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Preface

The basic system of land records in India was developed during the British rule and has not since been modified to suit the present day requirements. Land Records are of great importance to contemporary socio-economic imperatives and their revision and updation are necessary for capturing the changes in social dynamics. The poor nature of land records has also to some extent defeated the land reforms programme.

The Government of India and the State governments have been grappling with the recurring problems of an inadequately maintained land records system. A weak land records system has also been viewed as a systemic weakness. As a result, the Government of India started the centrally sponsored scheme of Computerisation of Land Records (CoLR) in 1988-89 with the main objectives: i) to create data base of basic records ii) to facilitate issuing copies of records iii) to reduce work load by eliminating paper work iv) to minimise and check manipulation of land records v) to create a land management information system. The scheme was totally funded by the Centre. The CoLR scheme has involved three agencies: the National Informatics Centre (NIC); Ministry of Rural

Development (MoRD); and the State governments. NIC is responsible for upgrading its district centers with the latest hardware, software, terminals, and printers to expedite data entry. It is also responsible for creating the software packages and providing training on software to revenue officials. MoRD provides financial support to the states for site preparation, data entry work, purchase of capital equipment, and miscellaneous expenditures. The State governments are responsible for data collection, data verification and validation, and distribution of the new records of rights to landowners. It is a fact that after 15 years (1988 to 2003) of efforts, the progress across the country has been highly skewed. Some States have made some progress whereas other States have lagged behind.

Computerization of land records in Karnataka started in 1991 when the first pilot was initiated in Gulbarga through a centrally sponsored scheme of Computerization of Government of India. By 1996, projects for computerization of land records were sanctioned for all districts in the state of Karnataka. However, initial efforts failed to achieve required objectives of creating a clean, up-to-date database. Later after assessing the earlier efforts, the State government has been successful in computerising all taluks of the State.

The evaluation study for the programme of Computerisation of Land Records in Karnataka State was entrusted to the Centre for Rural Studies by the Ministry of Rural Development, Government of India. The study was conducted in all taluks of Gulbarga district. Gulbarga was selected as the first pilot project was initiated here through a centrally sponsored scheme of Computerization of Land Records. The basic objective of the study is to evaluate how CoLR has affected the –information system, rent seeking behavior, the institution of sale and purchase, whether it has led to any decline in conflicts within society and to see if there have been any improvements in land record management. This study has used a structured questionnaire method to evaluate the impact of the programme for the different indicators. The present study begins with a brief overview of the CoLR programme in India and Karnataka. In the second section of the study, we take a look at the characteristics of "Bhoomi" based on the information gathered during field study. The third section of the study deals with the methodology adopted for the selection of villages. The fourth section describes in detail the findings of the field

study carried out in some selected villages of Gulbarga district. The fifth section deals with recommendations for consideration.

We consider this evaluation study to be a significant exercise for the Computerisation of Land Records (CoLR) programme, entrusted to the Centre for Rural studies by the Department of Land Resources, Ministry of Rural Development, Government of India. Our heart-felt thanks go to Shri S.D.Meena, Director,Land Reforms, Department of Land Resources, Ministry of Rural Development, Government of India, for his support extended to us.

We wish to register our foremost gratitude to the Director, Lal Bahadur Shastri National Academy of Administration, Shri Binod Kumar, who was a source of inspiration and guidance to us.

We have not enough words to acknowledge the gratitude to Shri Rajeev Chawla, Additional Secretary, Revenue Department, Government of Karnataka who has extended all possible help to make this study possible. In fact the major credit for the success of CoLR in Karnataka goes to him. We are extremely grateful to Shri Laxminarayan, Deputy Commissioner, Gulbarga for sharing his enviable insight into the subject and for providing the necessary administrative support. We thank all the revenue personnel of Gulbarga who were involved in this study. We also acknowledge the co-operation extended by the people of Gulbarga, who were the source of information without which this study could not be completed.

The study was organized with the help of Karnataka Rajya Vijnana Parishat (KRVP), Banglore. A special thanks to Mr. N. Maheshchandra, Project Scientist, KRVP and Devraj, T. Faculty, KRVP who accompanied the study team during field survey. We also acknowledge the co-operation extended by the faculty and staff of the Karnataka Rajya Vijnana Parishat without which this study could not be completed. Dr. S.G.S. Swamy, Coordinator, KRVP needs special mention, for he was the live force behind the organization of the field study. No words can adequately acknowledge our indebtedness to him.

We would like to take this opportunity to thank our colleagues, Mr. Subhransu Tripathy, Ms. Nupur Dubey and Dr. Saroj Arora. We would also like to thank Shri Deepak Kumar and Shri S.S.Kharola, who meticulously typed and formatted the manuscript without which we could not have got the manuscript in the present shape. Finally our sincere thanks to Shri Ramesh

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We are also very grateful to many others who helped us at various stages of this study.

Manoj Ahuja
A.P.Singh

April, 2003

Chapter –I

Introduction

Preamble

Application of information technology to government functions can lead to a better governance. Nearly 63 per cent of Indian population is dependent on agriculture. Land Records therefore affect the largest number of people in our country. These records are required for a variety of purposes like security of tenure, seeking crop loan, bail in criminal cases, planning purposes etc. With the objective of streamlining the maintenance and to update land records, Ministry of Rural Development, Government of India, sanctioned a scheme in 1991 for the Computerisation of Land Records (CoLR) in many states, and the scheme was implemented with the assistance of National Informatics Centre (NIC). The progress made in different states has been rather uneven, but in Karnataka, it has been remarkable. Karnataka has 67 lakh owners of rural land spread across 177 *taluks* in nearly 30,000 villages. Together they account for 20 million records of RTC (Records of rights, tenancy and cultivation). A printed copy of the RTC can be obtained online from a computerized land record kiosk (Bhoomi centers) in 177 *taluk* offices after paying a fee of Rs.15. The state government legally abolished all handwritten records after the implementation of this project. Karnataka's CoLR Programme has attracted widespread recognition in the country as well as internationally. Recently, this programme was one of six award winners among 150 global entries in a competition on innovation in governance, instituted by the Common Wealth Association of Public Administration and Management.

Ministry of Rural Development, Government of India entrusted an assessment study of Computerisation of Land Records in Karnataka to Centre for Rural Studies, Lal Bahadur Shastri National Academy of Administration, Mussoorie. In this respect we carried out our survey in Gulbarga district and all the 10 *taluks* were covered. The summary of our findings are as follows:

After the field study of all the *taluks* of Gulbarga district, we can say that the CoLR has adequately dealt with some of the deficiencies of old manual records system. Now Land Records are more transparent and open for public scrutiny.

Computerisation of Land Records(CoLR) certainly made the land records less prone to manipulations by making land records freely available to public. The Village Accountants have very little scope for manipulating or causing harassment to the public. This itself is an important advantage of the computerised land records.

In general, it has been found, however, that at the present stage of implementation CoLR has not made it significantly easier for farmers to obtain RTCs. As the RTC computerized centers are located at the *taluk* level, it is a little inconvenient for the public as they have to cover a significant distance from their home villages to the *taluk*. However, as the government of Karnataka is in the process of extending it upto *Hobli* level, farmers will definitely get the RTCs easily without much problem. A great majority of the revenue personnel were of the view that the farmers will be in a position to fully appreciate the benefits of CoLR in the coming two years.

It appears that CoLR has succeeded in making the mutation process less cumbersome and more accountable. The on line mutation was in process in Sedum, Chincholi, Jewargi and Afzalpur *taluks*. Many of the farmers are demanding online mutation where it is in the process of implementation. They reported that the level of harassment by the Village Accountant in case of manual mutation was so much that he charged upto Rs. 5000 and took nearly 2 years for the mutation.

CoLR will definitely result in easy availability of data for planning process. Conversion of this land records data into digital form will make it easy to review, collate and analyze for various administrative and planning purposes.

The government of Karnataka is in the process of dealing with problems of power back up for the computer kiosk, additional computer kiosks and additional computer operators. It will be essential to monitor farmers' satisfaction with the CoLR and invite their suggestions for improvement.

In the end, we can say that CoLR in Gulbarga is a universal remedy for the multiple problems of Indian land records system. CoLR certainly has improved land records systems in Karnataka.

Background

Land from ancient times has universally been considered as a measure of wealth, status and power. In India, during the feudal times people were awarded favours by the kings in the form of titles of ownership for land holdings. Precisely because of this reason, land has also been the source of many bloody wars and disputes not only between nations, kings and

Zamindaars who wanted to establish there supremacy over each other, but also between common people as this was their only source of livelihood. It has been a cause of family rifts turning brothers into enemies. It has also led to disputes running through generations unresolved. This can be attributed to the lack of proper land management systems, poor record keeping, negligence on part of those who were supposed to be responsible for Land Management and also to an inefficient and slow judicial system.

Land has also served as a strong tool for manipulation and exploitation of the poor. It has been the root cause of many malpractices carried out by those who were rich and influential, which resulted in a huge loss of revenue to the exchequer each year. People have shown irrigated areas as non-irrigated, fertile land as barren, curtailed the crop yields by declaring lesser hectarage of cultivated land. There are numerous instances where these perjuries are performed in cognizance with Village Accountants who form the lowest link in the chain of revenue officials.

All the examples and facts stated above establish in no uncertain terms the importance of land and also the urgency of having an efficient system to manage it. Till now we do not have an efficient Land Management System in place. We are still dependent on the age-old methods of creating and maintaining the Land records. This system of manual surveys, cloth bound cadastral maps, non-uniform structures of record of rights, each state maintaining this database as a hard copy register in their respective languages, lack of qualified people who can maintain and update these records both in the record of rights as well as the cadastral maps, can not meet the objective of having an efficient system. There is a dynamic relationship between the landholding, its owner, and the department responsible to keep track of transactions. The system for managing the land therefore, also has to be a dynamic and responsive one.

Land records have been a state subject and the maintenance and updating was being done manually. As to how efficient the present system is, can probably be best judged by the success of the efforts on the part of the government to implement the much-talked about Land Reforms. The courts today have lakhs of pending cases of land related litigations. It is also not uncommon to see newspapers with frequent headlines of law and order problems related to land related issues. Existence of land mafias, large scale encroachments etc are directly related to the inadequacies in our land records and information system.

Government of India started the centrally sponsored scheme of Computerisation of Land Records (CoLR) in 1988-89. The scheme was 100% funded by the Centre. This was as a result of emphasis laid by the Planning Commission on proper maintenance of land records as the basis of good administration. The need was reiterated by the Second and Third Planning Commission. The Sixth Plan even envisaged the completion and updating of land records during 1980 to 1985. To quote the Sixth Plan document, "Systematic programmes would be taken up for compilation and updating of land records for completion within a period of five years…"

The Eighth Plan (1992-1997) and the Ninth Plan (1997-2002) also envisaged the fulfillment of all the five-year plans for National Land Reforms Policies. It needs no further emphasis that all the Plan documents have given considerable importance to the fact that, land is a very important asset and this has a direct role to play in overall development of the

people in villages as well as in towns. Even in urban areas land assets have great importance and no administration can afford to neglect the necessity of efficient management of land.

To put the Planning Commission efforts into practice the Conference of Revenue Ministers in 1985 advocated the pilot project approach for computerisation of land records data. Pilot projects were taken up in eight districts spread over indifferent states. Subsequently the scheme was extended in 1991 to cover 24 districts. By the end of the Eighth Plan 299 districts were brought under the scheme. At present the scheme is being implemented in 544 districts of the country. In 1998-99 funds were also allotted for digitization of maps and pilot projects were sanctioned in a number of states. Evaluation studies were carried out in different districts during 1999 and after that the Government issued out a comprehensive policy document called the VISION Document. Some of the important policy issues were covered in this document.

Keeping in mind all the aforesaid ideas, the final list of objectives of the scheme as conceived in the Memorandum for Expenditure Finance Committee (EFC Memo), submitted in 1993 by the Ministry of Rural Development, was as given below:

a. To facilitate easy maintenance and updating of changes which occur in land database such as changes due to availability of irrigation/natural calamities/consolidation/ or on account of legal changes like transfer of ownership, partition, land acquisition, lease etc.

b. To provide for comprehensive scrutiny to make land records tamper-proof, which may reduce the menace of litigation and social conflicts, associated with land disputes.

c. To provide the required support for implementation of development programmes for which data about distribution of land holdings is vital.

d. To facilitate detailed planning for infrastructural as well as environment development.

e. To facilitate preparation of an annual set of records in the mechanised process and thereby producing accurate documents for recording details such as collection of land revenue, cropping pattern etc.

f. To facilitate a variety of standard and ad-hoc queries on land data.

g. To provide a database for agricultural census.

In recent years, the Ministry of Rural Development (MoRD), Government of India has taken initiative to identify the deficiencies in the present systems of land records and to address them. The primary method for addressing the deficiencies has been to use information technology as means for improving the system of land records maintenance. The MoRD has provided substantial resources to the states for such Computerization of Land Records (CoLR) programmes. The CoLR scheme has involved three different agencies: the National Informatics Centre (NIC); the MoRD; and the state governments. NIC is responsible for upgrading its district centers with the latest hardware, software, terminals, and

printers to expedite the work of data entry. It is also responsible for creating the software packages and providing training on the software to revenue officials. MoRD provides financial support to the states for site preparation, data entry work, purchase of capital equipment, and miscellaneous other expenditures. The state governments are responsible for data collection, data verification and validation, and distribution of the new records of rights to landowners.

Consequences of Poor Land Records

A poor land records system in a blurred social structure has many flaws. These problems, as listed in various documents and other writings, include the following:

i. Non recognition of Rights

Land records specify, delineate, record and maintain the rights of individuals, families, groups and communities as well as of the state in respect of particular land. These rights are important as our legal system gives preference to documentary evidence in any process of adjudication. Where the land rights are not recorded they are difficult to enforce. In order that these rights be protected it is necessary that they be recorded first. Some states for instance recognise tenancy as a practice while others do not. However, the rights of the tenants can only be respected when they are recorded in the record-of-rights. Therefore, non-recognition of rights is the first of the consequences that flows out of a poorly maintained records system.

ii. Difficult to Retrieve

Land records data contains useful data for planning and other administrative purposes. They form the basis of planning exercises, policy formulation, subsidy distribution, and relief at the time of natural calamities, drought and floods and creation of sources of irrigation etc. Therefore, one of the foremost facilitating qualities about data is that it should be readily retrievable and convertible into intelligible sets of information. To retrieve data from our revenue records system is quite difficult. It is also almost impossible to collate, analyze and otherwise use this potentially useful data.

iii. Failure of Land Reforms

It has been almost axiomatically accepted that poor land records have led to the failure of Land Reforms. P.S. Appu, an expert on the subject of land reforms sorts the record keeping deficiencies into two groups-where records system exist but no recording is done; and where there is no records system. Both have been equally instrumental in undermining Land Reforms, particularly in the context of tenancy reforms. Similarly, the ceiling reforms function within a four-fold paradigm of land records, revenue functionaries, quasi-judicial action and distribution to the beneficiaries. The circuit of this paradigm would remain incomplete till land records do not provide a support base to the ceiling operations. It is therefore not unjustified to hold that an imperfect record system has been a factor in the failure of the Government to implement Land Reforms in the country.

iv. Rent Seeking

Rent seeking has emerged a major behavioural phenomenon in post independence India. The management of land records is an exclusive revenue function. It, therefore, constitutes a monopoly function for which it charges monopoly rent. The farmers found difficulty in obtaining land records because the Village Accountant demanded sizable bribe. It is noted that the

delay in obtaining RTCs from Village Accountants made the crop loan process prone to delay and resulted in the harassment of farmers. It is also found that the difficulty in obtaining records from Village Accountants led to long delays in disposing land related civil litigation.

v. Violence in the Rural Society

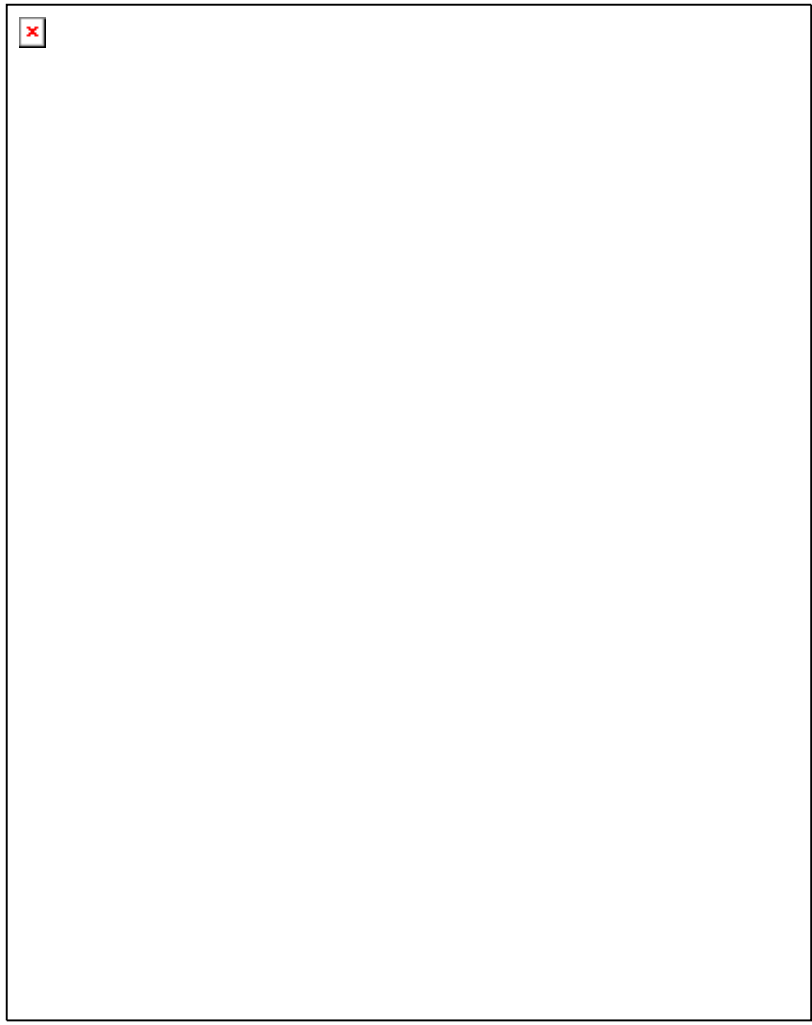
The post independence Indian society has witnessed a spurt in both organised and individual violence. There has also been a growth in the land based or other forms of social movements in which violence has been institutionalised. There are a host of factors for the rise of such movements. However, skewed possession and ownership of resources have also been among the principal reasons for this increase in violence and violent movements. In non land reforms states it has been invariably found that land issues provide the core of contention. Computerisation of land records may not help directly, but it may create the environment by facilitating both information flow and promoting more equitable land relations.

vi. Erosion of Government Land

Poor or partial maintenance of land records has led to the erosion of the corpus of government land. The government land corpus, substantial at one time, has been used up contrary to the state recognised principle of distribution. It is, by no means the hypothesis that computerised records system alone can arrest this erosion. However, it has been projected as an important link in the upkeep of government lands and their utilization in favour of the weaker sections or for other purposes.

vii. Uncertain Conveyancing

Easy conveyancing is one of the features of a near perfect land market. Uncertainties in conveyancing add to the search



cost and, therefore, lead to market distortions. It is not

possible to have easy conveyancing under conditions of an imperfectly maintained records system. This denotes a higher search cost upon all transactions. The markets can only deliver under conditions of perfect information flow and not under the existing situation of an incorrect set of record-of-rights. Computerisation of land records would help in enhancing information flow and thus bring about efficiency in land market transactions.

viii. **Unreal Planning**

Any planning exercise begins with the question: " planning for whom". The focus of all planning exercise is the poor man including the small and the marginal farmer. Now that grass roots planning and 'planning from below' have become accepted as authentic planning methodologies, any planning without taking the micro data or the projections of the same at the national level will be unrealistic. In its present form, the record of rights are not capable of projecting analysed data as planning aids.

ix. **Availability of Loans.**

Land is a resource capable of conversion into liquid assets, it enables an owner to get loans for productivity purposes. For want of proper records, it becomes difficult to raise loans both from institutional or private sources. Even where loans are availed of, the rate of interest from the private sources or the terms of lending are apt to be high. To borrow from institutional sources the borrower has to spend greater time running around.

Land Laws of Karnataka

The State of Karnataka (previously Mysore) came into existence on November 1,1956 after the amalgamation of the states of Mysore and Coorg, and parts of the States of Madras, Hyderabad and Bombay. Each of these constituent areas, with the exception of Coorg, had been formulating and implementing land reforms measures of their own even before they joined the integrated state of Karnataka. The challenge before the new state was to formulate an essentially uniform law that would, at the same time, accommodate local problems and variations to the greatest degree possible.

Further, as in most other parts of India, the prevalence of feudalistic land tenure systems, such as *jagirs* and *inams,* were widely prevalent in Karnataka. Even the key village revenue officials, equivalent to the present day Village Accountants, were in hereditary possession of their offices.

Soon after the new State came into existence, efforts began to formulate a uniform land reforms law. In the meantime, for the Coorg area a specific law, the Coorg Tenants Act,1957 was enacted. Comprehensive legislation for the entire State, called the Mysore (later Karnataka) Land Reforms Act, 1961 was effectively brought into force from October 2,1965. In the interregnum between 1961 and 1965, an interim piece of legislation, the Mysore Tenants (Temporary Protection from Eviction) Act, 1961 was enacted and enforced to protect the tenants from eviction while the principal scheme of legislation was being formulated. In the comprehensive legislative enactment, the land ceiling provision was designed in such a way that transactions made between 1961 and 1965 did not fall within the purview of the enforcement agencies. Later, the act was once again comprehensively amended and brought into force from March 1,1974. It is from this date that the implementation of land reforms in the state was undertaken with utmost earnestness. During the period 1974 to 1984, implementation of land reforms aroused intense political fervour, and this was backed up by efficient administrative support.

Meanwhile, a series of other acts of legislation were also enacted to abolish the various personal, service, religious, charitable, and miscellaneous *inam* land tenures. In parallel, hereditary village offices such as those of *Shanbhogs, Patwaris*, and *Patels*, were also abolished by the Karnataka Village Offices (Abolition) Act, 1961, which was brought into force in February 1963.

Other major laws that had a bearing on the land reforms, such as the Karnataka Land Revenue Act,1964 and the Karnataka Land Grant Rules,1969 were suitably amended periodically to sustain the professed focus of land reforms.

History of Land Record System

Before the reorganization of States in 1956, different areas used to be part of five different administrative set-ups. Naturally, different systems of maintenance of records were in force in these areas. With the enforcement of the Karnataka Land Revenue Act,1964, and the Karnataka Land Revenue Rules,1966, a uniform system was prescribed and Kannada was made the sole language in which these records were to be maintained, although the earlier records had been in the languages like Kannada, Marathi, and Urdu.

The initial records were built up on the basis of the original surveys undertaken during 1863-90 in the old Mysore area,1840-63 in Bombay-Karnataka,1875-88 in Hyderabad-Karnataka,1893-1904 in Madras Presidency, and 1806-16 in the Kodagu Areas. Revised surveys were periodically undertaken. A revision settlement was undertaken in 1965 in the integrated Karnataka state. As the settlements have a prescribed periodicity of 30 years, the next settlement fell due in 1995. With the rapid pace of socio-economic developments, the status of land has been undergoing very rapid change, necessitating a foolproof method of updating and proper maintenance of land records.

Maintenance of land records is the joint responsibility of the revenue and the survey settlement and land records departments. The administrative set up of the Survey and Settlement and Land Records Department envisages a Director as the head of the Department. There are four joint directors for each revenue division. Below them are the Deputy Directors of Land Records for one or two revenue districts. For each revenue sub - division, there is an Assistant Director of Land Record. At *taluk* level there is no senior officer of the Survey settlement and Land Records Department. There are surveyors equivalent in rank to the second division and first division clerks, with no unified command at *taluk* level.

The basic document of land in Karnataka is the Record of Rights, Tenancy and Crop Inspection (RTC) maintained at the village and *taluk* level. The RTC has 47 pieces of information and provides details such as survey number, area, name of the owners, rate of assessment, type of ownership, soil type, sources of irrigation, particulars of tress, rights and liabilities, tenancy and particulars of the crops raised during each season and their coverage. At the *taluk* level it is maintained by the *Tahsildar*, RTC provides the basic proof of ownership.

Another important land record is the village map with different plot numbers of land existing in a village. It is a very important tool in resolving boundary disputes. The plots on the map are replicas of different pieces of land.

