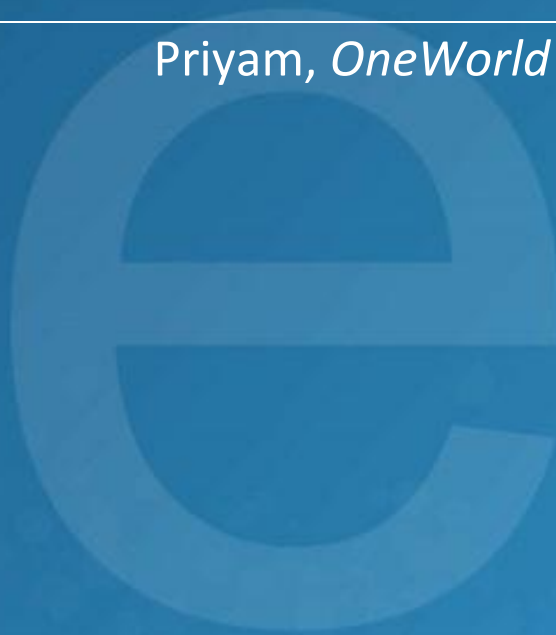


Case Studies on e-Governance in India

Pancha Tantra Online System

Priyam, OneWorld Foundation India



Pancha Tantra Online System

Priyam, *OneWorld Foundation India*

About the Initiative

This publication is a part of the Capacity Building initiative under the National e-Governance Plan (NeGP) by NeGD with an aim to draw out learnings from various projects implemented in various States/ UTs and sharing this knowledge, in the form of case studies, with the decision makers and implementers to benefit them, by way of knowledge creation and skill building, from these experiences during planning and implementation of various projects under NeGP.

Conceptualised and overseen by the National e-Governance Division (NeGD) of Media lab Asia/DeitY these case studies are submitted by e-Governance Practitioners from Government and Industry/Research Institutions. The cases submitted by the authors are vetted by experts from outside and within the Government for learning and reference value, relevance to future project implementers, planners and to those involved in e-governance capacity Building programs before they are recommended for publication. National Institute for Smart Government (NISG), working on behalf of this NeGD provided program management support and interacted with the authors and subject matter experts in bringing out these published case studies. It is hoped that these case studies drawn from successful and failed e-Governance projects would help practitioners to understand the real-time issues involved, typical dilemmas faced by e-Governance project implementers, and possible solutions to resolve them.

Acknowledgment

NISG sincerely thanks all the authors for documenting and sharing their rich experiences in terms of challenges and lessons learned and allowing us to publish and use these case studies in various training programs of NeGD and NISG. NISG also thanks all the external and internal experts who helped review the submitted cases, providing critical observations and for helping in articulating and presenting the case studies, both for class room use as well as a reference article.

Copyright License

This case study submitted by author/s and accepted for publication under the project of National e-Governance Division (NeGD), Ministry of Communications and Information Technology, Government of India by NISG, the program management agency, is governed by the following license of the Creative Commons. For any specific permission/feedback the publisher may be contacted.

(cc) Creative Common License - Attribution-Share Alike 2.5 Generic

The user is therefore free to make derivative works, with credit to the original author.
<http://creativecommons.org/licenses/by-sa/2.5/in/>

Disclaimer

This publication is a work product produced by external authors with information sourced from their own sources as provided under reference in respective articles and is based on experiences with Projects undertaken directly or as research initiatives closely working with the project owners or with their consent to publish the findings. The authors have provided a plagiarism declaration as per project guidelines and National Institute for Smart Governance (NISG) has put in best efforts to validate the authenticity and learning value of the article submitted. NISG has acted mainly as a content reviewer with support from identified expert resources. NISG is not responsible for any plagiarism violations or copyright infringements and respective authors are fully responsible for the same as per respective declarations provided by them. The case study should not be used as a definite source of data.

The case studies are meant for use as a background and quick reference on the topic(s) by e-Governance practitioners, and should not be treated as a guideline and/or instructions for undertaking the activities covered under any e-Governance project/s. It may also be used in a classroom for discussion by the participants undergoing e-Governance related training programs. The document by no means has any commercial intention and is solely developed for the purpose of knowledge sharing.

NISG-CBKM 89-200/Case Study/02-2014/V1
Printed & Published by
National Institute for Smart Government,
www.nisg.org
on behalf of the
Department of Electronics & Information Technology,
Government of India

List of Abbreviations

G2C	Government to Citizen
G2G	Government to Government
GoK	Government of Karnataka
GP	Gram Panchayat
ICT	Information and Communication Technology
NIC	National Informatics Centre
PRIA Soft	Panchayati Raj Institutions software
RDPR	Rural Development and Panchayat Raj Department

TABLE OF CONTENT

Project Context	1
Project Overview.....	6
Project Outcomes	12
Challenges in Implementation	14
Key Lessons	15
Research Methodology.....	17
References	18
Case Fact Sheet	19
Annexure I: List of categories under which information is available on Pancha Tantra Online System.....	20
Annexure II: Interview Questionnaire	21

Abstract

The Government of Karnataka has been among the front ranking states in adopting and implementing e-governance based solutions for providing better delivery of services and also improving the internal efficiency of state agencies. The distinguishing aspect about the state of Karnataka is that it has also put a lot of emphasis on improving the governance practices in rural areas and incorporated ICT based innovations for effective and enhanced delivery of services. The Pancha Tantra Online System is one such innovative ICT based initiative implemented by the GoK and the RDPR to improve the functioning of the Gram Panchayats through an automated process of accounting and budgeting of rural finances and expenditures.

The efficacy of this online system lies in the fact that it has successfully incorporated the new Panchayat Act Rules (2006) and transformed the functioning of the Gram Panchayats by introducing the Double Entry Accounting system. The Pancha Tantra online is a user friendly application with several built in features and a simplified process flow which assists the beneficiaries to maintain online financial records and monitor the functioning of the GP's thereby ensuring transparency and accountability. The Pancha Tantra online accounting system enables the government and the citizens to access all the necessary information about the functioning and performance of the GP's and ensure timely redressal. In view of its contributions in the field of e-governance the Pancha Tantra Online was awarded the National e-governance Gold Award 2010.

