

Chapter 13

e-SAMADHAN GRIEVANCE MONITORING SYSTEM

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I) OVERVIEW

On 18th December, 1970 the State of Himachal Pradesh Act was passed by Parliament and the new state came into being on 25th January, 1971. Thus Himachal Pradesh emerged as the eighteenth state of Indian Union.

STATE INDICATORS

Location Latitude 30° 22' 40" N to 33° 12' 40" N Longitude 75° 45' 55" E to 79° 04' 20" E Height (From mean sea Level) 350 meter to 6975 meter	Population [2001-Census] 6077248 persons Urban 594881 persons Rural 5482367 persons
Geographical Area [2001] 55,673 sq. km Density (per Sq. Km.) [2001] 109 Females per 1000 Males [2001] 970 Birth Rate (per 1000) [2002(P)] 22.1 Death Rate (per 1000) [2002(P)] 7.2	Administrative Structure [2002] State Capital Shimla No. of Districts 12 No. of tehsils 75 No. of Sub Divisions 52 No. of Blocks 75 No. of Nagar Panchyats No. of Gram Panchyats No. of Villages 20118 No. of Towns 57
Development Indicators Per Capita Income [2000-01] Rs. 10942 Literacy [2001] 77.13 % Male 86.03% Female 68.08 % State Language Hindi & Local Dialects	No. of Parliament Constituencies Lok Sabha 4 Rajya Sabha 3 No. of Assembly Constituencies 68

II) RESULT INDICATORS

1. Key Performance

a. Stakeholder services and benefits achieved through ICT interventions

- **Citizen-centric, web-enabled and work-flow based software**
- **Classification of grievances/demands**
 - i. Classification of grievances/demands as per the authority of each office in all departments of the Government
- **Maximum Redressal Time**
 - i. Maximum redressal time has been fixed for each grievance type.
- **Integration with SMS Gateway**
 - i. SMS is automatically sent to the applicant when application is submitted as well as whenever any action is taken on the application (if mobile number is provided on the application)
- **Graphical Analysis**
 - i. Various tabular/graphical queries are available inbuilt in the system not only for updating and monitoring the status of grievances but also for analysis and policy-making decisions.
- **Web-based Interfaces for all Stake Holders**
 - i. Stake holders:- citizens, government departments, MLAs, MPs, ministers, chief minister
 - ii. Any person can register his grievance at anytime anywhere.
 - iii. All stake holders have been integrated in such a way that everybody will be able to monitor the status of their applications online.
- **Online File of actions taken**
 - i. Against each grievance/demands, FILE of actions taken is maintained online automatically, which may be viewed by all the stakeholders anytime anywhere.

Situation before the Initiative	Situation after the Initiative
<ul style="list-style-type: none">• Lack of Transparency• Delay in disposal of Grievances• Lack of coordination among various constituents responsible for disposal of Grievance• No formal system for the classification of the Grievances	<ul style="list-style-type: none">• Complete Transparency• Fast disposal of Grievances• Effective Coordination• Instant Classification of Grievances

<ul style="list-style-type: none"> • No fixed time for redressal of grievances • • No availability of data for policy decisions • Gross difference in Grievances reported & disposed • Useless Expenditure • Lack of Accountability • Wastage of Time 	<ul style="list-style-type: none"> • Maximum redressal time is fixed for each grievance type. • Extensive availability of information for analysis & decision making • Reduction in the ration of Grievances registered and disposed • Economy in Expenditure • Fixed Accountability • Optimal use of Time.
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b. Geographical Spread in the State achieved

- Web-based interface and may be accessed globally.
- On e-Samadhan, any person can register his grievance or demand through :-
- Own personal computer connected with internet
- Cyber café
- Various “e-Samadhan” counters established by the Government of HP at:
 - Sugam centres in all D.C. offices (12)
 - Sugam centres in all SDM offices (52)
 - Various offices of all departments
 - Community Service Centres (CSCs -3366) upto Panchayat level.

2. Efficiency improvement

a. Time saving / improvements in the delivering the above set of services.

For each department of the government, the grievances have been categorized as per the authority of each office in the department. Further, maximum redressal time has been fixed for each grievance type. The grievances, for which maximum redressal time will be exceeded, may be focused by higher authorities for speedy action.

The beauty & strength of the system is that it integrates all stake holders (Citizen, Government Department, MLAs/MPs, Ministers, Chief Minister, Media) in such a way that everyone is aware of his role/action without delay and system forces all stake holders to promptly react for redressal of genuine public grievances in a time bound manner. Further it gives complete transparency to the citizen in processes involved for disposal. In a very short span, the system has delivered outstanding results and enhanced the public

faith towards the Government System. The citizens understand if grievance is submitted online, it will be redressed in time bound manner and without any bias.

b. Cost savings for delivering above set of services.

