eGramSwaraj

Simplified Work-based Accounting application for Panchayati Raj

Edited by **MOHAN DAS VISWAM**

Panchayati Raj Institutions (PRIs) play a crucial role in the provision of various services and basic amenities to rural citizens. It is of the utmost importance that Panchayats are adequately staffed and equipped with the necessary infrastructure.

eGramSwaraj

eGramSwaraj functions as the digital collaborative platform for PRIs and all other stakeholders. It has been monumental in bringing together a tech-based, integrated system of information collection, micro-level planning, and work-based accounting for Panchayats, the grassroot level of self-governance In less than two years, the platform has amassed about 2.75 lakh entities (PRIs or equivalent) with user base of about 7 lakh, distributed across 28 States and 8 Union Territories.

The platform is ever evolving as a result of continuous feedback from numerous key stakeholders including State Officials, PRI officials, Ministry of Panchyati Raj and other central line ministries.

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eGramSwaraj has improved the functioning of Panchayati Raj Institutions, providing citizens with a platform to connect with local representatives and participate in local governance. It has enabled greater transparency and accountability in the functioning of the Panchayats, which has been essential for ensuring effective implementation of various schemes and welfare programs.

Key Modules

Following are key modules of eGramSwaraj

- **Panchayat Profile Management:** maintains a detailed socio-economic profile of the Panchayat, as well as information about its elected representatives and working committee

- **Gram Panchayat Development Plan Management:** facilitates planning of activities and development works, as well as the creation of development plans

- **Financial Resource Envelope / Fund Management:** facilitates panchayats to maintain availability of funds from different sources

- **Work Progress Reporting:** records physical and financial progress of development works

- **e-Payment System:** facilitates e-Payments of all payments being made by Panchayats using digitally signed payment orders

- **FPMS Integration:** facilitates integration with PFMS for routing payments

- **Financial Accounting:** facilitates work-based financial accounting and monitoring of funds expenditure via Treasury-PFMS integration.

- **Panchayat Asset Directory:** facilitates management of database of all movable and immovable assets

Key Features

Following are key features of eGramSwaraj

- Supports inter-operability with other Panchayat Enterprise Suite (PES) applications

- Simple and user-friendly interfaces

- Workflow enabled to manage repetitive processes and tasks

- Supports asset visualisation on Gram Manchitra

- Strong authentication mechanism

- Built upon open-source technologies

- Web-based and available 24/7

Technical Specifications

The deployment process for eGramSwaraj involves code building, committing it to subversion (SVN) repository, conducting alpha testing, and user acceptance (UA) testing before its release into production. An overview of the deployment procedure is provided in Fig 9.2.

Software Architecture

eGramSwaraj is designed with the following 3 key target user groups in consideration:

- **Local Bodies**: both rural and urban local bodies forms the primary end user base for this application. They are the primary custodians of numerous critical processes such as work progress monitoring, vendor and employee management, formulation of Panchayat Development Plan (PDP) and financial management.

- **Line Departments**: GPDP spans across 9 themes mapped with 29 constitutional subject areas. These departments are responsible for driving various social welfare programs and schemes. Data-driven planning and monitoring, naturally, forms the foundation of successful, last-mile, service delivery, especially for a robust financial management.

- **Citizens**: Although Gram Panchayat is run by elected and designated representatives of citizens and administration, it is the right and responsibility of each citizen to be aware and vigilant of the progress and development works in their region.

Considering above user personas, the following modules form the backbone of eGramSwaraj application:
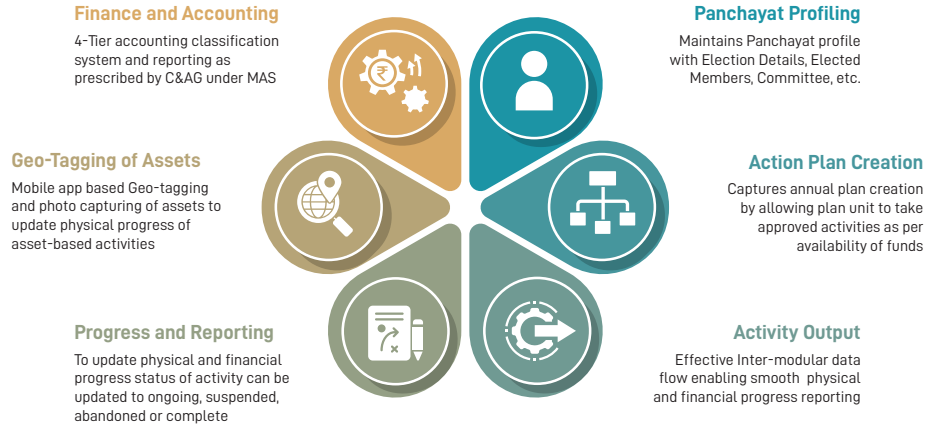
Panchayat Profile

This module helps in maintaining the socio-economic profile of Gram Panchayat in addition to information related to panchayat elections, elected members, and working committees.