Key words: Information and Communication Technology, decentralization, e-governance, double entry accounting, transparency, accountability, Karnataka, Panchayati Raj Institutions

Note to Practitioners

The documentation is intended to serve as an overview of implementation of the Pancha Tantra Online System functional in the state of Karnataka. It presents an umbrella framework to understand the process flow as well as the implementation strategies and challenges of the model. The value of the model is discussed to provide basic operational guidelines to practitioners seeking to replicate the model in their own states or departments.

- In this model, difficulty was faced in the initial stages of implementation due to the resistance faced from the beneficiaries as they were not familiar with the technology platform. One method of overcoming this obstacle is to conduct pilot trainings among beneficiaries who are more amenable to the use of technology and using their experiences and learnings as a base to conduct trainings among their peers. As a result, perhaps peers will be able to absorb its functions at a more relatable level, coming from their peers, and also gauge the level of ease/difficulty in adapting to

the platform. Displaying the success and consequent benefits of Pancha Tantra to the target audience is essential in creating a favourable environment for its implementation.

- The web application has been made available in English and, the local language, Kannada. This is an important feature as it makes the system more accessible to both users and citizens.
- The system has been devised in a comprehensive manner, not only for the purpose of monitoring and evaluation of implementation, but also for empowering the rural population and increasing their participation in governance. Ensuring the support of the *gram panchayats* is, therefore, crucial for developing the system and for generating participation from the grassroots.
- Due thought and consideration must be given to the process of digitizing manual records into the automated system. If the manual records do not follow a standardized format, difficulties may arise at this stage, as will be noted in the case of Pancha Tantra. This will have to be foreseen and accounted for when making the transition.
- The system of Double Entry Accounting and the complementary use of ICT may be replicated for tightening governance practices in other departments or urban local bodies as well.

Note to Instructors

The following points of discussion may be raised:

- Identify the merits and demerits of accrual based accounting as opposed to cash based accounting in the context of activities at the *gram panchayat* level.
- Since the introduction of Pancha Tantra, with a particular focus on making it a two-way agency, what has been the level of participation from citizens in this e-governance model?
- In places where manual records are still maintained and an automated system is not in the offing, how should one push to ensure that they are in standardized formats?
- What other alternative models can be implemented for ensuring accuracy in financial transactions, and increasing transparency and accountability of GPs?

Project Context

In the past two decades, the Government of India has introduced several developmental schemes and reforms aimed at improving the state functioning and ensuring equitable

welfare. While most of these interventions are subject to multiple debates regarding their effective implementation, equal dissemination (rural and urban) and impact in terms of creating transparency and accountability in government operations, certain innovative efforts on part of state governments have been made to overcome these challenges. These are primarily bolstered by intensive utilization of Information and Communication Technology (ICT) tools that have evidently played a vital role in enabling efficient delivery of public services.

Use of ICTs has complemented government's efforts to devolve and decentralize authority to Panchayati Raj Institutions (PRI) by enabling effective coordination and monitoring of their functioning while allowing them to fulfill their mandates as local self-governing institutions in a more effective manner. ICT-driven e-governance initiatives have opened up new avenues for governments to manage their affairs with more efficiency, utilize necessary information more accurately and re-engineer the development processes. Hence, ICT tools are emerging as important instruments to achieve the goal of 'good governance'.¹

Karnataka has been one of the pioneering states in India with respect to adopting the use of ICTs in governance practices and enhancing public service delivery by building the capacity of PRIs. Karnataka was one of the first states in the country to experiment with decentralized governance and introduce panchayati raj legislation that pre-empted the Constitution (73rd Amendment) Act in form of the Karnataka Zilla Parishad, Taluk and Nyaya Panchayat Act of 1983. Under the 1983 Act, 2496 *mandal panchayats* and 19 *zilla parishads* were formed in the state. In 1993, the 1983 Act was superseded by the Karnataka Panchayati Raj Act that incorporated the quintessential features of the 73rd Constitutional Amendment and established elected bodies at three tiers – village, *taluk* and district levels to encourage greater participation of people and better implementation of development programmes at the grassroots level.²

With the overall objective of introducing administrative reforms to progressively regulate the functioning of the PRI's as effective implementing agencies of state policies and schemes, involve the citizens in decision making process, and ensure greater accountability, the Karnataka Panchayat Raj Act 1993 was introduced. Following this Act, all the three tiers have executive powers and function with different capacities within a hierarchical structure.

The institutional structure, roles and functions and the dispersion of administrative units in Karnataka is given in Table 1.

¹, H. S. ICT Driven E-Governance Public Service Delivery Mechanism in Rural Areas: A Case of Rural Digital Kumara Services (NEMMADI) Project in Karnataka, India. Journal of Computing and ICT Research, Vol. 4, Issue 2, pp. 37-45. <http://www.ijcir.org/volume4-number2/article4.pdf>.

² Palanithurai. Ganapathy. *Dynamics of New Panchayati Raj System in India: Capacity Building*. 2008. Concept Publishing Company. pp. 175-176.