The *Khata* is also an important land record containing land revenue, cess, water rates and other government dues to be paid by a cultivator and the amount paid in a given year. For this purpose each cultivator or group of cultivators known as *Khatedars* is given a particular *Khata* number. The annual assessment for all the plots possessed by the tenants is calculated and the details of payment are also entered. The *Khata* Register is prepared once in a year during the *Jamabandi* or reconciliation of the annual accounts.

Next important document is the *Akarband* which records the land revenue assessment for each survey number in the village along with its extent and type. The original document is maintained by the Survey and Settlement Department and the Village Accountant maintains a copy in order to be in a position to cross check the correctness of the assessment shown in the RTC form.

Besides the above-mentioned documents, the Village Accountant also maintains other records such as *Khetwar*, *Kirdi*, Receipt Book, Remittance Registrar, etc.

CoLR in Karnataka

The state of Karnataka has computerized 20 million records of land ownership of 6.7 million farmers. Previously, farmers had

to seek out the Village Accountant to get a copy of the Record of Rights, Tenancy and Crops (RTC) -- a document needed for many tasks such as obtaining bank loans, transacting in land, engaging in litigation. A printed copy of the RTC can be obtained online at computerized land record kiosks (Bhoomi centers) in 177 *taluk* offices after paying a fee of Rs.15. The state government legally abolished all handwritten records after migrating them to computer networks backed by digital finger printing for security. Karnataka's CoLR Programme has attracted widespread recognition and has even won an international award. Recently, this programme was one of six award winners among 150 global entries in a competition on innovation in governance, instituted by the Common Wealth Association of Public Administration and Management.

In the manual system, land records were maintained by 9,000 Village Accountants, each serving a cluster of 3-4 villages. Two types of records were maintained: 1) Registers, which indicated the current ownership of each parcel of land, its area and cropping pattern, and 2) village maps that reflected the boundaries of each parcel. Requests to alter land records (upon sale or inheritance of a land parcel) had to be filed with the Village Accountant.

Computerization of land records in Karnataka started in 1991 when the first pilot was initiated in Gulbarga through a centrally sponsored scheme of Computerization of Land Records (CoLR) of Government of India. By 1996, projects for computerization of land records were sanctioned for all districts in the state of Karnataka. However, earlier efforts failed to achieve required objectives of creating a clean, up-to-date database. Later after assessing the earlier efforts, the state government consented that all *taluk*as will be computerised by March, 2002.

Now, due to massive efforts of Revenue department of the state, Karnataka's sixty-seven lakh farmers can access 20 million land records at all 177 *talukas* of State through Bhoomi e-governance project. This software has been designed fully in-house by NIC, Banglore. The details of the software will be discussed in the next chapter. The first Records of Rights, Tenancy and Certification (RTC) Information Kiosks Centre started in Maddur *taluka* of Mandya district on 6th February 2001. An amendment made to the Karnataka Land Revenue Act 1964 by the State Government recognises only the computerised land records and RTCs duly signed by the authorized signatory will be valid for all legal purposes. Manually written RTCs will have no legal validity. The State Government has gazetted the notification in this regard and the amended Karnataka Land Revenue (Amendment) Rules,2002 have come into force from June 13,2002. Prior to this, the computer held information had been given legal sanctity. For this government issued Taluk-wise notifications when the new system became fully operational in a particular taluk. The notification declared that only computer generated RTC's duly signed by the authorized signatory would be valid for all purposes.

Kiosk Centre

The Government of Karnataka is claims the following benefits of the Computerised Land Record System for the farmers:

i. They will get all necessary records as soon as they need them without having to wait for weeks after applying to Kiosk operator.

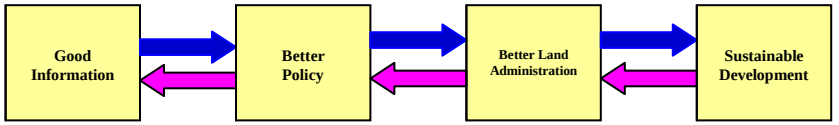
ii. These records are free from human arbitration.

iii. The updating becomes easy as their records can be updated by applying at the RTC information kiosk and their request is directly registered into the land records database.

iv. These computerised records are free from harassment from government officials, touts, middlemen, village level leaders etc.

v. A farmer has direct access to all information about his property.

vi. He is able to query and get all types of necessary information about his land.



According to Government of Karnataka, the revenue officials get the following benefits:

i. They can access information about any land or revenue property at any given point of time.

ii. They can retrieve updated information at any point of time.

iii. The revenue officials can access and use the RTC system only by providing thumb impression as against most other forms of securities that use passwords and therefore can be manipulated. This also safeguards against any kind of data manipulation, pilferage and loss.

iv. The revenue officials are able to monitor the land record work of their subordinates and therefore have better control over their work.

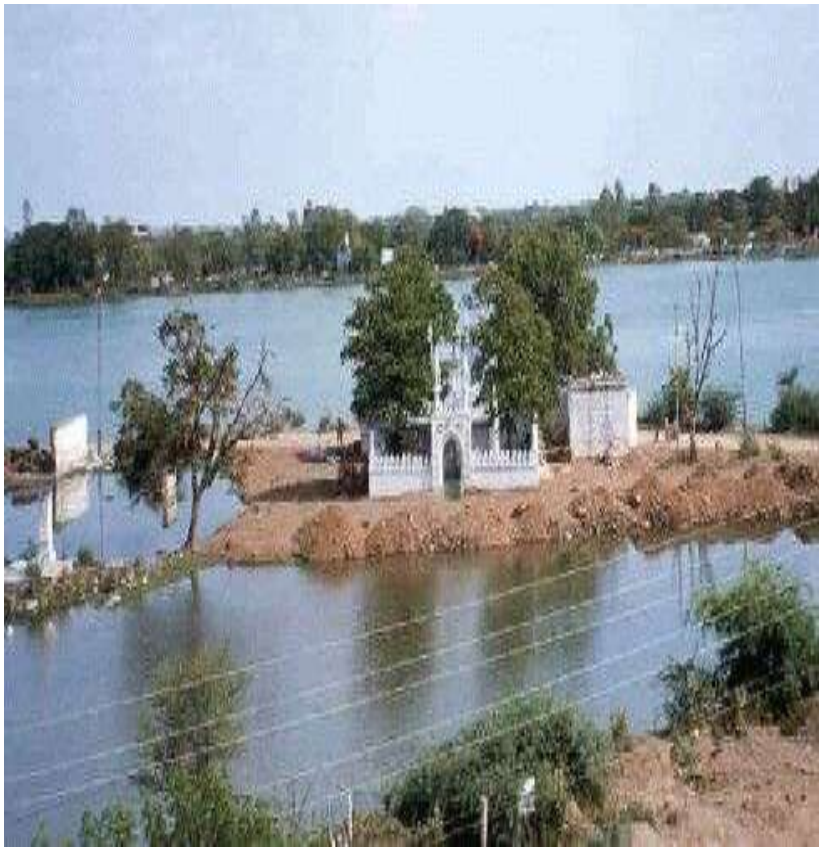
Touch Screen Kiosk

A farmer Ramaiah was amazed when he found out the details of his land on the touch screen kiosk installed in Banglore south Taluk office. "This is something very unusual. Earlier VA was the big man and did not bother to provide any information. To Obtain an RTC, we had to wait for several days apart from bribing him." Said Ramaih.

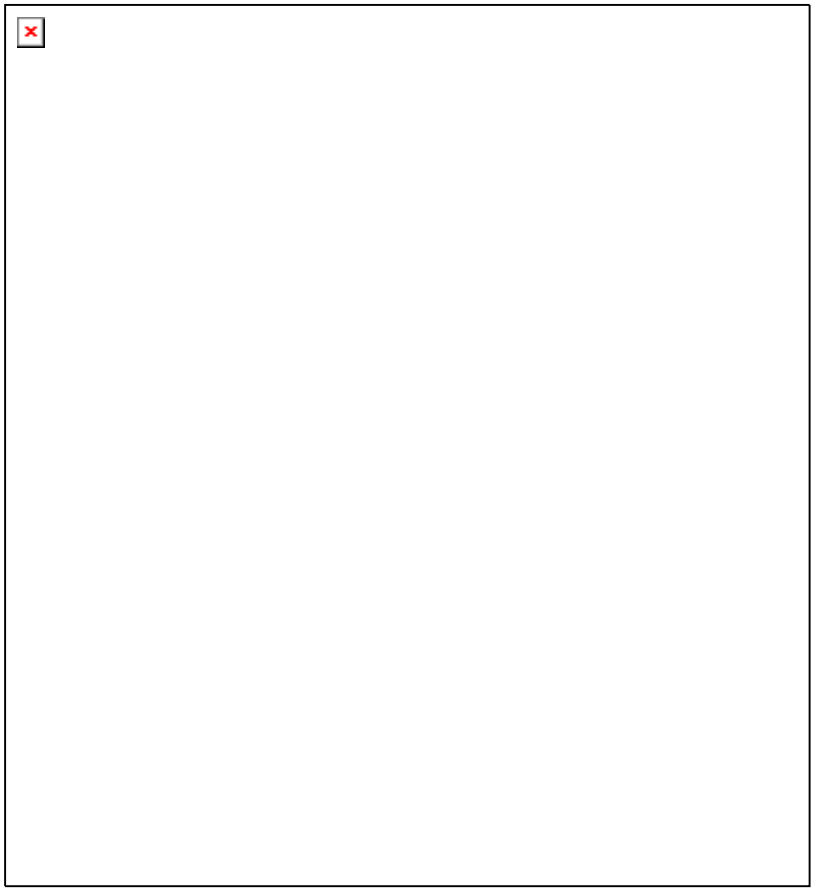
Touch Screen Kiosk

A farmer will now be able to drop a Rs.2 coin into the self operated system, feed the survey number and view his/her land record without any intervention or delay. The touch screen system is very easy to operate and farmers with minimum education can operate it. Once the coin is inserted into the machine, it will guide the operator through instructions in Kannada as well as English on the screen.

Profile of Gulbarga



GULBARGA was known as 'KALBURGI' in former days, which means stony land in Kannada language. Gulbarga district is situated in the northern part of Karnataka State. In the earlier days, Gulbarga was a district of Hyderabad-Karnataka area and became a part of Karnataka State after re-organisation of States.



Gulbarga which is 613 Km. north of Banglore, is an important divisional headquarter in Karnataka state. This district is situated between 76°,04' and 77°,42' Eastern Longitude and 16°,12'and 17°,46' North Latitude and covers about 16,224 Sq. Kms area. The population of the district is 25,82,169(1991 Census). The district comprises of 10 *taluks*. On the north-west for a short stretch, the district shares its borders with Solapur and Osmanabad districts of Maharashtra and on the east is bounded by the districts of Medak and Mahaboobnagar of Andhra Pradesh. On the other three sides, Gulbarga district is surrounded by territories belonging to Karnataka State it self: Bidar district in the north, Raichur district on the south and Bijapur district on the west. It is only in the south that the district has a natural boundary in the form of the mighty Krishna river which runs its east by north-eastern course. On the western sector, for a short distance the Bhima river divides the land belonging to the districts of Gulbarga and Bijapur and forms the natural boundary between the two districts. The district is situated in the region, which is generally known as the Deccan Plateau. The Krishna and the Bhima are the main rivers of the district and the Bhima itself is a tributary of the Krishna and flows into it at the south-eastern tip of the district.

Gulbarga district is situated in the dry-climate belt. The temperature of district ranges from 15 degree Celsius to 45 degree Celsius and average annual rainfall is about 750mm. Consequently the flora and fauna of the district are not impressive. The predominant type of soil in the district is black soil.

There are 1394 villages in the district spread over ten *taluks*. The district literacy rate is 38.5 per cent, which seems lowest among the districts in Karnataka.

As for irrigation, Gulbarga ranks the most backward amongst the districts of the state. The major sources of irrigation are wells and tanks. The Upper Krishna Project is a major irrigation venture in the district.

About 70 per cent of the cultivated land is sown with food crops. While cereal and millets account for about 44 per cent, pulses account for 25 per cent of the net area sown every year. Rice and Jowar are the major cereal crops. Gulbarga district is a well-known centre for the production of *tur dal*. Groundnut and cotton have in fact enabled the entrepreneurs to set up several agro-based industrial units at numerous places, especially in the prominent urban centres of the district.

CoLR in Gulbarga

Computerization of land records in Gulbarga started in 1992 in the first phase when the first pilot was started in Gulbarga. Gulbarga University was the agency appointed for entering the data, which was completed in August 1993. But corrections could not be made to the records, as printouts were not taken. With a gap of nearly four years, the programme was again taken up in 1996, and after obtaining the printouts, the necessary corrections were made, and the work was completed by March, 1996. Further implementation was hindered as the permission then sought by the districts from the Government for the purpose of computers, was delayed. Consequently in the third phase of computerisation, the government supplied all the necessary hardware to all the 10 *taluk*s in the district. Gulbarga district has 1,394 villages and 2,48,931 survey numbers. The total number of RTCs is 7,88,314.

*Taluk*wise distribution of villages, survey numbers, and the number of landholdings are as follows:

Table 1.1

Talukwise Distribution of Hoblis,Villages, Survey Numbers and Number of RTCs in Gulbarga District

Name of *Taluk*	Hoblis	No.of Villages	Survey Numbers	No.of RTCs
Afzalpur	3	91	8966	59650
Aland	5	129	21,705	84386
Chincholi	4	145	22,001	59071
Chitapur	5	121	29,450	83182
Gulbarga	6	150	26,938	75788
Jewargi	5	158	16,559	67535
Sedam	4	111	16,497	64493
Shahapur	5	159	37,517	94361
Shorapur	5	187	25,159	95350
Yadgir	6	143	44,142	104498
Total	48	1,394	2,48,931	7,88,314

Source: Revenue Department, Gulbarga, Government of Karnataka

Sedam became the first *taluk* in the district to have the computerised land records facility on July 4,2001. Now, all the ten *taluk*s have been computerised. In all there are 7.88 lakh RTCs in the district with Yadgir having the highest of 1.04 lakh and Chincholi the least with 59650 RTCs.

Chapter II

Characteristics of Bhoomi

Bhoomi software is in operation at *taluk* computer set-up at *Tahsildar's* office and serves the requirements of all the districts except Coorg district. The general features of Bhoomi are as follows:

- BHOOMI has an on-line module to carry out mutation on the data base thus ensuring dynamic updating.
- It has built-in workflow automation, which moves transactions from one personnel to another on the system.
- The process of mutation in BHOOMI is synchronized with the existing fieldwork done by the revenue officials.
- It also facilitates scanning the field mutation order passed by revenue authorities and notice served on the public and stores it into a database so that it can be referred to easily in future for various purposes, especially for legal purpose.
- It has also been integrated with Fingerprint (Bio-metrics) Technology to ensure foolproof authentication system instead of a traditional password system. This enforces the concept of non-repudiation.
- The software is in local language (Kannada).
- Various analytical reports can be generated in text format and also can be viewed in graphical form.
- It has two modules for public interface.
    - One module is used by the revenue official at *Land Records Centre* to issue the land records documents on demand from the public and accept the request application for mutation from the public.
    - The other module runs on *Touch Screen Kiosk*, set up at *taluk*/block office. This module can be easily operated by even the person/farmer having little knowledge of computers.

Security

For foolproof security of data, Compaq's Fingerprint (Bio-metrics) Technology is interfaced. This ensures that unauthorized persons cannot access the land records data for modification and the official cannot escape the ownership of commitment of transaction carried out as he produces the authority by way of his/her thumb impression with the system. The finger impression is called for whenever the important buttons are pressed by the users in the BHOOMI system for authentication. Two levels of security are there for the operation of the land records software : (i) Logging into the Computer system (ii) Logging into the Bhoomi Land Records system.

As the land records database is crucial and dynamic, it is essential to restrict the users who operate on this system. All these users have their own duties to perform and update the data on the system. The key players for operating the system are:

a. Clerks/Operators
b. Mutation Order Passing Officers
c. Shirastedar
d. Tahsildar

The data entry and modification of the mutation entries and crops' details are done only by clerks/operators and all other key players, namely Revenue Inspector/Deputy Tahsildar, Shirastedar and Tahsildar either approve/recommend or reject the mutation entries. These officers need not have to know the village, hobli, survey no. etc. Once it is entered by clerks/operators, the transaction will be on the next approving officer's screen. This is a built-in workflow automation provided with this software.

Mutation Order Passing Officer does only the operation of approving/rejecting the mutation order details entered by clerks/operators. In addition to approving the notice and order details, the *Shirastedar* also approves the crop details for updating the RTC.

Tahsildar is the final player. Without his approval, the transaction does not appear on the RTC. In addition, he also creates/freezes the login accounts for the revenue officials to use Bhoomi.

DAT drives have been provided as a part of *taluk* infrastructure. At the click of a button in Bhoomi the back up of the database can be taken on these tapes. The print out of recent RTCs is always available with the Village Accountant.

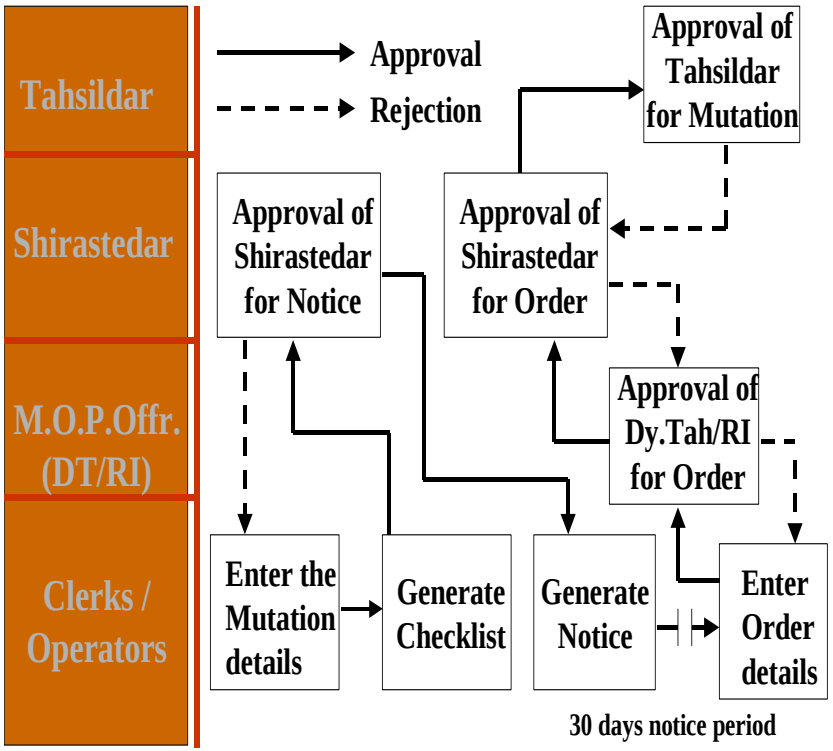
Technology

On-line process of land records system has been designed and implemented using Client/Server architecture. It uses one of the powerful Relational Data Base Management System (RDBMS), Microsoft SQL Server 7.0, as a back end tool to maintain the data. The front end GUI based BHOOMI software is developed using Microsoft Visual Basic 6.0 for effective transaction processing. MS-Graph tools have been extensively used for graphical reporting, analysis and presentation. Data report tool of Microsoft is also used for generating various reports and printing. 'ISM Soft' software of C-DAC has been interfaced for local language (Indian - Kannada) support. Efforts are in the pipeline to have the Kannada data transliterated into other Indian languages by using 'Unicode' at an advanced level, depending upon such requirements that may come up subsequently.

Mutation System

The revenue officers are carrying out the same fieldwork as previously and there is no change in their roles and responsibilities for the mutation process. As there are four key players in the operation of the land records system, every key player also plays a definite role in the mutation process. As soon as the application of mutation reaches the Computer Centre, the clerks/operators start process of mutation by entering the details into the computer. After that, they generate the checklist and keep it as a record on the file. The same entry now appears on *Shirestedar*'s screen to get the approval for notice generation. Once it is approved, it moves back to operators'/ clerks' list so that they can take the print out of notice to send it to Village Accountant/Revenue Inspector. For the next 30 days this transaction is kept

waiting. However, if any objections come, it will be blocked for further processing. After 30 days or clearing of objections, the order details will be fed in to the computer by operator/clerks. Now RI/Dy. Tahsildar comes into picture to approve the order details. Again this goes onto *Shirestedar*'s screen. After *Shirestedar*'s recommendations it moves to *Tahsildar*'s list. Once it is approved by Tahsildar, the changes come into effect and the new RTC can be generated and sent to the concerned persons.



In case of crop statistics, the operator/clerks enter the crop details and the same moves to *Shirestedar*'s screen for approval. However, whenever the change in tenancy is to be reflected, it moves to *Tahsildar*'s screen for approval. After the *jamabhandi*, the Village Accountants prepare the survey numberwise list of changed crops details as compared to the previous year. The Operator/Clerks feed these details. For all other survey numbers, the previous year's crop statistics are copied to current year by one command. This reduces the data entry work. This is approved by Village Accountant once in a year. However, whenever changes in tenancy are reflected, Operators/Clerks enter it first then it moves to *Shirastedar*'s screen. Once it is approved by *Shirastedar* , it goes to *Tahsildar*'s screen for approval.

Execution Policy

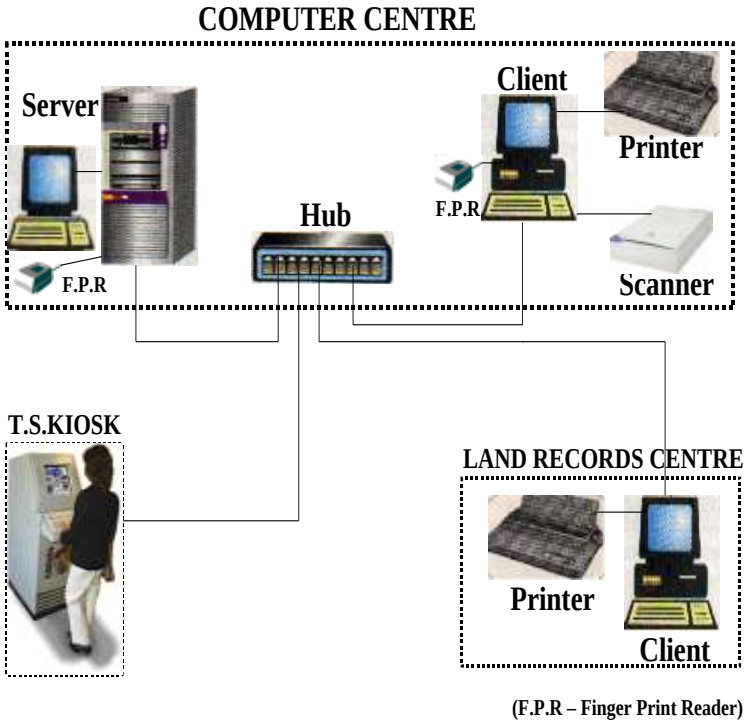
The implementation process of computerization of land records started with digitizing the legacy data. The Government of Karnataka had assigned this work to private data entry agencies. The Village Accountants had gone to the premises of data entry agencies and ensured the correctness of the data fed from the old land record books. This was an iterative process. The checklist of documents was printed by the data entry agency and submitted to the Village Accountants. The Village Accountants verified the printed checklist with the original record and corrected the checklist accordingly. The correction of wrongly entered data was carried out by the data entry agency. Once the data was corrected, the agency took the final print of the land records documents which was again verified by the Village Accountant for the correctness of the printed data. The process was repeated till all the data entry errors were eliminated. The data entry agency then handed over the digitized data in CD

form to the revenue authority. The revenue officers/officials cross checked the final printed land records documents with the manual documents on random basis.

Once revenue officials certified the correctness of the digitized data, the CD data was ported into SQL database for on-line operations. During this stage all logical errors such as duplicate records, etc and those RTC data not confirming to validation criteria were either eliminated or clearly marked for possible corrections. Those records marked for correction were not to be allowed for transaction processing till they were cleared and properly certified. The system maintains a log of those corrections and authority that approves their correctness along with dates.

The on-line mutation process on BHOOMI started after porting the data provided by the data entry agency into the BHOOMI system. Meantime the revenue department issued the *talukwise* circular saying that only the computerized land records documents were valid for all legal purposes. This put pressure on the revenue staff to carry out the mutation on BHOOMI system and as a result the BHOOMI system always has live and up to-date data. 'BHOOMI' works on Client/Server architecture, all the clients and kiosk interact with the server through an Ethernet based Local Area Network (LAN) implementing TCP/IP.

