Discussion
CHAPTER V

DISCUSSION

The result of the study presented in the previous chapter is discussed below under following headings.

5.1: Socio-economic characteristics of the respondents

5.2: Impact of COLR

5.3: Cost and time involved in obtaining computerized land records

5.4: The constraints and infrastructural bottlenecks for the effectiveness of COLR

5.5: The views of land revenue officials regarding the advantages and disadvantages of the new computerized land records system

5.1: Socio-economic characteristics of the respondents

5.1.1: Taluk-wise distribution of respondents

A systematic sampling procedure was followed and arrived at a total sample size of 50 respondents each in a taluk. The term respondent mainly refers to the end kiosk users (the land owners who were at the kiosk to collect the land documents/RTC). Totally, 200 respondents were interviewed and this number supported all the needs for the statistical analysis.

The district selection was mainly based on the different revenue zones of Karnataka, Tumkur district was selected from the Mysore revenue zone and Gulbarga district were selected from the Hyderabad-Karnataka Zone. In addition to this, these districts differs from its geographical and topographical characteristics as Tumkur district represents the southern part of Karnataka and Gulbarga represents the
northern part of the state. Gulbarga was the first district in Karnataka to adopt the computerization and was a pilot district for this project.

In Gulbarga district, the study Taluks was selected randomly. In Tumkur district it was a purposive selection with an intension to include Madhugiri taluk in the study area as it was the pilot taluk for computerization in Tumkur district.

In all the selected taluks, an equal number of 50 respondents were interviewed. Apart from these interviews, a set of concerned officials were interviewed.

5.1.2: Gender of the respondents participating in COLR

From the results obtained, it is clear that majority of the respondents interviewed were male (91%) and the rest were women respondents. Among the 9 percent women, Sedam taluk alone had 8 respondents. These women respondents may be either widows or single, which had made them to travel to the kiosk to get the RTC. Less number of women visiting kiosk may be attributed to fact that, in Indian tradition, the movement of Indian rural women to towns or cities to obtain the RTC or for any other works is very uncommon, the same has been observed and recorded in this study. On the other hand, from this one can infer that the participation of the women in the land related non-production activities is very less and the same has been proven in the study results. The lack of education for the women is also a major reason for less participation of women in such activities. The results obtained on the education backs up this statement.

5.1.3: Age of the respondents participating in COLR

The age of the respondents plays an important role in assessing, adopting and in ascertaining their opinion about COLR's functioning. The age wise distribution of the respondents is depicted in table 4.3.
The age groups were categorized into three groups, group one who were aged less than 35 years, group two from 35 years to 50 years and group three who were more than 50 years. The study highlights that the maximum number of respondents were from the group two i.e. from 35 years to 50 years. From this age-wise distribution of respondents, one can infer the tendency of adopting any new technology and its relation to the age. In this study, the mid-aged people's participation was high. This indicates that, age play a vital role in the success of any project and the same applies for COLR. More number of mid aged people visiting to kiosk for obtaining the RTC indicates that “lesser the age of the people, more will be the adoption rate”. This was similar in all the taluks as not much cross regional variation was observed. Irrespective of regions, the results depicts the importance of age in adopting any new technology particularly pertaining to anything related to computer and electronic medium.

5.1.4: Religion of the respondents participating in COLR

The religion of the respondents did not have any direct relationship with the study objectives. The information on the religion was mainly collected to know the socio economic situation of the research area as any research is linked with the socio economic back ground of the study areas.

From the result obtained it is clear that Hindus dominated at 84 percent (Table 4.4) and the rest were from the Muslim community. The main reason of Hindu dominancy is, the selected districts were mainly Hindu dominated and the same applied for all the taluks. As the study was purely pertaining to the adoptability and assessing the new technology, the religion aspect had very less role to play.
5.1.5: Caste of the respondents participating in COLR

Caste plays a vital role in indirectly assessing the land holding pattern. In general, in the rural economy, majority of the land holdings are witnessed in the hands of the upper/general caste people and usually the lower caste people are identified with very less or nil lands. The study result reflected higher participation from the general caste people (Table 4.5). This indicates that, usually these are the set of people with more land and with more education level compared to other sets. The general statement on Indian rural economy on land holding v/s caste holds good for this study results.