Table 1- Administrative Units under the PRI in Karnataka and their functions

Source - Citizen centric e-initiatives in Rural Development and Panchayat Raj, RDPR, GoK and OneWorld Foundation, 2013

Administrative units in the Panchayati Raj Institutions	Key functions	Total number of units in Karnataka
District Panchayat (Zilla Parishad)	<ul style="list-style-type: none"> - Deciding development priorities - Planning and monitoring, - Setting funds 	30
Block Panchayat (Taluka)	<ul style="list-style-type: none"> - Aggregating technical and staff resources - Building capacity of <i>panchayats</i> 	176
Gram Panchayat	<ul style="list-style-type: none"> - Delivering information and services - Dispersing funds for developmental activities 	5628

The Karnataka Panchayat Act requires the State government to constitute a State finance Commission once in 5 years to review the financial position of ZP's, TP's and GP's. The SFC also makes recommendations on the sharing of the proceeds from taxes between government and *panchayats*, assigning revenues to *panchayats* and paying the GPs grants and distributing funds for payments of charges, developmental works and welfare schemes. The administrative and fiscal decentralization brought about the 73rd Amendment in Karnataka allows the funds and grants to be passed to the GPs through the *gram sabha* which meets at least twice a year to review local accounts, performance and welfare schemes that have to be approved. The prepared budget and resource allocation is then sent to the *zilla* (district) *panchayats* for scrutiny and gets approved through mutual consultation. Following the decentralization, the *panchayats* receive funds from both the consolidated fund of the state and the central government to implement welfare and developmental schemes. The smooth allocation and monitoring of funds at all levels required a more updated method of accounting to ensure transparency. Hence, the GoK decided to introduce an accrual based, double accounting entry system in GPs under the name of Karnataka Panchayat Raj Act, Rules 2006 which replaced the older Karnataka

Panchayat Raj Rules, 1995. The new Panchayati Raj Rules 2006, w.e.f. 1-4-2007 prescribed the maintenance of accrual based, double entry accounting and also prescribes maintaining all finance, accounting and budget related records in the same method. The new accounting system was implemented with the aim of rectifying the weaknesses of single entry accounting. Traditionally, *gram panchayats* followed the single entry accounting system, under which accounts were maintained manually. The accounting information based on such a system was ridden with issues of incorrect entry of details, non-reliability and lack of authenticity of data, outdated entries and other irregularities. It, therefore, restrained the effective monitoring of the functioning of *gram panchayats*. In order to rectify these debilitating issues, the new 'Double Entry Accounting System' was applied to all *gram panchayats* in the state of Karnataka.

It is against this background that the Rural Development and the Panchayat Raj Department (RPDR) of Government of Karnataka, in association with the National Informatics Centre (NIC), developed the Pancha Tantra Online System for *gram panchayats*. Pancha Tantra is a unique web based portal with a 3-tier architecture (a client-server system in which presentation, application processing and data management are logically separated) that fulfils the requirements of all GPs to effectively implement a Double Entry Accounting System.

The Pancha Tantra online is a comprehensive system that meets the basic requirements of the Gram Panchayats and has been developed keeping in mind the technical capacity of the GP in using computer based applications. It supports both Kannada and English languages to make the mechanism user-friendly for GP officials. The Pancha Tantra Online System enables the users and the beneficiaries to monitor the utilization of funds, make tax payments and other financial transactions, lodge suggestions/complaints and view maintenance reports online besides monitoring and evaluating the work undertaken by the GPs. It facilitates public scrutiny regarding utilization of funds allocated at the *taluk*/District/State level for implementation of various state sponsored schemes. The Pancha Tantra software system has successfully automated the functions and activities of 5,628 GPs in the state of Karnataka. The data generated and recorded on various activities undertaken by the GPs is made easily accessible to citizens, policy makers and the beneficiaries. The Pancha Tantra online is a robust initiative with an innovative use of ICT that aims at institutionalizing the functioning of the GPs for efficient accounting and improved delivery of public services based on a greater degree of accountability and transparency.

Table 2: Comparison between cash based and accrual based accounting

Source: Financial Management Resource Group, Centre for Good Governance, 2011.

Cash Based Accounting	Accrual Based Accounting
-----------------------	--------------------------

1. Statement of receipts and payments made based on entries recorded in the Cash Book	Income and expenditure account is Prepared
2. Only one entry is made for a transaction (either receipt or payment)in the books of Accounts	Two entries are made for each transaction in the books of account
3. Receipts and payments represent the amounts actually received and payments actually made	Income includes revenues actually received and receivable and expenditure includes both payments made or payable
4. The receipts and payments statement commences with the opening balance – both cash on hand and cash at bank.	Income and expenditure account is confined to the year of accounting only and it will not include the items of income and expenditure relating to past.
5. The difference between the two sides – debit and credit – will indicate the cash balance at the end of the period.	The difference between the two sides – debit and credit – will indicate the net surplus/ deficit.
6. This statement need not necessarily be accompanied by a statement of assets and liabilities	The system shall, necessarily, have the Balance Sheet, i.e. statement of assets and liabilities.

As of now, the Pancha Tantra Online System covers all 5,628 *panchayats* in Karnataka, spanning over 29,066 villages and has introduced over 47 new development schemes.

Project Overview

The Pancha Tantra Online System was introduced in 2009 as a landmark reform using the benefit of ICTs to transform the way in which the GPs maintained financial accounts and records and to facilitate better public service delivery. It was introduced under the 2007 Amendment to Panchayat Raj Act 1993 that prescribed a new set of accounting rules called the Double Entry Accounting system. Designed by the NIC and implemented by the RDPS, the software covers all *gram panchayats* in the state.

Project Objective

The ICT enabled Pancha Tantra aims to transform the functioning of *gram panchayats* by facilitating the introduction of the double entry accounting method that will enhance accuracy and efficiency in financial transactions, ensure accountability in terms of allocation of funds and monitoring the GPs performance and, lastly, infuse greater transparency based on effective management and delivery of public services.

