CHAPTER 17

Dev-bhoomi: Land Records Computerisation in Uttaranchal

A G2C and G2G e-Governance Application

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ABSTRACT

The area of land records is one of the most important areas in which the Ministry of Rural Development (MoRD, Government of India) has advocated bringing in technology, thus making the process efficient, effective and person independent. Properly managed land records can assure higher rate of efficiency in the delivery of services to citizens, quality in the government process and the end product of land resource utilisation. With 100% financial assistance from MoRD and technical support from NIC Uttaranchal, the process of computerising land records in Uttaranchal was initiated at the district level by the State Revenue Department some 8 to 9 years back when it was part of Uttar Pradesh, but nothing much was achieved as far as benefits to citizens and delivery of services were concerned. But after the formation of Uttaranchal as a separate state (27th) in the year 2000, things moved much faster in this direction, and in the year 2004–2005, land records computerisation was extended right up to the *tahsil* level. To implement a computerised land records system in all the 84 *tahsils* in the state was a challenging task as it involved transfer from legacy to computerised system and mobilising and motivating the Revenue Department and their staff to adopt the new system. This report describes various features and benefits of using Dev-bhoomi to computerise the land records in the state and its usefulness to government departments as a part of promoting e-governance initiative.

Introduction/Background

Unlike many other states, land survey, land records and property registration are distinct operations in Uttaranchal and are being maintained by different departments. The State Revenue Department (Government of Uttaranchal) is the nodal department responsible for maintaining land records in the state as per the UP Land Revenue Act and rules. These records are maintained in a register called *Khatauni*, and every village has its own separate *khatauni*. The concerned *patwari*/*lekhpal* of a village updates subsequent mutations on account of land acquisition, grants, subdivisions,

sale of land, etc. in the *khatauni*. Land records contain the details of land and landholders in addition to information such as cropping pattern, land revenue, etc. These records serve multiple purposes – as one of the authentic proof of landownership, basis for charging land revenue, as an evidence in the law in case of land disputes, as a source for implementing various land reforms connected with land and its ownership, providing extracts out of land records for obtaining loans, hypothecation of land, government concessions and subsidies, etc. Computerisation of land records through Dev-bhoomi is for rural landholdings only.

Manual System of Maintaining the *Khataunies*

Prior to computerisation, *patwaries*/*lekhpals* were the custodians of *khataunies* and carried out all changes in it, whereas the registrar *kanoongoes* (RK) at the *tahsil*/subdivision level were the approving authorities for any changes in the *khataunies*. Every 6 years, these registers/*khataunies* were rewritten/regenerated by the *patwari*/*lekhpal* by incorporating all the changes on account of mutations that were carried out over the period of 6 years and by assigning new record/*khata* numbers to all the actual landholders and removing the names of those who had sold their entire land. The old registers/*khataunies* were preserved in the record-rooms of the *tahsil*/collectorate.

Project Details

- Sector: Rural development (at the Government of India level) and revenue department (at the state government level)
- Project domain: G2C and G2G
- Expected beneficiaries: All citizens and governments
- Stakeholders of project: Government departments
- Stage of the project: Implemented successfully in all 13 districts/84 *tahsils*
- Scale of the project: Large (84+ locations)
- Implementation mechanism: In-house, with support from NIC
- Type of access to services: Kiosk, portal and office desk
- Type of service delivery contract: Government's own arrangement
- Source of funds: MoRD (Government of India), one time only for setting up necessary infrastructure
- Sustainability: Self-sustainable (revenue generated from computerised Record of Rights)
- Ownership of IT infrastructure: Government
- Ownership of application software (S/W): Government/NIC

- Project starting date: In the months of November and December 2004 with two pilot *tahsils*
- Roll out in all the *tahsils*: In 8 to 9 months time starting from January 2005
- Completion date: October 2005

Objective

While the overall objective of computerising land records is to accelerate implementation of e-governance services in the state, the specific objective is to make the land records system more efficient, effective and transparent so as to provide hassle-free services/access of Record of Rights (RoRs) to citizens.

Project Scope

- To computerise the *khatauni* issuance and land records maintenance process
- Issuance of computerised RoR from *tahsil* land records computer centres
- Updation and maintenance of *khataunies* for every mutation or any kind of alteration or change
- Automation of mutation work-flow process
- MIS reports of land records
- Training of key stakeholders (revenue staff) involved in operating the centres
- Access of land records by citizens/farmers on the internet
- Setting up of touch-screen kiosks at *tahsils* for easy access of land records

Overall Description

The land records data of all the *tahsils* was fed into a computer at the district level during 1997–2000, i.e., prior to the formation of Uttaranchal, in a Fox-base/UNIX environment, but was never updated and as such was of no use as a lot of changes/updation had taken place after that in the records until 2004–2005. As refeeding of all the data is a gigantic and expensive task, it was decided to use the old data by porting it into a new Windows-based environment and update it to make it on par. For this task, the already-developed application 'Bhu-lekh' of NIC UP was used in the state, and the existing data of all the *tahsils* was updated on a war footing with the

help of revenue officials, NIC district-level officers and by hiring private data entry operators from the districts/*tahsils*.

Meanwhile, with the rapid change/growth in technology, it was also decided to develop a new browser-based application using three-tier technology so as to disseminate land records information over the internet. In about 7 to 8 months starting from December 2004, land records of all the *tahsils* were updated and the data on those villages not entered earlier were entered afresh into the system and put to use. In the beginning, the same 'Bhu-lekh' application was used for the distribution of computerised RoRs. But later on, in the month of November 2005, it was replaced by the newly developed application Dev-bhoomi of NIC Uttaranchal.

