

## **PROFORMA OF AWARD SPECIFIC FORM**

### ***IV. Incremental Innovations in Existing Project:***

#### **1. Year of National Award for e-Governance given to the Project: 2009-10**

**2. Coverage – Geographical and Demographic** (number of locations in which the innovated project has been implemented, No. of service delivery points, area served Geographical and Demographically, category of stakeholders covered)

Number of Delivery Centres are the **26 Regional Offices**, **9 Laboratories**, **4 Vigilance Branches** of GPCB in various District the **Head Office** at Gandhinagar, **23,128+ Industries** and **32,532+ Healthcare Units (Hospitals/Clinics)** spread all over the state of Gujarat. Additionally, **27 TSDFs (Hazardous Waste handlers towards treatment & disposals) & Captive Plants, 29 Common Effluent Treatment Plants & 14 Common Bio-Medical Waste Collectors & treatment operators** are also delivery centres for XGN. **Average daily users from these centres totals to about 2400.** Of lately, **124 Environment Consultants & 87 Auditors, NGOs** are utilizing this e-Governance tool-XGN.

A **Plug-In Node alongwith a Broadband Connectivity** ensures the reach of a delivery centre to any destination across the globe. Geographically these centres spread all over the state, from the remotest taluka to a metro. Hence some **Help Desks** have been opened at all Regional Offices to ensure usage of XGN for needy **Small Scale Industries** who are devoid of this Connectivity & Infra.

After having XGN implemented in Gujarat since 2009, XGN is successfully implemented in other states – **Andhra Pradesh, Madhya Pradesh, Himachal Pradesh, Goa, Uttarakhand and Karnataka. Assam, Tamil Nadu, Kerala, Haryana, Uttar Pradesh and Bihar** have also requested for XGN implementation in the respective states.

#### **3. Situation before the initiative (bottlenecks, challenges, constraints etc.):**

The major challenges/ constraints in implementing the idea on ground were:

- Age Constraint of the employees and officers of GPCB which made is difficult to adapt to the new system.
- Employees and officers not having enough computer literacy was also a limitation which was overcome by imparting them enough knowledge.
- Initially there was resistance from certain categories of industrial units esp. there was reluctance to share and disclose their data.
- Before the implementation of XGN there was no co-ordination between the outstanding to be paid by the industries and the services provided to them like Analysis Reports, CTE/ CCA Orders etc.

**4. 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.**

**All the major 38 transactions between GPCB & stake holders are through electronic means. These include:-**

1. HCU-Healthcare Units IDs(BMW) & Passwords	20. On Demand : Defaulter Industry
2. Bio-Medical Waste Authorizations	21. On Demand : Industry Details from GPCB ID
3. BMW Rejection	22. Online Application ACCEPTANCE
4. CCA Expiry Alert Bulk SMS to Industries	23. Online Application Query
5. Complainant Letters	24. Outstanding Payments
6. Consent Grant	25. Payment & File Received
7. Consent Reject	26. Query from R.O to the Stake Holders
8. Consultants id password	27. Query from H.O to the Stake Holders
9. Processing stage of the Application	28. Release ID & Password for INDUSTRY
10. Due For Extension of the Application	29. RTGS Discrepancy SMS TO RO
11. e-Outward Legal Notices	30. Sample Result Declaration SMS to the Industry
12. e-Outward CCA Grants/Reject	31. Sample Violation Alert to the Stake Holders
13. EC-Registration	32. Updation by Industry Towards Consent
14. EC-SEAC Meeting	33. Water Cess Assessment Orders to the Stake Holders
15. Editing of W.C entries by GPCB Staff	34. Water Cess Bills Cleared from Surplus
16. Grant / Reject of application	35. Water Cess Bills Pending / Due in next 5 Days
17. Industry Registration with Auditors	36. Water Cess Bills
18. LAB. Billing to the Stake Holders	37. Water Cess Return
19. On Demand : Application Status	38. Miscellaneous / Others