- Maintains a holistic profile of Panchayat, including details of Sarpanch and Panchayat Secretary

- Maintains the details of election and elected representatives

- Maintains the details of working committees and its members

Panchayat Development Plan Management

This module helps in planning project activities and creation of development plans.

- **Wish List**: captures ideas, suggestions, and resolutions presented during Gram Sabha meetings

- **Shelf of Activities**: enables planning unit to maintain a list of activities to be taken up in a year plan

- **Resource Envelope**: documents budgetary allocations of funds from a range of sources, such as government schemes at both the Central and State levels, as well as other funding streams

- **Convergence**: pools funds from multiple sources to support the activities of panchayats. This ensures that available resources are fully utilized, reducing the risk of critical projects being abandoned due to inadequate funding

Finance and Accounting
4-Tier accounting classification system and reporting as prescribed by C&AG under MAS

Geo-Tagging of Assets
Mobile app based Geo-tagging and photo capturing of assets to update physical progress of asset-based activities

Progress and Reporting
To update physical and financial progress status of activity can be updated to ongoing, suspended, abandoned or complete

Panchayat Profiling
Maintains Panchayat profile with Election Details, Elected Members, Committee, etc.

Action Plan Creation
Captures annual plan creation by allowing plan unit to take approved activities as per availability of funds

Activity Output
Effective Inter-modular data flow enabling smooth physical and financial progress reporting

▲ **Fig 9.1**   Key features of eGramSwaraj portal

- **Action Plan**: creates annual plan by allowing the planning unit to take approved activities as per available fund in different schemes. Activity funding can be shared by multiple schemes. Priority can be set for each activity

Work Management System

- **Technical Approval**: analyzes and captures the technical aspect for an activity approval

- **Administrative Approval**: captures administrative approvals for an activity with respect to source of funding

Geo-tagging based Progress Reporting

This module records the physical and financial progress of approved activities.

- **Progress Reporting**: updates physical and financial progress of activities. Activities can be marked as ongoing, suspended, abandoned, or completed

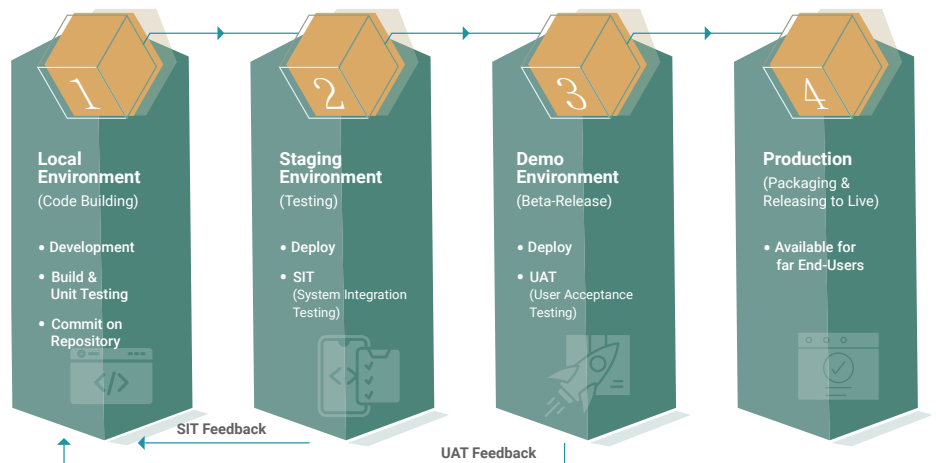- **Geo-tagging:** captures location-based information and photos of assets created, which makes it easier to track the progress of asset-based activities. This sub-module is supported through a unique mobile app named as *mActionSoft*.

