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Information Kerala Mission - Vision, Mission and Reality

A study on Computerisation programs in Local Self Government
Institutions in Kerala.

by

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Introduction

The state of Kerala had embarked on a new phase of development in decentralized governance by devolving 35 - 40 percentage of State's plan funds to Local Self Government Institutions (LSGIs), since 1996. During the period that followed, Kerala witnessed a new phase in the development and governance at the grass root level.

People's campaign was initiated to empower the local bodies with complete authority and responsibility in taking their developmental decisions. Massive efforts were put in for the formulation, implementation and monitoring of development plans at the panchayat level. Huge amount of data was collected at the grass root level with maximum people's participation as part of the Peoples Plan Campaign (PPC). The avowed objective of improving the efficiency of LSGIs prompted the previous government to initiate a program of computerising the enormous amount of data that was gathered. It was also realised that setting up of an information network connecting LSGIs and State Planning Board would enable the monitoring of the planning and implementation of programs of LSGIs.

With the above objective in mind state planning board submitted a project named 'Kerala Information Network for Local Bodies' (KINLB) to the Planning Commission for the financial assistance. Planning Commission approved the project and allocated Rs 30 crores. Out of the total project outlay Rs 10 crores was released during 1999. Taking into consideration the accumulated wisdom and prior experience, government of Kerala entrusted the Centre for Development of Imaging Technology (C-DIT, Thiruvananthapuram) with the task to set up and implement a local body information network called 'Kerala Information Network for Local Bodies' (KINLB). For speedy and time bound implementation of the project, the State Government initiated 'Information Kerala Mission' (IKM) in June 1999. IKM was entrusted with the responsibility of

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implementing KINLB project and imparting training to staff in LSGIs.¹.

.1 IKM – Objectives.

Objectives of IKM as specified on their official web site are given below².

- To establish a state wide network connecting the State Planning Board and the District Planning Offices with the 1214 (later 1215) local bodies.
- To develop a mechanism for regular monitoring of local body plan implementation and targets achievement, over the network.
- To establish an office operations and public services automation mechanism at the local body level.
- To develop an integrated micro-level resource based developmental information system, for meaningful planning at the local body level.
- To provide trained manpower for re-nationalising the hardware and software.
- To provide continued technical support to ensure that the network applications are up and running throughout.

.2 IKM – Programs.

With clear objectives and resources at hand, IKM started its operations in 1999. According to its Executive Mission Director, “IKM has ventured into a unique program unparalleled in the world involving the largest single installation of Microsoft SQL Server in the world. Largest installation using entry-level servers and Microsoft Windows NT Operating Systems will also be done. In addition to all these, the project used unique participatory methodology”.

First phase of the program involved establishment of connectivity between State Planning Board, District Planning Offices, and 1215 local bodies. Development of necessary

¹ <http://www.infokerala.org/new/Links/evolution.htm>

² <http://www.infokerala.org/new/Links/objectives.htm>

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Software, and creation of a knowledge bank for effective planning were also envisaged. It also included imparting necessary training to all its users.

The IKM made the following major claims in the year 2000.

I. Following software packages have been developed.

- 1) Software for monitoring peoples plan program, named Sulekha
- 2) Software for issuing certificates, handling pension and social welfare schemes, named Sevana.

II. The following are in the advanced stages of development

- 1) An application for establishment operations in LSGIs,
- 2) A community portal for web enabled services
- 3) Geographical Information System based decision support system for watershed planning.

III. According to the Executive Mission Director of IKM “The Project is all set for implementation”³

Pilot Phase 1

Thus, with “everything set for implementation”, in August 2000, efforts for pilot deployment started in five panchayaths in Trivandurm district viz Vilavoorkal, Madavoor, Amboori, Vellanad and Kattakada.

In the report⁴ presented on 4th March 2001, IKM Executive Mission Director, stated that the software packages 'Sulekha' (Plan monitoring) and 'Sevana' (Certificate / Pension / Social welfare programs) are ready for deployment and that the training of the staff at the above pilot panchayats is complete. He added that experiences from the pilot work would be used in the state-wide role out of the project. The report stated that IKM decided to

³ The Hindu IT Kerala 2000 Supplement 23rd November 2000

⁴ Panchayat Raj Magazine April 2001

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make use of Windows 2000 Server as the operating system (OS). Till then, the Operating System used at IKM was Windows NT. IKM claims, it will have the largest Windows 2000 installation in India. This change in technology selection in just one year is a clear indicator of potential risk associated with use of proprietary technologies.