Every district was provided with a consultant to act as a bridge between the data entry agency and the district administration. Operators have been provided for one year to handle online data entry at the Bhoomi kiosks. Village Accountants will take over the work from these operators after a year. A comprehensive training module was designed jointly by the Revenue Department and NIC (software development agency) to train the Village Accountants.



(F.P.R – Finger Print Reader)

Expenditure

The expenditure on data entry operations for about 2 million RTCs in 27 districts was Rs.80 million. The unit cost of providing hardware, construction of computer rooms and kiosks was of the order of Rs.0.64 million for each *taluk*. Thus, the total expenditure on the project was Rs.185 million and requires about Rs. 30 million a year to maintain it. This does

not include the cost of software development done by the National Informatics Centre, a department of the Government of India.

The cost of processing an RTC has been roughly estimated at Rs.13, (this cost includes an assumed operational expenditure of Rs.2 for stationery, cartridges and electricity) assuming a life of 5 years for the hardware and an activity level of 2 million RTCs issued from all the kiosks (10% of all holdings). The current user fee of Rs.15 seems sufficient to cover these costs. By end August, 2002, Rs.7.5 crores had been collected through user fees for the distribution of RTCs through 177 kiosks.

Chapter-III

Methodology

Objectives of the Study:

1. To examine the extent and impact of Computerization of Land Records on revenue administration and cultivators.

2. To examine the ease and speed with which the cultivators are able to obtain the land records and the procedure for the same.

3. To examine the human resource development, capacity building and awareness generation taken up for the implementation of the programme, and the adequacy of the same.

4. To examine the procedure for making mutation and the time taken for the same.

5. To study broadly

   (a) the hardware and software utilised for the computerization of land records

   (b) the methods of maintenance of the same

   (c) the measures for the security and preservation of the data stored in the computer;

6. To examine the changes necessary in the existing legal provisions in the revenue laws.

7. To examine the extent to which the data generated through the computerized Land Records system is helpful in planning and decision-making.

8. To find out the extent to which:

   (i) CoLR has reduced and changed the workload of the Village Accountant, *Tahsildars* and other revenue functionaries.
   (ii) The role of Village Accountant has been affected in mutation & maintenance of land records.
   (iii) It has minimised the possibilities of interpolation of land records and rent seeking behaviour.
   (iv) A comprehensive database on various facets of land is available for helping in land reforms.
   (v) The system has cultivated a sense of awareness among the cultivators and prompted them to exercise their rights.
   (vi) The support extended or resistance by various official agencies and other interest groups for effective operation and functioning of the system.

Sample and Sampling Techniques

For the present study, all the ten *taluk*s of Gulbarga district were selected. Gulbarga was selected as the first pilot was initiated in Gulbarga through a centrally sponsored scheme of Computerization of Land Records. At the *taluk* level, the villages have been selected based on distance and size as the criterion in order to minimize spatial bias. The villages, which were located, far off, midway and near to the *taluk*s, were selected for the study. The respondents were selected by using stratified random sampling. For the selection of functionaries purposive random sampling technique was adopted. From each *taluk*, a number of villages were selected according to criterion described above. We considered *taluk* as a sample unit for the purpose of study.

Table 3.1
Talukwise Sample Size of Respondents

S.N.	Name of the *Taluk*s	No. of Respondents
1	Afzal Pur	172
2	Aland	133
3	Chincholi	172
4	Chitapur	138
5	Gulbarga	193
6	Jewargi	171
7	Sedam	151
8	Shahapur	100
9	Shorapur	112
10	Yadgir	136
Total		1478

Hypothesis

The hypothesis that has been taken for this study is that many problems in rural areas arise because of contracted information flow. The lower revenue officials exercise monopoly custody over the land revenue data and hence they control the information flow. There is a price attached to information. It also gives rise to conflict over land. Restricted flow of information further gives rise to distortions in transactions and provide space for rent seeking behavior. This raises the transactions cost in society, the burden of which falls mainly upon the poorest of the poor. The primary assumption has been that once the information flow is

enhanced the paradigm of problem is going to be reduced. This will bring down the transaction costs, thereby also reducing the rent seeking behaviour on the part of officials and others. Based on this hypothesis the indicators given below have been adopted for impact evaluation:

1. Enhancement in Information Flow

The first and the principal objective of the study has been to find out to what extent information flow has been enhanced by CoLR which has been under implementation. It is true that there was no base line to ascertain the level of information prevailing before the implementation of the CoLR in the district. In the absence of a pre-existing base line, attempt has been made to construct the questionnaire in such a manner that the determination of the enhancement in information flow is possible through the survey itself. The study has primarily relied upon the structured questionnaire and the reply of the respondents.

2. Decrease in Rent Seeking Behaviour

It is well established that information flow and rent seeking behaviour are negatively co-related. The increasing information flow would lead to a decline in rent seeking behaviour. Till so far the land data and information were treated as an exclusive domain of the land revenue officials, and access was denied to both the members of the general public as well as to the landless and the lower peasantry. This allowed the Revenue Officials to put a price tag on it. Computerisation of Land Records (CoLR) would bring forward a wider dissemination of information at a lesser cost. Hence, the cost related to information would stand reduced and thereby the rent being charged by the revenue officials and others will also decline. The others include the local influential persons who have had pre-existing access to land information. It had been the attempt in this study to find out whether the objective of CoLR has been met and to what extent.

3. Improvement in Record Management

Further, there is a question not only of retrieval but also of application. Proper record management would include that the records are kept up to date and the rights conferred upon different sections of the society are enforced. In many states of the country, the Village Accountant would find it convenient to allow the recording work to fall into arrears. The revenue authorities are over occupied with multifarious activities with the result that the attention paid to the record management has been dwindling. Hence, one of the objectives of this study is to test the hypothesis that the programme will be able to bring about a measure of improvement in record management.

4. Transparency in Decision Making

The problem of transparency in decision making is related to enhancement in information flow and decrease in rent seeking behaviour. However, there was a necessity to place it as a separate indicator in the sense that transparency in decision making is an objective of CoLR in itself. The flawed record management and the limited information flow imply that the quality of decisions will not conform to the ground realties. As a consequence of this, the quality of decision is likely to be poor even where not influenced otherwise. This study proposes to test to what extent this objective has been achieved under field conditions.

5. Better Implementation of Land Reforms

It has been admitted that implementation of Land Reforms have suffered on account of poor records base. Land records provide the legs for the case to stand on. In distributive legislation or even otherwise the case of the state is that a person is holding a land above a prescribed limit which the state is empowered to assume and distribute amongst the landless. Where the landholder denies this contention of the state the matter is settled through a quasi-judicial process of adjudication. In such cases the accuracy of the records develops as a key factor. It is true that computerisation cannot impart accuracy to land records. However, the hypothesis is that by bringing about improvements in terms of management and transparency, CoLR will provide a firm basis to the programme of Land Reforms. A landholder may own land in several *Taluks* and districts, in his name and in the names of relatives. Under a computerised system of record keeping such data can be collected, collated and retrieved easily. Therefore, CoLR could be considered as a major support to Land Reforms.

6. Reduced Workload for Revenue Officials

The functional role of a Village Accountant or other lower revenue officials has been increasing and becoming multifarious. New Government programmes and functions have been getting added on to the duties of the Village Accountant. For instance, the cattle census, agricultural census, minor irrigation census, health census, family planning census etc. are some of the later additions to the job of the Village Accountant. In addition, the revenue records that they are required to maintain also add up to a substantive number. The consequence has been that the Village Accountant is getting increasingly overloaded with work and his main work gets subordinated to other programmes which are more of time bound nature and therefore have overriding priority. This has led to deterioration in the quality of record management, land management and other outputs of the Village Accountant, with an obvious regressive effect upon the land revenue administration.

The data which the Village Accountant /lower revenue official handle and the nature of their revenue work is mostly repetitive and clerical by nature. This introduces monotony and many errors inadvertently creep in. For instance, the Village Accountant is expected to prepare RTC by visiting individual plots and recording the crops growing thereon and the name of the cultivating tenant. However, the practice has been that the Village Accountant would normally record the entries sitting at home or by employing some other person for the job. This defeats the very purpose of creating the right records and are thereby reduced to 'the record-of-wrongs'. Further, even with these evasive practices the system is not able to cope with the enhanced volume of work. One of the objectives of CoLR was that the computer would be able to take care of the repetitive and clerical nature of job and would hence economize on the time of the Village Accountant. The time saved can be better utilised by the Village Accountant for a number of productive purposes including more field visits, better recording of entries and quality output. Therefore, this indicator has been incorporated into the questionnaire.

7. Flow of Institutional Finance

The experience has been that the procedure for obtaining loans is so cumbersome that many a time the loan applications are held up for want of ownership/possession

certificates and the loanee has to make several visits to the *Taluks* and banks for which he has to incur additional expenditure. Besides, the loan may not be available in time. There is an opportunity cost attached to the time of the loanee as well. All these factors add to the cost of the loan and make the loan more costly to the loanee as compared to what is available in the market. An important objective of the CoLR was that it should be able to cut down the procedural tangles and facilitate availability of rural credit.

8. Better Conveyancing

A major objective for the COLR was that it will introduce greater certainty in the property market and will also reduce search and transaction costs.

9. Improved Planning Process

One of the primary usages of the CoLR has been perceived as an aid and adjunct to the planning process. Needless to say that the planning process is a complex exercise, which involves different streams of human learning. It must however, has a strong statistical platform to stand upon. There are numerous planning exercises connected with district, sub-division and villages which would require constant use of land and land related data. In the normal process it may not be possible to have this data for a long period, whereas the CoLR based Land Information System (LIS) can provide this data instantly with no danger of its getting lost.

10. Reduction in Dispute Burden

It has been well accepted that a majority of the disputes and conflicts in rural areas are related to land. These land disputes have been analysed and it has been found that many of them stem from the lack of correct knowledge of the record. The hypothesis for this study has been that dissemination of information relating to land will lead to reduction in disputes. These disputes or conflicts in the rural society act as a burden on the rural economy because it results in expenditure on litigation. Therefore, though it had not been specifically conceived as a programme objective, it has been retained as an indicator.

Methods of Data Collection

While dealing with the indicators used and their analysis, the study used the questionnaire method. The questionnaires were framed in relation to the objectives of the study, as mentioned earlier. The questionnaires were structured but left open ended partially. The questionnaires were pre-tested under field conditions and the responses analysed. Four questionnaires were used in the study. Each questionnaire had space for both quantitative and qualitative data, as well as for the investigators' personal observations. Additional Secretary, Revenue Department, Government of Karnataka, Deputy Commissioner, Gulbarga, Staff of local revenue department viz. *Tahsildar*, *Shirastedar*, Revenue Inspector and Village Accountants at Gulbarga were also consulted on the questionnaires. The questionnaires were revised according to the opinion of the above officials. The enumerators hired by Karnataka Rajya Vijana Parishat (KRVP) were mostly postgraduates and research scholars of Gulbarga University. The faculty staff of the Centre for Rural Studies conducted the training regarding the terminologies of land revenue administration and the design of questionnaire. A faculty member of Centre for Rural Studies and two faculty members

of Karnataka Rajya Vijana Parishat, Banglore, mainly supervised the fieldwork.

Village Schedule: The questionnaire involved the collection of basic data on village characteristics. The respondent was usually the Village Accountant or some other knowledgeable local people of village. The copy of the questionnaire can be seen at **Appendix- 1.**

Household Schedule: This questionnaire had focussed respectively on (i) the household (ii) Land (iii) General awareness about the Computerisation of Land Records (iv) General benefits occurring from Computerisation of Land Records (v) Rent Seeking Behaviour (vi) Behavior of Conflicts / Disputes after Computerisation of Land Records (vii) Facilitation in Availing Institutional Finance (viii) Facilitation in Sale/ Purchase of Land (ix) Mutation. The copy of the questionnaire can be seen at **Appendix- 2.**

Tahsildar Schedule: The questionnaire had focussed on (i) General Information on *taluks* (ii) Background of Computerisation (iii) Training of the staff (iv) Benefits of Computerisation (v) Maintenance of Online Computerised Land Records (vi) Other miscellaneous Information regarding the Computerisation of Land Records. The copy of the questionnaire can be seen at **Appendix- 3.**

Village Accountant Schedule: This questionnaire reflects the attitudes of Village Accountant. The questionnaire focussed on (i) Impact and Extent of Computerisation of Land Records (ii) Whether the method of Mutation was simplified (iii) Land Reforms before Computerisation (iv) Benefits accruing from Computerised Land Records System (v) Enhancement in Information (vi) Decline in Litigation (vii) Training (viii) Four subjective questions. The copy of the questionnaire can be seen at **Appendix- 4.**

Chapter IV

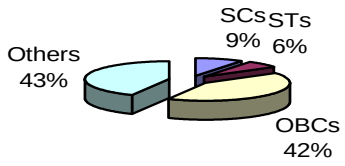
Findings

The Centre for Rural Studies with the help of Karnataka Rajya Vijana Parishat(KRVP), Banglore, conducted a field study in all ten *taluks* of Gulbarga during the period of 25th February to 15th March 2002. During our field study we visited Sedum *taluk*, which was computerized first in the district as well as Surpur *taluk* which was the last *taluk* to be computerised. Sedam and Surpur were made operational on July,2001 and March,2002 respectively. Thus, the implementation of CoLR can be termed as very recent and the study while making an attempt to assess its success keeps this in mind. This study is a modest attempt to critically assess the highly acclaimed efforts made for CoLR in Karnataka. This report builds on extensive field work in rural areas of Gulbarga district of Karnataka.

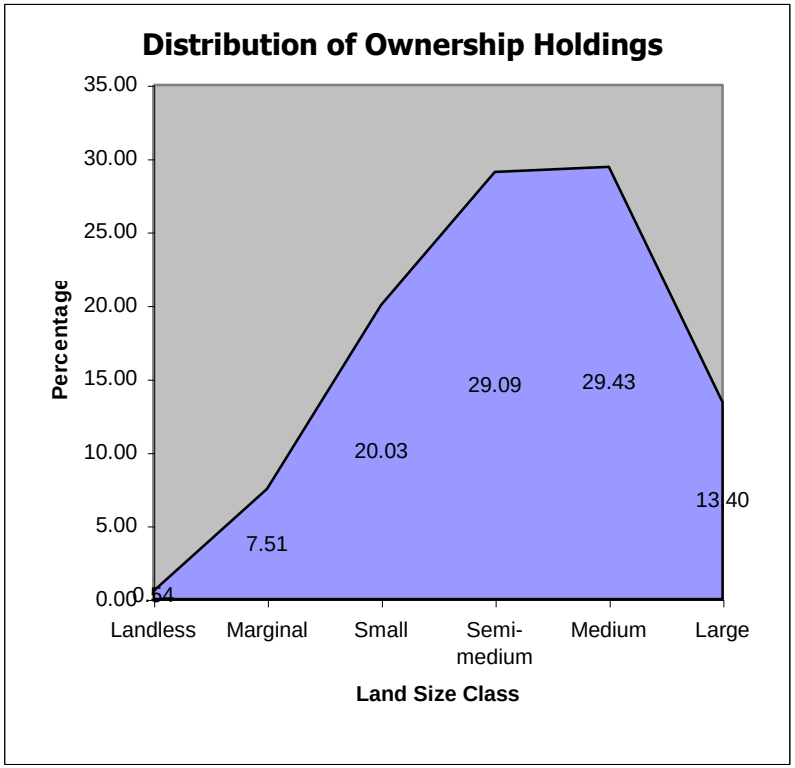
During our field study we conducted field study in more than 100 villages and the kiosk centres located at the *taluks*. The total number of respondents are 1478. The following tables and graphs indicate the socio economic status of respondents.

1. Profile of the Respondents

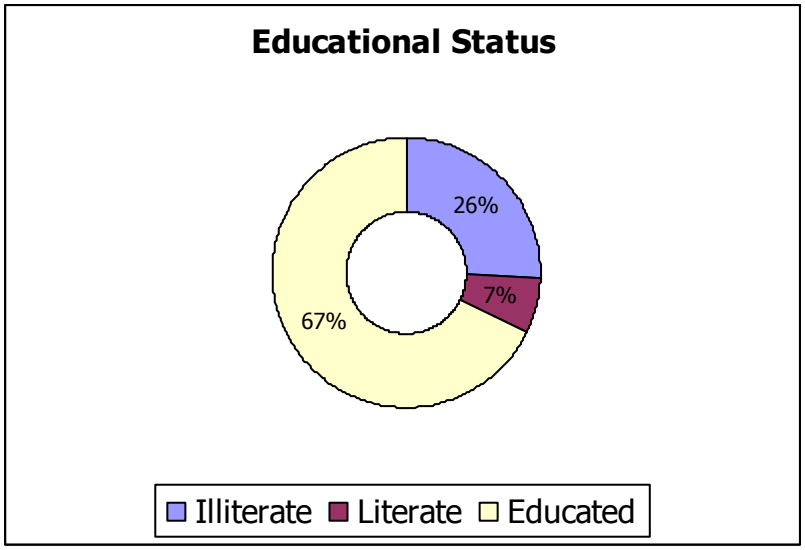
a) **Distribution according to Caste Category**



b) The following graph shows the ownership pattern of the study area. The absolute figures of number of ownership holdings and area can be seen at **Appendix-5**. Of the total respondents 0.54% are landless, 7.51 % are marginal farmers, 20.03% are small farmers, 29.09 % are semi-medium farmers, 29.43% are medium farmers and 13.40% are large farmers.

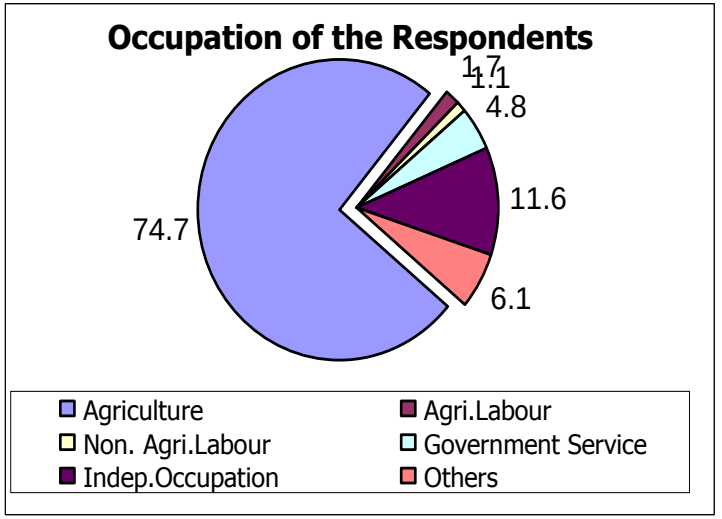


c) The following graph highlights the educational standards of the respondents.



As far as educational standards are concerned; 67% respondents are educated, 7% literate and 26 % are illiterate.

d) 74.7 per cent of the respondents were engaged in agriculture,11.6 per cent were having an independent occupation,6.1 were involved in other occupations, 4.8 were doing government service in addition to agriculture,1.7 were engaged in agriculture work and the remaining 1.1 were doing non-agriculture work.



2. Analysis of Data

In the following paragraphs we will analyse the data indicator wise :

A) General Awareness about the Computerisation of RTC

This indicator is very important for us as the study was taken up soon after the implementation of the programme. Sedum was the first *taluk* to be computerized in Gulbarga on July, 2001 and Surpur,the last *taluk*, was computerised on March, 2002. Farmers need a copy of their RTC(s) for obtaining a bank loan; conduct a survey of their land; obtain a certified income statement necessary to receive different types of government benefits; making land transactions; producing land papers in court or in a police station during a land-related dispute; and for various personal references. As such, farmers

typically seek an official copy of their RTCs at least once a year and sometimes even more often. A majority of the farmers obtain RTCs only for the purpose of crop loan. Therefore, they approach for RTCs at the time of crop loan which starts every year after June.

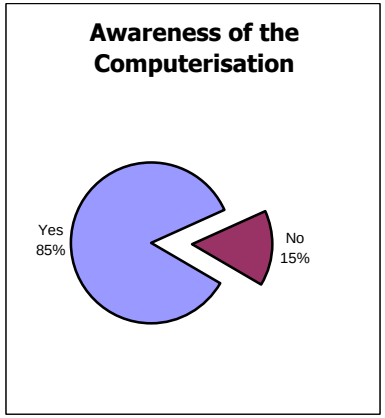
The following table shows *taluk* wise awareness about the Computerised system of RTC.

Distribution about the Awareness of the Computerisation of RTC (*Taluk*wise)

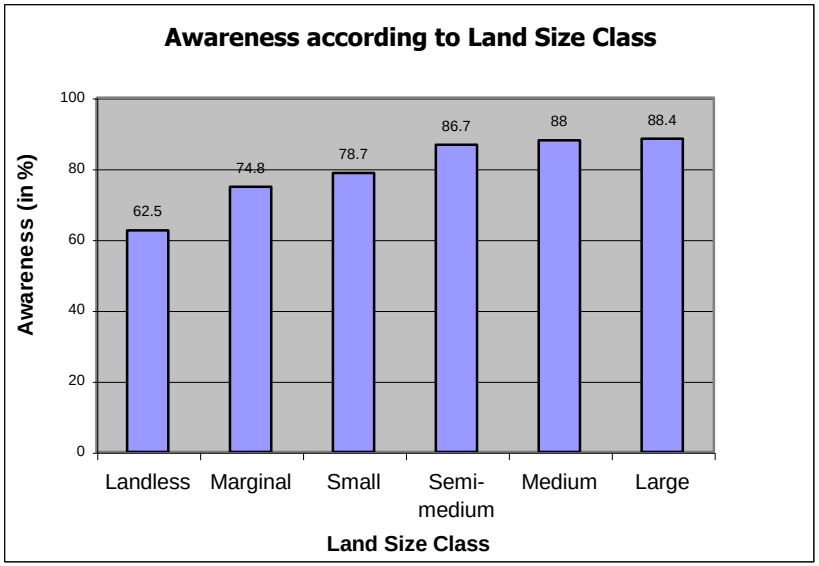
Table. 4.1

Name of *Taluk*	**About the Awareness of Computerised RTCs (in %)**	
	Yes	**No**
Afzal Pur	97.7	2.3
Aland	91	9
Chincholi	96.5	3.5
Chitapur	65.9	34.1
Gulbarga	77.2	22.8
Jewargi	94.7	5.3
Sedam	100	0
Shahapur	73	27
Shorapur	47.3	52.7
Yadgir	86.8	13.2
Total	84.7	15.3

This table reveals that overall 85 % respondents were aware about the computerisation of RTC at *taluk* headquarters.



*Taluk*wise picture is good for Sedam, Afzal Pur, Chincholi, Jewargi, and Aland for general awareness about computerisation of land records. The operational time for these *taluks* is more than three months at the time of our field visit. The officials of these *taluks* were using drum beating in every village for the awareness of computerisation in every village. The awareness among the farmers of the Shorapur and Chitapur was very low as these *taluks* were just made operational at the time of our visit. Thus it can be safely deduced that within a year of the implementation of this programme, knowledge about the computerisation of land records will be almost universal. This fact is amply supported by the fact that in Sedam *taluk* computerisation had commenced only eight months ago and awareness of the programme was already nearly 100%.



From amongst the respondents it was found that awareness also varied according to land size class as can be seen in the above graph. It clearly indicates that awareness has a positive correlation with land size. This perhaps may be due to the fact

that bigger farmers may be more educated and information flow about the changes occurring reaches them faster than to the smaller farmers.

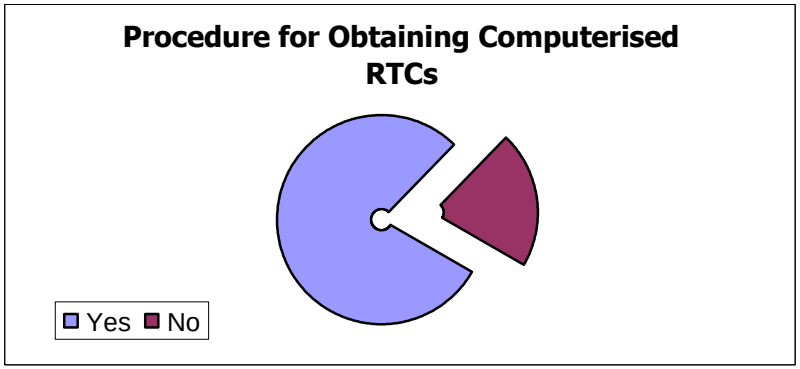
B. Procedure for Obtaining Computerised RTCs

The awareness about the procedure for obtaining computerised RTCs can be seen in the following Table 4.2:

Table 4.2

Name of *Taluk*	About Procedure for Obtaining Computerised RTCs	
	Yes	**No**
Afzal Pur	93.6	6.4
Aland	87.2	12.8
Chincholi	93	7
Chitapur	56.5	43.5
Gulbarga	67.4	32.6
Jewargi	88.90	11.1
Sedam	96.7	3.3
Shahapur	66	34
Shorapur	45.5	54.5
Yadgir	77.2	22.8
Total	78.8	21.2

The awareness about the procedure for obtaining computerised RTCs is directly related to the general awareness of the Computerisation of Land Records. 78.8 per cent knew that *taluk* has one computer kiosk at which they can take computerised RTCs and *khata* details after paying Rs.15 per holding. Some of the respondents (5.9 %) knew about the computerisation but not exactly the procedure for obtaining RTCs.