Key Stakeholders

Government of Karnataka	<ul style="list-style-type: none"> • Allocating resources for building the software • Assessing the functioning of GPs • Co-ordinating with the PRIs
National Informatics Commission (NIC)	<ul style="list-style-type: none"> • Building the software • Providing technical assistance
Rural Development and Panchayat Raj (RDPR)	<ul style="list-style-type: none"> • Implementing and maintaining the software
Gram Panchayats/Gram Sabha	<ul style="list-style-type: none"> • Implementing and recording finance/developmental/service works and government schemes
Zilla Parishad/Taluk Panchayat	<ul style="list-style-type: none"> • Monitoring the progress of the GPs • Disbursing funds to GPs
Rural Citizens	<ul style="list-style-type: none"> • Monitoring the functioning of GPs • Accessing information regarding schemes, developmental works, complaints and grievance redressal

Figure 1: Primary stakeholders in Pancha Tantra Online System

Source: OneWorld Foundation India, 2013

Project Features

The Pancha Tantra Online System has been designed to enable a systematic flow of information where users can submit the details of various properties, beneficiaries and public works, and also view the reports maintained by the department. Since the project aims to capacitate the *gram panchayat* officials with varying degrees of competence in handling technology, Pancha Tantra utilizes simple and effective technology. The primary features of the Pancha Tantra Online System are enumerated in this section.

- I. **In-built double entry accounting system** includes a number of financial records like the balance sheet, income and expenditure statements, receipts and payments that are maintained on a regular basis. The portal provides a detailed account of financial performance of the GP during a fiscal period, its mid-term progress report and an annual evaluation report. The financial statements generated through the Pancha Tantra Online provide the beneficiaries, the funding agencies and the public, valuable information that can be used in policy making.
- II. **Local language support** provides access to users in Kannada as well as English languages. This has been done keeping consideration the language proficiency of local level government officials. Data can be viewed and entered in both languages by choosing the language at the time of logging in to the system. Unicode is used for capture and storage of data.
- III. **Role-based access to the system** ensures that different categories of users get access to the modules as per their role in the system. It prevents the possibilities of data-tampering at different levels.
 - Gram Panchayat Officer/Operator enters the GP data into the functional module.
 - Gram Panchayat Secretary is responsible for correction and approval of this data.
 - Taluk officers can release the funds or assess the financial records maintained by the Panchayat officers.
 - The Zilla Panchayat officers can then access the GP data and monitor the progress made at each levels adding to it by entering details of fund released for the GPs.
 - State officers finally can monitor the performance and progress made at each level. They are also responsible for the release of funds. This helps them to check for transparency as well as maintain the work based flow of the online portal.
 - The Pancha Tantra online is also embedded with an inbuilt portal called, Pancha Mitra which allows the Gram Panchayats to record their financial accounts, maintain reports and archive proceedings of Gram Sabha sessions (See Annexure I).
- IV. A **workflow based system** consists of a series of connected steps wherein every step follows the previous one without a gap in between the two processes. The Pancha

Tantra Online System enables the passage of activities and tasks from one user to other facilitating a flow of responsibilities and functions at the level of the *taluka*, *zilla parishad* and *gram panchayat* such that the performance at each level can be monitored. This has led to improved management of information and greater organization and co-ordination among the different levels. It is mandatory for the officials to carry out procedural functions according to the built-in work flow system. This has led to improved management of information and greater organization and co-ordination among the different levels.

- V. **Business rules integrated in the system** imply that the system is designed such that the provisions and rules in the Panchayat Act and Rules are already integrated in it. This prevents operating officials from deviating from the rules already defined. Therefore, there is minimum possibility of tampering with the information and data.
- VI. **Incorporation of controls** has been done to guide the *gram panchayats* to use the system appropriately. The system allows the passing of bills and approval of funds/grants only on the basis of the book entries. TDS and other deductions are automatically done while passing the bills.
- VII. **Generation of progress monitoring reports** can be done by users of the system. The portal provides access to district wise performance reports of the *gram panchayats* with reference to financial statements, Gram Sabha Committee application dues, report on panchayat meetings/proceedings, property tax, ration accounts, and panchayat grants.
- VIII. **Public interface** of the system includes provisions for users to make tax payments, submit applications/requests for beneficiary/license or complaints/suggestions. It enables senior public officials to monitor the progress of the applications made at every step, thereby fixing accountability of officials for tasks under their purview.