Components of Dev-bhoomi

1. Application S/W for land records computerisation at the *tahsil* level
2. Citizen-centric land records web site of Uttaranchal: http://gov.ua.nic.in/devbhoomi
3. Application S/W for touch-screen kiosk set up at *tahsil* level
4. Web site for land records online project monitoring: http://gov.ua.nic.in/landrecord
5. Application S/W for land records mutation work-flow process

Technology Used

- 3-Tier browser-based technology
- Platform Microsoft Windows 2003 on servers and Win-2000/XP on clients
- Language: ASP.NET/VB.NET
- Framework: .NET 2003
- SQL-Server-2000 as back-end data base
- Unicode Hindi-complaint (Mangal font)
- Indic Ver-5.0 and Crystal Report as third-party tools

Standards Adopted

The Uttaranchal State IT Department's standards available at http://www.itdaua.org/itda/Attachments/IT_Standards.pdf are followed for developing the new system in addition to NIC's own quality management system (ISO 9001-2000 standards).

Security

- Server-level security
- Database-level security

- Application-level/role-based security
- User authentication and password
- Backup facility
- Firewall security for citizen-centric web site
- The software also supports the use of biometric devices as an additional security mechanism for user authentication

Dev-bhoomi Capabilities

- Can generate computerised *khataunies*, entry of mutation order/remarks, printing of RoRs, entry of plot transfers, *virasat* cases and land-type conversions.
- Can generate new *khataunies* after every 6 years.
- Maintains the log of each transaction/mutation in the system in addition to data backup and restore facilities.
- The interface of S/W is in Hindi.
- Can search *khatas* in the data base quite easily and S/W is also very user friendly.

Modularity

The application S/W is designed and developed using an object-oriented approach. New modules/functionality for the system can be added as and when required without affecting the existing running system.

Trainings

Training activity plays a major role in the successful implementation of any project. In land records computerisation, imparting computer awareness and software operational training to revenue officials of *tahsils* was a regular process since this project was initiated. In phase 1, training was given to those who are presently assigned the task of operating the *tahsil* land records computer centres. In phase 2, the process of imparting 1-week computer-cum-application-software training of 10 revenue officials of the rank of SDM/*tahsildar*/*nayab-tahsildar*/RK/ARK/MJ/*patwari*/*lekhpal* per *tahsil* has already started for all the 84 *tahsils* at NIC Dehradun (for districts in the Garhwal division) and at ATI Nainital (for districts in the Kumaon division) in 35 batches. Thus, all the revenue department staff would be trained by the end of the year.

Achievements

- Land records (*khataunies*) are 100% computerised in the state and only computerised copies of RoRs are in circulation with effect from 30 September 2005.
- Legal sanctity is accorded to computerised RoRs only.
- Seventy-five *tahsil* land-records computer centres are established out of the proposed 84, whereas the remaining 9, the newly created *tahsils*, are operational from their parent *tahsils*.
- Revenue generated till 30 September 2006 is Rs 116.86 lakhs from the distribution of about 6 lakh computerised RoRs, which is around 15% of the total population of state. The Dev-bhoomi S/W of NIC–Uttaranchal is a three-tier browser-based application, developed using the latest technology.
- Entire land-records data of all the 84 *tahsils* is available on citizen-centric Web site http://gov.ua.nic.in/devbhoomi.
- A central database exists that can be accessed for records anytime, anywhere on the Internet.
- The system is totally transparent and foolproof, and the project is very much self-sustainable.
- The skill of existing revenue staff been upgraded as they operate this system.
- The system is not dependent on individuals now.
- The land-records data is Unicode-compliant.

Process Re-engineering

- *Patwaries*/*lekhpals* were maintaining their *khataunies* earlier, and now it is exclusively being maintained by RK/ARK in the *tahsils*.
- Practice of writing manually the mutation orders in the *khataunies* is replaced by pasting of computer-generated mutation order slips.
- *Lekhpal*/*patwaries* cannot write anything in their computer generated Village *khataunies*.
- RK/ARK of *tahsils*, and not the Lekhpals/Patwaries as in the past, have authorized to issue RoRs.

Future Plans

At present the Dev-bhoomi browser-based application runs in a LAN environment in the *tahsils*, and as soon as State-wide Area Network (SWAN) gets implemented in the state (expected to be established in the year 2007), it will be deployed on one central server in the district. There is no need

of keeping distributed databases in the *tahsils*. *Tahsil* staff will access their data located at one central server in the concerned district headquarters, and from there the data will be updated automatically on the state's central server for disseminating data over the Internet.

In addition to this, the existing Dev-bhoomi application is to be linked with property registration software using Service Oriented Architecture (SOA) architecture so as to expedite the process of mutations across the state. At present both are independent applications under different departments, but software supports are of NIC–Uttaranchal, and therefore it is easy to develop and integrate them.

Conclusion

Computerisation of land records across the state had improved the efficiency of services, reduced the time in delivering the RoRs to citizens and reduced malpractices in the system tremendously. Both the government and citizens are benefited, which can be seen clearly from the total revenue generated – Rs 116.86 lakhs till 30 September 2006 across the state from the distribution of computerised RoRs. Around 6 lakh RoRs have been taken in just 8 months time. Automation of land records data base has improved the cycle time of processing requests.

People have to pay a nominal fee of Rs 15 for getting an authorised copy of a single-sheet RoR from the concerned *tahsils*, and for every subsequent sheet, Rs 5 per additional sheet. They can view their record anywhere, anytime free of cost over the internet. The entire system of maintaining land records is now transparent and foolproof. The land records MIS generated is certainly helpful for micro- and macro-level planning.

The computerisation of land records in Uttaranchal has resulted in the creation of voluminous data at the state level of 1.2 lakh landholders, covering around 16,618 villages. In all, 13,03,916 *khatas* and around 78,21,462 joint landowners exist in the state.