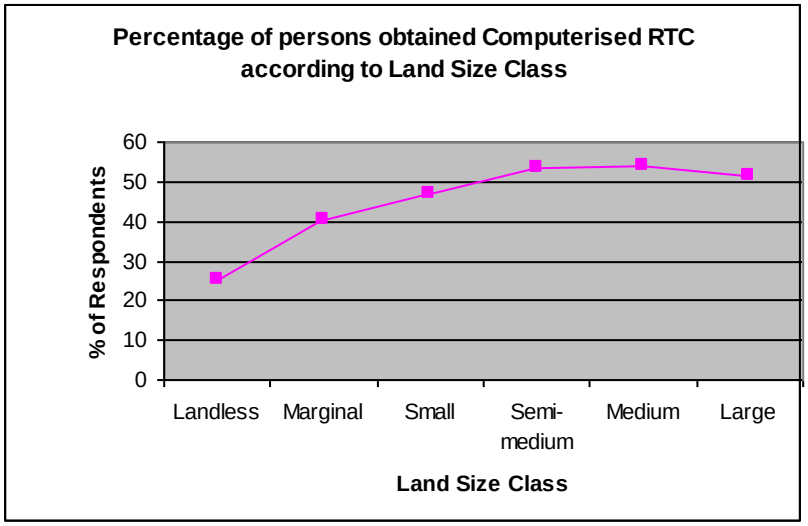
50.6 per cent of the total respondents obtained RTCs directly from Kiosk for self or for other persons. Landless persons obtained RTCs for other persons after charging some extra money from the landholder. The following Table 4.3 clearly gives the idea about obtaining of RTCs according to Land Size classwise.

Table 4.3
Percentage Distribution of Respondents Obtained Computerised RTCs according to Land Size Class

Name of *Taluk*	Land Size Class						
	Landless	Marginal	Small	Semi-medium	Medium	Large	Total
Afzal Pur	0	50	61.5	71.2	71.2	76.9	70.3
Aland	0	50	57.7	62.5	64.5	63	60.9
Chincholi	0	50	48.7	66.1	69.4	60	61.6
Chitapur	0	0	21.1	17.5	12.5	25	15.9
Gulbarga	50	31.3	47.1	45.7	43.7	25	41.5
Jewargi	0	64.3	75.9	50	77.6	61.5	66.3
Sedam	50	92.3	85	84.3	84.4	75	82.9
Shahapur	0	30.8	29.4	43.8	24.1	11.1	30.1
Shorapur	0	0	0	0	0	0	0
Yadgir	0	33.3	52.1	38.2	70.8	83.3	51.8
Total	25	40.5	47	53.3	54	51.5	50.6

Note : This is the percentage of total respondents who obtained computerised RTCs, according to land size Class.

Above Table 4.3 also reveals that there is a small though not very significant positive correlation between owned land class and computerised RTC obtained. More or less around 40% to 55 % of the farmers from each category were obtaining computerized RTCs.The following graph will also confirm the same. It can be safely concluded that farmers, irrespective of the size of their land holdings were aware of the procedure for obtaining RTCs and nearly half of them had also obtained a copy of the computerised RTC from the *taluk* office.



D. Information Flow

It has been conceived that within the existing institutional frame work enhancement of Information Flow has a multi-dimensional impact. This affects other factors like rent seeking behavior, improvement in record management and storage and reduction of the dispute burden.

" It is best thing to happen for people like us" says Sangappa Mali Patil, a farmer from Sargadagi village of Gulbarga *taluk*, located about 16 Kms away from Gulbarga. On receiving a computerised record of rights and tenancy and cultivation (RTC) certificate at a kiosk in Gulbarga. He received the RTC within a couple of minutes without any distress or without bribing the government officials especially Village Accountant.

In the following Table 4.4 we will see the percentage distribution of respondents with regard to availability of the RTC after computerisation.

Table 4.4

Name of *Taluk*	About the availability of the RTC without any delay (in Percentage)		
	Yes	No	Don't Know
Afzal Pur	79.1	12.8	8.1
Aland	69.9	18	12
Chincholi	65.7	4.1	30.2
Chitapur	21.7	15.2	63
Gulbarga	47.2	8.8	44
Jewargi	66.7	7	26.3
Sedam	79.5	11.3	9.3
Shahapur	36	7	57
Shorapur	9.8	3.6	86.6
Yadgir	54.4	5.1	40.4
Total	55.3	9.3	35.3

At the time of over survey, only 50.6 per cent of the respondents had obtained a copy of the RTC. The Table 4.4 above shows that of the total respondents 55.3 per cent stated that RTC was available without delay, 35.3 per cent did not know if computerisation made availability of RTC easier. 9.3 per cent of the respondents indicated that there was a delay in obtaining RTCs after computerisation. We found that there was clearly positive correlation between the persons who have obtained RTCs and having a positive opinion about the availability of RTCs after the computerisation. The correlation coefficient between these two is (+ 0.676). This correlation is also significant at 99 per cent level of significance.(2-tailed).

Now we will discuss the cross tabulation between these two for the whole district. In Table 4.5 we found **that 86.8 per cent of the persons who had obtained RTCs opined that this system was less time consuming as compared to old system because they did not have to search for the Village Accountant.** 22.7 per cent of the persons who had not obtained RTC till the field study also had a positive opinion about the availability of RTCs after computerisation. They also reported that previously they found it difficult to obtain RTC on the same day. Even persons residing more than 5 Kms. from *taluk* office stated that after reaching the *taluk* office, there was no delay but the total time consumed was more due to long distance of *taluk* from their villages. Details can be seen in the following Table 4.5:

Table 4.5

Cross Tabulation between Persons Obtained Computerised RTCs and Availability of New Computerised RTCs without Delay (In Per cent)

Persons Obtained Computerised RTC↓	Opinion about the Availability of RTC without delay ↓			
	Yes	No	Don't Know	Total
Yes	86.8	8.4	4.8	50.9
No	22.7	10.3	66.9	49.1
Total	55.3	9.3	35.3	100
Correlation Coefficient	0.676**			

** Correlation is significant at the 0.01 level (2-tailed)

We asked the question from the respondents about the amount of time required in obtaining their land records after computerisation: there were two factors regarding the time spent : (i) Travelling time (ii) Waiting time

In Table 4.6 we exclude the factor of travelling time since every one knows that kiosk centers are established in the State at *Taluk* Headquarters. Therefore we will only discuss the reasons for waiting time. The Table 4.6 gives detailed information about the time required for obtaining RTC's after computerisation.

Table 4.6

Time Required to Obtain Land Records after Computerisation (in Percentage)

Taluk	Time					
	5 Minutes	1 Hour	½ Day	1 Day	1-2 days	Don't Know
Afzal Pur	14	35.5	7.6	22.7	9.3	11
Aland	24.1	22.6	6	23.3	6.8	17.3
Chincholi	20.3	33.7	5.2	9.9	7	23.8
Chitapur	8.7	6.5	2.2	11.6	9.4	61.6
Gulbarga	24.4	16.6	2.1	8.3	10.4	36.3
Jewargi	24	32.2	4.7	7.6	8.8	22.8
Sedam	22.5	34.4	6	15.2	13.9	7.9
Shahapur	15	22	2	7	11	43
Shorapur	0.9	4.5	6.3	11.6	5.4	71.4
Yadgir	19.9	29.4	6.6	3.7	11.8	28.7
Total	18.4	24.8	4.9	12.2	9.4	30.3

In the above table, the option of 5 minutes was adopted by only 18.4 per cent of the respondents. It clearly implies that these people have a very good impression in terms of time spent for obtaining RTC. Similarly, 24.8 per cent spent 1 hour for the RTC, the reason may be due to the presence of a queue in front of the Kiosk. About 26.5 per cent of the respondents spent ½ a day or 1 day or 1-2 days. The reasons for this are: lack of power supply and absence of kiosk operator. Since only one person had received computer kiosk training, his going away for lunch or for any other reasons led to delays for the farmers. Amongst these respondents some returned to their village in search of Village Accountant to ask for their survey number for obtaining RTC. Some of the farmers found mistakes in their RTC, therefore they visited the *taluk* another day to obtain a correct RTC. 30.3 per cent of the respondents were unable to say anything because they had not visited the kiosk. In the following table 4.7, we will see the pattern of opinion of the persons who had already obtained RTCs.

Table 4.7

Cross tabulation for the Time Required for Obtaining RTCs with respect to Persons Obtained RTCs (in per centage)

Persons Obtained Computerised RTC↓	Time↓						
	5 Minutes	1 Hour	½ Day	1 Day	1-2 days	Don't Know	Total
Yes	30.5	37	6	12.5	11.2	2.9	50.9
No	5.9	11.8	3.7	11.8	7.6	59.1	49.1
Total	18.4	24.8	4.9	12.2	9.4	30.3	100
Correlation Coefficient	0.603**						

** Correlation is significant at the 0.01 level (2-tailed)

The above Table 4.7 reveals that amongst the persons who already obtained RTC 67.5 percent stated that obtaining RTC's took only 5 minutes to 1 hour. The time taken for obtaining RTCs is still quite long. This may be due to the fact that the process is still in the early stage of implementation. Thus it is evident that a majority of the farmers are able to obtain RTC's within one hour. Once the errors in RTC's are reduced with time, persons will not have to return for a correct copy. Further, training of another person and provision of a generator will also reduce the time required for obtaining RTC's.

The following Table 4.8 shows the time required to obtain RTC's prior to computerisation.

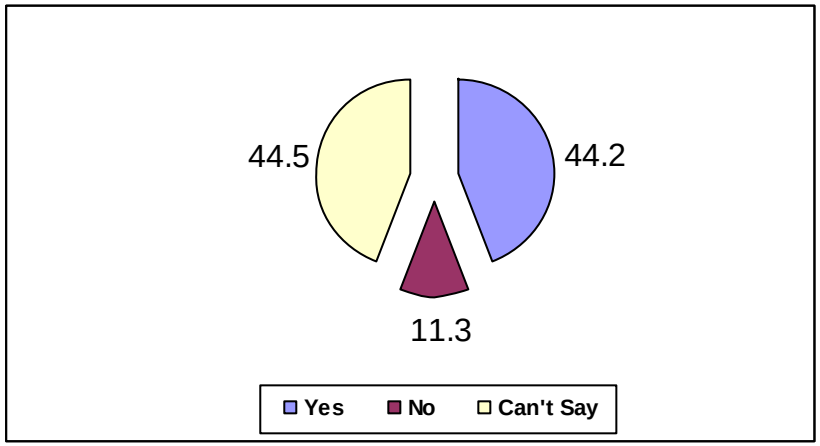
Table 4.8

Time Required for Obtaining Land Records prior to Computerisation (in Percentage)

*Taluk*a	Time			
	Within 1 Day	1 week	2 weeks	15-30 Days
Afzal Pur	54	27.3	14.5	4.1
Aland	70.6	12	11.3	6
Chincholi	60.5	19.8	19.2	0.6
Chitapur	59.4	15.2	22.5	2.9
Gulbarga	69.4	18.1	10.9	1.6
Jewargi	60.2	19.9	16.4	3.5
Sedam	71.6	23.2	2.6	2.6
Shahapur	48	33	15	4
Shorapur	47.3	24.1	25	3.6
Yadgir	47.1	32.4	14	6.6
Total	59.7	22.1	14.8	3.4

The time taken by Village Accountant to provide RTC prior to computerisation ranged from 1 day to 30 days. **Shri Basavarajappa of Mudagola village of Shahapur *taluk* expressed that "Village Accountant came only once a week, due to this reason it used to take a week to get a land record copy. Therefore it was very difficult for the villagers to obtain RTC whenever it was necessary. The Village Accountant used to demand 50,100 or even 500 rupees sometimes for one copy. The Village Accountant informed about the latest order of Government only to the elected members and large farmers only. He discriminated between the large and small farmers".** The study shows that 59.7 % of the farmers were getting RTC on the same day. For the remaining time taken extended in some cases upto 30 days also. Further, as stated by Shri Basavarajappa, in reality the service of the Village Accountant in many cases also depended upon the money provided by the farmer.

D. Opinion about Accuracy of Computerised Land Records



The above graph indicates that in the entire district 44.2 per cent of the respondents are quite sure about the accuracy of computerised land records. They said that the new system is more accurate. About 11.3 per cent are not confident of the accuracy of computerised RTCs. These persons found many errors in the computerised RTCs and therefore they have contacted the Village Accountant for the required corrections. Remaining respondents were not able to say anything about the accuracy of the system since the system is in an early stage of implementation. ***Shri Gouda of village Madana***

claimed " there was a mistake in my document and I'm unable to get the certificate". **Shri Subam Reddy of village Irakpalli of Chincholi *taluk* also complained about the misprinting in the Computerised RTC. In his RTC, Ambanna was misprinted as Anjamma.** In other words, an overwhelming numbers of respondents have faith in the authenticity of information through the computerised process. The errors which are there in the RTC's are expected to reduce with time as the system stabilises and the initial errors in the data base are rectified.

E. Opinion about Harassment in the Computerised System

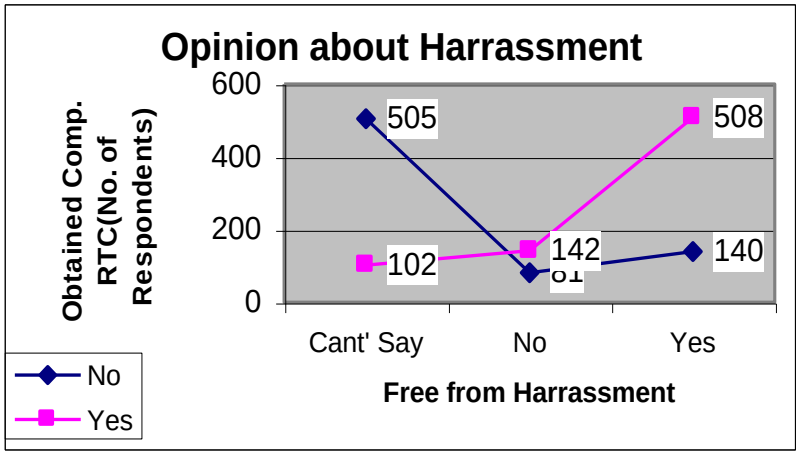
43.8% of the respondents said that the new computerised system is free from any type of harassment. Farmers said that they paid only Rs.15 to the kiosk operator and were able to get RTC without any harassment from any person or any official. They reported that it took less time to obtain RTC under the new system because they did not have to search for the Village Accountant.15.1% per cent of the respondents stated there was still harassment from officials and middlemen. They reported that in the old system the Village Accountant, who issued the RTC was easily accessible, if the RTC was needed urgently. Now they have to travel to the *taluk* to get their RTCs. 41.1 per cent of the persons had either never visited the kiosk or were unable to say anything about the harassment because the system was in an early stage of implementation. (*Taluk*awise details can be seen at **Appendix-6**). **Shri Mahalingappa of Chincholi *taluk* said that the new computerised system is good and there is no possibility of any type of harassment by any official even by a Village Accountant.** The following Table will give the opinion of persons who obtained computerised RTC about the harassment faced in obtaining RTC in the computerised system.

Table 4.9

Cross Tabulation between Persons Obtained Computerised RTCs and New System is Free from Harassment (In Per cent)

Persons Obtained Computerised RTC↓	The computerised system is free from harassment			
	Yes	No	Cant' Say	Total
Yes	67.6	18.9	13.6	50.9
No	19.3	11.2	69.6	49.1
Total	43.8	15.1	41.1	100

The above Table 4.9 indicates that the persons obtaining computerised RTCs have a positive opinion in favour of computerisation. On the other hand, persons who have never visited a kiosk centre were not in position to say anything about the harassment in computerised system. 18.9 per cent of the respondents who had obtained computerised RTC, stated there was difficulty in computerised system. The reasons are: The significant distance of the computer kiosk, the delays caused by power failure and the increased travel cost. The above Table 4.9 also confirms that after computerisation farmers going to obtain RTCs from *taluk* office face much less or no harassment as compared to earlier system. The following graph confirms the same.



According to *Shrestedar's*, Computerised Land Record information is more accurate than manual records. They also said that irregularity (non-attendance) of Village Accountant to their area of operation some times made it difficult for farmers to obtain RTCs and for the Village Accountant it was easier to prepare wrong documents. Computerisation has resulted in eliminating manipulation of records. The Village Accountants can now concentrate on other work. On the other hand, they also said that farmers often have to travel long distances to obtain RTCs. Corrections and changes in the records due to land transactions also require a lot of time. They also said that frequent power cuts shut down the system. This caused inconvenience both to users and operators. Delay is also caused due to necessity of *tahsildar's* thumbprint for entries and as he is often not available, many entries are delayed. After computerisation, even small corrective revisions to RTCs cause delay and require significant time. For crop information, it is difficult to issue a RTC with the current year's information because the crop information must be communicated by the Village Accountant to the computer operators which takes time. These are some of the issues which need to be addressed in future.

According to Village Accountants, RTCs could be issued quickly to farmers and in their own locality by the old manual system. After the new computerised system, many farmers must travel long distances to obtain RTC. This causes wastage of time and money to the farmers. Corrections to land records could be done more quickly and easily under the old system. After the computerisation no work pertaining to RTC remains with Village Accountant now. *This reasoning can be understood in the context of the arbitrary and discretionary powers of the Village Accountants being reduced by the computerized system.*

All the *tahsildars* opined that after computerisation there is more accuracy in the RTCs and updation has become easy. For the accuracy of data, data verification was carried out three times at the time of data entry. On an average, 40 per cent RTCs were found with errors during first verification and about 20 per cent were found with errors during second verification. Computerisation has also helped them greatly in monitoring and controlling the work of their employees. Thus both the farmers and revenue officials are confident about the accuracy of the new system and are also of the view that harassment has been considerably reduced under the new system.

The manual system of land records maintenance has been described as highly opaque. The Village Accountants have been perceived as monopolizing the records, which were not open to public scrutiny. Several inaccuracies crept into old manual system due to manipulation by the Village Accountants. In the newly computerised system, there is no possibility of any type of manipulation by a Village Accountant

or kiosk operator or any other person. Therefore, when we asked a similar question to the beneficiaries, only 13.4 per cent of the beneficiaries gave negative response.37.1 per cent of the beneficiaries were quite sure that no manipulation can be done by Village Accountant or Kiosk Operator. 49.5 per cent of the beneficiaries were unable to response since they did not know the details about the programme. They said that they did not know the power of the officials in the new computerised system. *Taluk*wise details can be seen at **Appendix -7.**

F. Rent Seeking Behavior

Rent seeking behavior is especially pronounced at the grass root level in the revenue administration. The findings clearly establish that the Village Accountant had been in a position to seek rent for transactions. This was perhaps true for some other revenue officials as well. Now, after computerisation, costs include the fees for the records (Rs.15 per record) and the travel costs. Before going to the details under the new system, we will discuss the rent incurred by the farmers during the old manual system. The costs for obtaining RTC in old system ranged from Rs.2 to more than Rs. 100. About the new system one farmer Shri Mahalingappa of Chincholi *taluk* expressed " **its wonderful. Now we need not be at the mercy of the Village Accountant to get a copy of RTC. The system has done away with the customary bribe, nearly up to Rs. 500, or worse, the endless wait for the Village Accountant to appear. We can get it instantly by just paying Rs. 15**". According to *Tahsildars*, computerisation has also decreased corruption. In the following Table 4.10, we will see the rent pattern for obtaining RTC prior to computerisation.

Table 4.10

Rent Pattern for Obtaining RTC Prior to Computerisation

***Taluk*a**	Rent (in Rs.) prior to computerisation					
	None	Prescribed fee	10-25	25-50	50-100	> 100
Afzal Pur	1.7	5.2	45.9	31.4	13.4	2.4
Aland	8.3	3	60.2	10.5	10.5	7.6
Chincholi	11.6	14	52.9	11.6	8.7	1.2
Chitapur	21.7	2.9	54.3	8	13	0
Gulbarga	19.7	11.9	43	14	9.8	1.5
Jewargi	16.4	11.7	52	8.8	11.1	0
Sedam	6.6	6.6	57.6	16.6	8.6	2.9
Shahapur	12	11	48	19	3	7
Shorapur	11.6	9.8	48.2	19.6	8.9	1.8
Yadgir	6.6	11	44.1	14.7	14	9.5
Total	11.6	8.9	50.5	15.4	10.4	3.2

Note: The figures indicate the percentage of total respondents

The above Table 4.10 indicates that 20.5 per cent of the respondents were paying within the prescribed charges for obtaining RTC prior to computerisation. Out of these 11.6 per cent were not paying even the prescribed fees. The remaining farmers were paying more than the prescribed charges.

The amount of bribe paid to the Village Accountant depended on the importance & urgency of records. If any person wanted to obtain the RTC immediately then he had to

pay him more money. In the above Table 4.10, there are about 11.6 per cent of the farmers had paid nothing for obtaining RTC. Why had the Village Accountant taken nothing? We found in our field study that the Village Accountant never charged any money from the influential persons of the village. In some of the cases we also found that Village Accountant provided free RTC to the poor or the marginal farmers of the village. In the following Table 4.11, we will see the behavior of rent with respect to land size of the farmers.

Table 4.11

Behavior of Rent with respect to Land Size Prior to Computerisation

Land Size Class	Rent (in Rs.) prior to computerisation			
	None or Prescribed fee	10-25	25-50	> 50
Marginal	20.7	50.5	15.3	22.4
Small	20.2	51.4	13.2	15.8
Semi-medium	21.4	48.4	15.6	14.5
Medium	17	51.9	18.4	12.7
Large	26.2	51	12.1	11.3

Note: The figures indicate the percentage of total respondents

According to above table, 26.2 per cent of the large farmers paid either nothing or the prescribed fee to the Village Accountant. While on the higher side of rent, 22.4 per cent of the marginal farmers paid more than Rs.50. Therefore, we can conclude that the old system was good for large farmers as well as for influential persons. But now, in the new system, there is no possibility of issuing of RTC without any charge. Thus this is a case of technology bringing equity. During our field study, we found that many of the large farmers were against the new computerised system. The reason may be the facilitation provided by Village Accountants to them. Therefore, it is evident that in the old system service was extended to the farmers on the basis of their influence and money power. But in the new computerised system there is no discrimination in issuing a RTC. We also found that all the farmers are obtaining RTC paying only Rs. 15 throughout the district. However, the total cost of the RTC is more as the farmer also pays for the travel cost.

We asked the respondents about the amount paid by them in case of RTC obtained through other persons or Village Accountants. The average cost paid by them is **Rs. 24.57** and the maximum amount is Rs.80. There were many cases where farmers paid only Rs.15 to the persons obtaining RTC directly from computer kiosk. About 51.80 per cent of the farmers paid actual charges to the person obtaining computerised RTC. Remaining 48.20per cent paid more than Rs.15. In the following Table 4.12, we will discuss the related indicators:

Table 4.12

Maximum and Average of the Related Indicators after Computerisation

Taluk	Amount paid in case of Other Person or VA (in Rs.)		Distance of the Villages from *Taluk* (in Kms)		Expenditure in case of personal visit (in Rs.)		Time consumed (in Hours)	
	Max.	Average	Max.	Average	Max.	Average	Max.	Average
Afzal Pur	80	25.47	35	25	70	49.25	8	3.88
Aland	70	24.76	40	22	70	51.05	10	5
Chincholi	50	23.75	35	16	70	40.42	7	3.08
Chitapur	86	22.50	95	51	150	81.67	16	9.50
Gulbarga	50	20	50	25	80	47	8	3.90
Jewargi	60	19.29	30	23	60	45.60	12	4.70
Sedam	60	31.33	27	15	60	41.33	6	4.07
Shahapur	50	30	28	20	50	45.45	5	3.18
Shorapur	40	40	25	25	50	50	6	6
Yadgir	40	21.50	25	17	50	39.10	6	3.50
Total	80	24.57	95	23	150	47.58	16	4.30

Note:- The figures of the above table are based on the information provided by the respondents.