On 17th September 2001 pilot rollout for LSGI computerisation in five panchayaths was officially inaugurated by Sri Cherakkalam Abdulla, Minister for Local Self-Government at a function held at Vilavoorkal panchayath. The Government announced that networking of local bodies across the state would be complete before 20^h September 2002⁵.

Various reports in 2001 suggests that back data entry for pilot sites are complete. These reports talk of various certificates being issued with in 10 minutes. According to IKM, computerisation has already helped to greatly reduce the time required for various activities in the panchayaths. And quality of service to public has greatly improved⁶.

Pilot Phase -2

Second phase of the local body computerisation started at Vellanadu panchayath on 2002 January. Along with that the government took steps to initiate state level training.

Before studying the details of this second phase of the pilot, it is essential to evaluate the initiatives till 2002 and the outcomes of the pilot project, which has been running in the five panchayaths. Unfortunately we could not find any study report on the outcome of the pilot projects. We feel that a clear evaluation of the results of phase I should have been done before embarking on the second phase. For unique projects of the scale of local body computerisation, it is absolutely essential to have serious timely introspections. Multiple iterations of pilots are essential to avoid a possible large-scale failure in future.

Executive Mission Director of IKM in his report⁷ dated 15th of January 2003 said that,

⁵ The Hindu 19th September 2001

⁶ Panchayat Raj Magazine October 2001

⁷ Vellanadu India's first computerised panchayath – (IKM, 15th January 2003)

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Vellanadu panchayath was selected for the pilot in the second phase as the panchayath had done a detailed socio economic survey in 1999 and the resource maps were also ready. This Second phase involved deployment of citizen database and GIS based decision support system for micro level planning. The above report also claimed that 12 software packages were installed in the panchayath with back data already entered. Thus the report stated that Vellandu had become India's first fully computerised grama panchayath.

Realities at Vellanadu – *India's first fully computerised grama panchayath .*

Vellanad Panchayat was declared as the first fully computerized grama panchayat in India on 15th January 2003. As mentioned earlier, this panchayat was the one that was selected for pilot running the e-governance initiatives taken up by Information Kerala Mission. This initiative got all the media hype and was being showcased by the government as a major step towards e-governance.

To gain first hand information on computerisation in Vellanadu a three-member team of technical persons visited Vellanadu during end of May 2004. Through interaction with staff and local persons, information about the computerisation experiment in the panchayath were obtained. It is not a complete study as several other aspects of the project need to be evaluated like the cost involved. This report is a pointer to the need for a larger extensive and comprehensive study.

Why Vellanadu ?

Vellandu panchayat had several desirable factors, which urged the concerned authorities to select Vellanadu as a model panchayat for computerisation:

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- 1) Detailed socio economic survey of the entire panchayat was done through voluntary contribution during 2001. This data was sure to act as an invaluable base for the total computerization program of the panchayath.
- 2) The panchayat leadership was already fully aware of the strengths of information technology and was utilizing it for their developmental activities. They were already recording the activities in the panchayat in CDs, using video recoding etc. They showed the vision and interest to leverage new technologies for their decision making process. This exposure helped them to easily identify with the local body computerization program of IKM.
- 3) The local leadership at Vellanadu had the ability to mobilize finances, manpower and other kinds of resources. This is evident from the fact that they raised funds for purchase of computers on their own, without any governmental support.

These desirable factors made Vellanadu the most suitable site for panchayath computerization than any of the other local bodies in Kerala.

Computerisation at Vellanadu - Reality.

A five machine computer network is installed in the pachayath. The cost of these came to around rupees 2.5 lakhs. These machines are functional. There are loaded with Microsoft Windows Operating System. We were told that there are 4 applications installed in the office. They are for

- 1) Pension/Registration (Birth, Death, etc.)
- 2) Accounts
- 3) Attendance
- 4) Reciepts

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The employees at Vellanadu Panchayath haven't even heard about the '12 packages' which the government claimed, were fully functional and operational as early as January 2003. As on 29/05/2004 'Sevana', the package for registration, is the only software which can be said to be somewhat functional. Further verification made clear that even this Sevana is a package of the lowest standards, and can be in no way said to be a useful or efficient software package. We were also told about the numerous bugs in other software tools as well. IKM, it seems, is still in the process of fixing these bugs. Vellanadu Panchayath was expected to get some of the software corrected by 30/05/2004. According to IKM this software was complete at the end on 2000⁸ itself.

