The system was built with the features to integrate other online systems which was developed under e-Bal Vikas. It should be linked with other systems of the state as well as Gol.

In terms of security constraints, users are given individual user id and password at different level (State, District, Block & Sector) with the feature to get the password reset by a higher authority.

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

While hardware requirement for this is restricted to servers for hosting the GIS application on the State Data Center, the GIS application itself is completely scalable and capable accommodating an increasing number of Anganwadis and their associated attributes.

The system was built and covered all the .It can be scaled up to the requirements of other states as well as at the center level.

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

The system is built up with features to enter and produce information in English language, but in terms of sustainability and adaptability it would be able to enter and produce content in Gujarati & Hindi Language in the next

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few years.

In terms of sustainability this system is also being linked with other Online System developed by State as well as developed by GoI and the consultation for the same is being done.

It is difficult for a system to adopt any new innovation and same was applied in this. So training cum orientation of all District Level Project Coordinators, District Program officers and Data Entry Operators along with the some identified Block Coordinators and Sector Level Supervisors was done. As and when they know that this system is going to benefit them on their routing work it was easily and well adopted by the whole system from upper level to the end users.

The information is available online hence, it was updated on real time basis as and when it gets. Frequency might be a week, a fortnight or even a month as per the requirement and generation of new information and it was so simple in terms of operation.

### 10. **Adaptability Analysis**

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

It is difficult for a system to adopt any new innovation and same was applied in this system also. So training cum orientation of all District Level Project Coordinators, District Program officers and Data Entry Operators along with the some identified Block Coordinators and Sector Level Supervisors was done. As and when they know that this system is going to benefit them on their routing work it was easily and well adopted by the whole system from upper level to the end users. Various orientation and hands on training was given to the selected District and Block Level Project Coordinators on its functionality and operation and thereafter it was accepted by them and taken on their work and other planning purposes.

#### (ii) Measures to ensure replicability

With availability of a simple GIS application, the solution is replicable. Inhouse development of solution makes it cost effective as well. The key is the ease that it brings into administration which makes the implementation of such a solution desirable

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

There are no restrictions in replicating this solution across the country as it requires basic hardware and software infrastructure.

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(iv) Risk Analysis

NA

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

Good access control mechanisms which ensure that only the required level of access is provided to different officials.

Authentication through user-id/password credentials has been provided. Any user can fill & view data related to his/ her Anganwadi only.

The logs of operation of different user of different level is not at all levels but it is being maintained at the server itself.

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

GIS Based DSS Online Software was prepared for the departmental use. Through this, actual planning for distribution of Anganwadi is being done and as a result services are delivered properly to the beneficiaries covered by Anganwadis

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

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

The effort of users is considerably reduced with this Decision Support System because availability of the correct information is no more a challenge and hence administration of Anganwadis has become easier.

As a result of this system, Anganwadis are better distributed all over the state ensuring adequate provision of health services and providing the department with stronger tools to fight child hunger and malnutrition.

(ii) Feedback/grievance redressal mechanism,

Currently no such mechanism exists but the same will be taken up in the next phase of implementation

(iii) Audit Trails,

The logs of operation of different user of different level is not at all levels but it is being maintained at the server side.

(iv) Interactive platform for service delivery,

The services of this department are being offered by Anganwadi centers and this system was built to support, strengthen, analysis and provide additional structure to the Anganwadi centers so that all Anganwadis could deliver with 100% efficiency.

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(v) Stakeholder consultation

The system was built after consultation with the end user, developer and appropriate authority of the department. Various meetings and discussion were held for the development and updation of this system.

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

(i) Volume of transactions processed,

The system stores information related to roughly 52000 Anganwadis and attributes of each of these Anganwadis are also stored. Based on the information available on this system and according to their actual location the priority was given to start the strengthening and renovation of Anganwadi's where it was required. Also the demand for new Anganwadi's is being done by using this system as it has the population norms/ survey population and actual location/ locality of Anganwadi.

(ii) Coping with transaction volume growth

The system is able to cope volume growth and it will function normally.

(iii) Time taken to process transactions,

Real time system.

(iv) Accuracy of output,

100%

(v) Number of delays in service delivery

Not applicable

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

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

Access through Online Web Portal with facility to save and print the record in various format and types.

(ii) Completeness of information provided to the users,

The information which was entered in the system was prepared and entered by themselves with support from technical persons. As per the requirement of end users (State, District, Block, Seja), information was prepared and submitted online through this system.

(iii) Accessibility (Time Window),

Software is hosted on the State Data Center of Gujarat and has the 24X7 accessibility in terms of accessibility.

(iv) Distance required to travel to Access Points

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Software has the access at various level as per the Department functioning, which are at- State, District, Block (which called as Ghatak) and Sector (called as Seja). The above three level of access is in their premises whereas, Seja which has no physical existence will also access from their Block and for them 10-20 Kms is the travelling distance from their local point.

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

Software has the features to download and submit information through online mode.

(vi) status tracking

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**

With the help of this GIS Based Decision Support System, distribution of Anganwadi Centers at right place and for the needy beneficiaries was done. Now the district are planning to open new Anganwadi centers with the help of GIS Based DSS and taken it to the regular use. This system has a lot of information, hence asking of various information is not required and is available at single point on click of a button.

**(ii) To citizen**

This system is indirectly providing the services to the general citizen. As all the service of ICDS is being provided through a single point Anganwadi Center and this system helps the Department to plan and distribute for the opening of new Anganwadi centers. Another feature is to provide the required information at various levels so that the planning for offering the services to the targeted beneficiaries.

**(iii) Other stakeholders**

The Health & Family Welfare Department, Education Department, Rural Development Department, Tribal Department are the key stakeholder and all these department will start the use this system for their departmental use to provide service to the citizens.

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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):

This is a Government to Government service as the tools provided helps ICDS officials in better planning of services provided by Anganwadis. The information available on DSS helps in ensuring equal distribution of resources across the state which ensures that child care services are equally distributed and well available to one and all.

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

Earlier there was no such type of system existed in the department, all the information was asked manually and then planning was carried out. In the current scenario all the information is available online and any one from the State to Sector level can access the information (automatically compiled) and was used for the planning and other purposes. A lot of burden and delay was reduced after implementation of this system, especially on the distribution of Anganwadi's according to their location and population.

19. Other distinctive features/ accomplishments of the project:

1. A web based GIS for ICDS is used to view District, Taluka, Ghatak, Seja & Village boundary.
2. A geo-spatial database System to support user friendly approach.
3. Query based report generation for decision making.
4. Help in decision making of Anganwadi adequacy according to population criteria.
5. Report for list of villages which has inadequate Anganwadi.
6. In future Anganwadi and MPR data will be linked with the GIS.

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