The less number of people participating from the other castes indicates the less landholding by people from other castes and less information on the latest happenings in the field of land related activities including the computerization.

A slight variation was observed within the study areas. A high number of SC and ST respondents were noted in Gulbarga district. This is mainly due to the fact that, Gulbarga district is considered as one of the most backward district of Karnataka and has the highest number of SC and ST population compared to Tumkur district.

5.1.6: Literacy / Education level of the respondents

Education plays a vital role in any aspect of development and the same applies for this study as well, mainly in assessing the people’s participation and adapting to the new computerized system. From the results one can witness the direct relationship between the education and participation level.

Among all the interviewed respondents, a majority of 46 per cent respondents had high school education and 28 per cent of them had their college education. Higher number of respondents with education is witnessed in Tumkur district, which is mainly because of its better socio
economic condition compared to Gulbarga district. From the results, one can infer that the participation of educated respondents is more in this program and this reflects the importance of education in adopting and understanding any new technology, situation or a concept very easily and quickly. Though, the kiosk operations and obtaining RTC is very easy, some of the land owners seem to hesitate to approach the kiosk and depend on the others to obtain the RTC. The same applied for all regions as not much variation was observed between the different taluks.

When we compare the age and the education results, it is very clear that mid aged respondents with some education are the set of people who are visiting and accessing the facility from the computerized kiosk. From the table 4.3 and table 4.6 one can assess and judge the role of these factors for the success of projects relating to computerization.

5.1.7: Income source of the respondents

Income source was mainly surveyed to know the socio economic back ground of the respondents and study areas. In India, “agriculture is considered as the main occupation of the rural people and is the backbone of our economy”. If we look at the study results, the results obtained strengthens the same quote with more number of respondents stating agriculture as their main occupation and source of income (Table 4.7).

In the study area, a total of 62 percent were directly engaged in agriculture closely followed by the sets of respondents who were engaged with a combination of agriculture & employment and agriculture & allied activities. As the study was mainly pertaining to issues related to land, from the results one can infer that it is very common to have and get the respondents related to agriculture.

On the other hand, 25 percent of the respondents were with the allied activities. The allied activities were mainly dairy related activities.
The set of respondents with the employment were mainly with small jobs taken at the village or town level.

When compared between the study taluks, not much variation was observed, as the dependence of respondents on the income source was almost similar.

5.1.8: Plot-wise distribution of the respondents

Number of visits to the kiosk by the respondents and the number of RTCs obtained is directly related to the number of plots owned. In our land documentation system, each parcel of land will have a separate survey number. As a result, in the new system of computerization, one has to obtain a separate RTC for each survey number.

From the result obtained it is clear that 66 percent of people were having more than one plot and the rest with only one plot. The reasons for respondents having more than one plot may be attributed to the fact that, usually the landowners, small or big will have their lands in more then one parcels. This is mainly due to our land distribution pattern, often due to land partitions and purchases, the land will be scattered in different parcels resulting in more than one plot for the majority of land owners.

The same observation was made in all the taluks. More number of respondents in the study area with more than one plot substantiates the above statement on the land distribution pattern and one can infer that the most kiosk visited people are those who have lands in more than one parcels.

5.1.9: Distribution of the respondents with respect to the Land types

Land types are generally categorized into irrigated and dry land. The land type details were collected mainly to access the economic conditions of the interviewed land owners. From the results presented in
From the result obtained, more number of respondents in Gulbarga district was having dry lands. This is due to the fact that, Gulbarga district is one of the drier districts of Karnataka comprising a huge amount of dry land holdings. Tumkur district respondents were in a good situation compared to Gulbarga district respondents as most of them had irrigated lands. Among the two taluks in Tumkur district, Madhugiri is generally considered as a dry taluk, the result substantiate this with more number of respondents under the category of dry land in Madhugiri taluk.