**(b) Workflow/approval process is electronic,**

**Work flow of various applications towards obtaining NOC, Consents, Authorizations, Assessment Orders etc are thru online modes right from acceptance, Querying, e-replies, Processing at Field Offices, Approvals at regional offices, Movement of eFile to Head office, Processing by H.O Staff & Unit Heads and final Actions by Member Secretary/Chairman**

a. Online filing of applications for various permissions like Consent to Establish (CTE), Consolidated Consents & Authorization (CCA) by concerned industries & online application for authorization under Bio Medical Waste (BMW) Rules by Health Care Units (HCUs)
b. Online scrutiny of applications prior to acceptance
c. Online payment of fees for above stated application enabled through system generated RTGS challan
d. Online processing of above applications by GPCB officials , online query generation and replies to queries by the applicants
e. Applicants can verify status of their application online and even track the application i.e. at which stage/ level application has reached. No need to visit the office to know the status.
f. Apart from online updation of status, Applicants get SMS from XGN for generation of query for their online application, acceptance of application, final decision of their application, lab bill generation, issuance of legal notice etc
g. Enhanced transparency by way of making inspection reports available online to respective industry, HCU.
h. Analysis reports of the samples collected are available instantly as soon as it is freeze (subject to payment of analysis charges)
i. Facility in XGN through which registered industries / HCUs can print their own consent order, analysis reports, Bills, Payment Receipts, Assessment Orders and Inspection – sample analysis history for a period.
j. Issuance of legal notices, direction of closure online with notice/ order posted in the respective ID also informed through SMS. Similarly revocation of closure and other correspondence also posted online.
k. Online payment of Analysis Charges through RTGS etc

- l. Online filing of return for water cess by an industry
- m. Online assessment order for making payment of water cess by the industry
- n. Online payment of Water Cess through RTGS by the industry
- o. Bulk SMS can be sent through XGN to defaulter units
- p. E Talk facility for easy communication among industries / HCUs, GPCB Staff and NIC
- q. Helpdesks provided at all the offices to guide & help the applicants in uploading online applications and monthly information

### **(c) Database is electronic/digitized,**

The entire details pertaining to **PROFILES, TECHNICAL PARAMETERS, INFRASTRUCTURE of all stake holders including HCUs and Industries** are stored in digitized format in XGN. XGN is based on a simple logic of saving the precise image of each document at its own time of freezing. i.e. When a **Sample Result** is frozen or an **Inspection report** is frozen & send from R.O to Head Office. This avoids any changes/manipulations in these reports at any stage, whatsoever.

There exists an **e-file instead of a Physical file**. i.e. **34 set of documents** which are to be submitted by Industries / hospitals are stored in a form of a PDF and that too in **binary form & encryption** to avoid any deletions or manipulations.

**Any document outwarded to any stake holder is e-Outwarded by the outward section.** The image in a form of a scanned document is linked to the e-File of the related stake holder, be it a Legal notice or an order.

### **(d) Service delivery is electronic.**

#### **- Details of services incorporated for a Board's Staff:-**

- a. Online preparation, submission and processing of Inspection Reports
- b. Online submission of Analysis Reports
- c. Online allotment of work (processing of application, monitoring of industries, analysis of samples etc) to staff and to monitor its progress / pendency
- d. XGN provides list of industries and HCUs to be monitored in the current week as per the prescribed monitoring frequency based on their categories
- e. Availability of vide database and its visibility on screen at appropriate modules for quick processing of cases
- f. XGN dynamically updates various components of Monthly Progress Report
- g. Facility of bulk notices and bulk SMS to defaulter industries / HCUs as and when required
- h. Inventory of Hazardous Waste generated forms an important data flow to the CPCB, MoEF
- i. Data of Ground Water monitoring, Surface Water monitoring, Ambient Air monitoring (projects like GEMS, MINAR, NAMP and NWMP) online data flow to the Central Pollution Control Board (CPCB), Ministry of Environment and Forests (MoEF).
- j. Preparation of payment scrolls & receipts
- k. Application fees structure, lab analysis charges, water cess calculation etc. included in the system which negates loss of revenue
- l. Facility to monitor performance and pendency of work for a individual staff members
- m. Online ranking system for Regional Offices, Laboratories and the Units at Head Office – creates healthy competition and improves performance of the Board
- n. Less use of papers, less file handling
- o. Tracking of hazardous waste movement through on-line manifest system
- p. Connectivity of Online Monitoring Facility of various industries with XGN – instantaneous information of disposal of wastes by various industries and history of exceeding parameters, if any
- q. E Talk facility for easy communication with industries / HCUs, GPCB Staff and NIC

- r. Accessibility of online monthly / yearly returns filed by the industries / HCU's
- s. Large data base in an effective retrievable form has helped in strategic planning for the reduction of pollution.