It also allows for inter-module data flow for smooth physical and financial progress reporting.
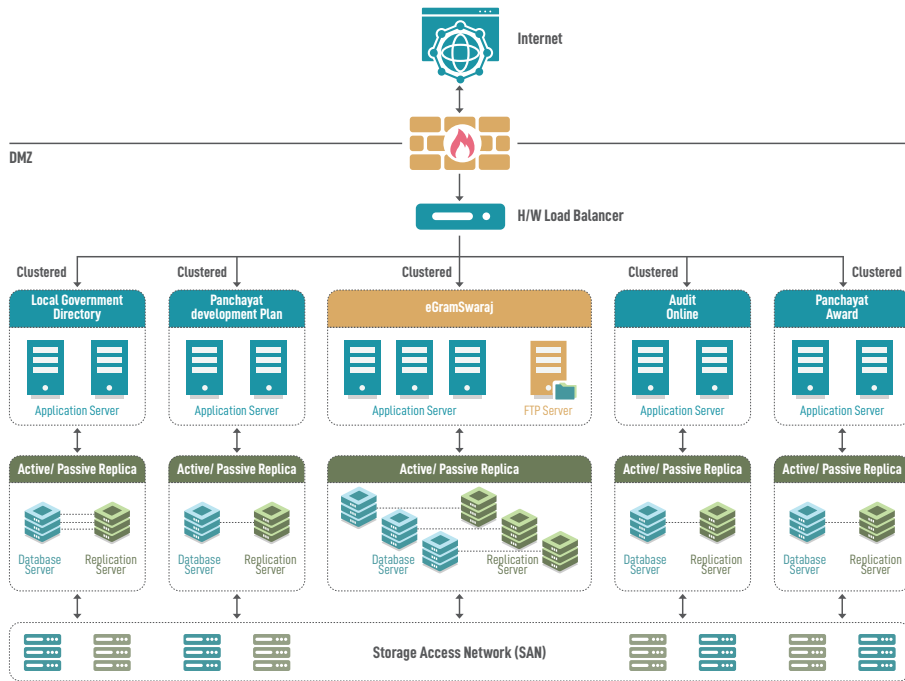
Financial Accounting

This module facilitates work-based financial accounting and monitoring of funds expenditure.

- Complies with the 4-tier accounting classification system and reporting formats prescribed by Comptroller and Auditor General (C&AG) under Model Accounting System (MAS)

- Follows double-entry system of book-keeping wherein both the credits and debits are recorded for a transaction

- Captures details of work, expenditure incurred on the work, advances given under a work etc.

- Integrated with PFMS to register vendors under different Central and State schemes for payments

- Facilitates closure of daily, monthly and yearly book of accounts and ensures necessary steps are taken to carry forward accounts to next cycle

- Records transaction details through 4 vouch-

1 Local Environment (Code Building)
- Development
- Build & Unit Testing
- Commit on Repository

2 Staging Environment (Testing)
- Deploy
- SIT (System Integration Testing)

3 Demo Environment (Beta-Release)
- Deploy
- UAT (User Acceptance Testing)

4 Production (Packaging & Releasing to Live)
- Available for far End-Users

SIT Feedback   UAT Feedback

▲ **Fig 9.2**   Overview of deployment procedure

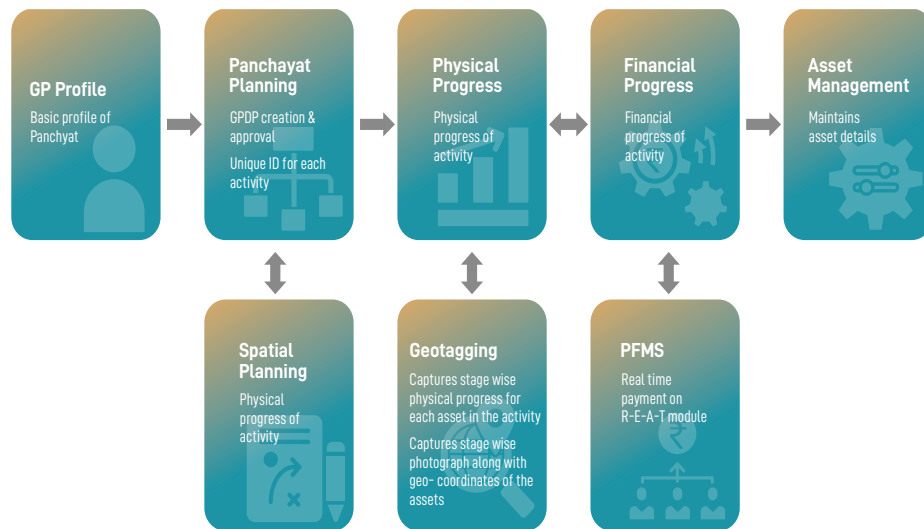▲ **Fig 9.3**   Technical architecture of eGramSwaraj portal

ers: 1. **receipt voucher:** captures inflow of funds; 2. **payment voucher:** captures outflow of funds; 3. **contra voucher:** captures inter account transfer of funds; and 4. **journal voucher:** captures any rectification /book adjustment.