5.1.10: Source of irrigation

Among the respondents with irrigated land, majority of them were dependent on the bore well (81%) for irrigation. As both study districts receive lower rain fall, bore wells were very common and were the major source of irrigation. Further, open wells and tanks contribute to a small extent.

Respondents with dry land were mainly depending on the rain (35 percent of the respondents depending on this source, table 4.10), when compared to Gulbarga district. More number of bore wells were observed in Tumkur district indicating wellbeing of the landlords and availability of the ground water in that area. On the other hand, few landlords in the study area were using both bore wells and open wells for their irrigational requirements and these are the set of respondents mainly categorized as big farmers.

5.1.11: Mode of acquisition of agricultural land

Mode of land acquisition helps in knowing the path of land acquired by the respondents. The results obtained have been
documented in table 4.11. It is clear from the results that majority of lands acquired in the study area were through ancestry, meaning from inheritance. In the rural economy, the normal practice and the major land acquisition are through inheritance and the same holds good for this study with 86 percent of respondents acquiring land through inheritance.

In general, the agricultural land transaction is very low in rural areas and the study results reflect the same with only 14 percent of respondents acquiring land by purchasing. When we cross examine between the study taluks, Koratagere and Madhugiri had the highest number of respondents who has purchased the land. This is mainly because of the better economic condition of the people in these areas when compared to the taluks in Gulbarga district. This highlights the cross regional variation in the economic situations.

5.1.12: Distribution of respondents who obtained computerized RTC according to the land size category

Land holding plays a vital role in adopting for any new innovation in the field of agriculture and allied activities. Much variations were documented (Table 4.12) in the land holding category. The majority (40.5 %) of the respondents were from the medium category with the land holding ranging from 5 acres to 10 acres. This indicates that the study area was concentrated with more of medium category land owners, which are also true according to the secondary sources.

Further, large farmers were in the third position when compared with other four categories. More of such respondents were noted in Tumkur district, mainly attributing to wellness of the district when compared to Gulbarga district. Surprisingly, one of the respondents interviewed in Madhugiri taluk did not have any land but was in kiosk to collect the RTC on behalf of his brother.
When we compared the response on acceptance of computerization versus the land holding, it had a direct relation on people with more land accepting computerization, when compared to others sets of respondents. This is mainly because the respondents with more land usually were educated and were able to easily access to the town and kiosk. The opportunity cost and the RTC fee were not considered as a burden for such category respondents. Whereas for the other sets of respondents, these costs were very vital and resulted in fewer acceptances.

5.1.13: Distribution of the crops in the study area

While capturing all the relevant general information of the study areas, the information of common crops grown was considered and the same has been depicted in the table 4.13.

Agricultural crops grown differ from region to region, which were mainly based on the agro-climatic zone. The common crops grown in the study region varied from area to area based on soil and climate. The major crops grown in Gulbarga district were; cereals, pulses, millets and oil seeds. In the Tumkur district, apart from these crops, the area was highlighted with plantations, vegetables and sericulture. This was mainly because of the soil condition and the availability of the better irrigational facility, as these crops demand high quantity irrigation when compared to other dry crops. From this, one can infer that the agricultural status of the region and in turn, can also assess the economic condition of the farming community. Usually, plantations, vegetables and sericulture fetch good income when compared to other crops. More people engaging in these activities in Tumkur district reflects on the better economic conditions of the district.
5.2: Cost and time involved in obtaining computerized land records/RTC

One of the main objectives of the research was to assess the success of COLR in Karnataka. Assessing any government project related to agriculture, land and farming is a challenging task.

In this research, a systematic tool was designed to achieve this objective, which included a detailed in-depth collection of all the information relating to COLR at different levels.

The outcomes of such in-depth interviews are discussed in this section. All the related comments of COLR were taken into consideration during this process.

5.2.1: Respondent's awareness on the computerization of land records

The end user/land owner's awareness on any government schemes and program is very important for its success and the same applies for the COLR.

As most schemes and programs need an external media to create the awareness, in COLR, it was the revenue officials who acted as a buffer between the government and the users for creating the awareness on the COLR. The results in table 4.14 indicate the success of this program. Interestingly 85.3 % of the interviewed respondents were aware of this program. One can infer from this that the effort from the revenue officials in publicizing this COLR program was commendable.