Process Components of Pancha Tantra Online System

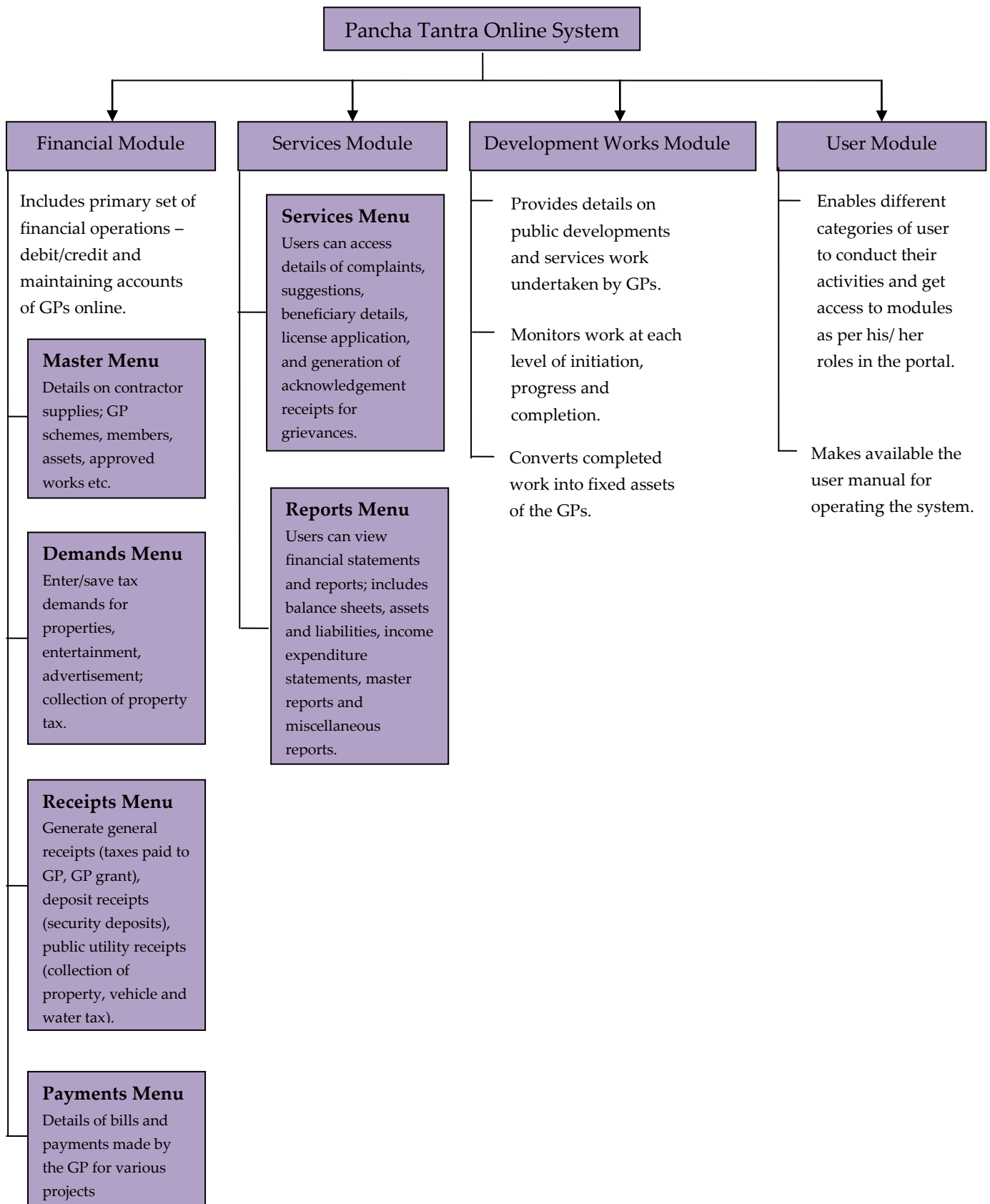


Figure 2: Process components of Pancha Tantra
Source: OneWorld Foundation India, 2013

Technology Employed

Since Pancha Tantra is implemented at the *panchayat* level all through the state, it was important to design the system such that infrastructural requirements would not be extensive. This was primarily for two reasons – first, the hardware and software introduced should have a low cost of procurement and maintenance so as to make them affordable keeping in mind the scale of the project, and, second, the software and hardware employed had to keep in consideration the existing capacity and ability of local level government officials to adapt to use of ICT tools. In keeping with this, following are the minimum hardware and software that are required at the user level for the Pancha Tantra system.

- i. Client System with a 486 system or above and 256MB RAM.
- ii. DoT Matrix or Laser Printer
- iii. Windows 2000/XP Operating System
- iv. UPS and internet connectivity

The fulfillment of the technical functions is moderated by the Chief Executive Officer of the *zilla parishad*, which also includes ensuring the setting up of computer systems in all GPs and providing internet connectivity. Thus the implementing agencies have tried to ensure the Pancha Tantra online system has adequate infrastructural support for the effective use of ICT in providing governance solutions.

Training and Capacity Building

In order to ensure effective implementation of Pancha Tantra, workshops were conducted to train the GP members, imparting them basic computing and accounting skills about the double entry accounting system and its uses. The Nodal Officer, RDPR and the District NIC Officer were also trained along with other members of the GP in Mysore and Bangalore at a three day workshop. These workshops were monitored by the RDPR and SIO (State Informatics Officer) through video conferencing. Training for effective deployment of Pancha Tantra was conducted over for a year.

Funding

The Pancha Tantra online procures its funds largely from the Government of Karnataka and the funds allocated to the RDPR for the administration and maintenance of the PRIs. The RDPR in association with the Government of Karnataka has successfully introduced administrative reforms and development schemes to strengthen the functioning of the PRI's. The development and maintenance of the Pancha Tantra Online System is funded by the RDPR and the GoK. The NIC has designed and developed the software free of cost for the RDPR. However, the infrastructure and capacity building expenditures are borne by the RDPR.

Project Outcomes

When evaluated against the objectives that were set out for Pancha Tantra, the system has proven to be an efficient mechanism to streamline operations of the *gram panchayats*, better utilize resources and lead to greater efficiency, enhance transparency and accountability, and provide an overall impetus towards making governance responsive. Table 3 gives RDPR's assessment of the project along lines of its objectives and corresponding benefits.

Table 3: Assessment of Pancha Tantra Online System vis-a-vis its objectives

Source: Citizen-centric initiatives in RDPR. Amita Prasad. 2011

Objectives	Benefits
Equip GPs with double accounting enabled online system	Efficient management of financial records and services, leading to enhanced transparency.
Deploy Pancha Tantra for core functional areas of GPs	Strengthen administrative functioning at the <i>panchayat</i> level
Delivery of <i>panchayat</i> services to beneficiaries and citizens	Ensure speedy delivery of services and redressal of grievances, transparency and accountability
Disseminate financial records and transactions to village <i>panchayats/talukas/zilla parishad</i> levels	Converging information at the level of GPs and making it available for public access
Built-in system for electronic tracking of funds deployed at each level of the PRIs	Ensure transparency and efficiency in fiscal transfers and maintain accountability

Utilizing ICT to create an effective model for enhancing local governance

With the changing dynamics of governance solutions in India, ICT tools have facilitated better outreach to the society to meet diverse demands of government and citizens at large. e-Governance has accelerated process of development keeping in consideration concerns of efficiency, transparency, accountability and open government for citizens.

One of the most significant benefits of ICT utilization for governance has been the support such tools provide to the state in strategic control and dissemination of information and services. In this regard, Pancha Tantra is an effective model for ensuring financial transactions at the local government level are streamlined and services delivered more

efficiently. It has replaced the manual system of maintaining accounts, which resulted in high instances of corruption and irregularities in data.