Data entry for this software is still not complete. Training has been given to officials in the panchayath. They seem to be quite positive to the use of computers, even though they are not comfortable users. Thus, even Sevana, the only package that can be said to be somewhat functional at least at the most elementary levels, among all the twelve software which IKM claims to have developed, is far from a running, fully functional stage.

As part of the computerisation program, detailed geographical study was conducted at Vellanadu panchayath through volunteer work. Digitized maps were prepared. A good job is done in this regard. But panchayath is not provided with any tools with which they can effectively use the maps in their decision making process. What has been given to them is just a computer printed map, in contrast to conventional hand drawn maps.

Madavoor – pilot site 1st phase.

Madavoor panchayath was included in the 1st phase of computerisation programs. One machine is installed and is non functional for some time. They used computers for printing documents from word processor (not IKM software). Officials in the panchayath expressed the opinion that though IKMs ideas are good, it is incapable of doing the job. They find that computerisation increases their workload rather than decreasing the same.

⁸ The Hindu IT Kerala 2000 Supplement 23rd November 2000

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An example is the huge forms given to panchayath for the plan document submission.

Officials from the panchayath are interested and capable of administrating the system. The fact that they used computers for preparing other documents supports this view. Still IKM's computerisation has not reached anywhere. Recently IKM appointed one person from the locality to manage the infrastructure.

.3 Review.

1. Technology selection:

Technologies used in the development of the software packages are all from a single software vendor. Eg: ASP, Visual Basic etc. This increases the long-term cost and possibility of a vendor lock in. Following is a quote from Technology choice guidelines prepared by PriceWaterHouseCoopers for the state government of Andhra Pradesh.

“Principle 5:

- 1. Utilize open, vendor-neutral standards whenever possible.*
- 2. Open, vendor-neutral systems standards provide flexibility and consistency that will allow departments to respond more quickly to changing business requirements.*
- 3. Vendor-neutral systems support economic and implementation flexibility.*
- 4. Vendor-neutral systems also protect the state against unexpected changes in vendor strategies and capabilities.”*

Vendor neutral, publicly standardised systems like PHP, C, C++ etc. would have been better as we could get the solutions from multiple vendors. Also they run on multiple

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platforms like GNU/Linux, Microsoft Windows, Mac, SUN Solaris etc. With the current setup, there is a very high cost of single vendor dependency.

2. Software Design Bugs:

In Sevana, we found some inconsistent results when we search. They need to be checked. Creating testing software for common mistakes would help. Talking to the users, we were able to find some software design and coding problems. Some of them are:

- a. Attendance application still contains names of people who were transferred already, but names of newly joined people are not there. To add new names or delete some old names, service person should come all the way from IKM.
- b. Accounts system forces the users to enter data for the day on the same day itself. If one misses it for a day, he will not be able to correct it later. IKM services person will have to come and attend to the problem. We were told that this is to avoid corruption. We feel this is a foolish argument. Software should be forgiving to the user, at the same time making him accountable for what s/he does. The software could have been designed in such a way that, if such an issue arises, only a higher official can correct it. The authority and responsibility could be easily delegated like this. Also it is very easy to create a log of information when the date was entered. This log can then be used as document to make people accountable for what they have done. Rather than forcing the users to obey the software, we should make software usable to the users.
- c. Different modules used different schemes of user authentication. While one requires user to give username and password, other require just a user id. This creates a lot of confusion among the users. Lack of user id-

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password based authentication system is a security risk. Also, it shows the absence of any standardisation in software design and coding.

3. Software availability

IKM claims to have deployed 12 software packages in Vellanadu panchayath. The staff in panchayath knew only about 4 software. Even these software are still under development and far from the release stage.

4. Back data entry

IKM had claimed way back in 2001 itself, that the back data entry for pilot sites was complete. From the staff of Vellanadu panchayath, we learnt that the data available is not yet complete. Even after the deployment of the package, some problems in the software require frequent visits by the IKM personals to fix the issues. Software also doesn't seem to have the facility or flexibility to handle various issues like introduction of new wards in a panchayath.

5. Usability of the software:

The usability refers to the easiness or friendliness with which the software is designed for the end user. This is a very important factor to be considered while designing applications for non-technical users. Highly usable software means, less cost in training, less failure rates and more encouragement and confidence to the users who need not be highly qualified technical personnel.