Table 4.12 above indicates that there is quite a difference in the expenditure in the case where the RTC was obtained through other person or Village Accountant and in the case where the farmer visited the computer kiosk personally. The difference is just double in terms of money. The reasons are: the other persons or Village Accountants were engaged in work which required regular visit to the *taluk*. Therefore, they charged only nominal money from the farmers. Inspite of that many of the persons were charging more than Rs.15. In some of the cases, we also found that one person obtained the RTCs for 4-5 holders of the village in one visit and money spent in traveling and other items was divided proportionately. Therefore, the cost of the RTC includes traveling and other items cost becomes less as compared to a personal visit of the actual RTC holder. Thus, it is an added advantage of the system that any representative of the landowner can obtain a RTC on his behalf. Due to this facility, obtaining a RTC costs less and results in saving time for the farmers. Basically, the expenditure on obtaining a RTC depends on the distance of the villages from *taluk* headquarter office. For Gulbarga district, the average cost of the RTC for a person visiting personally is Rs.47.58 and average time spent is 4 hours and 30 minutes. In other words, we can say that visiting a kiosk also results in spending money as well as time for the travel. This problem can be overcome by taking the kiosks to the hobli or web enabling the RTCs and the Village Accountant to issue the RTCs from his headquarters. This would solve the problem to a large extent.

In Karnataka, the revenue department assesses fee per land plot instead of per land holding. This causes two problems, firstly Rs.15 fee was typically multiplied many times depending on the number of plots a farmer had. In our field study we have found that there were many respondents who had more than 5 plots. Two respondents had 17 plots, another two had 12 plots and so on. The farmers having 17 plots were paying Rs.255 for the copies of their RTCs. Secondly, the farmers seeking RTCs for multiple plots occupy the computer kiosk for long time. The slow speed of the computer kiosk operator and the dot matrix printer will take atleast five minutes in generating a RTC. For the farmer obtaining 17 RTCs, it will take one hour and 35 minutes thus delaying the process of obtaining RTCs for the farmers in the queue behind him.

Distance of the computer kiosk from their home village

Most of the *taluk* centers in Gulbarga district are not located in the centre of the *taluk* boundaries, (we can see in the maps attached as **Appendix -8** to **Appendix -17**) but are located upto 50 Kms away from the villages near the *taluk* boundaries. Only in Aland *taluk* the headquarter is located in the centre of the *taluk*. We will examine the *taluk*wise distance of the villages from the *taluk* headquarter.

Afzal Pur *taluk* has about 91 villages with about 8966 survey numbers and 59650 RTCs. This *taluk* is not centrally located. We have surveyed about ten villages of this *taluk* during our field study. The nearest village was about 8 Kms and farthest village was 33 Kms. The farthest village of this *taluk* is Gubbur(K) which is about 41 Kms from *taluk* Headquarter. The map of Afzal Pur can be seen as an **Appendix -8** for the location of *taluk* headquarter.

Aland *taluk* is the only *taluk* in the district, which is centrally located in the centre of the *taluk*. This *taluk* has 129 villages with 21,705 survey numbers and 84386 RTCs. We have surveyed ten villages of this *taluk*. In our studied villages, Bhodan is a farthest village (34 Kms) and Ladchincholi (11 Kms) is the nearest. Kudmud (41 Kms) is the farthest village of the *taluk*. The map of Aland can be seen at **Appendix -9.**

Chincholi *taluk* is also not centrally located in the centre of the *taluk*. Chincholi *taluk* has 145 villages with 22,001 survey numbers and 59071 RTCs. The farthest village studied by us is Nawadgi (35 Kms) and nearest village is Chandapur, 2 Kms far from the *Taluk* headquarter. But the *taluk* has many villages more than 50 Kms far from the *taluk* headquarter. Village Chengta is the farthest village (55 Kms). **Appendix –10** indicates the location of *taluk* headquarter**.**

Chitapur *taluk* includes 83,182 RTC holders of 29,450 survey numbers in 121 villages. The farthest village studied by us is Arankal (85 Kms) and nearest village is Kalagi, 3 Kms far from the *taluk* headquarter. This *taluk* also has many villages more than 50 Kms far from headquarter. The villages Arankal and Bhedsur are the farthest from the *taluk* headquarter (85kms.). The map of Chitapur can be seen at **Appendix –11.**

Gulbarga *taluk* is also not centrally located. This *taluk* has 150 villages with 75,788 RTC holders of 26,938 survey numbers. The farthest village visited by the study team was Kinni Sadak(45 KMs from *taluk* headquarter) and the nearest village was Sirgapur and Sharansirasgi(6 Kms from *taluk* headquarter). The farthest village in this *taluk* is Nilkod (72 Kms from Gulbarga). The map of Gulbarga can be seen at **Appendix –12.**

Like other *taluks* Jewargi *taluk* is also not centrally located. There are 158 villages in this *taluk* with 67,535 RTCs of 16,559 survey numbers. We surveyed ten villages of this *taluk*, out of which Satkhed (27Kms) was the farthest village and Andola was the nearest village from the *taluk* headquarter. The farthest village in this *taluk* is Kuralgera (55 Kms). The map of Jewargi attached at **Appendix –13** shows the location of *taluk* headquarter**.**

The head quarter of the Sedam *taluk* is located in the north-west of the *taluk*. This has 111 villages with 16,497 survey numbers of 64,493 RTC holders. Ribbanpalli is the farthest village (27 Kms from head quarter and situated on the border of Andhra Pradesh) and Betgera (6 Kms) is the nearest from *taluk* Headquarter. Yanagundi (39 Kms) is the farthest from *taluk* office. The map of Sedum can be seen at **Appendix – 14** for the location of taluk headquarter**.**

Shahpur *taluk* has 159 villages with 37,517 survey numbers of 94,361 RTCs holders. The farthest village in our survey was Tonnur(19 Kms) and the nearest village was Hallisagar (2 Kms). The farthest village in the *taluk* was Gundloor (55 Kms from the *taluk* Office). For the location of taluk headquarter, the map of Shahpur can be seen at **Appendix –15.**

The head quarter of Shorapur is situated in the eastern part of Shorapur. There are 187 villages in whole *taluk* with 95,350 RTCs holders of 25,159 survey numbers. We have surveyed Malla(B) as the farthest village (34 Kms) and Rattal (6 Kms) as the nearest village of *Taluk*. Mylingaddi village has the maximum distance of 60 Kms from the *taluk* office. For the location of the *taluk* headquarter, **Appendix –16** can be seen.

Yadgir is located in the western part of the Yadgir *taluk*. This *taluk* has about 143 villages with 44,142 RTC holders. We have visited about ten villages in this *taluk* with Saidapur and Bhimanhalli (25 Kms) as the farthest villages and Mailapur (11 Kms) as the nearest village of the *taluk*. The farthest village of this *taluk* is Wadwat (50 Kms). **Appendix –17** clearly shows the location of the *taluk* headquarter.

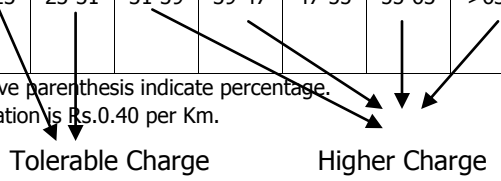
Table 4.13 gives details of distance of the villages from *taluk* office for all the *taluks* of the district.

Table 4.13
Distance of Villages from Taluk Headquarter

Taluk	**Distance of villages from *Taluk* (in Kms)**							
	0-10	**10-20**	**20-30**	**30-40**	**40-50**	**50-60**	**>60**	**Total**
Afzal Pur	19.78 (18)	36.26 (33)	28.57 (26)	13.19 (12)	2.20 (2)			100 (91)
Aland	16.28 (21)	40.31 (52)	26.36 (34)	6.20 (8)	3.10 (4)	7.75 (10)		100 (129)
Chincholi	16.55 (24)	30.34 (44)	31.72 (46)	13.10 (19)	4.14 (6)	4.14 (6)		100 (145)
Chitapur	19.83 (24)	15.70 (19)	22.31 (27)	19.01 (23)	8.26 (10)	4.13 (5)	10.74 (13)	100 (121)
Gulbarga	22.82 (34)	34.23 (51)	18.12 (27)	6.71 (10)	10.74 (16)	7.38 (11)		100 (149)
Jewargi	10.06 (16)	19.50 (31)	18.24 (29)	18.24 (29)	22.64 (36)	6.92 (11)	4.40 (7)	100 (159)
Sedam	24.32 (27)	30.63 (34)	18.02 (20)	25.23 (28)	1.80 (2)			100 (111)
Shahapur	17.61 (28)	40.88 (65)	16.35 (26)	5.03 (8)	13.84 (22)	6.29 (10)		100 (159)
Shorapur	13.98 (26)	19.35 (36)	18.82 (35)	26.34 (49)	13.44 (25)	8.06 (15)		100 (186)
Yadgir	16.90 (24)	26.06 (37)	19.01 (27)	21.83 (31)	4.93 (7)	11.27 (16)		100 (142)
Total	17.39 (242)	28.88 (402)	21.34 (297)	15.59 (217)	9.34 (130)	6.03 (84)	1.44 (20)	100 (1392)
Amount spent in Transportation (In Rs.)*	0-8	8-16	16-24	24-32	32-40	40-48	>48	
Cost of RTC including Transportation (In Rs.)	15-23	23-31	31-39	39-47	47-55	55-63	>63	

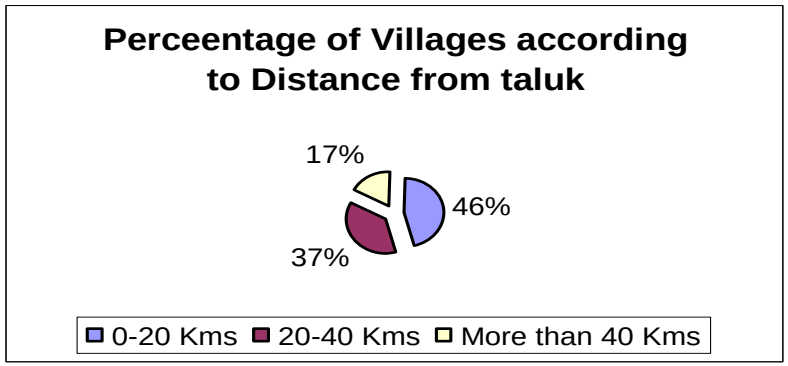
Note- The figures above parenthesis indicate percentage.

- Rate for transportation is Rs.0.40 per Km.



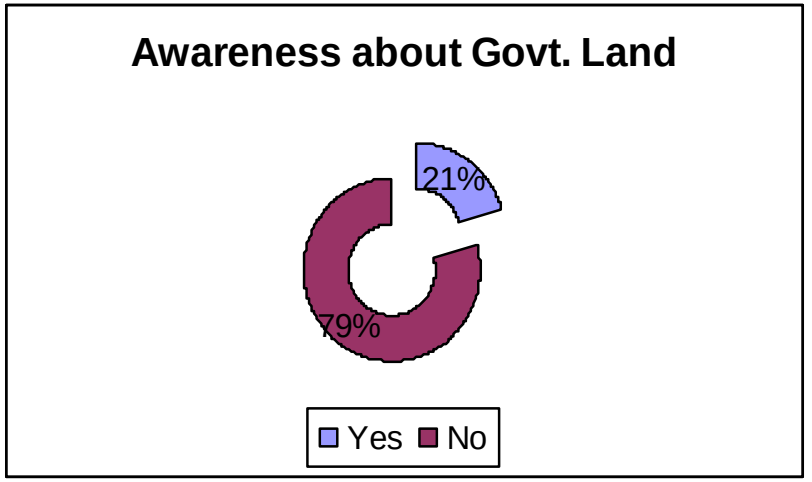
From the above table we can conclude that around 46.27 per cent villages are located within a distance of 20 Kms radius from the respective *taluk*a headquarters. For covering this distance the farmer has to spend a maximum of Rs. 16 and about 2 hours in terms of time.

In these villages the RTC will cost between Rs.15-31 for the farmers having only one plot. If we compare this cost with the cost of old manual system, we found that in the old system about 71 per cent of the respondents claimed that they had paid upto Rs.25 for obtaining a RTC. But in the new system only the farmers residing within the distance of 20 Kms can obtain the RTC in between Rs.15-31 without spending much time. **According to the farmers of Kudali,*Shri Nagendra, Shri Kallappa and Smt. Mallamma of Chincholi taluk expressed the view for making arrangements through Village Accountant as this village is situated 26 Kms away from the Taluk Office. Farmers have to spend atleast Rs.100 for the computerised RTC.*** According to several farmers from villages, which are situated far away from *taluk* office, unnecessary expenditure in getting a RTC is unavoidable. This problem can be easily solved if more kiosks are set up or the project is web enabled.



G. Land Reforms

The purpose is to determine whether the programme has contributed to improved implementation of Land Reforms. It appears that in Karnataka, CoLR till date has done little to promote further implementation of Land Reforms legislations. Revenue department officials reported not a single case of surplus land detected as a result of CoLR. This may be due to the fact that implementation of CoLR is very recent and



information available is only *taluk*wise as yet. Once the database is integrated at the district level or State level, there might be emergence of new cases. But CoLR has definitely enhanced knowledge of encroachment on government land. From the above graph we can see that 21 per cent of the respondents reported that CoLR helps in generating awareness of encroachment over government land while 79 per cent denied that CoLR has helped in generating awareness about encroachment over government land. This signifies that the level of information about government land has gone up though awareness is still restricted. The findings are clear that

the respondents welcome CoLR as a positive step but this had not resulted in any change in the revenue administration. Several respondents specifically stated that there were cases of encroachment over government land but no action was being taken. Several have reported that they donot see how CoLR will overcome this problem where the will to take action was lacking. It can be inferred that CoLR has not had any impact on implementation of land reforms legislation as yet. Moreover there has been a marginal change in awareness of the use of Government land, though as yet the general population has been unable to use this information to put pressure on the government machinery to act and remove encroachments on government land. *Taluk*wise picture can be seen in **Appendix –18**.

H. Reduction in Disputes

Any form of dispute imposes a burden upon the efficiency of the village economy. Many of the disputes originate from a faulty record system. For this indicator, we asked the respondents about land-related disputes. About 26 per cent of the respondents are sure that computerisation has reduced the land-related conflicts. 7.4 per cent respondents opined that computerisation is not helping in any reduction of disputes. Remaining respondents (66.6%) were unable to say anything about computerisation since it is in early stages of implementation. The detailed *taluk*wise picture can be seen in Table 4.14.

Table 4.14
Reduction in Land Related Conflicts

Name of *Taluk*	Reduction in Land Related Conflicts		
	Yes	No	Can't Say
Afzal Pur	41.3	9.9	48.8
Aland	39.8	12	48.1
Chincholi	27.3	7.6	65.1
Chitapur	9.4	7.2	83.3
Gulbarga	23.3	10.9	65.8
Jewargi	24.6	7.6	67.8
Sedam	34.4	7.9	57.6
Shahapur	19	3	78
Shorapur	8.9	0	91.1
Yadgir	23.5	2.9	73.3
Total	26	7.4	66.6

The figures in Table 4.14 indicate that opinion depends upon the time of implementation of computerisation in the *taluk*.

However, in terms of conflicts related to government land only 18.3 per cent of the respondents said that computerisation definitely reduced the conflicts related to Government land. 5.6 per cent gave a negative reply and remaining 76.1 per cent were not in a position to comment on the issue. *Taluk*wise picture can be seen in **Appendix –19**.

Land tenancy could be one of the points of conflict. During our field visit, 81 per cent of the respondents confirmed that practice of tenancy still exists in Gulbarga. The *taluk*wise details can be seen in **Appendix–20**. In our study, we interviewed the persons still involved in the practice of land tenancy. 7.1 per cent (105) of the households are taking land on lease from landowners. The area involved under "leasing in" is 5.84 per cent (431.072 Hectares) of the total area owned. 2.98 per cent (44 HHs) reported that they give their

land to tenants. The area involved under leasing out is 3 per cent (222.349 Hectares) of the total area owned. The leasing out is under reported since respondents quell information about leasing out. During our field study we found that only 18 tenants were recorded prior to computerisation and same status is continuing after the computerisation. It is obvious that computerisation of land records would not result in detection of concealed tenancy in the State as the data is the same as given in manual RTCs.(Land and tenancy details can be seen in **Appendix –5** & **20**). As far as reduction of the tenancy related conflicts is concerned, only 10.9 per cent of the respondents were of the opinion that computerisation reduced conflicts of land tenancy. 3.5 per cent of the respondents thought that there was no effect of computerisation on tenancy related disputes. While 85.60 per cent of respondents were unable to say anything about the disputes of tenancy. The *taluk*wise details can be seen in **Appendix –21**. Again as the project has been implemented fairly recently, any significant impact on reduction of land related disputes is not apparent.

I. Institutional Finance

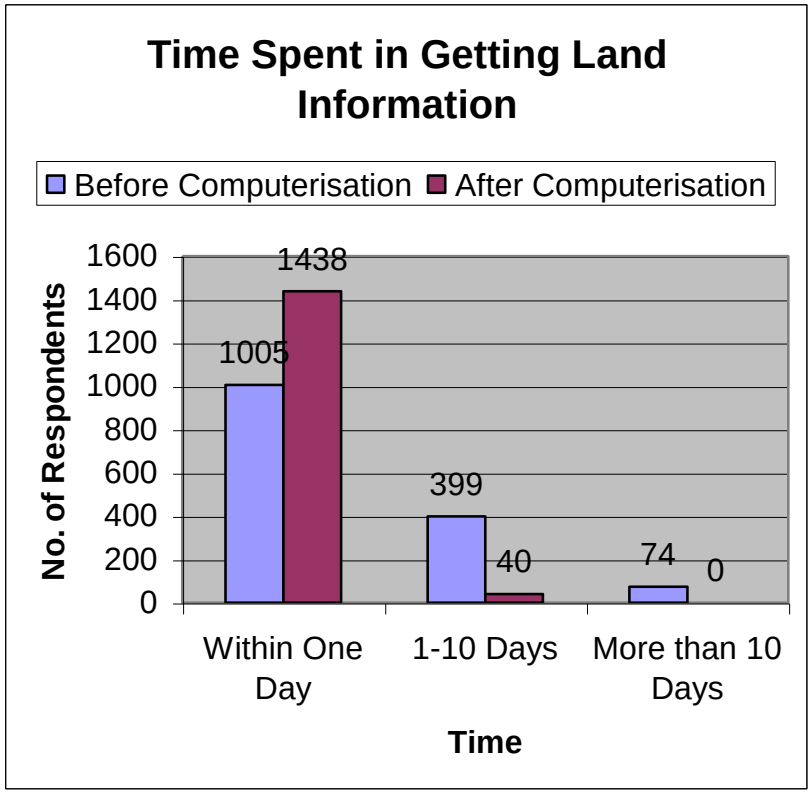
Bank loans are given on the basis of RTC. Therefore landowners need copies of RTC's for applying for loans. It was also learnt that the state plans to connect the land records database to databases accessible to various courts and banks in order to facilitate their work relating to land records. It was noted through our findings that there had been some positive impact on the flow of institutional finance. We asked respondents a very simple question about the easy availability of finance after computerisation. There were many farmers who had never been to a Kiosk, since the project was in an early stage of implementation. About 62.9 per cent of the respondents found that it had become easy to obtain loan after computerisation. Only a very low percentage (2.1 %) found, no change. 35 per cent did not make any comment as they had never applied for a bank loan. On the basis of this survey, one can safely conclude that computerisation of land records has facilitated availability of loans from banks for the farmers. This is basically because of the easy availability of RTC after computerisation. The *taluk*wise details can be seen at **Appendix - 22**.

J. Facilitation in Sale/ Purchase of Land

Sale and purchase of land has been a problem in the village society. The seller and the purchaser have to incur high expenditure in the form of search and uncertainty costs. 38.5 per cent of the respondents were of the opinion that the new computerised system facilitated sale or purchase of land while only 6.8 per cent were not in agreement with this view. Remaining were unable to say anything. The *taluk*wise details can be seen at **Appendix -23**. It is obvious that as accurate and updated records are available, this has facilitated sale & purchase of land by reducing search & uncertainty costs.

We also asked farmers the question about the number of days and amount spent in obtaining information regarding the land after and before computerisation. **Appendix–24** indicates the number of days spent for obtaining information before and after computerisation. According to this annexure, 68 per cent respondents were able to get land-related information for sale and purchase purpose within one day before computerisation. After the computerisation of land records 97.29 per cent of respondents either got or have a hope of getting the information within one day. Before computerisation there were many respondents who got information (5 per cent) in more

than 10 days, the remaining got it in between 1-10 days. The following graph gives a picture of the overall district.



The graph and **Appendix –24** indicate that landowners have to spend less time in obtaining information about land after computerisation. Besides our observation was that the purchaser is more easily convinced with a computerised print out of RTC. We also asked a question about the increase in clarity regarding the land being purchased after computerisation. 32.8 per cent agreed with the statement that there has been an increase in clarity regarding the land being purchased. Only 3.7 per cent did not agree with the above statement. The remaining were not in a position to give response. Therefore, CoLR has been of some assistance to conveyancing.

Table 4.15
Cross Tabulation between Persons Obtained Computerised RTCs and Increase in Clarity regarding the Land being Purchased after the Computerisation (In Per cent)

Persons Obtained Computerised RTC↓	Increase in Clarity			
	Yes	No	Don't Know	Total
Yes	46.1	3.9	50	50.9
No	19	3.4	77.5	49.1
Total	32.8	3.7	63.5	100

According to Table 4.15, it is clear that 46.1 per cent of the respondents who had obtained computerised RTC thought that computerisation had increased the clarity regarding information of sale and purchase. We can say that the respondent has a better opinion about the new system after visiting the computer kiosk. (The favorable percentage increases from 32.8 per cent to 46.1 per cent).

K. Planning Process

It is definite that CoLR will result in the availability of more timely and usable data for planning purpose. Converting land records data into digital form, will almost certainly make such data easier to review, collate and analyze for various administrative and planning purposes.

The computerised system generates various types of reports of land ownership, types of soil, crops, etc. which will be useful for planning purposes. The Directorate of Statistics and Agricultural Census etc. rely upon this data for the compilation of State data for the compilation of the State Statistics which is ultimately used for State Level planning. Sometimes land data is needed for Poverty Alleviation Programmes(PAPs) for verification. Now after computerisation verification of land at *taluk* office will become easy. Planning is also required to be done at the village level under the new dispensation of Panchayati Raj. At Panchayat level, land data will be helpful in identification of beneficiaries as well in the formulation of programmes. Therefore, we can say that CoLR will make data & information readily available for planning at different Levels from the Panchayat to the State Government Level.

L. Transparency in Decision Making

Administration is governed by an old dictum that "not only should justice be done but it should also appear to have been done". This appearance of "justice being done" is summed up by the terminology ' transparency'. There had been serious transparency related problems in revenue administration, a subject that has been the central theme of concern so often in the past. CoLR system in the State definitely has contributed a lot for transparency in the revenue administration. It has taken away discretionary and arbitrary use of powers from the revenue functionaries and made the land records accessible to one & all.

M. Mutation

One of the unique features of "Bhoomi" software is the "online mutation" module which is incorporated into the software. There has been a synchronisation of computerised activities with the manual activities. Even though the land records system is computerised, the revenue officers have to carry out their field work as usual. There has not been any change in their roles and responsibilities. We specifically asked the respondents about the time taken for mutation before and after computerisation. The following Table 4.16 shows the time taken for finalization of mutation prior to computerisation.

Table 4.16
Time Taken in Mutation prior to Computerisation

*Taluk*a	Time taken in Mutation prior to computerisation						
	Within 45 days	45-60 Days	2-3 Months	3-4 Months	4-6 Months	6-12 Months	More than One Year
Afzal Pur	31	36.5	23	1.4	6.7	1.4	
Aland	14.5	43.5	28.9	5.8	3	4.3	
Chincholi	25.5	41.1	19.6	7.8		4	2
Chitapur	23.2	51.2	14	2.3	9.3		
Gulbarga	56.4	15.4	18	5.1	5.1		
Jewargi	36.1	46.8	10.7	4.2		2.2	
Sedam	24.1	41.4	29.3	3.5	1.7		
Shahapur	15.2	39.4	30.3	9.1	3		3
Shorapur	22.2	37	18.5	18.5		3.7	
Yadgir	36.8	36.8	10.5	10.5	2.7	2.7	
Total	28	39.4	21.1	5.9	3.1	2	0.4

In the above Table 4.16, we can see that about 88.5 per cent farmers indicate that time required for finalization of mutation prior to computerisation was within 3 months. Very few respondents (11.5 %) opined that time needed for mutation prior to computerisation was more than 3 months.