Panchayat Asset Directory

This module enables the prompt update of an asset's status as changes happen. It acquires comprehensive asset information, such as the revised status (such as abandoned, active, demolished, damaged by natural disasters, out of use due to seasonal conditions, or theft), the ratio-

nale for the update, and the date of the status revision. The subsequent summary highlights its functions

- Generates a unique Asset ID for identification of assets created / maintained / controlled by a planning unit
- Captures asset details such as location, status, ownership, etc.
- Displays the activity and voucher details linked with the completed asset
- Provision to locate assets on Gram Manchitra GIS

mActionSoft

After commencing the activity, the assets are ready to be geo-tagged through the mActionSoft mobile app. Panchayat users have the ability to geo-tag any assets and take real-time photographs of the resulting assets. Geo-tagging is compulsory for payment and expenditure purposes related to the activity within the accounting module of eGramSwaraj.

User Management

It enables system administrators to manage user accounts and their extent of access to various modules and functionalities of the system, including managing user credentials for privileged access. Based on these modules and their functionalities, eGramSwaraj facilitates end-to-end digitization of the works planning and monitoring lifecycle for Gram Panchayats. This includes development plan creation, geo-tagged physical progress monitoring, and financial progress tracking, as well as PFMS-linked online disbursement of funds. Thus, eGramSwaraj serves as a one-stop solution for all critical stakeholders in the Gram Panchayat development ecosystem.

IT Landscape

eGramSwaraj is built upon best available open-source technology stack in the industry. Its architecture is multi-layered and modular as per the design principles, with components organised into multiple layers, and abides by the following architectural guidelines identified as global best practices:

- Multi-layered and modular
- Scalable and extensible
- Adaptable architecture
- Separate Interface layer with option for integration automation
- Customisable user experience management
- Separate sub-systems
- Separate security and access control layer ensuring only authenticated role-based access
- Data layer and access separated out and encapsulated
- Tools for system and people learning

The illustration (Fig. 5) depicts the functional architecture and various components of eGramSwaraj application.

Impact

Since the launch of eGramSwaraj in April 2020, majority of the states and UTs have adopted eGramSwaraj for carrying out various aspects of Panchayat functioning. As of now,

- 2,53,605 Panchayat Development Plans created for 2022-23 across 3 tiers of Panchayats
- 2,37,058 year-books closed for FY 2021-22 across 3 tiers of Panchayats
- 2,07,405 month-books closed for FY 2022-23

▲ **Fig 9.4**   Software architecture of eGramSwaraj portal

▲ **Fig 9.5** Functional architecture and various components of eGramSwaraj application

across 3 tiers of Panchayats

● 2,03,612 PRIs made online payments through eGSPI for 2021-22

● 1,78,854 PRIs made online payments through eGSPI for 2022-23

● 1,15,608 Audit Reports generated across 3 tiers of Panchayats for audit period 2019-20

● 1,62,179 Audit Reports generated across 3 tiers of Panchayats for audit period 2020-21

Accolades

eGramSwaraj has won the Gold Icon National e-Governance Award by Department of Adminis-trative Reforms and Public Grievances, Govern-nment of India under "Excellence in Government Process Re-engineering for Digital Transforma-tion" category for 2021-22.

Way Forward

The increasing adoption of eGramSwaraj in Panchayats presents an opportune moment to strengthen and enhance digital governance at the grassroots level.

In keeping with national trends, eGramSwaraj is being integrated with the Government eMarket-place (GeM) to provide Panchayats with a seam-less procurement and accounting experience, while promoting transparency through standard-ized pricing and contract award processes.

To further enhance transparency and ac-countability, the Ministry is planning to develop eGramSwaraj 2.0 with additional features to ad-dress current challenges faced by stakeholders. The Ministry has also launched a data sharing initiative, which involves porting Panchayat-wise beneficiary and asset details of various Cen-tral Ministries' schemes / programs into the eGramSwaraj application. This initiative aims to make beneficiary / asset details available on a public portal, which will be further discussed in Gram / Ward / Mahila Sabhas for developmental discussions in the presence of Line Department officials. Currently, data from 8 Central Depart-ments / Ministries and 20 schemes have been successfully ported.

▲ **Fig 9.6** Data Statistical figures

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