The applications we have seen in the panchayath are in pathetic situation in terms of usability. Let us site a few examples (from Sevana package).

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- a. There are no tool tips – tool tips are common in any good software these days. They tell the users what each of the button, and other component of the software does.
- b. Lack of description/online help - there is no help provided as part of the software in terms of descriptions in the screens, or separate help buttons. They are highly essential for programs of this scale.
- c. Error messages – Error messages are not at all informative. This makes the use of the software very difficult. For example, If you want to search for a certificate in a particular date, in the software there is no mention of how the date is entered, 01/01/2004 or 1/1/2004. If you enter it in the wrong format, the software neither accept it nor tell how it is to be entered correctly.
- d. Selection of search criterion – there is a provision for searching for some data, based on certain conditions given. The interface has been designed in such a way that you will often make mistakes. To test we gave few conditions like certificate issued before a date, in between dates etc. We found results highly in-consistent. Further checking revealed that it was a problem with the interface.
- e. In consistent interface – The software interfaces differ between applications. Eg in case of Sevana you just have to type a number to get into the software. And it uses browser as interface. Other applications need Username and Password to access. In case of Sevana, first application shows a screen which asks User Id and Password. But Password field is not working. You can actually access the software by giving user Id alone. This is a serious security issue, which should never happen while handling government data.

There were numerous other interface problems. A revamp of the interface would be

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better. Feed back from the current users may be taken. As the package is going to be used by people who are not very tech-savvy, interface needs to be designed more carefully.

6. Hardware

The hardware cost came to around 2.25 lakhs for 5 machines as per the local leadership. We were not able to find out if it was just the cost of hardware or hardware and software usage licenses. So we cant make a critical comment. But we think that cost is high for the present purpose. Proper justification has to be given if costlier hardware were purchased anticipating future expansions. This should also take into the consideration that computers are fast becoming obsolete because of fast pace of technological advancements in this field. As a pilot project, a suitable configuration has to be found from the experiences of this project. Options like thin clients need to be evaluated. Such options will help to reduce the cost of hardware and system management.

7. Privacy

Creation of citizen database involves serious privacy concerns. We find that local people are not aware of the issue. IKM doesn't seem to have come up with a privacy policy. This issue becomes more important with the idea to introduce a BTM scheme.

8. Resource utilisation in the pilot project.

It is not clear how much resources IKM have put into the Vellanadu pilot, till date. This needs to be analysed to have an understanding of the cost of computerisation in 1215 local bodies in Kerala. According to IKM they have spent rupees 6 lakhs at Vellanadu. But we feel that the real expenditure incurred is much more than this stated amount. IKM has put a lot of manpower to fix the systems in Vellanadu. These manpower cost also has to be added in the total cost of the whole system. Some of it may be one time cost of fixing the software.

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.4 Conclusions

From the visit to project sites and careful examination of other documents of IKM, we find that the IKM project for LSGI computerization is a complete disaster. It has to be remembered that IKM was set up in 1999 with the prime task of implementing a local body information network called 'Kerala Information Network for Local Bodies' (KINLB) with the aim of computerizing plan monitoring activities of 1215 local bodies. It must be recalled that the Planning Commission had given Rs 30 crores for this project. From our experience at the Vellanadu and Madavoor panchayaths it is quite evident that IKM has miserably failed in its attempt to achieve the objective. The project goes on unendingly, without any clear direction or objective, eating away crores of rupees of public money, and without yielding any result in an extensive period spanning more than five long years.

Government has come out with a proposal to computerize the local bodies with private participation through a BTM (Build, Transfer, Maintain) model. According to the KSIDC web site objectives of the initiative are:

Developing comprehensive citizen interface mechanisms using appropriately developed information systems and services. This would result in a quantum leap in accountability, transparency, and efficiency in public services.

- † Establish a mechanism for automating the various operations at the local body level like accounting, finance, public services, purchase works
- † Provide connectivity across the State Planning Board, District Planning Offices, Local bodies, State, Regional and District level offices of the LSGD
- † Develop a mechanism for regular monitoring of the plan targets achieved by local bodies, and a plan monitoring and management system

Request for Proposal for Local Self Government Institutions on Build Transfer Maintain basis, says that “The IKM has successfully developed and deployed several application in a few LSGIs in Kerala, and is in the process of developing other packages to be deployed

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in a phased manner across all the offices”. The document further says, “IKM has developed necessary software applications for the computerization process and would be the Application Service Provider (ASP) for this project”(page 2).