**- Services incorporation for a citizen:-**

- a. Citizen can lodge environmental pollution related complaints online
- b. Statistics of the various actions taken by the Board including CTE/CCA order granted, rejected, closure issued, closure revoked, water cess return filed etc. is visible on home page
- c. Provides a platform for social services to general public like information of Blood availability from various Blood Banks in the state,
- d. Access of information regarding the vacancy of jobs at different industries in the State, Job seekers can upload their resumes so as to enable concerned industries to search amongst them. This has helped in employment opportunities to Industries & candidates

**5. Overview of the original** project which has been horizontally transferred/ replicated

*Original version has already received the National e-Gov Award 2009-10 towards Process Re-engineering*

XGN, the web based e-Gov application for the working of GPCB has been prepared by NIC after series of interaction with personnel of the GPCB working at various branches at head office, regional offices and laboratories. It was launched w.e.f. 1<sup>st</sup> April, 2008 and it is continuously being upgraded to meet with the prevailing needs, norms and policies. Apart from adding transparency in working of the Board, use of XGN has provided help to the Board and its stake holders resulting into tremendous improvement in performance of the Board and thereby enhanced level of implementation of environmental acts/ rules.

XGN, developed by NIC (National Informatics Centre) for the Gujarat Pollution Board, facilitates day to day operations at field office and head office of the State Pollution Control Boards. The important stake holders like industries, health care units etc. carry out all the work pertaining to GPCB like filing applications, tracking the status, online replies, submission of returns, statements, data etc. mandated vide various Acts/ Rules and conditions stipulated by the Board. XGN helps the Board in effective implementation of Environment Acts (air, water and hazardous waste).

Initially the application /Software was developed to maintain basic environmental database of all the industries and to enable industries to file online applications with a view to keep track of all the applications filed by industries.

XGN had been first developed for **Gujarat Pollution Control Board**. In view of highly successful implementation of this web based application in its all 26 regional offices and head office, it has been replicated and customized by NIC for other SPCBs.

**6. Innovations to the original project**(Give details about the new processes / new activities, new steps , ICT interventions, functionalities introduced into the system, identification & removal of any bottlenecks / irrelevant steps, administrative process reforms, any use of new & emerging technology

The project has produced remarkable outcome through additional innovativeness in last 4 years :-

- (1) Online live tracking of transportation and disposal of hazardous waste has been made possible & Co-processing of wastes in cement plants has been promoted. Online tracking of Hazardous Waste Movement and Disposal by vehicles resulting in reduction in illegal hazardous waste dumping.

- (2) Industries instead of paying for disposal & treatment of Hazardous waste are now sending them to Power / Steel & Cement Plants – Co-processing waste Concept.
- (3) '**Waste Exchange Bank**' facility is available for the waste generator and waste utilizer stakeholders nurturing the symbiotic relation between them. Co-processing of high calorific waste in the cement industry is the prominent activity being carried out with the facility.
- (4) Physical movement of the files related to such sensitive & significant permissions as Consent order, Bio Medical Waste Authorization and Water Cess Assessment order have completely stopped as against partial physical file movement earlier during initial phase of project.
- (5) Applications by Industries/Hospitals are now mandated through the internet only. Any sort of paper application is not required as against the authorisation is also issued through the system and any paper document is not issued now.
- (6) The E-file auto--flows to the Head office and the inspection Report is frozen. Most of the Online Applications for Consents/Authorizations are granted "In principle" clearance before actually landing at the field office.
- (7) Stakeholders receive documents of approval like consents CTE/CCA, legal actions without any delay. Hence the applicants do not have to wait till the orders are delivered to them by post or by other means neither they have to personally come to office to receive the same.
- (8) Transparency in file movement – the applicant can keep online track of his application.
- (9) Quick action against defaulting industries. Hence better enforcement of Environmental laws.
- (10) Reduction in number of units operating without permission of the Board.
- (11) Complainant can keep online track about action taken in connection of his complaint.
- (12) All Transactions (except e-Notings), location of e-file details or even status of various Returns are now preserved in e-Box for all Industries & Hospitals for their future reference.
- (13) NGOs have now been given access to the entire data of Inspections, Samplings, Analysis Results, Legal actions & technical data also. This helps compare results drawn by the diverse stakeholders.
- (14) All sorts of payments of Consent Fees, Analysis Charges and Water Cess Payment are now done online. Hence payment through Demand Draft is totally done away with due to which accounting becomes easier and less tedious.
- (15) Provisional permission letters/orders are auto-generated from system whereas previously there was no such system of provisional orders. Hence such provisional orders till the time final orders are made available to the applicants are useful in various procedures like Bank Loan, Electric Supply Connection etc.