We studied the online mutation in Sedum *taluk*. Sedum was the first *taluk* to be computerized in Gulbarga. Other *taluks* were in the process of completing the exercise of on line

mutation. The process for updating the computerised RTCs generally follows the old process with a few more steps. In case of a sale registered with the registration office, the registration officials now send the J-slip along with copies of the deed and other relevant transaction documents directly to *Tahsidar* where they are forwarded to the computer operator. The computer operator prepares a checklist for the transaction using the information form J-slip and verifying it against the current computer records. The checklist is then verified and approved by the *Shristedar*.

The *taluk* level officials then send the J-slip along with a blank no-objection form, a blank mutation form, the check list, and other accompanying forms to the Revenue Inspector. The Revenue Inspector, in turn, informs the parties to the transaction and passes the information along with the concerned Village Accountant.

The Village Accountant then posts notice of the transaction for 30 days in his village office, inviting objections. If objections are received, he makes an entry in the dispute register and passes the information along to Revenue Inspector. If there are no objections, the Village Accountant, completes the blank mutation form and gives it along with the rest of the file to the Revenue Inspector, who inspects the forms, signs his approval, enters his statement, and gives the entire file back to the Village Accountant.

The Village Accountant then takes the file to the *taluk* office and gives it to the computer operator for making necessary changes in the RTC. The Computer operator scans relevant documents and makes the necessary entries into the computerised records. Their entries must first be approved by the concerned Revenue Inspector who does so by entering his thumb impression. After the Revenue Inspector approves the entry, the *Shristedar* and *Tahsildar*, in turn, must approve the entry by providing their thumb impression. After the *Tahsildar's* approval, the changes are automatically entered in the computerised RTC record.

The entire process of updating the RTCs upon a land transaction now takes less than 2 months. Sometimes there are delays due to the *Tahsildar's* non-availability due to his other engagements and 30 days period for the statutory notice. Other reasons for delay include technical problems with the computer and inadequately trained computer operators.

It does appear, however, that CoLR has succeeded in making the mutation process less cumbersome. Computerisation of land records has enabled the *Tahsildar* to monitor the pendency of mutation cases. By reviewing the same regularly he can ensure that mutation cases are disposed of expeditiously.

Now we will see rent seeking patterns in mutations prior to computerisation.

Table 4.17
Amount Spent in Mutation prior to Computerisation

*Taluk*a	Amount spent (in Rs.) in Mutation prior to computerisation						
	100-200	200-500	500-1000	1000-1500	>1500	Maximum Amount	Average Cost
Afzal Pur	17.6	59.6	21.1	1.7		1500	461
Aland	5.6	41.7	36.1		16.8	3500	943
Chincholi	16.7	47.3	27.6	2.8	5.6	2000	571
Chitapur	9.8	53.8	16.9	17	2.5	2000	656
Gulbarga	14	55.9	11.6	11.6	6.9	5000	701
Jewargi	22.5	55	17.5	2.5	2.5	2000	503
Sedam	8	56	22	10	4	5000	719
Shahapur	8.6	48.6	25.8	11.6	5.4	3000	723
Shorapur	14.3	50	28.6	7.1		1500	546
Yadgir	18.2	33.4	33.3	3	12.2	3000	767
Total	13.6	51.2	23.5	6.5	5.2	5000	651

The above Table 4.17 indicates that rent paid by the farmers to get their mutation was very high. No person was able to get his corrected RTC without paying money. Majority of persons paid more than Rs.200 for the mutation. Some of the persons paid upto Rs. 5000 for the finalization of their mutation. The average cost for the finalization of RTC is Rs.651. People are of the view that the CoLR programme has definitely led to reduction in rent seeking behavior for getting mutation done. Therefore we can conclude that CoLR makes land transactions easier, less expensive, timely, simpler and more effective.

3. Points of view of Local Revenue Functionaries

We also interacted during our field visit with the local level revenue officials and obtained their views about advantages and disadvantages of the programme. The officials who were questioned are : (i) Tahsildar, who is a *taluk* level officer in-charge (ii) Shrestidar, who is a *taluk* level officer just below the *Tahsildar* (iii) Revenue Inspector (RI);occupy an intermediate position between the *taluk* level officials and Village Accountants (iv) VAs (Village Accountants) - the lowest level of the land revenue machinery in Karnataka. All the officials mentioned advantages as well as disadvantages of new and old system of land records. The following are the important views of the officials:

Advantages

(i) Enhancement in Transparency

The manual system of land records maintenance has been described as highly opaque. The Village Accountants have been perceived as monopolizing the records, which were not open to public scrutiny. But after computerisation, everyone can see his or her RTC on computer screen without any harassment. Land purchasers and sellers can more easily verify land and land ownership information. Land rights information is more accurate now.

(ii) Complete avoidance of Malpractice and Manipulations

Observers note that several inaccuracies crept into the old system through improper manipulation by the Village Accountant. Computerisation does not leave any room for manipulation. Prior to computerisation farmers paid bribe to Village Accountant for obtaining RTC. After the computerisation, they have to pay only Rs.15 as a fee of RTC.

(iii) Increase in Collection of Revenue

The government is getting good amount of revenue as a fee of RTCs. Previously it was less as compared to what it is now a days.

(iv) Reduced the workload of Village Accountant

After computerisation lesser work pertaining to RTCs remain with Village Accountants. Now they can concentrate on other work.

Disadvantages

(i) Delays due to power cuts or breakdown in the System

The *taluk* centre is plagued by regular, almost daily, power outages. Because, the computer kiosk does not have a battery or generator back up power supply, the

process of obtaining RTC often involved long delays. *In Chincholi Taluk, the system broke down in the month of October,2001 for a period of 10 days.* Whenever any software or hardware related problems occurred in the computer system, no expert was available at *taluk* office. Therefore, expert had to arrive from District headquarter to tackle the problem. Due to this users faced inconvenience.

(ii) Difficulty in issuing RTC with current year's crop information

There was some difficulty in issuing a RTC with the current year's crop information because the crop information must be communicated by the Village Accountant to the computer operators, which takes time. Crop information for only one crop season is entered in the land records.

(iii) Glitches in software

The software contained a few initial glitches related to the transfer and inheritance of land.

(iv) Significant distance of computer kiosk from villages

Farmers often have to travel a long distance to obtain RTCs resulting in greater costs in terms of time and money.

(v) More time in correction

Corrections and changes in the records due to land transactions require a lot of time. Small corrective revisions to RTCs require much time and cause delay. More dependence upon Village Accountant to change land records. He has to visit *taluk* at least two times in a week.

(vi) Delay due to *Tahsildar's* thumbprint

Because the *tahsildar's* thumbprint is necessary for entries and because he is unavailable most of the times, entries are delayed.

Points of View of Farmers
Favourable to Computerised System of Land Records

(i) The new computerised system of land records is more transparent. Village Accountant and other officials have no chance to manipulate the land records.

(ii) Any representative of landowner can obtain Land records under the new computerised system of land records.

(iii) Obtaining RTCs under the new computerised system of land records is more time effective because farmers do not have to search for the village Accountant.

Against Computerised System of Land Records

(i) RTCs cost more under the new computerised system of land records. In the past, Village Accountant issued

RTCs for a very nominal fee. The travel cost was much less and now the fee of Rs.15 per plot in addition to travel cost makes the computerised system more costly.

(ii) It takes more time to obtain RTCs under the new computerised system because most of the farmers have to travel long distances to the computer kiosk at *Taluk* office.

(iii) In the past, the Village Accountant, who issued the RTC was easily accessible even in the case of urgency.

(iv) Farmers need information like survey number from the Village Accountant to obtain a RTC from the computer kiosk. Therefore, they have to visit Village Accountant first and then computer kiosk at *taluk* office.

Suggestions

(i) Farmers often have to travel long distances to obtain RTCs resulting in greater cost and more time. Therefore additional computer kiosks must be established to reduce the distance and travel time for farmers. It will be better to find out a location for the kiosk at a radius of 20 Kms instead of locating it at hobli level. It will be cost effective and facilitate the process. For instance, in Sedum, 2 additional kiosk centres per *taluk* will be sufficient while at least 4 will be required if these are located at "*Hoblis*". (See **Appendix-25**)

(ii) Every revenue official should be trained for the new computerised system in phases.

(iii) Extra printer should be provided to overcome the problem of any fault in the existing printer.

(iv) Farmers needed upto date RTC in terms of crop details; therefore updating of crop should be done more expeditiously. Training should be imparted to all the Village Accountants for updating crops.

Chapter V

Conclusion

After the field study of all the *taluks* of Gulbarga district, we have found that the CoLR is dealing with some of the deficiencies of old manual records system. Now land records are more transparent and open for public scrutiny.

It is also noted that CoLR will do very little to promote further implementation of land reforms. We found not a single case related to land tenancy or land ceiling surplus as a result of CoLR.

CoLR has made land records less prone to manipulations. The Village Accountants have very little scope for manipulation or for causing harassment. This obviously is an important advantage of the computerised land records.

In general; it has been found that CoLR has made it easier for farmers to obtain RTCs. However, in many cases due to significant distance of computer kiosk from their home villages, farmers have to spend much time and incur extra expenditure for travelling to the kiosk. Since the government of Karnataka is in the process of extending this upto Hobli level, the farmers will be extremely benefited by this. The great majority of the revenue personnel felt that the farmers will be able to fully appreciate the benefits of CoLR only in the next two years.

We also found that CoLR has made land records current as compared to manual system. This was because mutations were being disposed of faster. Once a mutation application is entered in the system it is tracked until it is disposed of. This system also enhances monitoring by the *Tahsildar*, thereby improving the accountability of the revenue administration.

The on line mutation was in process in Sedum, Chincholi, Jewargi and Afzalpur *taluks*. Many of the farmers were happy with online mutation where this process was under implementation. They reported that the level of harassment by Village Accountants under manual system was quite high, and that Village Accountants charged upto Rs. 500 and even took upto 2 years for the mutation.

Definitely, CoLR will result in easy and timely availability of usable data for planning process. Conversion of this land records data into digital form has made it easy to review, collate and analyze such data for various administrative and planning purposes.

The government of Karnataka is in the process of addressing the problems of power back up for the computer kiosk, additional computer kiosks and additional computer operators. Whenever the government sorts out these problems, the farmers will be immensely benefited from these. It will be essential to monitor farmers' satisfaction with the CoLR and ask for their suggestions and feedback for improvement.

In the end, we can say that CoLR is to a large extent a remedy for the multiple problems of Indian land record system. CoLR programme is a successful application of information & communication technology to government work and it has improved land records system in Karnataka. It has succeeded in making a "closed" system "open". The CoLR programme has succeeded in bringing about administrative

accountability, checked corruption and harassment and has provided equitable access to all concerned.

Some of the factors which have made CoLR programme successful in Karnataka are:

(a) Incorporation of an online mutation module in the software. This has ensured that the database is dynamic and current. As soon as mutation is approved the database gets updated and thus reflects the actual ground position.

(b) The work flow automation system design has been excellent and the computerized system synchronizes very well with the manual system. The basic mode of functioning of revenue personnel remains the same.

(c) Implementation of any new system/ process gives rise to a number of issues/ problems which need to be sorted out. The project team at the State Government level has been proactive in clarifying and sorting out issues and overcoming teething problems.

(d) The project conceptualization and design in terms of security features, training, overcoming resistance to change, hardware configuration etc. has been meticulously done after a thorough study of the existing system.

(e) Though the success of 'Bhoomi' is due to a team effort, the role of Shri Rajiv Chawla, the head of the Project, has been one of the major factors, which has resulted in the successful conceptualization, design and implementation of the project.

Chapter VI

Recommendations

i. Farmers often have to travel a long distances to obtain RTCs resulting in greater costs in terms of time and money. Therefore, additional computer kiosks must be established to reduce the distance and travel time for farmers. It will be better to find out the location, within a radius of 20 Kms. from the villages instead of putting the kiosk at Hobli level.

ii. The *taluk* centre is plagued by regular, almost daily, power outages. Because the computer kiosk does not have a generator back up for uninterrupted power supply, the process of obtaining RTCs often involved long delays. UPS generally can not work for more than 2 hours. It is therefore necessary that 5 KVA Generators be provided in every *taluk*.

iii. Depending on the workload, the number of computer kiosk operators can be increased so that RTC-seekers do not have to wait while the operator is taking a break or is on leave.

iv. The RTC copies should be issued on per landholder basis rather than on per land plot basis.

v. Establish a ticket number queuing system to establish efficiency and equity in the queuing process at the computer kiosk.

vi. Extra printer should be provided to overcome the problem of any fault in the existing printer.

vii. Farmers needed upto date RTC in terms of crop details. At present the updating takes some time and there are also some errors in updated crop details. The system needs to be further streamlined.

viii. Whenever any problems related to software as well as hardware occurred in the computer system, no expert was available at *taluk* office. Therefore, an expert had to arrive from District headquarters to tackle the problem. Due to this, inconvenience was caused to the users. Therefore, a trained person should be available at *taluk* level to sort out these problems or the Government should tie up with computer agencies at *taluk* level to provide technical support/help.

ix. At present the computerisation of land records in Karnataka is restricted to non-spatial data. At the most, attempts are being made to give a copy of the map of the plot in a scanned image. For comprehensive computerisation,it is necessary that in the next phase, digitization of maps is taken up either by scanning & digitizing the existing maps or by resurvey/fresh survey through modern survey equipment like Total Stations etc. for generation of new maps.

x. There should be a mechanism to upgrade the hardware in view of technological advancements and also to take care of new and unavoidable requirements e.g. higher capacity hard disks, new OS, RAID controllers etc.

xi. To empower farmers, touch screen kiosks should be installed in all *taluks* as has been done in Banglore, South *Taluk*.

xii. MPs/MLAs can finance for the extension of kiosk at sub-*taluk* or other level from their MP/MLA LAD (Member of Parliament/Member of Legislative Assembly Local Area Development) scheme so that access to the farmers is enhanced.

xiii. After the operation of the programme in *taluks* it would be necessary that computers be maintained all the time. The down time should certainly not be more than 24 hours. Annual maintenance Contract has to be entered into with competent parties who are stationed at *taluk* level so as to rectify the computers and the peripherals in less than 24 hours. 10% of the machine's cost should be provided for maintenance of the hardware every year. This maintenance cost shall be payable every second year onwards for atleast five years.

xiv. There is a need to integrate Departments dealing with lands, such as, Survey & Land Records, Registration Department at Village/ *Taluks*/ District and State level which could facilitate simultaneous updating of land records caused by mutation, sale of property, conveyance, partitions, exchange, gifts, settlements, release deeds, etc. This may also help faster updating of land records, which may be useful to land holders.

xv. There is a need to train survey, revenue officials including Village level functionaries for up gradation of their skills in computerization of land records.

xvi. Computerisation process should integrate registration of land titles. Land laws/mutation process should be simplified for easy and fast implementation of computerisation.

xvii. The land information data should be web-enabled. This will provide easy access via internet.

xviii. The State government should explore the possibility of providing Simputers[*](The common man's computer), to the Village Accountants for data entry of crop.

[*] The Simputer is a full-featured, powerful handheld computer. It is an acronym for Simple, Inexpensive, Mobile, People's Computer. The Simputer is a low cost portable alternative to PCs, by which the benefits of IT can reach the common man.

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Glossary

AKARBAND: An important document, which records the land revenue assessment for each survey number in the village along with its extent and type.

CHITTA : Accounts, old measurement papers.

HOBLI : A group of villages for land revenue purposes.

INAM: It refers to grants of rent free land without reference to perpetuity or any specified condition, a grant of land free of rent or assignments of government's share of the produce or revenue of land for the support of Muslim religious establishment and priests for charitable purpose, or for maintenance of public servants.

INTERMEDIARIES : Holders of proprietary interests that existed between the occupiers of land and the State. They were known as Zamindars, Jagirdars, Talukdars, Malguzars, Janmies etc.

JAGIRS : An assignments were of land revenue of a territory to a chief or noble. These assignments were of two kinds (a) service assignments, and (b) charitable or non-conditional assignments.

JAMABANDI*:* An inspection and audit of the accounts of land revenue maintain by village officers and a comparison of these accounts with the *taluk* or tahsil accounts at the time of inspections of villages by collectors, Mamlatdars, Mahalkaris or Tahsildars.

JINSWAR: Crop wise survey conducted by statistical and revenue officers.

KHASRA: Field book in Madhya Pradesh is known as Khasra; 'Khasra Panchsala' is also used in this state.

KHASRA GIRDWARI: A statement of crops grown and the respective acreage is arranged in descending order of field numbers given at the time of settlement in Rajasthan.

KHATIYAN: A record of tenants' rights Including the identity, extent, quality and possession of land.

KHATA: An important land records contains land revenue, cess, water rates and other government dues to be paid by the cultivator and the amount paid in a given year.

KHATEDAR: Holder of a plot, i.e. to distinguish a holder of a share in the whole estate.

KHATAUNI: A term which refers to jamabandi in U.P. and Rajasthan.

KHIRDI: It contains the detail of daily collection of the government dues made by the Village Accountant with reference to the receipts issued to the payers.

KISTBANDI KHATAUNI: Another name given to jamabandi in Madhya Pradesh.

KANUNGO: Hereditary registrar or village headman; sometimes he is also referred as revenue official; in Modern times, entrusted with the work land viz, realization of revenue, and measurement & survey of land.

LAMBARDAR*:* Chief headman over several headmen of village sections in Haryana.

LEKHPAL: The lowest revenue functionary in U.P. below the Naib-Tahsildar and the revenue inspector who is responsible for the upkeep and maintenance of land records.

MAMLATDAR: The native land revenue officer in charge of a *taluk* or division of a district.

MILAN KHASRA: Area of statement by class of land (classification of land village by village).

RTC: Record of rights, tenancy and cultivation.

PATWARI : The designation of the Village Accountant in several States.

PATEL: The head man of the village in central, western and part of southern India.

RAIYAT : A tenant in erstwhile Zamindari areas and an occupier of land in the old Madras and Bombay Presidencies paying land revenue directly to government.

REVENUE INSPECTOR (RI): Occupy an intermediate position between the taluk level officials and Village Accountant.

SETTLEMENT : Baden Powell defined Settlement as the process by which the Government officials determined the amount of land revenue payable.

SHANBHOGA: Village Accountant; the office is hereditary in common with all other village officials, they hold land free of rent and in others on light assessment.

SHIJRA: Cadastral map of the village.

SHRESTIDAR: Taluk level officer just below the tahsildar.

SURVEY NUMBER: Means a portion of land of which the area and assessment are separately entered under indicative number in land records.

TAHSIL: A subdivision of a district consisting of a number of villages.

TAHSILDAR: Chief revenue officer for the administration of a tahsil.

***TALUK*:** A sub-division of a district consisting of a number of villages.

TIPPON: A field measurement book.

VILLAGE ACCOUNTANT: The village level revenue functionary in Karnataka who collects revenue, makes crop entry and carries out functions as directed by tahsildars and others.

Appendix – 1

Name of the Investigator: Serial No.

Date of Survey:

VILLAGE SCHEDULE

EVALUATION OF COMPUTERISATION OF LAND RECORDS IN KARNATAKA: A STUDY FROM GULBARGA DISTRICT

Taluka:

Village

Organiser

Centre for Rural Studies
Lal Bahadur Shastri
National Academy of Administration,
Mussoorie-248179

1. **Location of the village**

1.1 **Number of hamlets** [ ]

1.2 **Distance of the Village (in Kms) from**

a.	District headquarter	
b.	Taluka headquarter	
c.	Nearest Bus Stop	
d.	Nearest Railway station	
e.	Nearest Town	
f.	Nearest Market	
g.	Nearest Bank	
h.	Nearest Post Office	
i.	Nearest PHC	
j.	Nearest PDS shop	
k.	Nearest Police station	
l.	Nearest Primary School	
m.	Nearest Secondary School	
n.	Nearest College	
o.	Nearest Aaganwadi	

1.3 **Basic Amenities in the village**

a.	Electrification	
b.	All Weather approach Road	
c.	Bank	
d.	Primary School	
e.	Middle School	
f.	High School	
g.	Primary Health Centre	
h.	Veterinary Dispensary	
i.	PDS shop	

j.	Markets	
k.	Adult Literacy Centre	
l.	Drinking Water Sources	
m.	Public Telephone service	
n.	ICDS Centre	
o.	Panchayat Bhawan	
p.	Street Light	
q.	PACS	
r.	Other specify	

2. **Demography**

Year	SC		ST		OBC		Other		Total	
	M	F	M	F	M	F	M	F	M	F
1991										
2001										

3. **Land Related Information (in acres)**

3.1	The Total area of the village	
3.2	Land for Cultivation	
3.3	Fallow Land	
3.4	Pasture and Grazing land	
3.5	Waste land	
3.6	Land for Homestead	
3.7	Land under private ownership	
3.8	Community Land	
3.9	Net sown area	
3.10	Others (specify)	

4. **Irrigation facilities**

(a)	Government Sources	Number	Area (in acres)
i.	Tubewells		
ii.	Lift irrigation schemes		
iii.	Canals		
iv.	Wells/Tanks/Ponds etc.		

(b)	Private Sources	Number	Area (in acres)
(a)	Tubewells		
(b)	Irrigation wells		
(c)	Lift Irrigation Scheme		
(d)	Tanks		
(e)	Others		

5. **Nature and Classification of Soil:**

6. Land Details:

(i) Distribution of land ownership:

		Number/Area (in acres)
(a)	Landless	
(b)	Less than 1 acre	
(c)	1-2 acres	
(d)	2-4 acres	
(e)	4-10 acres	
(f)	>10 acres	

(ii) Area under Cultivation (Crop wise)

		Area in Acres
(a)	One crop	
(b)	Two crops	
(c)	More than two crops	

7. **Ceiling and Redistribution of Land**

		Area in Acres
(i)	Land declared surplus	
(ii)	Land taken possession by the Govt.	

(iii) Land Distributed

Beneficiary	Number	Area	Irrigated
SC			
ST			
OBC			
Others			
Total			

8. **Tenancy**

Total tenants and area in the village (in terms of HHs)

Total tenants		Recorded tenants		Unrecorded tenants	
No.	Area	No.	Area	No.	Area

9. **Agriculture:**

i. Crops grown by the villagers and seasonality of the Cropping (for all crops)

	Crop	Month of Sowing	Month of Harvesting
a)			
b)			
c)			
d)			
e)			

ii. Cropping pattern of major crops

Kharif Crops	Area under Cultivation	Area under Irrigation
a)		
b)		
c)		
d)		
e)		

Rabi Crops	Area under Cultivation	Area under Irrigation
a)		
b)		
c)		
d)		
e)		

10. **Extent of Computerisation of RTCs**

i) No. of RTCs in the village ☐

ii) Whether all the RTCs have been computerised

a) Yes ☐

b) No

iii. No. of RTCs and extent of Government Land

No.	Extent (acres)
☐	☐

iv. No. of RTCs obtained by the farmers of this village since the computerisation ☐

11. **Gram Panchayat**

		Yes	No
i.	Whether Gram Panchayats is in existence	☐	☐
ii.	Year of election	☐	
iii.	No. of village in the Gram Panchayat	☐	
iv.	No. of inhabitants under Gram Panchayat	☐	
v.	Does Panchayat play any role in revenue matters	☐	
vi.	If yes, the role of the panchayat may be specified in Records management and revenue matters	Yes ☐	No ☐

12. Any watershed development work in the village, either by Govt. or the Villagers themselves?

a) Yes b) No

If yes, write a note

…….
…….
…….
…….
…….

13. Is any NGO active in the village?

a) Yes b) No

If yes, what are its functions?

…….
…….
…….
…….

14. Is there any co-operative society in the village?

a) Yes b) No

If yes, what are its function?

…….
…….
…….
…….
…….

15. What are the non farm activities currently undertaken by the villagers.

…….
…….
…….
…….
…….
…….

Appendix – 2

Name of the Investigator: Serial No.