Further, ICT used to enhance governance is particularly useful when it is used to create user-friendly solutions. Pancha Tantra allows separation of functions in its process flow so that the user can access according to his/her specific requirements. At the level of the user, the portal is simple to use and does not require substantial and elaborate capacity building.

Effective mechanism for verification of official records

The Pancha Tantra Online System has effectively transformed the laborious manual accounting system into a new digitised records-based one that integrates the double accounting method. Digitization of financial records, transactions, developmental works and services initiated by *gram panchayats* ensures that records are verified and checked using GIS and GPS services. Pancha Tantra has an in-built mechanism that balances credits and debits and also keeps a check on duplication of entries and manipulation of data. It has eased the maintenance of large sets of financial data.

Further, the digital system of accounting produces system generated financial statements and receipts for the beneficiaries as an acknowledgement of their transaction/grievances. The system has reduced the time taken to complete operations and processes. It has enabled users to automatically reconcile scheme wise accounts with the financial statements of the *gram panchayat* and access records on monetary allocations as well as the scheme wise utilization of funds by the GPs.

Operationalization of decentralization of resources and functions

Karnataka is one of the pioneers in decentralization initiatives in India. Despite the impetus by the government to decentralize functions and resources to local levels of administration, the progress made has been less than satisfactory owing to challenges posed by monitoring of functioning at the grassroots level. Pancha Tantra has provide an effective monitoring tool that has encompassed and thereby made it possible to (i) devolve responsibilities with the assurance that functioning at every level of administration can be traced by authorities higher up, (ii) coordinate across large geographical distances and among various levels of authority without the need to travel, (iii) streamline functions and finances between all the three tiers of the PRI, and (iv) fix accountability in specific government officials, making it possible to ascertain the exact point in the work-chain where a particular process is stuck.

The workflow system of the module is such that even though the officials/operators of the *gram panchayat* are responsible for critical data entry, the funds are released only upon verification by the *taluk panchayat*, *zilla parishad* and the RDPR through the GP online. As the Pancha Tantra online enables role based access it has led to the decentralization of functioning at three interlinked levels of the *taluk/district* and state. Owing to better

monitoring practices, there is higher confidence in *gram panchayats*, leading to empowerment of local governing bodies as self-sufficient units.

Empowering rural population and increasing their participation in governance

Effective use of ICT rests on the premise that, apart from creating more efficient and transparent knowledge systems, they should be accessible to all and benefit the grassroots facilitating inclusive governance. The Pancha Tantra system facilitates two-way agency where the functioning of the GPs, their services and information are made available to the public, facilitating public feedback and participation. This, in turn, also strengthens the functioning of the GPs and allows a more direct public-government engagement. The Pancha Tantra model and other such e governance initiatives by the state has facilitated a top down flow of information and services from the legislature to the citizens and simultaneously a bottom-up channel for feedback and grievance redressal, increasing transparency in process flow as well as creating more accountability to the citizens. A distinguishing feature of the portal is the use of local language, *Kannada*, to enable people from across the state to understand the information put up on the portal.

Challenges in Implementation

Difficulties in digitization of data owing to inadequate manual records

The Pancha Tantra Online is used primarily by the GP officials for maintaining accounts and services and for delivery of public services. The main objective was to integrate all GPs under the double entry accounting system. A key challenge in this was faced in conversion of manual records to online records. All the records previous to the implementation of the Pancha Tantra online were based on the traditional manual basis of accounting that was weak and inaccurate. In certain districts, accounts were found to be missing or were not recorded consistently. Further, since the process was manual, the format in which information was available was not consistent across the state. This posed a problem since the online system works on a standardized format, with categorization and shelving as per categories, in which information from manual records is fed.

Insufficient technical know-how and large scale of capacity building operations

The implementation of Pancha Tantra across 5,628 panchayats has been an onerous task. The GP officials and the officials at the *taluk/zilla parishad* level were inept to effectively operate a computerized application that also required a basic knowledge of double entry. Undertaking capacity building exercises of such extensive scale posed a challenge to speedy rollout of the project. Even though separate training workshops were organized for the RDPR officials as well as *panchayat* officials, it was not possible to undertake follow up sessions to assess the enhancement in capacity of government officials.

Difficulties in provision of adequate infrastructure

Besides, the cost of infrastructure, the availability of adequate infrastructure like computers and kiosks for local people, internet connectivity and electricity supply remains a challenge. This is more so the case in remote areas. This was a major roadblock in the initial setting up process and continues to be a significant challenge.

Complacency of local officials in some instances

In some cases, GP officials are complacent and exhibit low motivation to undergo training workshops for the new online system. The effective implementation of any scheme requires commitment of local authorities to initiate responsibilities and co-ordination among different units. This was primarily an initial level challenge and has largely been dealt with. This is borne out by the fact that Pancha Tantra is effectively being carried out throughout the state.

Limited capacity of rural population to benefit from the initiative

Owing to low levels of literacy and high instances of poverty, particularly among the rural communities, a vast number of people are ill-equipped to access and operate a web portal to procure information about the proceedings and operations of their respective *gram panchayat*. Although the Pancha Tantra online is widespread across 5,628 *gram panchayats* in Karnataka, with regard to inclusiveness, more determined efforts need to be made in order to take into account the specific circumstances of people at the grassroots and their governance needs. There need to be more capacity building and assistance related initiatives on the part of the Government of Karnataka and the RDPR to ensure the users (rural citizens) are made capable to make good use of the technology available.

Key Lessons

The Pancha Tantra online system of double entry accounting for *panchayats* in Karnataka has relied on the use of ICT tools in facilitating easy flow of governance functions and public service delivery. The model has been fairly successful in incorporating some of the effective techniques by which financial transactions of the *panchayats* can be maintained online as well as public access and participation can be ensured based on transparency and accountability. Some of the key lessons that can be drawn from the initiative are based on overall functioning, effective use of technology, decentralization of resources and services and enhancing public accountability.