**7. 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).

Subsequently, after winning the Award in 2009-10, much functionality have been incorporated over a period of time, approx 75 % extra features + 4 NEW MODULES (compared to the original) have been successfully implemented arising from suggestions & Brainstorming sessions with multiple core-groups & other states customizations.

- Introduction of multiple Monitoring-Free mechanisms at various stages thru Performance Grading.
- These **4 new modules are: -**
  - a. **Online Hazardous Waste Generation & Disposal Monitoring System.**
  - b. **Co-Processing Waste Platform for Steel/Cement/Power Plants & Haz. Waste Generators.**
  - c. **Complaints Redressal System.**
  - d. **Environment Consultants & Auditors Monitoring System**

- Over a period of time, NEW stake holders have been added into the XGN family. TSDFs-Landfill hazardous Waste Receivers, CETPs-Common Effluent Treatment Plants, CON-Consultants, AUD-Auditors, VIG-Vigilance Branches of SPCB, CTZ-Aggrieved Citizen
- The scope of the application has been widened to incorporate inspection module, sample entry and lab analysis data, **Bio medical waste** rules related module, filing of water cess returns and so on. In the course of gradual development of XGN the work flow and approval process has also become part of the programme and online processing of applications, water cess returns, issuance of legal notices, direction of closure, revocation of closure etc have been included.
- All Transactions, location of e-file details or even status of various returns are preserved in e-Box. **E-Communication Module i.e. SMS, e-Talk, e-Message Box and timely alerts is the core of XGN.** Also, there is effective usage of e-TALK between various stake holders. **e-Queries** are in form of SMS and immediate reflection of **e-replies** results into speedier disposals.
- Monitoring Tools have been incorporated towards timely alerts for defaulters in various categories.
- Final Delivery Mechanisms have been fine-tuned along with e-outwardings: resulting into eradication of existence of Physical Files.
- Doing away with the physical Notices to end-users. Instead e-LOCKS virtually forcing them to carry out compliances of any violations / defaulting status.
- Over and above the introduction of new modules, several additions have also been made in the existing modules.**

The following table compares the Status **before Implementing XGN in 2009**, Year **2009-10** i.e. First Award was given to XGN & **Current Year -> 2014** ( 4 Years in between is the period of INCREMENTAL INNOVATIONS ) and briefly summarises **the impact of these innovations**:

The activity	Before XGN	At the time of FIRST Award	<u>Now</u> , after Incremental Innovations
Stake Holders (Industries, Hospitals etc)	29,000	<b>36,000</b>	<b>54,000</b>
Monitoring Visits in a Year	7,500	<b>10,721</b>	<b>42,812</b>
Pollution Samples Drawn in a Year	7,100	8,900	<b>20,518</b>
Samples Analysed in laboratories	3,250	7,516	<b>19,817 Yearly</b>
Profile Updations by Ind-HCUs / Month	No System	1,800	<b>8,000+ Monthly</b>
PDF Docs uploaded by stake holders	No System	21,000	<b>68,780 Yearly</b>
e>Returns files by stake holders – Yearly	No Track	35,000	<b>1,12,350</b>
Water Cess eligible Industries – BASE	2,300	4,000	<b>14,312</b>
Water Cess Returns Filed	1,900	6,289	<b>32,389</b>