Date of Survey:

HOUSEHOLD SCHEDULE

EVALUATION OF COMPUTERISATION OF LAND RECORDS IN KARNATAKA: A STUDY FROM GULBARGA DISTRICT

Taluka:

Village

Organiser

Centre for Rural Studies
Lal Bahadur Shastri
National Academy of Administration,
Mussoorie-248179

1. **Identification Particulars**:

1.1 Name of the Respondent: ……

1.2 Sex : 1: Male 2: Female ☐

1.3 Age : …….

1.4 Education :
- 1: Illiterate
- 2: Literate
- 3: Primary
- 4: Middle
- 5: High School
- 6: PUC
- 7: Graduation
- 8: Post Graduation
- 9: Professional
- 10: Others ☐

1.5 Occupation :
- 1: Agriculture
- 2: Agri Labour
- 3: Non-Agri Labour
- 4: Government Service
- 5: Independent Occupation
- 6: Others ☐

1.6 Annual Income : ☐

1.7 Total Family Members: ☐

1.8 Caste :
- 1: SC
- 2: ST
- 3: Backward Classes
- 4: Most Backward Classes
- 5: Others ☐

2. **Details of Land**

2.1 Total owned land (in Acres) : ……..

(i) Non cultivable Land ……..

	Irrigated	Unirrigated
(ii) Cultivable Land	☐	☐

(iii) Land under dispute if any ……

2.2 From Net Cultivable Area (in Acres)

	Irrigated	Unirrigated
(i) Under self cultivation	☐	☐

(ii) Does leasing In/Out system exists in your Village.

a) Yes
b) No ☐
c) Don't Know

	Irrigated	Unirrigated
(iii) Leased out to tenants	☐	☐
(iv) Leased in from the Land Owners	☐	☐

(v) Whether Recorded as a tenant in RTC

1. Yes
2. No
3. Don't Know

(vi) Total Number of plots owned

3. General Awareness of RTC

3.1 Are you aware that the land records of your village have been computerized?

1. Yes
2. No

3.2 Do you know your survey number and procedure for obtaining computerised RTC?

1. Yes
2. No

3.3 Have you or any of your family member obtained computerised RTC directly from kiosk?

1. Yes
2. No

3.4 What kind of information accessed from newly computerized land information?

1. RTC
2. Mutation
3. Khata
4. Others

4. **General Benefit occurring from Computerisation**

4.1 Are you able to get copy of RTC easily and without delay after Computerisation?

1. Yes
2. No
3. Don't Know

4.2 How much time does it require to obtain RTC after computerization?

a. Within 5 minutes b. Within-1 hour
c. Within 1-2 hours d. 1/2 day
e. 1 day
If one day reasons for the delay

4.3 How many days required for obtaining RTC prior to computerization?

a. Within 1/2 day
b. 1 Day
c. 1 Week
d. 15 dyas-30 days

4.4 Do you think that computerised RTCs are 100% accurate?

a. Yes
b. No
c. Can't say

If no, specify the details of inaccuracies.

4.5 Do you know that the process of obtaining RTCs is free from harassment from government officials, touts and middlemen.

a. Yes
b. No
c. Can't say

4.6 Do you think that these computerised RTCs cannot be manipulated/changed by Village Accountant/Kiosk Operator.

a. Yes
b. No
c. Can't say

4.7 Do you think that updation of land records has become faster after computerisation?

a. Yes
b. No
c. Don't know

4.8 Do you think that computerisation has facilitated in sale and purchase of land?

a. Yes
b. No
c. Don't know

4.9 Do you think that computerisation of lands records helps in generating awareness about the encroachment over govt. land in the village ?

a. Yes
b. No
c. Don't know

If Yes, How?

4.10 Do you think that computerisation of lands records has helped in obtaining the accurate information about actual ownership of land.

a. Yes
b. No
c. Don't know

4.11 (a) How many RTCs have you obtained since the computerisation of land records?

(b) Of these, how many RTCs were of your own land holding and of other land holding ?

Own Landholding Other Landholding

4.12 a. The RTCs were obtained from the taluk office

1. Yourself
2. Through Village Accountant
3. Through other persons

If village accountant or other person, what amount did you pay for obtaining RTC ?

Rs.

b. In case RTC has been obtained from village accountant or other person, why did you not go yourself for obtaining RTC form taluk office ?

1. Taluk office is far from the village Kms.
2. Expenditure is more if visited personally Rs.
3. Unnecessary time consuming Hours
4. Busy with Agricultural/ other activities

If reasons are not from the above options, then note in descriptive manner

4.13 For what specific purpose the copies of RTCs obtained?

a. Purchase
b. Sale
c. Mortgage
d. Gift
e. Self
f. Loans
g. Legal
h. Others, Please Specify

4.14 Would you prefer alternative Kiosk to be located at your Taluk?
If Yes, Where? Specify

…….

5. Reduction in Rent Seeking Behaviour

5.1 How much money are you paying for obtaining a copy of land records after computerisation?

a. Rs. 15
b. Rs. 25
c. Rs. 50
d. Rs. 100

5.2 What amount were you paying for the copy of land records prior to computerisation?

a. Rs. 1.50 b. Rs. 10
c. Rs. 25 d. Rs. 50
e. Rs. 100 e. Rs. More than Rs. 100

5.3 Please specify details of payment made to various persons over and above the prescribed rate for obtaining RTC.

a. Officials
b. Kiosks operator
c. Other middlemen
d. None

5.4 Expenditure incurred to obtained the RTC in addition to the prescribed fee of Rs. 15/- (This includes transportation, food, accommodation, others).

6. **Reduction in Conflicts/ Disputes after Computerisation of RTC**

6.1 Are there reduction in land related conflicts after computerisation of RTC?

a. Yes
b. No
c. Can't say

6.2 Are there reduction in conflicts related to the government land after the computerisation of RTC?

a. Yes
b. No
c. Can't say

6.3 Are there reduction in tenancy related disputes after the computerisation of RTC?

a. Yes
b. No
c. Can't say

7. **Facilitation in Availing Institutional Finance**

7.1 Is computer generated RTC accepted as valid by banks/ other agencies? Has it made obtaining finance easily?

a. Yes
b. No
c. Can't say

8. **Facilitation in Sale/Purchase of Land**

	Before	**Now**
8.1 The number of days spent in obtaining land related information		
	Befor	**Now**
8.2 Amount spent in obtaining information		

8.3 There is increase in clarity regarding the land being purchased after the computerisation.

a. Yes
b. No
c. Don't Know

9. **Mutation**

		Before	Now
9.1	Time taken for mutation after submission of the application		
9.2	Time in which the first notice is issued.		
9.3	Amount spent over the prescribed rate.		
9.4	Time taken for correction/ updation of RTC.		

10. **Main Source of the Income of the Household (Select most important source)**

1. Agriculture
2. Agri Labour
3. Non Agri Labour
4. Government Service
5. Independent Occupation
6. Others

11. Opinion of the beneficiary about the computerisation of RTC

_____

_____

_____

Appendix – 3

Name of the Investigator: Serial No.

Date of Survey:

SCHEDULE OF TAHSILDAR
EVALUATION OF COMPUTERISATION OF LAND RECORDS IN KARNATAKA:
A STUDY FROM GULBARGA DISTRICT

Name of Tahsildar……Age…….Sex……

Education Qualification…….Date of Joining Service…….

Name of Taluk……..Name of District……

Organiser

Centre for Rural Studies
Lal Bahadur Shastri
National Academy of Administration,
Mussoorie-248179

1. **General Information**

i. Number of villages

ii. Number of Village Accountants

iii. Number of Additional Tahsildars

iv. Number of Deputy Tahsildars

v. Number of Computer Assistants

2. **Information Related to Computerisation**

i. The year of the previous settlement

ii. The date on which computerised records were implemented

iii. Total No. of RTCs

iv. No of RTC computerised

v. Time taken in the initial data entry

Starting Date	Completion date

vi. Cost of data entry per RTC (in Rs.)

vii. (a) No. of times data verification carried out

(b) What were the % age of RTCs in which errors were found during first verification?

(c) What were the %age of RTCs in which errors were found during second verification?

viii. No. of Kiosks in the Tahsil for providing RTC

ix. No of RTC's issued in the Tahsil per month

Before	Now

x. Price fixed for obtaining RTC(in Rs.)

3. **Training Imparted to**

	Number	Days
i. Village Accountant		
ii. Tahsildar/Additional Tahsildar & other staff of Tahsil		

iii. Training imparted by (Give name of Agency)

4. Benefits of Computerisation (These answers should be in descriptive manner also)

	Yes	No	Same
i. Increased disposal of mutation cases			

ii. Results in accurate & updated RTCs — Yes ☐ No ☐

iii. Decrease in conflicts/ disputes related of land — Yes ☐ No ☐

iv. Decrease in corruption — Yes ☐ No ☐

v. Has reduced Workload off Tahsil staff — Yes ☐ No ☐

vi. Has facilitated monitoring & control on employee work — Yes ☐ No ☐ Same ☐

vii. Resulted in decrease of interpolation in land records — Yes ☐ No ☐

viii. Facilitated detection benami landholding/ceiling cases — Yes ☐ No ☐

ix. Provides more & readily available information also. — Yes ☐ No ☐

x. Promptness in accomp lishing mutation — Yes ☐ No ☐

xi. Improvement in Management of public land — Yes ☐ No ☐

xii. Has increased information available to people — Yes ☐ No ☐

xiii. Who has been involved in data entering in publishing RTC

a. Govt. itself
b. Private Agency
c. Educational Institute
d. Others ☐

5. Give the procedure for carrying out mutation.

6. Describe the procedure for maintaining land records online.

7. Rules and procedure in the Manual of Tahsil Accounts which need to be changed.

8. What was your attitude towards computerization of land records before the project was taken up?

9. Has computerization increased the revenue collection? If yes, give the extent and the reasons for the same? Where this money should be used?

10. Give a note on maintenance of the system.

11. Describe the role of external agency in the maintenance of the system.

12. What is the period for which system break downs occurred. Specify reasons for this.

13. What are the security provisions built in the system.

14. Give a note on Kiosks set up for providing RTC to the public.

15. What is the additional information available form computerization.

16. What are the most important benefits of computerisation from the point of view of:

    a. Government

        1.
        2.
        3.
        4.
        5.

    b. General Public

        1.
        2.
        3.
        4.
        5.

17. Problems related to computerization

1.
2.
3.

18. Suggestions for the improvement

1.
2.
3.

19. Any other suggestions.

Appendix – 4

Name of the Investigator: Serial No.

Date of Survey:

SCHEDULE FOR THE VILLAGE ACCOUNTANT

EVALUATION OF COMPUTERISATION OF LAND RECORDS IN KARNATAKA:
A STUDY FROM GULBARGA DISTRICT

Name of Village Accountant……Age…….Sex……

Education Qualification…….Date of Joining Service……

Name of Village(s)…….Name of Taluk……

Organiser

Centre for Rural Studies
Lal Bahadur Shastri
National Academy of Administration,
Mussoorie-248179

1. **Impact & Extent**

(i) No. of RTCs in the Village Circle ☐

		Yes	No
(ii)	Whether all the RTCs have been computerized	☐	☐
(iii)	Whether computerized RTCs are available the survey nos. for all	☐	☐
(iv)	The computerized RTC are 100% accurate	☐	☐
(v)	The computerized RTCs are more accurate than earlier RTCs	☐	☐
(vi)	The computerized has reduced your work load	☐	☐

(vii) Amount of time spent in keeping the record up-to-date (hours per week) ☐

(vii) How often do you visit the taluk office

(viii) What are the operations you carry out on the computer
(Please note this answer in descriptive manner)

(ix) Broad work profile of Village Accountant before and after computerization

Before		After	
Item of Work	% age of time spent that work	Item of Work	% age of time spent that work

2. **Mutation**

		Before	Now
i.	Total time taken for disposal	☐	☐
ii.	Time taken for correction of RTC	☐	☐
iii.	%age of cases in which objections are filed	☐	☐
iv.	Decisions against which dispute/appeals filed	☐	☐

v. Procedure for mutation

(a) On line

(b) Manual

		Before	Now
vi.	Average No. of mutation cases pending in a month		
vii.	Average No. of mutation cases disposed in a month		

3. **Land Reforms Before Computerization** (in aceres)

i. Ceiling land declared surplus

ii. Ceiling surplus land taken under possession

iii. Distribution of ceiling surplus land

iv. Declared ceiling surplus under litigation

4. **Benefits accruing from Computerized Land Records System**

a. **Land Ceiling**

		Number	Area (in acres)
i.	Old ceiling cases reopened		
ii.	New ceiling cases detected		
iii.	Detection of any benami landholdings		
iv.	Area declared surplus from the above cases (in ac.)		
v.	Ceiling surplus land distributed		

		Yes	No
vi.	Whether land distributed to the eligible persons		

b. **Tenancy**

Registered tenants

Before		Now	
No.	Area	No.	Area

c. **Government Land**

		Yes	No
i.	Increase in information on encroachment on Govt. Land		
ii.	Is there clear cut information of availability of public/ common land		
iii.	Rise in public faith in revenue administration		
iv.	Increase in revenue collection		

5. **Enhancement in Information**

i. Number of complaints of encroachment on public land during last financial year

ii. Average No. of complaints forwarded by superior officer for enquiry in a month

	Before	Now

		Yes	No
iii.	Cultivators are more aware about land related information		

6. **Decline in Litigation since Computerisation**

		Yes	No	Can't Say
i.	Decline in Disputes related to raiyati land			
ii.	Decline in Criminal Cases(144/145 cr pc)			
iii.	Decline in Disputes involving violence			
iv.	Decline in Civil Suits involving Govt. Lands			
v.	Decline in Criminal Cases involving Govt. land			
vi.,	Cases involving the land allotted by the Govt.			

7. **Training**

		Yes	No
i.	Did you have any computer related knowledge prior to the working with computerization of land records. If yes, specify		

ii. Training attended on CoLR

No. of Training	No. of day

iii. Are you satisfied with the training

Yes	No

iv. Do you think that there is need of another training.

Yes	No

8. i. **Whether the System of CoLR is Better**

Yes	No

ii. Give reason for your answer

1.
2.
3.
4.

9. **Problems related to Computerisation**

1.
2.
3.

10. **Suggestion forImprovement**

1.
2.
3.

11. **Any other information which the Village Accountant wants to give on Computerization of Land Records**

1.
2.
3.

Appendix – 5

Percentage Distribution of Ownership Holdings

Taluk	Land Size Class												
	Landless	Marginal		Small		Semi-medium		Medium		Large		Total	
	Number	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area
Afzal Pur	0.00	1.16	0.18	15.12	4.26	38.37	18.63	30.23	33.34	15.12	43.59	100.00	100.00
	(0)	(2)	(1.66)	(26)	(39.50)	(66)	(172.93)	(52)	(309.47)	(26)	(404.53)	(172)	(928.09)
Aland	0.75	6.02	0.83	19.55	5.26	30.08	14.50	23.31	23.98	20.30	55.43	100.00	100.00
	(1)	(8)	6.15	(26)	(38.97)	(40)	(107.47)	(31)	(177.75)	(27)	(410.85)	(133)	(741.19)
Chincholi	0.00	4.65	0.78	22.67	7.22	32.56	17.77	28.49	35.89	11.63	38.34	100.00	100.00
	(0)	(8)	(6.24)	(39)	(58.00)	(56)	(142.89)	(49)	(288.54)	(20)	(308.24)	(172)	(803.90)
Chitapur	2.17	5.80	0.88	13.77	3.82	28.99	14.64	34.78	39.54	14.49	41.12	100.00	100.00
	(3)	(8)	(6.52)	(19)	(28.40)	(40)	(108.79)	(48)	(293.91)	(20)	(305.67)	(138)	(743.29)
Gulbarga	1.04	8.29	1.14	17.62	5.41	23.83	13.57	36.79	43.99	12.44	35.89	100.00	100.00
	(2)	(16)	(10.72)	(34)	(50.95)	(46)	(127.78)	(71)	(414.08)	(24)	(337.82)	(193)	(941.35)
Jewargi	0.00	8.19	1.16	16.96	4.47	25.73	13.37	33.92	37.77	15.20	43.23	100.00	100.00
	(0)	(14)	(10.80)	(29)	(41.78)	(44)	(124.87)	(58)	(352.73)	(26)	(403.80)	(171)	(933.98)
Sedam	1.32	8.61	1.07	13.25	3.23	33.77	15.85	29.80	31.36	13.25	48.49	100.00	100.00
	(2)	(13)	(9.24)	(20)	(27.89)	(51)	(136.85)	(45)	(270.75)	(20)	(418.62)	(151)	(863.36)
Shahapur	0.00	13.00	2.49	17.00	6.35	32.00	22.17	29.00	39.54	9.00	29.45	100.00	100.00
	(0)	(13)	(10.37)	(17)	(26.48)	(32)	(92.40)	(29)	(164.76)	(9)	(122.72)	(100)	(416.72)
Shorapur	0.00	9.82	1.68	33.93	10.81	18.75	11.58	25.00	31.02	12.50	44.91	100.00	100.00
	(0)	(11)	(8.59)	(38)	(55.14)	(21)	(59.11)	(28)	(158.30)	(14)	(229.15)	(112)	(510.28)
Yadgir	0.00	13.24	2.66	35.29	13.66	25.00	17.74	17.65	27.29	8.82	38.66	100.00	100.00
	(0)	(18)	(13.47)	(48)	(69.10)	(34)	(89.76)	(24)	(138.06)	(12)	(195.59)	(136)	(505.98)
Total	0.54	7.51	1.13	20.03	5.90	29.09	15.74	29.43	34.76	13.40	42.46	100.00	100.00
	(8)	(111)	(83.75)	(296)	(436.22)	(430)	(1162.84)	(435)		(198)	(3136.98)	(1478)	(7388.13)

Note: Figures above parenthesis indicate percentage

Appendix – 6

Opinion about Harassment in Computerised System

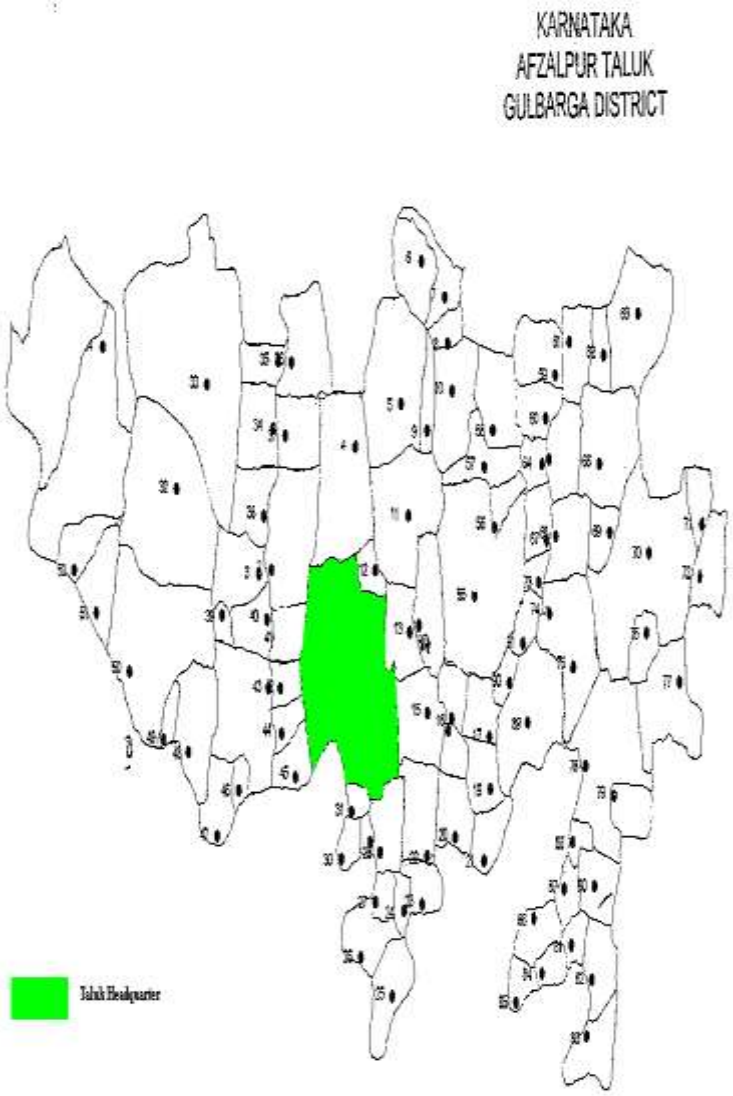
Name of *Taluk*	Free from Harassment (In %)		
	Yes	No	Can't Say
Afzal Pur	55.2	22.7	22.1
Aland	58.6	21.8	19.5
Chincholi	49.4	11	39.5
Chitapur	21	13.8	65.2
Gulbarga	37.3	18.7	44
Jewargi	59.1	12.3	28.7
Sedam	55.6	21.9	22.5
Shahapur	25	11	64
Shorapur	8	6.3	85.7
Yadgir	51.5	6.6	41.9
Total	43.8	15.1	41.1

Appendix – 7

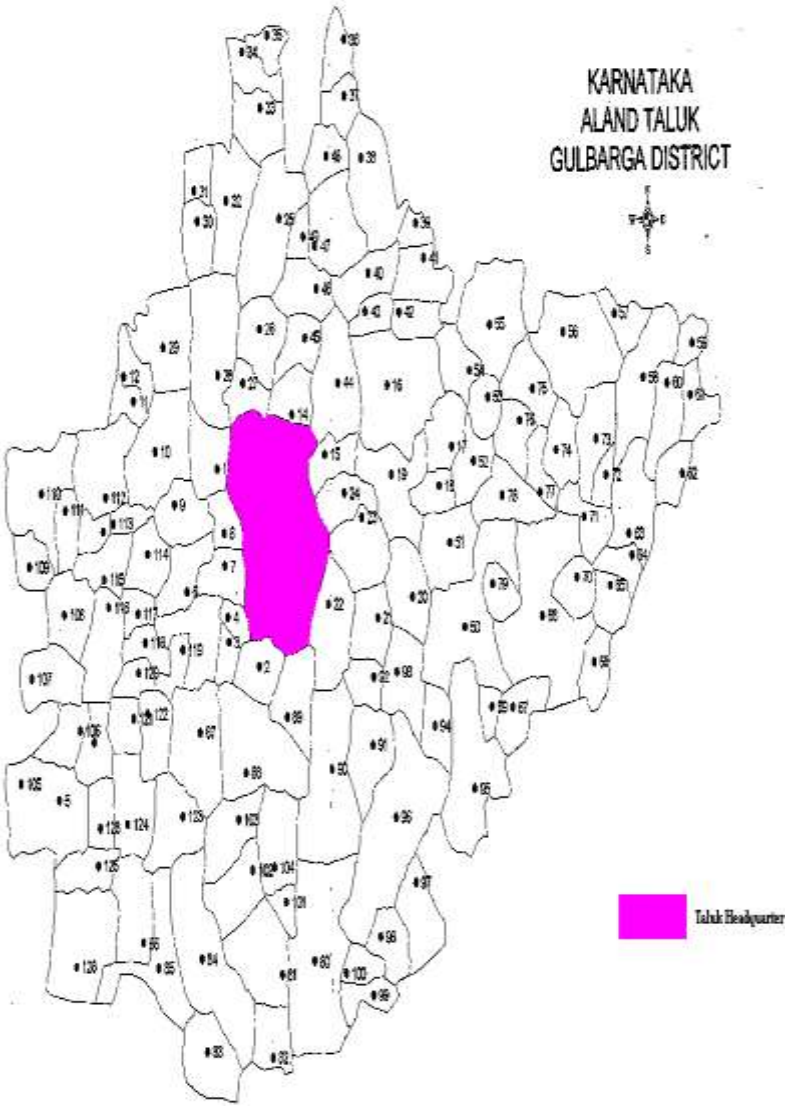
Opinion about Manipulation in Computerised System

Name of *Taluk*	Free from manipulation of VA/KO (In %)		
	Yes	No	Don't know
Afzal Pur	38.4	23.8	37.8
Aland	41.4	20.3	38.3
Chincholi	51.2	9.3	39.5
Chitapur	12.3	18.1	69.6
Gulbarga	38.3	14.5	47.2
Jewargi	50.3	11.1	38.6
Sedam	41.1	15.9	43
Shahapur	19	13	68
Shorapur	11.6	0	88.4
Yadgir	50.7	3.7	45.6
Total	37.1	13.4	49.5