The Pancha Tantra Online System has shown that **systemic transformation in the functioning of PRIs requires technological intervention and is bolstered by the local government's ability to transform such intervention into effective tools for enhancing governance**. Government process re-engineering, in this instance, involved transformation of manual record keeping systems into digital double entry accounts that relied on effective

use of technology and, in turn, led to establishing an efficient governance practice. A critical factor in this is **the willingness of the *gram panchayats* to transform and adopt new procedures. It is critical to ensure that revised systems are not imposed on government functionaries but that support and demand for them generated at the local level first.** When such support is achieved, transitional phases are better managed and service delivery not greatly hampered while the new system is initiated.

Effective synchronization between the structural and functional aspects using an online system requires clear delineation of roles and smooth co-ordination amongst various levels of the PRIs. In Pancha Tantra's case, this was established by the in-built feature of the online system that delineates access of users on the basis of their roles in the hierarchy and gives them specialized access to information and required services. It relies on a horizontal process flow that incorporates inter-organizational data sharing and information flow between core departments.

Decentralization of resources and functions enhances the overall planning process by envisioning a bottom-up approach. Process of decentralization at all levels of the PRIs has increased efficiency and transparency as well as empowered and established them as self-sufficient units of governance.

An inclusive e-governance model should ensure two-way agency wherein details of functioning of governing bodies, information and process flow is made available to the citizens and, in turn, citizens can provide inputs to government agencies. Pancha Tantra Online has incorporated such a two way process by facilitating a top-down flow of information and services from the state to the citizens and, simultaneously, enabling citizens to provide feedback and seek grievance redressal from government entities.

Developing a standardized procedure and format for data entry helps maintain regularity in monitoring and consistency in data, thereby enabling faster and more transparent delivery of public services. Fulfilling the need for updation of redundant *gram panchayat* accounts within a stipulated time and improving the overall functioning of rural governance bodies was a vital contribution of the Pancha Tantra Online System. Owing to the benefits of the Pancha Tantra system so far, computerization of ration cards, BPL cards and other social security documents with the help of this system is also being planned across several districts of Karnataka. Pancha Tantra has provided a useful model for decentralized governance and can be replicated even in the case of Urban Local Bodies (ULBs) to ensure collection of revenues, present an accurate picture of the funds and grants available, and ensure utilization of funds strictly in conformation with the financial standards and adherence to budgetary provisions.

The Karnataka Government's Pancha Tantra Online System is an innovative initiative to enhance the efficiency of the Gram Panchayat functioning increase transparency and accountability and provide a better accessibility to the beneficiaries. Pancha Tantra was credited with the National E- Governance Gold Award in the year 2010 for its outstanding contribution in the field of local governance through ICT based solutions. The Government of Karnataka was one of the first in the country to rely on ICT based applications for providing governance solutions both for Urban Local Bodies and the PRIs in the state for a more accountable way of functioning. Many of its other related projects like Bhoomi, Nemmadi, Khajane, Kaveri, Pancha Mitra, Lokamitra, Bangalore-One have also sought to transform the way public institutions engage in service delivery and development of the state. However, what needs to be taken into account is that the implementation of programme and its outreach be based on a more inclusive and participatory model, making it citizen centric rather than government centric. Pancha Tantra has managed to fulfill these parameters by incorporating a services and development module in the online web portal that focuses specifically on the users demands but larger issues regarding accessibility, improper infrastructural facilities in villages and low levels of motivation to use the technology are some of the issues that need to be considered before commenting on the future sustainability of the project.

Research Methodology

The Pancha Tantra online has evolved as a robust way of recording and monitoring the functioning of GPs in Karnataka. For documenting the processes involved in the operationalization of ICT based Pancha Tantra online in Karnataka, the OneWorld research team conducted secondary research on the system's provisions and processes to identify its unique features and functions, ability to transform the older system of accounting, its outreach and implementation challenges. Based on this information, a set of questions were identified to cover the gaps in information available and to ensure that this documentation contributes to the enhancement of the existing documentation on this practice. Following the analysis of the secondary material, interview questionnaires were sent out to stakeholders in the Rural Development and Panchayat Raj Department in Karnataka.

References

- Amita Parasad, Rural Development and Panchayat Raj Department, Government of Karnataka, Citizen Centric e- initiatives in Rural Development and Panchayat Raj, 2011.
- Financial Management Resources Group, Centre for Good Governance, Municipal Accounting Reforms in Andhra Pradesh: Accrual Based Double Entry Accounting System, Hyderabad India.
- H. S. ICT Driven E-Governance Public Service Delivery Mechanism in Rural Areas: A Case of Rural Digital Kumara Services (NEMMADI) Project in Karnataka, India. Journal of Computing and ICT Research, Vol. 4, Issue 2, pp. 37-45. <http://www.ijcir.org/volume4-number2/article4.pdf>.
- Ministry of Panchayati Raj, E- governance for Panchayats: Challenges, 2007.
- Rural Development and Panchayat Raj Department, Government of Karnataka, Pancha Tantra Online System for Gram Panchayats of Karnataka: User Manual. 2010.
- Ravindra Kumar Verma and Archana Kumari, E-governance at grassroots level in South Asia: A study of citizen centric e-panchayats in India, Asia-Pacific Journal of Rural Development, Volume XX, No 1, July 2010.
- Subhash Bhatnagar and Nupur Singh, Assessing the Impact of E- Government: A study of Projects in India, Centre for E-Governance, IIM Ahmedabad, 2010.