<b>The activity</b>	<b>Before XGN</b>	<b>At the time of FIRST Award</b>	<b><u>Now</u>, after Incremental Innovations</b>
Water Cess Payment Defaulters	No Track	40 %	<b>2 %</b>
NOC-CCA Applications – Yearly	2,500	5,280	<b>10,112</b>
Applications Disposal – Yearly	1,800	5,100	<b>9,983</b>
Ratio of Rejection - Yearly	40 %	38 %	<b>3%</b>
LAB Charges defaulting Amt	Rs 3.2 Cr	Rs 78 lakhs	<b>Rs 2.7 Lakhs</b>
Total Waste CO-PROCESSED (MTs)	Nil	21,890	<b>3,92,000+</b>

**8. 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

The scalability and adaptability of the project had been thought of right from the conception phase of the project. After successful implementation of XGN in Gujarat, GPCB helped in replication at Himachal Pradesh Pollution Control Board and HPPCB has started using XGN with HIMXGN name from 5<sup>th</sup> June 2009. Uttarakhand, Goa, Andhra Pradesh, M.P and Karnataka have also replicated the same format of the software while many more State Pollution Control Boards are also planning to implement XGN. Thus the software although developed by NIC primarily for GPCB is very adaptable and is used by more and more SPCBs due to standardization of hardware, software and applications used in XGN as well as adaptability and scalability of XGN.

Demonstrations of the software were also shown to the Planning Commission and the members of the Commission had appreciated the work done in this context. The system and the project is so robust and flexible that new modules can be easily incorporated within the system while it can also be easily implemented in other geographical regions of the country as the basic Acts and Rules are same throughout the nation.

XGN supports Local Language and provides a facility to enter the instructions given to the industrial units during their inspection in local vernacular language. Thus when the industrial units are filing their compliance reports they can see the instructions in local language which is very much helpful to small industrial units.

Before the implementation of XGN there was no co-ordination between the outstanding to be paid by the industries and the services provided to them like Analysis Reports, CTE/ CCA Orders etc. After the implementation of XGN, industries can see their analysis results, CTE/ CCA orders, Legal Orders and other communications etc. only after deposit the amount of outstanding analysis charges, monthly reports, annual reports etc.

Stopping of Physical file transfer from Regional Office to Head Office reduced the postal and administrative expenses. Discrepancy in data submitted for water consumption to levy water cess can be counter checked with water consumption data furnished in consent application through the system. This has resulted into increase in revenue as well as decrease in expenses of the Board. Hence, the net increase in revenue in multifold way makes the system sustainable and also helps the organization itself

for implementation of various other projects and developments.

Mapping of this database with geographical information System (GIS) will help us to identify the ground level specific futures, which will be helping us to identify new industrial spot based on Pollution Sensitivity for sustainable development of the state.

Hence in this way the project is sustainable, adaptable and is scalable very easily.

**9. Efficiency Enhancement**(Give details about any significant change in process that has led to efficiency improvement in terms of time or cost for citizens or agency, improve agency efficiency, facility for Audit Trails etc. #)

- 85 % of the online applications are disposed off, **within 41 days** against mandatory prescribed period of 120 days.
- Grant of application immediately provides applicant a system generated **provisional order** enabling applicant to be eligible for all sorts of other related work / help / assistance from other organization / institutes / departments. (Loan disbursement from Banks / Plot allotment by GIDCs / Electricity by Power companies etc.)
- Concept of BULK-Notices in ALL modules has resulted into increased & speedier compliances.
- Monitoring Free Mechanisms have enhanced the productivity of the Management. They devote most of time in monitoring Pollution control measures by Industries.
- Instructions towards compliances given by Monitoring teams to Industries are WATCH-DOG points for the next visiting team.
- Crux (findings) of visit made by the official and reported to Head Office is available to industry – Not only effective transparent working pattern but also enables industry to understand their lacunae, if any for timely corrective / preventive actions.
- Alert for pending work is given by the system itself which leads industry to be timely compliant
- Availability of statement of analysis results for the samples collected in a given time period – which otherwise practically difficult for industry to generate when need arise.
- Data of online monitoring system can be communicated directly through the system – helps in demonstrating their commitment to compliance of the norms
- Facility of payment through RTGS has virtually ensured collection of Application @ the time of Inspection.
- Various system locks itself ensures proper compliance of the legal requirement as well as “first come first out” priority to the maximum possible extent
- e-Hazardous Waste tracking through this application is really advantageous to the Board to implement **“Cradle to grave” principle of Hazardous Waste Management & Handling Rules** under Environment Protection Act. This has resulted in to the better enforcement of the prevailing laws. This has also helped in to better data gathering and documentation of the work done by the Board.
- Comparative Analysis of Samples, drawn by different agencies i.e. Monitoring Teams, Vigilance Branches, NGOs & Private laboratories is now available at the click of a key.
- Ranking screens, Performance Charts has created a constructive competitive culture amongst the staff. System aids the regional heads in taking up & setting up various priorities.
- Final delivery mechanisms or for that matter, the conveyance of Final Actions are speedily & effectively conveyed to stake holders through e-Outwarding of documents.
- ALL information required for a decision at any level, is displayed to Users in ONE-SCREEN, thus leading to speedier & accurate disposals.

