AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

NAME OF CATEGORY- BEST DISTRICT LEVEL INITIATIVE IN CITIZEN CENTRIC SERVICE DELIVERY THROUGH ICT:

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

(i) Comprehensiveness of reach of delivery centres,

All Government Departments & Community of Rajkot District

(ii) Number of delivery centres

30

(iii) Geographical

(a)National level – Number of State covered

(b) State/UT level- Number of District covered 2

(c) District level- Number of Blocks covered 15

Please give specific details:-

11 Talukas of Rajkot District and 4 Talukas of Morbi District

(iv)Demographic spread (percentage of population covered)

846 villages and 15 Talukas with population of 37, 99, 770 and area of 11203sq.km in two districts of Rajkot and Morbi, It has 29 dams and Machu, Bhadar and Aaji are the main rivers of the district and district control Room.

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

India is one of the most disaster prone countries in the world. In present context of global warning and rapid climate change disaster management is one of the biggest challenges before the administration. Various disasters across the nation cause huge loss of life and property every year. Beside direct loss of life and property major disasters derail the entire economy and distract the development process in the economy. The local administration is often ill equipped in terms of disaster resource management and especially alert generation to save precious life and property. It is in this background that a comprehensive GIS based resource management and internet gateway based alert generation system was conceived and implemented in Rajkot District and Morbi district which was part of Rajkot district till August 13.

Rajkot is prone to following disasters:

- Cyclone (Maliya taluka is highly cyclone prone)
- Drought (All 14 taluka are highly drought prone)
- Earthquake (5 Taluka are in zone 4 out of 14 rest are in zone 3)
- Flood (Total 80 villages are highly flood prone)
- Industrial accidents (Morvi,Wankaner, Lodhika,Gondal.& Jetpur Talukas are highly Industrial prone)

Occurrence of all such disaster has lead to the inception of the idea of using science and technology for prevention and management of any such catastrophic events in future as well as for efficient use of resources and scientific management.

Need for alert generation

Keeping all these factors in mind, the Collector of Rajkot, Dr.Rajender Kumar, felt the need to have a proactive, comprehensive, comprehensive and sustained approach to tackle such situations and came up with an innovative approach of DARMAT (Disaster Alert and Resource Management By Application of Technology).

The System consists of a extensive mapping of resources on a GIS platform (Geographic Information System) which will have detailed information about all the vital resources that would be required in case any disaster strikes the place. The department has also devised a Mobil alert system and use of ICT which will be helpful in giving alert messages through internet gateway in the time of need.

3. Scope of Services Covered(Number, extent and list of services made ICT enabled – extent to which a service is e-enabled may be one of the four criteria's (a) Service is requested through electronic means including mobile devices – Front-end is electronic, (b) Workflow/approval process is electronic, (c) Database is electronic/digitized, (d) Service delivery is electronic

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4. Stakeholder Consultation(Give details about type of stakeholders consulted, number of stakeholders consulted stages at which stakeholder input was sought, any user satisfaction study done etc. #)

All government officers like District, Taluka, Village, Municipal Corporation and line department officers added their valuable input in this project. Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG), Gandhinagar It is State level agency by Government of Gujarat to facilitate and to provide services and solutions in implementing map-based Geo-Spatial Information Systems.

Data collection and updating work don timely by various stake holder in guidance of collector.

District collector is responsible for managing hazards and disaster so far communication system, response system & resource mapping for Prevention and Disaster Risk Reduction, mitigation for disaster impacts, preparation for effective response plan to disaster for saving lives, minimize loss and damages, quick recovery from disaster's impacts.

5. Innovations (Give details on the extent to which initiative/project is unique in purpose/goal, compared to other common e-governance projects , give details about the new processes / new activities, new steps , ICT interventions, administrative process reforms, any use of new & emerging technology functionalities introduced into the system, identification & removal of any bottlenecks / give details irrelevant steps, Comparative with Original Project (Provide a comparative analysis about how is this project similar / different in services provided, design, functionality, technology, platform etc from the original project).

The Disaster Alert and Resource Management System aims at facilitating services for prevention of disaster along with providing assistance in designing efficient disaster management plan. It is available at the link dmrajkot.gov.in which is accessible to the officials of Rajkot

All the information mapped under the specified heads can also be clubbed together and made visible on the maps with the option of theme selection. This will help in finding the organizational proximity and the interconnectivity which will further help in making efficient management decisions.

(1) It uses GIS maps extensively for planning and resource allocation available within the district.

(2) For easy access in times of disaster entire data base prepared on GIS platform in front on secured and password protected website for easy access.

(3) the project uses internet gateway technology and Android based Mobile App for easily watching and alert generation in the villages for all kind of disaster alerts and early warning water discharge from 29 dams in the district.

6. Strategy Adopted

(i) The details of base line study done,

Data collection for GIS training and capacity building for village level, block and district level officers and also community level members for operating system of mobile application.