When the study regions were compared, a small variation was observed between the two study districts. The level of awareness in Tumkur district is higher compared to Gulbarga district. This can be attributed to the fact of higher literacy rate in Tumkur district compared to the Gulbarga district respondents. Madhugiri taluk has been recorded with 100 percent awareness, this may be due to the fact that, Madhugiri
taluk of Tumkur district was the pilot taluk for computerization and due to this it may have helped in creating high level of attention and awareness on the COLR process.

5.2.2: Respondents views on year of computerization of land records

Parallel to the awareness of COLR process, information on the respondent’s knowledge of the year of computerization was collected. The opinion of the respondents varied from region to region, with a larger portion of community leaning towards the years in between 2002 to 2005 (Table 4.15), which is also true according to the secondary sources. In reality, according to the secondary sources, the computerization processes were not started at the same time, it differed from place to place and the results obtained form the study also infer the same as the responses varied from taluk to taluk.

Interestingly, 17.5 per cent of them have mentioned it was between the years 2000 and 2002. Majority of these respondents were from Tumkur district. The reason for this may be attributed to the fact that the computerization in Madhugiri taluk witnessed an early kickoff of the project as it was the pilot taluk. Around one per cent respondents have mentioned it to be during the year 1995 to 1998, which is far from reality. This may be the set of respondents with very less or nil education background. It has to be noted that the study had respondents with different educational background and even some without any education resulting in varying responses. This attributes the importance of education in all levels of development, particularly, in activities related to schemes and programs.

5.2.3: Respondents’ source of information on computerization

For any new introduction of a project or a product, the path for reaching its target group is critical and important for the success of the project or a product.
Table 4.16 highlights the path from which the respondents came to know on the COLR. Village accountants dominated the show with 60.5 percent of respondents stating that they came to know about the COLR through them. This emphasizes the role of VA at the village level. The next major medium was through neighbors and friends. Usually, in villages due to few clusters of houses, the flow of information from one person to other will be faster and the same has happened in this case as well. Unlike in towns and cities, where people depend more on the media, in the study area, very less percent have stated that the source of information on COLR was through media. Local leaders contributed a marginal share of 3.5 percent in creating the awareness on computerization.

5.2.4: Awareness about the procedures for obtaining computerized land records/RTCs

The new system of computerization of land records has a new formal, technical and disciplined system of collecting the land records from the kiosk. In the old system, no proper procedure was involved; it was just meeting with the VA and obtaining a copy from him. As the procedure differed from old manual system to new computerized system, it was very important to capture the insight on this and the results of the same has been presented in table 4.17.

All the interviewed respondents were asked on their knowledge of the procedures for obtaining land records from the kiosk and particularly related to RTC as many of them used to visit the kiosk for collecting RTC when compared to other land documents.

From the result obtained, a high percent of 86.1 were aware of the procedure, which is a good sign of success. The level of awareness was comparatively higher in the taluks of Tumkur district attributing to the reason of better economic and education conditions of the respondents when compared to Gulbarga district. A few (13.9 %) of them were not aware of the procedures, which may be due to the less or no education
or may be that they have not obtained any RTC till now resulting in non-awareness of the procedures.

5.2.5: Information on the recipient of free copy of computerized RTC.

The revenue department of Karnataka government was the implementing agency for computerizing all the land records in the state. During the process of computerization, as a mode of cross checking the end product, all the land owners were distributed with a free copy of the RTC to make sure that the entered information from the old manual records were correct, at the same time, all the land owners were invited to come up with changes against any mistake. This was considered as a very important step in assuring the quality of the data transferred from the old manual system to new computerized system.

The research aimed at gathering and cross checking this free distribution step at the ground level for which, all the interviewed kiosk users were asked about receiving the free RTC. Sixty-five per cent of respondents have said that they indeed received a copy of the free RTC and on the other spectrum, surprisingly, a pretty high number of 35 per cent of respondents have said that they did not receive any free copy of RTC. This may be attributed to the fact that the RTC were distributed at a particular time and the non-availability of land owners at that time may be the reason for this or the revenue officials may have concentrated and distributed the free copy to only big land lords and not considered the small and marginal landlords seriously.