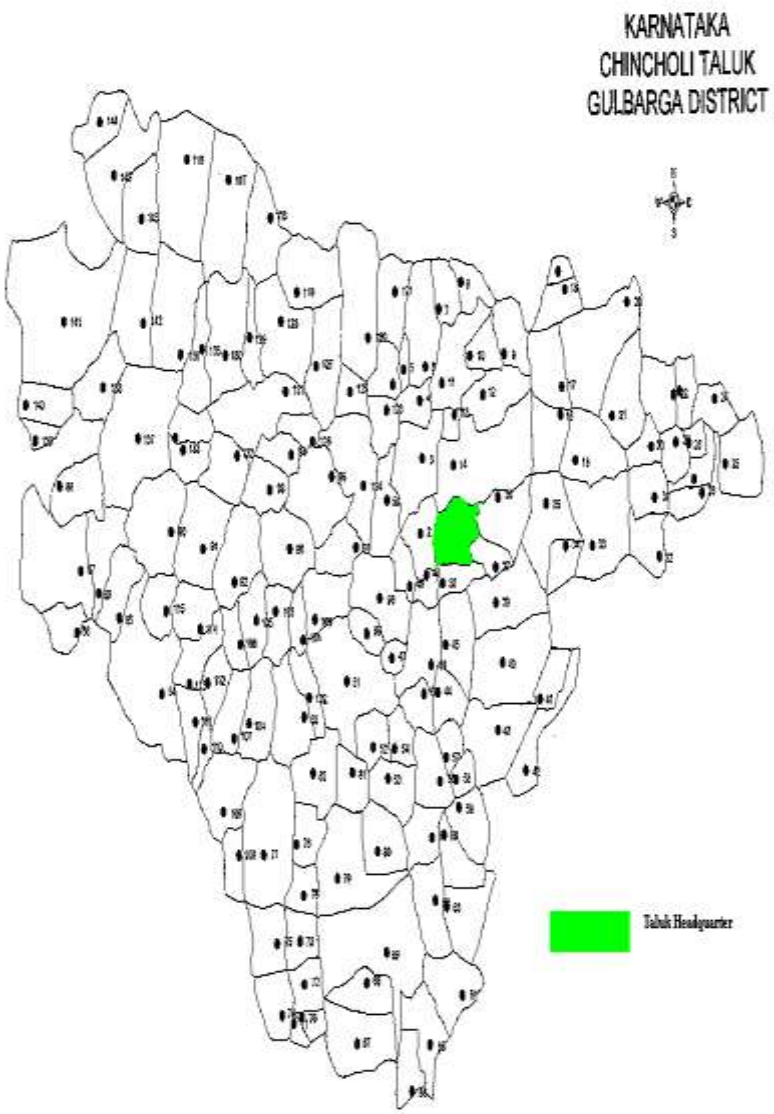
Appendix – 8



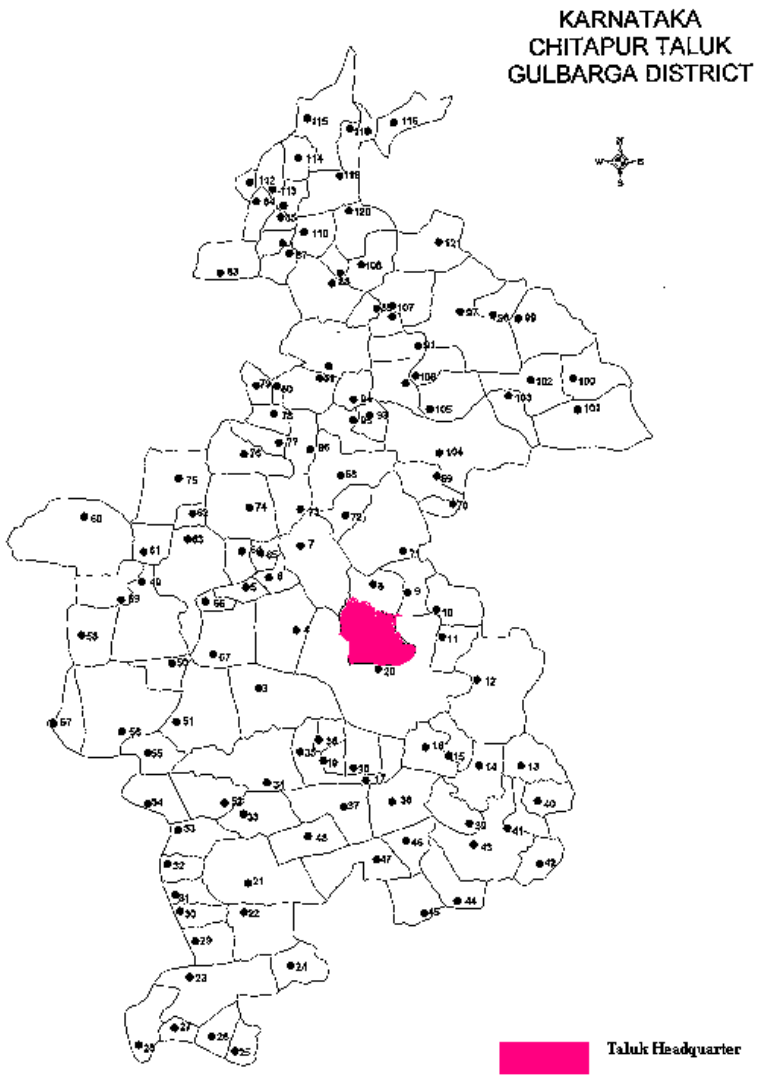
Appendix – 9



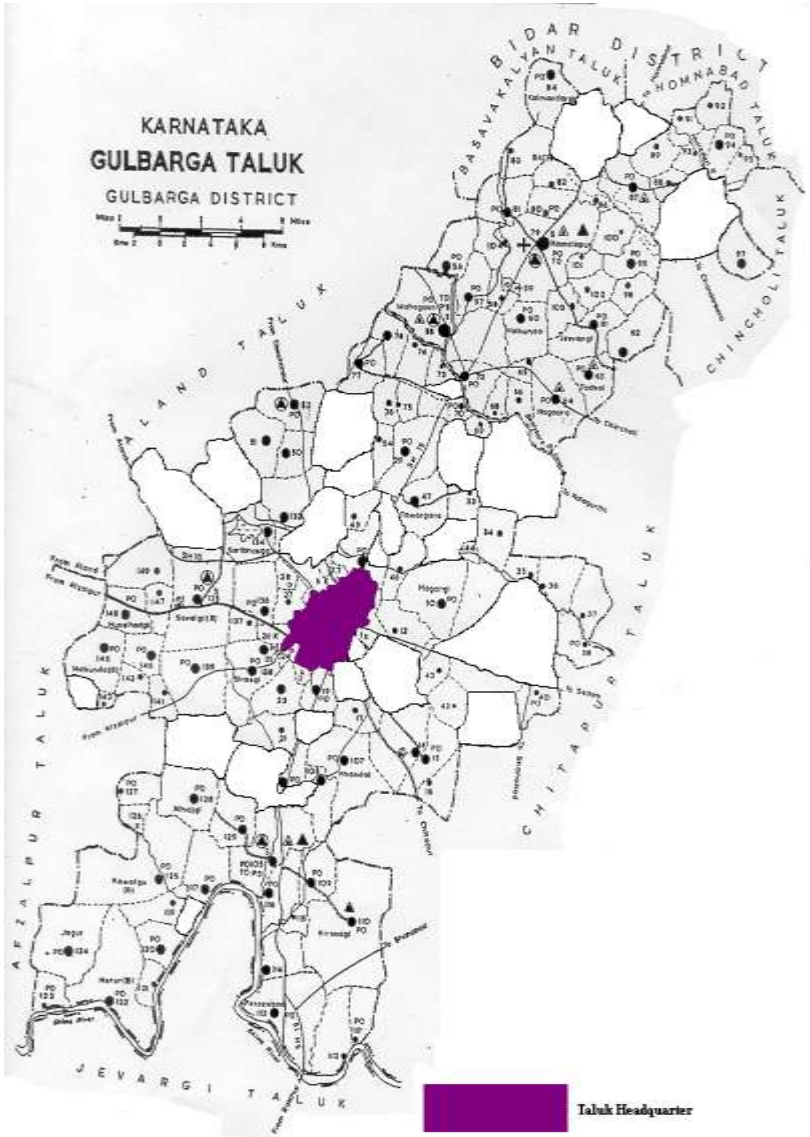
Appendix – 10



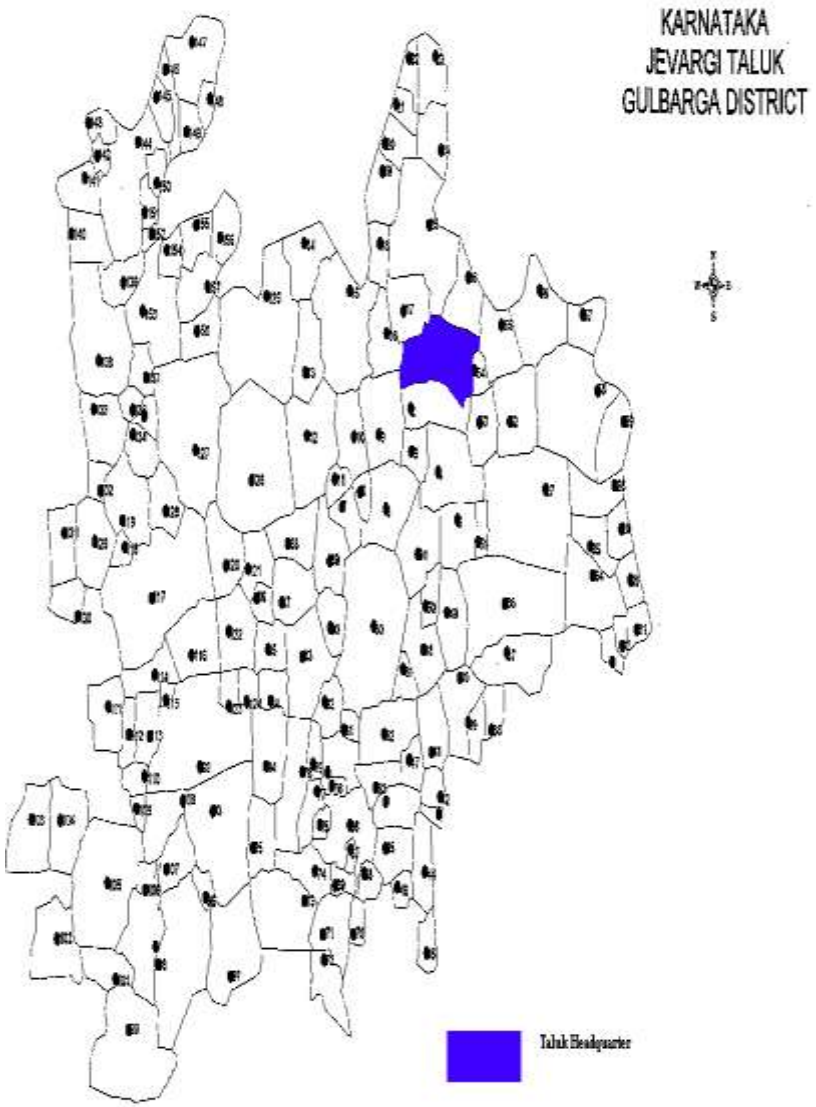
Appendix – 11



Appendix – 12

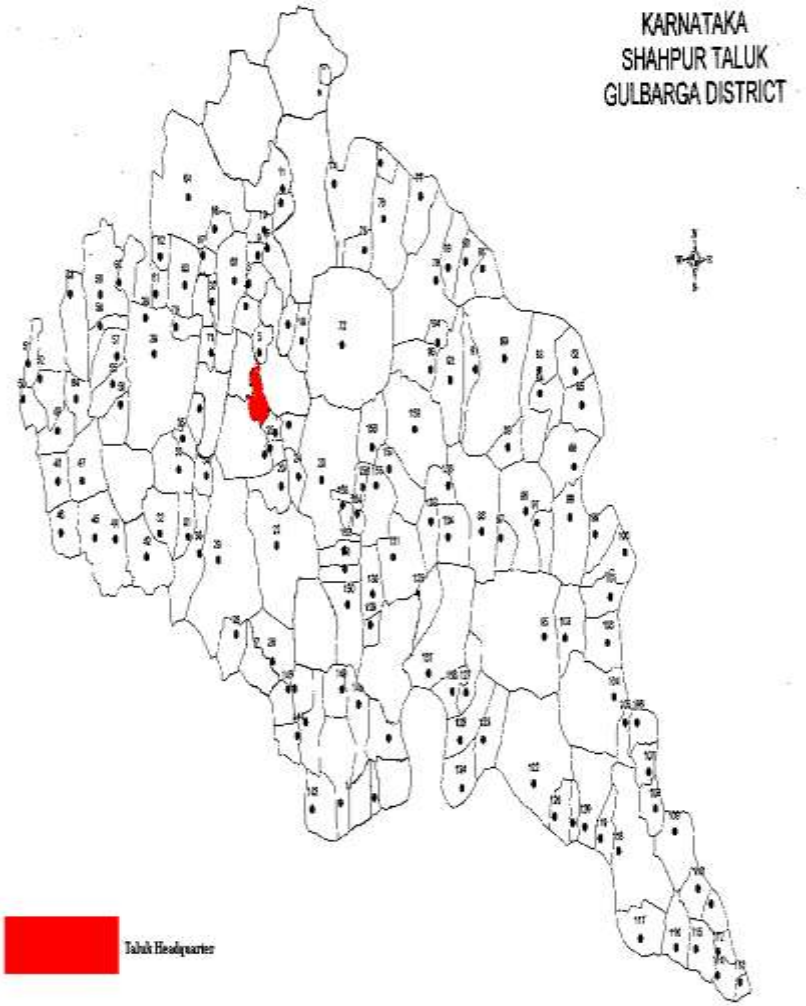


Appendix – 13

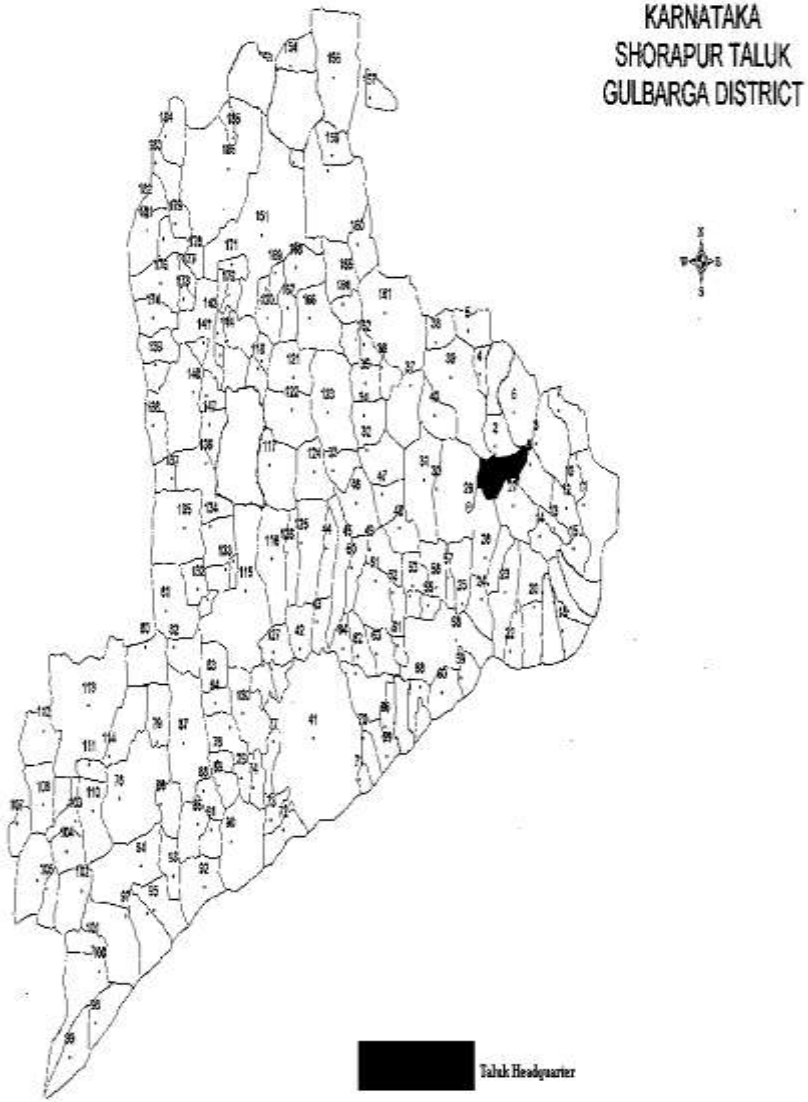


Appendix – 14

Appendix – 15



Appendix – 16



Appendix – 17

Appendix – 18
Computerisation Helps in Generating Awareness about the Encroachment Over Government Land

Name of *Taluk*	Generating awareness about the encroachment over government land (In %)	
	Yes	No
Afzal Pur	27.9	72.1
Aland	44.4	55.6
Chincholi	20.9	79.1
Chitapur	8.7	91.3
Gulbarga	18.1	81.9
Jewargi	13.5	86.5
Sedam	23.2	76.8
Shahapur	17	83
Shorapur	8.9	91.1
Yadgir	21.30	78.7
Total	20.6	79.4

Appendix – 19
Reduction in Conflicts related to Government Land

Name of *Taluk*	Reduction in Conflicts related to Government Land (In %)		
	Yes	No	Don't know
Afzal Pur	27.9	12.2	59.9
Aland	31.6	9	59.4
Chincholi	19.8	8.7	71.5
Chitapur	3.6	4.3	92
Gulbarga	14	5.2	80.8
Jewargi	17	4.1	78.9
Sedam	21.2	5.3	73.5
Shahapur	13	2	85
Shorapur	8.9	0	91.1
Yadgir	22.1	1.5	76.5
Total	18.3	5.6	76.1

Appendix – 20
Prevalence of Land Tenancy

Taluk		Leasing In			Leasing Out		
		HHs	Area	Average	HHs	Area	Average
Afzal Pur	Percentage	5.23	4.82	4.97	4.65	7.02	8.15
	Number & Area	9	44.74		8	65.18	
Aland	Percentage	9.77	4.52	2.58	4.51	3.78	4.67
	Number	13	33.51		6	28.02	
Chincholi	Percentage	18	13.54	3.51	3.49	3.22	4.32
	Number	31	108.88		6	25.91	
Chitapur	Percentage	2.17	2.13	5.28	1.45	1.42	5.26
	Number	3	15.85		2	10.53	
Gulbarga	Percentage	1.55	2.25	7.05	2.07	1.98	4.66
	Number	3	21.15		4	18.62	
Jewargi	Percentage	11.11	8.69	19	2.92	1.56	2.92
	Number	19	81.14		5	14.57	
Sedam	Percentage	4.63	6.15	7.59	1.93	2.25	3.89
	Number	7	53.12		5	19.43	
Shahapur	Percentage	7	11.46	6.83	3	0.98	1.35
	Number	7	47.77		3	4.05	
Shorapur	Percentage	3.57	0.95	1.22	1.79	1.98	5.06
	Number	4	4.86		2	10.12	
Yadgir	Percentage	6.62	3.96	2.23	2.21	5.12	8.64
	Number	9	20.06		3	25.91	
Total	Percentage	7.10	5.83	4.10	2.98	3.01	5.05
	Number	105	431.07		44	222.35	

Appendix – 21
Reduction in Conflicts related to Tenancy

Name of *Taluk*	Reduction in Conflicts related to Tenancy (In %)		
	Yes	No	Don't know
Afzal Pur	12.2	6.4	81.4
Aland	26.3	10.5	63.2
Chincholi	11.6	2.3	86
Chitapur	0.7	4.3	94.9
Gulbarga	7.8	1.6	90.7
Jewargi	11.7	1.8	86.5
Sedam	9.9	2.6	87.4
Shahapur	9	1	90
Shorapur	5.4	0	94.6
Yadgir	14	4.4	81.6
Total	10.9	3.5	85.6

Appendix – 22
Facilitation in Institutional Finance after Computerisation

Name of *Taluk*	Facilitation in institutional finance after computerisation (In %)		
	Yes	No	Can't Say
Afzal Pur	75	4.1	20.9
Aland	69.2	3.8	27.1
Chincholi	68	1.7	30.2
Chitapur	52.2	0.7	47.1
Gulbarga	64.2	2.1	33.7
Jewargi	67.3	0.6	32.2
Sedam	77.5	6.6	15.9
Shahapur	46	0.0	54.0
Shorapur	22.3	0.0	77.7
Yadgir	67.6	0.0	32.40
Total	62.9	2.1	35

Appendix – 23
Facilitation in Sale and Purchase of Land

Name of *Taluk*	Facilitated in Sale and Purchase of Land (In %)		
	Yes	No	Don't know
Afzal Pur	44.8	11	44.2
Aland	53.4	10.5	36.1
Chincholi	44.8	8.1	47.1
Chitapur	20.3	10.9	68.8
Gulbarga	35.8	7.3	57
Jewargi	49.1	4.1	46.8
Sedam	41.1	7.3	51.7
Shahapur	29	0	71
Shorapur	12.5	0	87.5
Yadgir	42.6	5.1	52.2
Total	38.5	6.8	54.7

Appendix – 24
Time Spent in Obtaining Land Information prior and after Computerisation

Taluk	Within 1/2 Day		Within Half Day		One Day		1-3 Days		3-7 Days		7-10 Days		10-30 Days		More Than 30 Days		Total	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
Afzalpur	15.70 (27)	24.42 (42)	40.12 (69)	71.51 (123)	11.05 (19)	3.49 (6)	18.02 (31)	0.58 (1)	8.14 (14)	0.00	4.07 (7)	0.00	2.91 (5)	0.00	100.00 (172)	100.00 (172)		
Aland	23.31 (31)	36.09 (48)	31.58 (42)	54.89 (73)	21.05 (28)	5.26 (7)	14.29 (19)	3.76 (5)	2.26 (3)	0.00	3.76 (5)	0.00	3.76 (5)	0.00	100.00 (133)	100.00 (133)		
Chincholi	45.35 (78)	49.42 (85)	27.91 (48)	50.00 (86)	10.47 (18)	0.58 (1)	13.37 (23)	0.00	1.74 (3)	0.00	0.00 (0)	0.00	1.16 (2)	0.00	100.00 (172)	100.00 (172)		
Chitapur	51.45 (71)	59.42 (82)	27.54 (38)	34.78 (48)	5.80 (8)	5.80 (8)	4.35 (6)	0.00	3.62 (5)	0.00	4.35 (6)	0.00	2.90 (4)	0.00	100.00 (138)	100.00 (138)		
Gulbarga	42.49 (82)	66.84 (129)	36.27 (70)	30.57 (59)	6.74 (13)	2.07 (4)	7.77 (15)	0.52 (1)	1.04 (2)	0.00	5.18 (10)	0.00	0.52 (1)	0.00	100.00 (193)	100.00 (193)		
Jewargi	43.86 (75)	54.97 (94)	30.99 (53)	44.44 (76)	5.26 (9)	0.58 (1)	15.20 (26)	0.00	1.17 (2)	0.00	1.75 (3)	0.00	1.75 (3)	0.00	100.00 (171)	100.00 (171)		
Sedam	35.76 (54)	40.40 (61)	29.80 (45)	56.95 (86)	13.25 (20)	1.32 (2)	9.27 (14)	1.32 (2)	5.30 (8)	0.00	4.64 (7)	0.00	1.99 (3)	0.00	100.00 (151)	100.00 (151)		
Shahpur	35.00 (35)	52.00 (52)	22.00 (22)	47.00 (47)	19.00 (19)	0.00 (0)	18.00 (18)	1.00 (1)	3.00 (3)	0.00	3.00 (3)	0.00	0.00	0.00	100.00 (100)	100.00 (100)		
Shorapur	41.96 (47)	62.50 (70)	25.00 (28)	37.50 (42)	10.71 (12)	0.00	13.39 (15)	0.00	7.14 (8)	0.00	1.79 (2)	0.00	0.00	0.00	100.00 (112)	100.00 (112)		
Yadgir	41.91 (57)	58.82 (80)	24.26 (33)	40.44 (55)	4.41 (6)	0.74 (1)	21.32 (29)	0.00	2.21 (3)	0.00	5.15 (7)	0.00	0.74 (1)	0.00	100.00 (136)	100.00 (136)		
Total	37.69 (557)	50.27 (743)	30.31 (448)	47.02 (695)	10.28 (152)	2.03 (30)	13.26 (196)	0.68 (10)	3.45 (51)	0.00 (0)	3.38 (50)	0.00 (0)	1.62 (24)	0.00 (0)	100.00 (1478)	100.00 (1478)		

Note: Figures above parenthesis indicate percentage.