(ii) Problems identified,

- Lack of trained manpower and lack of dedicated Planning tools with district administration.
- Lack of resource mapping at a single platform.
- Lack of awareness in community about major disasters and its impacts.
- Lack of a consolidated data base about man- power, resources and hazards mapping.
- Lack of management tools capable enough to handle major disasters.
- Lack of dedicated communication system which can be used in times of extreme crisis.
- Lack of ready hazard & resource maps with last mile details of village /habitation level.

(iii) Roll out/implementation model,

The system will work as an information repository for the government and will help in devising efficient management strategies. The GIS lists all the 29 dams of the Rajkot district on a map. All the existing resources and natural features of the district are mapped on a GIS tool. It includes the information about the administrative boundary, infrastructure including gas and oil pipelines, railway lines, road routes air port and helipads, vital installations including radio station, Doordarshan Kendras, major industrial installation including the MHU units,

electricity substions, information about the river flow, amenities like health centers, schools, police station, bus station, railway station, water facility, GIDC estates and FCI godowns.

It also maps the areas prone to various disasters and villages in the catchments areas of the dams. All major installations are plotted on GIS platform along with latitude and longitude so as to enable easy navigation in future and enable batter coordination with agencies like NDRF, army and air force in time of major disasters.

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

Modern technologies can predict the occurring of disasters with which dissemination of cautionary instructions can be ensured to the people of possibly effected areas. But most of the time difficulty is faced while broadcasting the warning signals of imminent disasters by the concerned officials, agencies and mass communication media at apt time in proper way due to lack of information technologies. Mobile technology especially short message service (SMS) has huge impact in the communication system of modern civilization. Leveraging upon this opportunity the Rajkot collector office in collaboration with BISAG has devised a mobile alert system which will be of help in broadcasting speedy messages during the time of flood.

7. **Technology Platform used-**

(i) Description,

- On selection of specific dam, one can see the areas that will be affected if a particular amount of water (in cusecs) is discharged though the gates.
- When the appropriate selection is made, the map highlights the areas which are in danger and need immediate evacuation.
- It classifies the areas as follows:
  - Need of immediate evacuation : **Highlighted in red**
  - Areas that should get ready for evacuation : **Highlighted in blue**
  - Areas that need to be alerted : Highlighted in **Yellow**
- In addition to that it also indicates the river on the map so that the flow of the river is visible.
- All the legends are specified for the convenience and clarity of the

user.

- The application offers a range of tools which provide features like zooming the desired location, labeling if required and printing the map.

(ii) Interoperability

The system though GIS has mapped all the required information that will be helpful for proper mitigation and management of disaster.

All the information mapped under the specified heads can also be clubbed together and made visible on the maps with the option of theme selection. This will help in finding the organizational proximity and the interconnectivity which will further help in making efficient management decisions.

(iii) Security concerns

URL to access DARMAT application is www.dmrajkot.gov.in and authentic users of district are provided user id & pass ward for login

(iv) Any issue with the technology used

NO

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

NO

8. Citizen Centricity & Relevance (Give specific details on the following#)

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

Through this software message is disseminated to concerned officials / persons / sarpanchs etc. who reside in probable affected areas within very short time, which saves cost of making calls or any other mode of communication which may be more costlier than the DARMAT system.

Through proper and timely dissemination of information by DARMAT system invaluable lives can be saved and timely measures can also prevent loss of properties which may tune to crores of rupees.

(ii) Feedback/grievance redressal mechanism,

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(iii) Audit Trails,

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(iv) Interactive platform for service delivery,

Web browsing and SMS based alert.

9. Adaptability and Scalability (Give details about Local language support, ability to leverage shared NeGP infrastructure, Standardization of technology used (hardware, software, application etc. #), envisage future enhancements/plans)

(1) The project has been appreciated by Gujarat State Disaster Management Authority.

(2) It is being implement shortly in Bharuch district of Gujarat State.

(3) Process has been initiated to launch in other districts by GSDMA and BISAG

10. Adaptability Analysis

(i) Measures to ensure adaptability and scalability

Frequent trainings and exposure of stakes holders.

(ii) Measures to ensure replicability

In process and adopted as model by GSDMA.

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

NIL

(iv) Risk Analysis

N.A.

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

(i) Volume of transactions processed,

Total 3298 SMS sent to village representative like sarpanch, anganwadi workers, Govt school principals, TDO, Mamlatdar, Dy. Collector, RAC, Collector, CEO-GSDMA and Relief Commissioner in Flood 2013

(ii) Coping with transaction volume growth

Not applicable

(iii) Time taken to process transactions,

Within few seconds

(iv) Accuracy of output,

Always accurate

(v) Number of delays in service delivery

NIL

12. Accessibility (Give details about how following has been enhanced: user accessibility, transparency in system, single-window resolution, ease of navigation; impact on service response time, number of visits required for accomplishing the task before and after automation, Communication e-mail, SMS, web based tracking, etc.#)

It sends advance SMS to the stakes holders.