The “e-Samadhan” is a product which has come up after various interactions among stakeholders and it implies persistence and the capacity to continue without any hurdle.

It addresses the needs of all stakeholders. The e-Samadhan is an ‘Investment’ which continues to produce a ‘Return’. The ‘Return’ is beyond financial as it redresses all type of problems such as social, economical, educational, financial etc. The project is sustainable and produces a return which is not only financial.

c. Cost Saving for availing these services

Services for the public raising grievances and demands are made available at the door steps of public. The “e-Samadhan” is a Web-based interface and may be accessed globally. Now public can communicate in a fraction of second with the government machinery who is sitting in any part of the world. With help of such services, it has become very easy to establish a kind of global public-government relationship where public can share his grievances and demands with just a click of button and instantly visible to the complete hierarchy of the government machinery.

As most important advantage of “e-Samadhan” is the wide reach it has to public at any place any time and accessibility to data is 24×7. Thus, “e-Samadhan” is one of the main sources of the HP Government to promote its business as well as business services as it helps in reaching the target audience and fulfilling the commitment to provide transparent, accountable and responsive administration at all levels. It aims at expeditious disposal of public grievances in a time bound manner.

The “e-Samadhan” has become a tool that is used everyday for submitting public grievances/demands and expeditious disposal of public grievances in a time bound manner.

The other advantages of the “e-Samadhan” are low cost, low risk, with a huge potential, ability to measure and give the highest return.

The “e-Samadhan” is a web-based application and no indirect cost is incurred by the users for availing the services because of following reasons:-

Cost Effective

The “e-Samadhan” system eliminates costly and wasteful distribution of printed materials and information is always up-to-date. It also eliminates expensive multi-site licenses and above all No hardware upgrade is required for accessing the web-based application “e-Samadhan”.

As grievance/demand can be submitted online using nearest internet connected computer or Citizen may avail the free internet service at any e-Governance centre for submission of grievance/demand or to know the current status. This saves time as well as money.

In earlier system, to take any action on grievance/demand, authority had to rely on manual way of information retrieval/action recording, which was very time consuming and involved lots of file movement procedures & paper work. Now online instant availability of grievance/demand with current status to all concerned, any-time any-where, helps in fast disposal of complaint which saves a lot of time.

No special configuration

No special configuration or changes are need on users PCs. Everybody should have a browser. This leads to lower costs for browser-based software – “e-Samadhan”.

Centralized Data

Data is centralized, secure and easy to backup, eliminating the need to synchronize data between locations.

Easy Maintenance

The “e-Samadhan” application is easy to change, and maintain. Updates can be made quickly and easily.

24X7 Access

Biggest advantage of the “e-Samadhan”, users have access from anywhere in the world, 24 hours a day, 7 days a week. Employees or public located at different locations, on the road or even overseas, all have direct access to current information.

III) ENABLER INDICATORS

1. Processes

a. Major front end process changes and implemented

Situation before the Changes i.e. manual system

- Weaknesses of the manual system
- Complexity & Time Consuming Processes.
- Lack of transparency.
- Lack of Accountability.
- Unwanted & unreasonable Paper Work.
- Weak points
- Registration of Grievance Repeatedly.
- Marking a Grievance to same concerned office through various constituents.
- No information about the current status of the Grievance.
- Poor disposal of Grievances.
- Wastage of Valuable Resources
- Government Time.
- Money

Online Grievances Redressal System – e-Samadhan

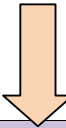
To design and develop an effective application for speedy redressal of public grievances namely “e-Samadhan”, a thorough study has been made for the previous works done by various States of India and individual departments.









A comparative appraisal of similar applications being run by other States has been mentioned in the next sections.


Symbols Used:-

Symbol	Description
✘	Option not available in the application
✓	Option available in the application
HP	e-Samadhan Application of Himachal Pradesh
Ap-I	Application-I being run only for single department
Ap-II	Application-II being run for all departments of the State

Comparative Appraisal for Submission of Grievance/Demand

“e-Samadhan” Application	H P	A p-I	Ap- II
Select a nature of the application from the list The option may be Grievance or Demand	✓	✘	✘
			
Select a Department from given list	✓	✘	✓

140 Departments including Corp., Boards			
			
A list of Application Types is displayed for the selected department Application Type consists of:- Description of Grievance/Demand Office Level in the department, which to dispose Application. Maximum Redressal Time for disposal	✓	×	×
			