**10. Accessibility & User Convenience**(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 is a web based application and easily accessible. It can be accessed from the any part of the world where the internet connection is available. Further, it is user friendly, very convenient to use, menu driven application and does not require high computer skill to operate. However, to increase the ease of the user, detailed guidelines are placed with screen shots.

To enhance the accessibility, the concept of the “Help Desk” by the Gujarat Pollution Control Board has been put in place at each Regional Office of the Board. The industry / HCU or any other stake holder may walk in with details for assistance in the case of any difficulty. This service is rendered by the Board free of cost.

Further, to reach the stakeholder at its door step, endeavors are made that “Help Node” are opened in the industrial clusters (where there is a presence of micro and small scale industry) at their offices of the Industries Association.

- Transparency of the operations is the core strength of this application. Industry can view the status of its application online so as is the case of the complaint filed by the citizen. This has substantially curtailed the time for the disposal of the application in comparison to the earlier system. This has also reduced the “red- tapism” to the great extent in our organization which is usually prevalent in any regulatory regime.
- Each major transaction gives a SMS to the stake holder. This is superb e-communication tool which has reduced the physical hassle to reach concerned office for the rigorous follow up. Online alerts are also given to the industry if any compliance is pending at the industry level. This has increased a compliance of regulatory requirements and resulted ultimately in to the better pollution control. It has been proved an excellent environment management tool to the Board.
- This has helped in reducing to the response time to the citizen approaching to the Board for various reasons. For the complaint, acknowledgement of the complaint, site investigation alert, interim reply and final reply can be seen online with transparency. In the case of information required from the Board under Right to Information (RTI) cases, the retrieval of the information from the system is now easy for the officials of the Board and hence the quality of the information given by the Board under RTI is now real time and comprehensive. This has resulted in to the better and prompt service rendering to the common citizen.
- In nutshell, with the advent of the system which is easily accessible and user friendly, the transparency of the organization has increased to manifold with ease to the stakeholder by quick response, getting rid of hassle free physical visit & communication with fruits of better environment management.
- While making application, no need to fill the respective forms by the industry / HCU as requisite forms are being now generated by system itself using the data already available under the profile etc.
- Monthly data submitted for hazardous waste disposal, BMW disposal etc. online automatically generates annual return for the given year.
- History of legal action(s), application status, water cess returns, water cess payment, laboratory charges payment etc. are maintained and hence no need for industry to gather information from their various departments when need arise – all such data can be availed at one stroke.

**11. 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. #)

XGN is basically an e-Governance initiative by GPCB & NIC taken up in 2009 and is an **EVOLVING** one since then.

- Gradually, it has **stabilized** and is a **rugged** model, ready for any other state to take it up. It has

sustained since then with all day to day operations by ALL the stake holders being done on the XGN s/w. Even with the change in the top level management, **the SYSTEM stays on** and is surging ahead – day in & out.

- The demands towards more paperless & more technology orientation comes from all the levels of the Board's staff. Active participation in Brainstorming Sessions is a regular affair.
- The Platform of this ICT tool is .NET + SQL database with capacity to handle very large databases & in-built tuned/optimized querying tools.
- With every passing year, the application is converted to the most-recent versions in frontend & backend platforms. This includes integration of the features of the latest versions.
- Permanent Software team & designers have been positioned. 2 % of the Water Cess collected is diverted back into the upgradation & capacity building exercises.
- Periodically, Training is conducted by a core group of TRAINERS, who have been over a time – nurtured into trouble shooters.