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

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

SMS and web service

(ii) Completeness of information provided to the users,

The three major technologies used in design and development of this entire system are (1) Geographical Information System (GIS), (2) Internet gateway as an interface for use of information Communication technology and (3) Specially designed Mobile Application for real time dissemination of information and alert generation has been given to different stakes holders.

(iii) Accessibility (Time Window),

Advance alerts to affected population. Password protected web browsing to officials/planners.

(iv) Distance required to travel to Access Points

NIL

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

online

(vi) status tracking

N.A.

14. Sustainability (Give details about sustainability w.r.t. technology (technology used, user privacy, security of information shared – Digital Encryption etc. #), Organization (hiring trained staff, training etc. #), financial (Scope for revenue generation etc. #)

Technical support of BISAG Gandhinagar which is premier institute in field of GIS

15. Ease of transaction(Give details about method deployed to educate user on how to avail service, security of data shared by user(if applicable), completeness of information provided, Linkages for financial processes (if applicable), etc. #)

This is a advance alert system and web based planning system very easy to operate.

16. Appropriateness of context and degree of localization(Give details about degree of localization i.e. local language interface, database support etc. relevance of content, etc. #)

SMS based interface with the affected population.

17. Cost effectiveness (Give details about impact on cost incurred w.r.t. overhead cost, direct and indirect cost, man days/man hour required to do a job etc.#)

Through this software message is disseminated to concerned officials / persons / sarpanchs etc. who reside in probable affected areas within very short time, which saves cost of making calls or any other mode of communication which may be more costlier than the DARMAT system.

Through proper and timely dissemination of information by DARMAT system invaluable lives can be saved and timely measures can also prevent loss of properties which may tune to crores of rupees.

18. Number of users and services(Give details about frequency of services used in last 01 year, number of visitors, number of unique visitors, number of users etc. #)

(1) Website in password protected and with limited access to planners only.

(2) SMS service is widely used by issuing 3298 SMS over past two years.

19. Benefits Accrued / Impact assessment (Give a comparative Analysis of pre- & Post- implementation in terms of (a) Service Access points, (b) service charges paid by user, (c) travel cost, (d) indirect cost incurred by user, (e) comprehensiveness of service/information provided, (f) distance required to travel, (g) mode of service delivery, (h) citizen charter (time to deliver the service), (i) Green e-Governance (power & paper consumption, disposal of e-Waste etc.), (j) revenue collection, (k) Capacity Building (No. Of persons trained) etc.)

Before the project implementation, the department was functioning in a random manner as far as Disaster Management is concerned. There was no single data base which would store consolidated data about manpower, resources and hazards. There was no database which could show minute details of villages while seated at the head office. As a result of this planning to mitigate impact of disasters was very difficult and cumbersome task.

This project has resulted in very efficient and effective resource data base of all the resources available in the district. In time of crisis and disasters all the required information of the various factors in disaster management are at click of mouse away from the incident commander.

It has in real sense made the incident commander of disaster management office in command of all the resources with information at his direct disposal. Further, it has empowered the local community by providing direct information and alerts by way of

SMS. It is the efficient use of modern scientific tools and techniques in disaster situation. It has enhanced the capacity of local administration in handling a disaster situation.
It has effectively saved many lives and property by way to advance alerts in times of flood and other disasters. It empowers the collector and DM to issue multiple warnings and messages to different target groups in the population and administration both. It will also help in development of a robust framework for projects and programme with clear indicators, baselines and targets to be achieved henceforth. The system also encourages efficient monitoring and subsequent planning leading to overall growth and prosperity of the community being catered. The model if replicated at the state level will surely bring forth a lot many opportunities to explore in the area of development in time to come.

20. 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

Warning message disseminated to village ,Taluka, District & state govt. officers & village panchayat members

State level officers

- PS RD
- COR
- CEO-GSDMA
- Addl.CEO GSDMA

District level officers

- Collector
- DDO
- RAC
- All DC
- CP
- SP

- Dy SP
- Rajkot Municipal commissioner & 3 Dy. Municipal commissioner
- DPO &Mamlatdar Disaster Management
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(ii) To citizen

- Citizen to get advance disaster and water discharge alert. Hence valuable human life and loss to property can be prevented.

(iii) Other stakeholders

Taluka level officers

- Taluka Liaison officer for Disaster Management
- Dy. Collector
- Mamlatdar
- TDO
- Dam In charge
- PI/PSI
- Chief officer Municipality

Village level

- Sarpanch
- Talati
- Teacher
- MDM Organizer
- FPS Holder
- Asha worker
- Aanganvadi Worker

21. 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):

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

Loss of life due to floods in		
2008 - 2	2010 - 12	2012 - 0
2009 - 2	2011 - 4	2013 - 3

23. Other distinctive features/ accomplishments of the project:

1.Saved valuable loss of human life.

2. Shifted more than 5000 people in Rajkot district during September 2013 during heavy rains due to early warning.

3. Could save thousands of lives.

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