Select a Application Type from the list	✓	×	×
			
Select name of district from a list	✓	×	×
			
A list of concerned offices is displayed which may dispose the application Up-to-date Office Master for all 140 Departments	✓	×	×
			
Select name of office from the list which are nearest to location of applicant	✓	×	×
			
Enter the Application details of the Grievance/Demand If required, the application may be linked with Previous Online Application number	✓	✓	✓
			
Select a Village from list w.r.t. location of the Applicant Up-to-date Village Master, which is also mapped to concerned Panchayat and Assembly Constituency	✓	×	×
			
Enter the Applicant Details Applicant Name, Applicant Category, Is Senior Citizen, Is Defence Personal, Postal Address, Telephone Number, Mobile No. and e-mail Id	✓	✓	✓

 Submit Application			
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Major back end process changes and implemented

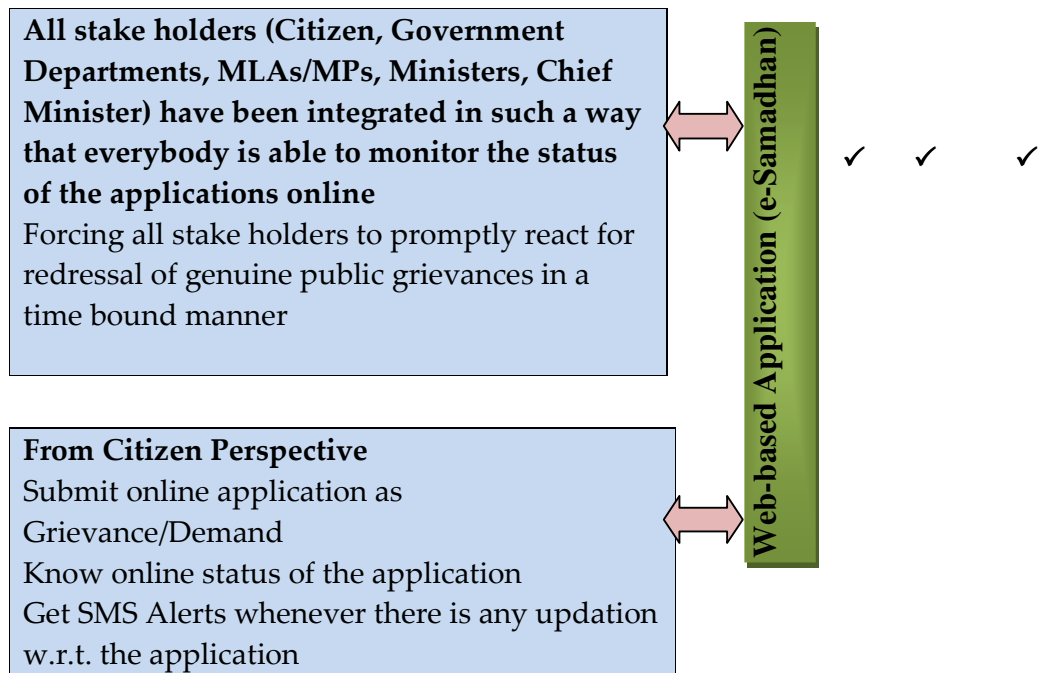
"e-Samadhan" Application	HP	Ap-I	Ap-II
<u>Application is:</u>			
Citizen-centric	✓	✓	✓
web-enabled	✓	✓	✓
work-flow based	✓	✗	✗
Role based	✓	✗	✗
Common Integrated portal for all departments	✓	✗	✗
Multilingual	✓	✗	✗
<u>Other Features:</u>			
Simplification & standardization of the process for registration of public grievances	✓	✗	✗
Classification of grievances (department-wise)	✓	✗	✗
Fix maximum redressal time against each grievance type	✓	✗	✗
Decentralized Data Entry upto grass-root level	✓	✗	✗
Role-wise drill-down Queries/Reports			
Graphical Analysis Reports for policy-making decisions			
Separation of demands from grievances so that provision for necessary fund may be made in the next budget	✓	✗	✗

Submit Application as Grievance/Demand
 Application directly goes to the concerned office where it is to be disposed
 Simultaneously, the application is visible to all higher authorities for monitoring and giving online directions/orders for speedy redressal
 For every application, a file of actions taken is automatically maintained

The progressive actions taken are entered by concerned officer until the application is disposed off
 The disposing officer may also take advice online from seniors.