**12. 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. #)

- All permissions require online applications through XGN. This has been made mandatory and in the process the user has to feed all data concerning to its activities. This has enabled the user to preserve all its relevant data in to the system, eliminating need to maintain physical files.
- RTGS/NEFT payments has virtually lead to Industries NOT submitting Physical applications to GPCB.
- “Do it yourself” is the guidelines put on the XGN that reveals the details of using the services, the applicability of the Acts/Rules to the users, procedures & process flow diagrams etc.
- All the stakeholders requiring permissions under different Acts/Rules are allotted unique ID & password.
- Unique User ID is allotted to all the industries, Local Bodies (Sewage Treatment Plants) & Health Care Units. The unique ID with password ensures security individual data as these data pertaining unique ID are not accessible by others.
- The user can apply online for requisite permission using the guidelines provided in the XGN. They would get online query with SMS alerts and the same could be replied online instantaneously. This has resulted in savings to not only the service provider but more importantly to the users in terms of time and money, as there is no need to submit the replies/details of the queries in physical form.
- The transparency of the system is established from the fact that status of application can be received at any point of time by simply shooting an SMS to the system.
- The user/applicant gets system generated provisional orders for permissions with simultaneous SMS alerts.
- The XGN enables the users to display requirements of the manpower to the public domains without incurring cost on advertisements in the conventional media.

**13. 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. #)

- Although the XGN is operating on the English language, efforts have been started towards converting important modules in to the vernacular language. For example, the advisory remarks requiring immediate actions to the industry during inspection are given in writing in the vernacular language. This Inspection Report is made accessible to the industry for subsequent compliances.
- The legal actions like issuing notices and directions under different environmental laws initiated against industries are the vernacular language and conveyed to them instantaneously through XGN, for quick response.

- The XGN is quite interactive one. Most of the data is to be entered by the user industry through unique ID assign to it, making it more users friendly and satisfactory on the part of the user. The database thus generated remains forever accessible to the user that eliminates the need for maintenance of the physical records.

#### **14. 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. #)

##### **To the stake holders (Industries & Hospitals) :-**

1. No need to go to the Regional Office for making an application. The money, energy and time for making physical application at the Regional Office which was earlier a routine practice are now history.
2. The travel time and money saved during this process are the intangible benefits accrued due to this transformation of e-Governance tool adopted by the Board.
3. The queries for the shortcomings in the application of the industry are generated online to the industry during scrutiny and processing of the application. The reply to the queries are now made online on the system without incurring any cost which was done formerly through writing letters and posting /making courier to the authority. This has resulted in to the savings of postage / courier charges (usually done through Registered A.D. Post).
4. All the payments for the dues are made online. (RTGS/ NTFS). This has reduced substantial cost on the industry front as against earlier cost due to demand draft charges. Now that cost is saved and it's a big intangible benefit.
5. With the concept of the Help Desk at Regional Office, the Board is rendering the free services to the industries for making and uploading their application online which gives large benefit especially to the small and micro industries for the cost they would incur in making an application through consultant / agent /middle man.

##### **Common Man:**

Common Man can now make an online complaint / seek information for which he required to write a letter to the authority initially. Now the whole process is made online so that he can track his application online and get response online. Formerly, for follow up, the complainer had to visit the Regional Office and sometimes to the Head Office at Gandhinagar which was resulting him some cost (travel cost, postage charges etc.) is now reduced to the great extent. Time and Energy saved in the whole process is intangible benefit.

#### **15. 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. #)

- Various Services used in the last 1-year are the ones specified in Point No : 2(a)
- Number of Visitors to this site [gpcbxgn.gujarat.gov.in](http://gpcbxgn.gujarat.gov.in) has touched 68 lakhs+.
- For multiple states it has crossed 1 crore.
- Number of unique Users i.e. stake holders are approximately 2.13 lakhs+ for multiple states.

#### **16. 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

**One of the most important stakeholders are the citizens in general** and the organization is given mandate to resolve their complaints related to environmental degradation.