Case Fact Sheet

1. Demographic Information

Parameter	Rural	Urban	Total
Population	37,552,529	23,578,175	61,130,704
Decadal growth rate in population	7.63	31.27	15.67
Literacy Rate	68.86	86.21	75.60
Sex Ratio	975	957	968
Population below Poverty line	26.1	19.6	23.6
Population density	319		

Table- Demographic profile of Karnataka across residence status

Source: Provisional Population Totals, census of India 2011, Government of India and Planning Commission, Government of India, 2012

- The sector to which the project belongs: Public Service delivery and e-governance
- Key stakeholders and beneficiaries: The RDPR, NIC, GoK, Citizens of Karnataka
- Scheme came in to effect: 1st April 2009
- Funding sources: Rural Development and Panchayat Raj Department, Government of Karnataka
- Implementation: 5,826 districts covered under the scheme

Annexure I: List of categories under which information is available on Pancha Tantra Online System

1. Report on GP Performance Ranking
2. Report on GP Staff
3. Report Demand v/s Collection
4. Data Entry Statistics
5. Financial Statements
6. BRS Reports
7. BRS Month-wise Reports
8. Other Reports
9. GSC Application Dues
10. Service-wise GSC Applications
11. Date-wise GSC Applications
12. Month-wise GSC Applications
13. Report on Panchayat Proceedings/Meetings
14. New Ration Card Requests
15. Training Statistics
16. Reports on Bank Account Details
17. Report on DCB
18. RR Details of Panchayat Properties
19. Report on Panchayats Grants Released Details
20. Report on Link Document Details

Annexure II: Interview Questionnaire

Secretary, RDPR, Government of Karnataka

Background

1. Prior to the initiation of the project, how were financial transactions/ services/ records on development works being maintained by the *gram panchayats* under the single accounting method? How were these operations carried out at different levels (*Zilla Parishad, Taluk, and Gram Panchayat*)?
2. What were the shortcomings of the previous single accounting method that led to the introduction of the new Double Accounting system?
3. Was there a pilot phase of the project?
 - i. If yes, please provide the following details – location, duration, components of the pilot, challenges faced, lessons learnt, and resources employed.
 - ii. If no, was the project introduced in a piecemeal manner? In that case, how many villages were first introduced to the online portal? How were they selected (on what basis)? What challenges were faced during the shift from manual accounting to the Pancha Tantra Online? What were the issues faced when the previous manual records had to be transferred to the online portal?

Project Design

Stakeholders and work flow

4. Who are the key stakeholders in the project? What are their roles and responsibilities?
5. Since the project involves a variety of stakeholders, how is the coordination between various levels, Zilla Parishad/Taluka/GP ensured under the Pancha Tantra Online System? What happens in case of a lapse between the co-ordinated functioning of the three?
6. Did the project involve major infrastructural changes during the installation of the software? If yes, what were these? If no, what were the already existing resources that the project utilises?
7. What were the back end changes that were made to facilitate implementation of the system (for instance, digitization of data and such like)? How was this done? What was the time frame and agencies involved for it?
8. What are the major works/ services that are mostly delivered under the Pancha Tantra online? What kind of developmental works and services are mostly recorded on this portal?

9. How does the grievance redressal mechanism of the portal work? What is the average time taken to redress a grievance posted on the portal?

Awareness generation and capacity building

10. How was awareness generated about the benefits of the new system? How was the responsiveness of the people to shift from manual accounting to online double accounting method?
11. Were any training sessions conducted across *gram panchayats* where Pancha Tantra was introduced? Was it monitored by the RDPR across all villages? What were the key issues faced during the training sessions?
- i. Did the staff face any challenges in working on computers? Did the system require some previous knowledge of handling computer software systems?
12. What are the provisions that the state/RDPR has made to ensure effective implementation of the project (like internet connectivity, establishing kiosks in the villages, ensuring electricity)?

Monitoring and evaluation mechanism

13. Is there a mechanism in place to monitor the functioning of the Pancha Tantra system?
- i. If yes, how does this monitoring mechanism function?
 - ii. Which are the bodies/agencies primarily involved in this?
 - iii. What is the periodicity of monitoring the progress of work?
 - iv. Are the records updated automatically or is it a manual process? If the latter, how often is the portal updated?
14. What are the criteria for evaluating the performance of the project?
15. Is the data on the portal used to generate periodic reports? Are these reports available to the public?
16. Is there pendency in disposal of cases on the portal? What is the average number of such cases every month and how are they handled?

Financial Costs

17. What were the major funding sources for the initiation of the project? What are the current sources of funding for the project?
18. What are the major heads of expenditure under the project?
19. Who is responsible for covering the managing costs and the repair costs in case of technical /implementation issues?

Impact

Achievements

20. How has the Pancha Tantra online project progressed in 3 years of its implementation? Has there been any expert/peer review or progress report evaluating the success and challenges of the project?
21. What have been the most significant achievements of the project so far?
22. What do you think are the primary indicators to reflect the achievements of the project? Please provide data to support the claims.
23. How does the Pancha Tantra online prevent frauds in financial transactions or issues of corruption? How does it ensure transparency? Is there a vigilance division made to handle cases of fraud?

Challenges

24. What have been the difficulties faced during planning, implementation and monitoring of the project? How were these overcome?
 - i. Were the challenges faced similar across regions?
 - ii. Did any region reflect better adaptability to the new system? If yes, what were the reasons for this?
 - iii. Why do you think certain regions could not fare so well? How has this been handled?
25. Were any challenges faced in terms of gaining cooperation of government officials for implementation of the system? If yes, how were these overcome?

Enhancements

26. Are there any enhancements in the planning for the project?
27. Has the Government of Karnataka been contacted by any state governments for replication of the project?
28. How do you assess the sustainability of the project in terms of social, economic and political?
29. In your opinion, what are the critical conditions for the implementation and replicability of a project like Pancha Tantra?



**National Institute for
Smart Government**

Hyderabad

YSR Bhavan, Financial District, Nanakramguda,
Hyderabad - 500032
Andhra Pradesh, India. Ph: 040-66545352,
Fax: 040-66545300

Delhi

Mahanagar Door Sanchar Sadan, 9, CGO
Complex, Residential Complex,
1st floor New Delhi-110003
Phone: +91-11-24321445,
Fax : +91-11-24321444