Web-based Application (e-Samadhan)

✓	✗	✗
✓	✗	✗



2. People and Resources

a. Project management & Monitoring – Full time team in place

The Department of Redressal of Public Grievances (RPG) in the HP State has been created. The main objective of this Department is to

- set up decentralized machinery for redressal of grievances,
- monitoring its effective functioning;
- help identify grievance prone areas for systematic change and computerizing the grievance handling operations.
- Keeping in view the importance that the government attaches to redressal of public grievances, this department has been placed under the charge of Principal Secretary to Chief Minister, which Hon'ble Chief Minister being himself the Minister-in-Charge.
- The Grievance Redressal Cells have been set up in all the Departments upto Tehsil/Block level. The Grievance Redressal Committees in the districts are also created.
- For software-related problems and queries, the stake holders may contact at the following Help Desks:
 1. NIC HP STATE Unit, Shimla (List of NIC Officers is available on web-portal)
 2. Any DIO of respective District (List of DIOs of all 12 districts is available on web-portal)

- The software-related problem or query may be raised through email or telephone call.
- If there is some software related problem or new requirement in the software, the “State Level Development & Implementation Team” takes the necessary action immediately.
- For department-related problems, the public can register his grievance or demand on “e-Samadhan” through
 - Own personal computer connected with internet
 - Cyber café
 - Various e-Samadhan counters established by the Government of HP at:
 - i) Sugam centres in all D.C. offices
 - ii) Sugam centres in all SDM offices
 - iii) Various offices of all departments
 - iv) Community Service Centres (CSCs) upto Panchayat level

The current Status of the application may also be known using one of the above mentioned ways.

Moreover, the details of Grievance Redressal Cells set up in all the Departments upto Tehsil/Block level are available on the “e-Samadhan”.

b. Achievements of training of internal & external members on the new system

Various meetings with stake holders and seminars were conducted to obtain detailed information regarding the input to the system, the processing needs and the output requirements.

An effort was made to increase the flexibility of the development process by allowing the stake holders to interact and experiment with a working representation of the software. The developmental process was freezed once the stake holders were satisfied with the functioning of the system.

State level Conferences on “e-Samadhan”	10
Trainings/Workshops on “e-Samadhan”	35 for all departments

c. Change management strategy defined and implemented

The major challenge had been the traditional mind-set of the employees of all departments. For many years, computer had been an object inspiring awe and fear. We are progressively changing that mindset and have been able to train a sizeable part of our force in handling computers.

In a web based system, Connectivity Bandwidth is very important factor for performance & sustainability of the project which is being sufficiently provided upto the district level through NICNET under the control of National Informatics Centre and supplemented upto sub-division/tehsil level through the HIMSWAN (Himachal State Wide Area Network) project under the control of the Department of Information Technology, Himachal Pradesh

- Simplification & standardization of the process for registration of public grievances
- Classification of grievances received in each office for all departments of the Government
- Fixing the maximum redressal time for each grievance type
- Accountability of Government Officers/officials for timely disposal of grievances
- Transparency in processes involved for disposal.
- Reduction in paper work to support Carbon-Credit policy of Government

Capacity Building

As sustainability of the ICT project is affected by the human resources available to undertake the ICT activities, therefore more than 35 workshops/trainings conducted at State level on “e-Samadhan” for all major departments and 3-4 master trainers for each department have been created. These master trainers have further provided the necessary training to the field staff of their respective departments.

The District Informatics Officers of the concerned district are technically assisting the staff of all departments in using the “e-Samadhan” application.

Scalability

As Scalability is the ability to cope with the increased volume, so even for this purpose a State level committee and District level committees are constituted comprising of administrative and technical members.

The “e-Samadhan” application is hosted at NIC State Data Centre which is vertically and horizontally scaled up time to time as per the requirement.

The new requirements in terms of man power or hardware upgradation at various offices of all departments are reviewed time to time by the concerned District Level Committees for further improvements. These committees are responsible for Horizontal and Vertical Scalability.

d. Leadership support (Political, Bureaucratic) and its visibility

Keeping in view the importance that the government attaches to redressal of public grievances, the department of Redressal of Public Grievances (RPG) has been placed under the charge of Principal Secretary to Chief Minister, which Hon'ble Chief Minister being himself the Minister-in-Charge.

Under the leadership of the Hon'ble Chief Minister Himachal Pradesh, the RPG department has done quite well and progress is creditworthy. The Grievance Redressal Committees in the districts are also created. The Grievance Redressal Cells have been set up in all the Departments upto Tehsil/Block level.

e. Financial Model (Funding pattern , Business model PPP etc) defined and implemented

National Informatics Centre (NIC) Himachal Pradesh has developed citizen-centric, web-enabled and work-flow based software "e-Samadhan" in close coordination and guidance of RPG (Redressal of Public Grievances) Department for automation, standardization and uniformity of the grievance redressal system and no cost has been involved in software development. No software agency is appointed for providing services. It has a major impact on cost saving.