Section 20.14 presents “12 software suits designed and developed by the Information Kerala Mission (IKM)”. The document further states, “Application software has been successfully piloted at several LSGI sites in the state”. A chart depicting the key features of the various application software suits as claimed by IKM and presented in the bid document is given below (page 70).

| <i>S. No</i> | <i>Application Suit</i> |
|--------------|---|
| 1 | Sulekha - Monitoring Plan Projects |
| 2 | Sevana - Interface for transactions between local bodies and citizens |
| 3 | Sanchita - CD based information repository of legislations, executive orders, promulgations, judgments, etc. |
| 4 | Saaphalya – Employment information system |
| 5 | Sahatha - Revenue collection at the local bodies |
| 6 | Sanchaya – Revenue management at local body level |
| 7 | Soochika - Work Flow Based File Tracking Software |
| 8 | Sankhya - Accounts & Finance Management Software |
| 9 | Sthapana - HR Management Software |
| 10 | Sakarma - Decision Support System |
| 11 | Sugama - MIS for Purchase & Works |
| 12 | Sammohya - Integrated Citizen database |

From the study we have conducted it is proved beyond doubt that none of the packages have been “successfully developed and deployed” in any of the LSGIs in Kerala. In this context the 100 crore LSGI computerization project aimed at computerizing 1215 offices of LSGIs, and 34 related offices across the state based on IKMs solutions is totally impractical and is bound to fail.

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BTM model poses serious national security and privacy issues while dealing with sensitive informations like Citizen database. Information about each and every individual in the state is going to private hands. Entire system is built on top of untransparent proprietary technology on which we don't have control or full knowledge. Our president, who is a technology person himself, has told about problems with depending on proprietary technologies. Even after that state is going ahead with a program to put sensitive local level information on a system under private control, based on proprietary technologies.

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IKM's Claims and certain facts.

| | <i>Claim</i> | <i>Fact</i> |
|---|--|---|
| 1 | Developed 12 software for computerisation. | There are only 4 software available at Vellanadu pilot site. And only one among them works satisfactorily. Even that is a below average product. The work done will not worth 4 years of time and several crores of rupees. |
| 2 | Technology change cant be done and the pilot is running at Vellanadu, Kozhikkodu, Thrissur, Kochi, Kollam. | Visiting the pilot in Vellanadu we found that the work is just beginning. Claims on investment made in development of software are bogus. New investment has to be made to make the software functional. At a lesser cost technology change can be brought in and that will serve the long term interest of the people of Kerala. |
| 3 | 50 crore in IPR | There is no mention of criterion used to find the IPR of the work done by IKM. May be that is the amount IKM spend for the work. That doesn't mean that software is of that value. Improper planning and management can increase the work cost. |
| 5 | IKMs Pilot 1 st stage: Started on Aug 2000. Locations: Vellanadu, Kattakada, Amburi, Vilavurkkal, Madavur. On 17/09/2001 following software deployed after satisfying all prerequisites and Inauguration was done at Vilavurkkal. Software are: Sulekha: Yearly project plan management Sevana: Registration, Pension, certificate issuing etc. | Sulekha is not functional at Vellanadu. Sevana is not fully functional. Work looks very unprofessional. |

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| | <i>Claim</i> | <i>Fact</i> |
|---|---|--|
| 6 | <p>IKMs Pilot 2nd stage: Started Jan 2002. Only in Vellanadu. Creation of Digital map incorporating data from socio economic survey, and resource map created by the panchayath, and cadastral map. It was expected that work done by panchayath in data collection will be useful for this. By using Geographical Information Systems and data available better micro developmental planning can be done.</p> | <p>Data collection and map digitisation in part has been done. But no GIS solution is provided to Panchayath. Only a computer printed map is with them. It seems that IKM is facing prob in linking data from various sources to make a single map with all data in different layers.</p> <p>*Please note that there is no mention of the status of pilot 1st stage. The report by the Director of IKM is silent about this. Second face started only in Vellanadu, what happened in other place is an open question.</p> |
| 7 | <p>Work done on various applications.</p> <p>1. Sulekha – Details of development projects from 97-98 has been included in the software. Total 459 project and 367 entered</p> <p>2. Sevana – Details of all the birth, death, marriage registration and pension from 71-2002 has been entered. Nearly 15,000 records</p> <p>etc..</p> | <p>Most of the applications are not functional. We cant verify if all the back data were entered.</p> |