- The citizens, Industry, Healthcare Units and others can file online application 24x7 simply by logging on the site, can track its status and get the action taken information through e-mail and SMS alerts. There is no need to visit the office to file any application, complaint, or make any correspondence unlike the earlier system.
- The citizens do not have to pay anything for availing the online complaint module facility, and can save upon the correspondence charge. They save upon travel cost not only by e-filing of the complaints but also getting the online response for the same.
- The e-governance has helped citizens know the statistics of the organization on day to day basis, involving water cess returns, the permissions granted to and legal actions against the industries which could otherwise be known only through expensive and tedious mode of RTI.
- The e-governance has enabled reduction in overall paper consumption on the part of both, the organization and the citizens in general owing to the fact that all the correspondence is necessarily through the e-mails and SMS

#### **Benefits to the Industries:**

The industries are the most beneficiary stakeholders of the e-governance program.

- Provides flexibility by multipoint access as it is web based software. Also it is operating 24x7 as against earlier system of time consuming and with single point access. There is no need on the part of the industry to visit the office.
- In availing the online facility the industries do not have to pay any charges. All important data, permissions, legal documents etc. can remain in the soft form in the database and can be retrieved by the industry whenever needed, thus avoiding need to preserve physical data and direct or indirect expenditure involved in it.
- Industries can print their own consent order, Bills, Payments Receipts, Assessment Orders and Results without visiting the office is also a 'green way' of communication associated with lot of tangible and intangible benefits to the industry. Online generation of manifest system has removed botheration of multiple copy generation, record keeping etc. Facility of payment through RTGS has made life even simpler for the industries.
- The system provides Cleaner Technology options to several sectors of industries, which the industries can straight away adopt for better results in productivity and pollution control. Industry specific environmental guidelines are made available through system for better compliances. Concept of well-defined Formats (*PATRAK*) is recently introduced to enable industries to assess its position with regards to compliances of various environmental attributes.

#### **Benefits to the Government:**

The system is propagated by the organization with ultimate motive of smooth & effective implementation of provisions of the Environmental Acts/ Rules.

- The biggest flexibility of the system is its multipoint access as it is web based software.
- The system enables to receive online data of air & water quality parameters and also live pictures of stack emissions for many industries. This has enabled the organization to monitor such industries from the office and reduced frequency of visits to these industries and at the same time necessary follow up has become possible through SMS alerts. This has resulted in reduction in travel expenses in such cases.
- Only indirect cost incurred in the system is due to SMS alerts which of course are meager amount, considering the quantum rise in the efficiency and productivity of the staff. Savings is realized in

postage charges because of various outputs like permissions, legal actions, water cess returns, bill generation etc. and it's onwards communication.

- All data are preserved in digital form with utmost security in distant server(s) and are retrievable – less susceptible of loss of data / willful action(s) for delay. Online allotment of work – fast actions, increases accountability of employees. System generates Monthly Progress Report – accurate report generated and saves substantial time and manpower. System generates barcode for each of the sample being sent for analysis to laboratory – Enables to maintain secrecy of source of samples. The system has helped in image building of the organization and thereby that of the Government.
- The government has benefited from the system by way of cut in the cost of stationary, speedy outputs and increased productivity.
- The organization has benefited the most in terms of increased collection of water cess other outstanding bills from the industries.
- The system makes available Technical details like Cleaner Production options, Environmental guidelines, Do's and Don'ts to all the technical and scientific staff for their own knowledge which ultimately enables them to get implemented by the industries for achieving better compliances.

#### **Environmental Benefits:**

- Due to usage of software, entire database is shared with the Cement Industry for use of hazardous waste as raw material and/or fuel (co-processing) thus saving natural resources as well contributing towards abatement and control of pollution. There has been a strong not-in-my-backyard syndrome in the communities for opposing the setting up of disposal facilities in time to come where waste is supposed to be disposed through alternative routes like reuse, recycle and recovery.
- Because of reduced number of visits to the Board by the Project Proponents, there has been considerable saving of fuel and hence reduction in emissions but the same is intangible
- Reduction in printing on paper due to the XGN system has ensured in saving of tons of paper and thus saving of trees.
- The pollution has reduced drastically in all critical areas because of timely monitoring, action and compliance. The system itself pin-points the non-compliance wherein action is to be taken.