The RPG Department is itself performing all activities in regular consultation with National Informatics Centre, Himachal Pradesh.

The "e-Samadhan" is a product which has come up after various interactions among stakeholders and it implies persistence and the capacity to continue without any hurdle.

It addresses the needs of all stakeholders. The e-Samadhan is an 'Investment' which continues to produce a 'Return'. The 'Return' is beyond financial as it redresses all type of problems such as social, economical, educational, financial etc. The project is sustainable and produces a return which is not only financial.

3. Technology

a. Disaster Recovery & business continuity plan defined & implemented

The "e-Samadhan" application is hosted at NIC State Data Centre which is vertically and horizontally scaled up time to time as per the requirement.

NIC, Hyderabad provides the Disaster Recovery and Business Continuity services to the State Data Center of Himachal Pradesh.

Audit Trail Mechanism

- The audit trail mechanism has been effectively implemented in this application for fixing Individual Accountability, Reconstructing Events and Intrusion Detection.
- In the application “e-Samadhan”, an individual's actions has been recorded that make users to be personally accountable for their actions. This deters the users from circumventing security policies. Even if they do, they can be held accountable.
- While accessing the authorized area using the authorized Login Id and Password, a User Log (user Id, function performed by the user, client IP address, data & time of login and logout) has been maintained by the system and he has been allowed to do the work as per the role assigned to him.
- While updating the data, the user's detail and date of updation have been recorded along with the updating record.
- Efforts have been made to provide a complete history of any given transaction. The effort has been made to be able to identify each step in the process from the initiation of the transaction all the way through to the completion of the transaction.
- The amount of damage that occurred with an incident can be assessed by reviewing audit trails of system activity to pinpoint how, when, and why the incident occurred.
- Privileged access has been given for the use of application. In case of any unauthorized attempt to login the system, the login and the IP Address of the client machine will be debarred after 5 attempts. The log of each attempt has been stored in the system which helps in Intrusion detection.
- Audit trail of the authorized logged in user's actions has been maintained as per web application security guidelines. All details of authorized user's actions such as data updations, file uploads etc. have been recorded

b. Technological solution cost effective and maintenance over time

The “e-Samadhan” application has been developed by the National Informatics Centre, Himachal Pradesh as a web-based application in 3-tier architecture using Microsoft .NET Platform as

- Presentation Layer (Front End) using ASP.NET
- Business Logic Layer (Middleware) using VB.NET
- Data Layer (Backend) using SQL Server DBMS

The three-tier architecture has been used for better management of code and contents and to improve the performance of the web based applications.

The first layer Presentation contains the interface code that is going to be displayed to the user using Internet Explorer. This code would contain the ASP.NET technology that can be used on the client side like HTML, JavaScript or VBScript etc.

The second layer Business Logic contains all the code of the server-side technology. This layer mainly contains the code that is used for accessing the database and to query, manipulate, pass data to user interface and handle any input from the UI as well.

The Business Logic layer has been divided in to two sub tiers Business and Data Access Tiers, in order to increase scalability and transparency.

The Business sub tier contents classes to calculate aggregated values and this tier doesn't know about any GUI controls and how to access databases. The classes of Data Access Tier will supply the needy information from the databases to this sub tier. Typically this sub layer may include code for - Instantiate an Data Access object, Retrieve the crude data, Calculate business values from the crude data.

The Data Access sub tier acts as an interface to Data Tier. This tier knows, how to (from which database) retrieve and store information. Typically this layer may include code for - Establish DBConnection, Create a DBCommand and the DBParameters to the command, Open the connection and execute the query, Retrieve the values from all output parameters, Close the DBConnection.

The third and last layer Data represents the data store i.e. SQL Server.

c. Security and confidentiality standards defined and implemented

Removal of Top 12 OWASP Vulnerabilities

The "e-Samadhan" application is safe for the following OWASP vulnerabilities:

- Un-validated Input.
- Broken Access control
- Broken Authentication and Session Management
- Browser caching
- SQL Injection
- Cross site scripting
- Denial of Service
- Error handling
- Insure storage
- Buffer Overflow

- Insecure configuration management

Using Salted MD5 as Hash Algorithm for Login Authentication

The MD5 (Message-Digest algorithm 5) has been used as cryptographic hash function with a 128-bit hash value for login authorization.

(Bhim Sen (IAS) Principal Secretary to Chief Minister & RPG, Principal Secretary to Chief Minister & Redressal of Public Grievances, Government of Himachal Pradesh & Rajesh Bahadur, SIO, NIC, email: sio-hp@nic.in)