As observed in the earlier cases and results, the land owners who received the copy of free RTC were high in Tumkur district when compared with the Gulbarga district (Table 4.18). This huge regional variation may be due to the inefficient operations of the revenue officials
in Gulbarga district and or may be due to lack of people's participation in these taluks.

5.2.6: Respondents' knowledge on the survey number of their land

In the new computerized system, the procedure for obtaining the RTC differed from the old manual system. In general, land and land records are directly linked and identified with the land survey number as it helps in identifying a particular land. In the new system, in order to obtain a copy of any land record/RTC, the land owner has to mention the survey number of his land. Thus it was very important to document the awareness on this. The results from the table 4.19 indicate most respondents knew the survey numbers of their land. Eighty four percent of them were aware of their survey number. The awareness was comparatively low in Gulbarga district. When compared and correlated this result with the education level of the respondents, Gulbarga district was concentrated with less educated compared to Tumkur district resulting in less awareness of the survey numbers.

These results indicate that, the technical requirements like the survey numbers are not a major factor for the success of the project. Earlier in old manual system, a landowner use to get the RTC from VA just by identifying him by his name. VA used to issue a copy without other verification and hence leading to high dependency on him and paving the path to corruption.

5.2.7: Kind of document/records collected from the kiosk

The term RTC is the heart of all the land records, as it is needed for all the activities and transactions related to the land. In general, the important land records are; RTC, Mutation registrar (MR) extract and Katha extract, among which RTC is the mother of all land records. All the interviewed respondents were asked on the type of land records collected by them during their visit to kiosk. A high percentage of 52 (Table 4.20) were in the Kiosk to collect the RTC and 43 percent were
present to collect both the RTC and MR. The high number of respondents present in the kiosk to collect the RTC substantiates the above statement on the importance of RTC. All the interviewed respondents were in the Kiosk to collect the RTC for crop loan purpose. Crop loan is one of the important aspects for all the farming community. Eventually, majority of the landowners apply for this and the same has been proven in the study result (table 4.20).

5.2.8: Purpose of obtaining RTC

In the entire study area, 62.5 percent of respondents were present in the kiosk to collect the RTC for legal purpose. This is due to the fact that, all the legal cases related to land are attached with the copy of RTC to be produced before filing the compliant. The percent of such respondents are slightly high in Gulbarga district attributing to fact that the land transaction and land disputes are substantially high there compared to the other study districts. The other important reasons for obtaining the RTC were mortgage, land sales and purchases. From the results one can infer the need and importance of land records in various fields. Any program or project by the government in the interest of land owners is really a welcoming approach and COLR can be said as one of the important projects favoring the land owners.

5.2.9: Respondents views on the accuracy of computerization

The success of any new program or project implemented by the government or from any private or from individual particularly projects on documentation is judged mainly by its accuracy. Accuracy of the end product delivered is very important, especially in cases of land records.

Gaining the confidence of the landowners in adopting the new technology is possible only by providing the best end results. The study result strengthens this fact by documenting 57.25 percent of the respondents opining positive on its accuracy which is a good result for an innovative project like BHoomi.
Judging the accuracy of any particular project is not a laymen business, hence, 30 percent of the respondents have no opinion on this as judging on this was a difficult task for them. As the views differ from person to person, the same has been witnessed in COLR as a portion of sample respondents had a negative opinion on the accuracy, which may be attributed to the fact that the study sample had respondents with different background and education. The chances of understanding the accuracy by the less and nil educated are very less. The statement may be substantiated by observing more number of respondents opining negative in Gulbarga district were more percent of less educated respondents and illiterates were documented.

5.2.10: Respondents views on harassment

The term harassment is common to all the government related activities. Harassment free deliver of any product can be attributed as the success of the project.

Harassment is very common in land related issues and the computerization of land records has said to have evicted this problem. The result for the study also supports this statement with more than 55 percent (table 4.23) of respondents opining and stating that the new system is free from harassment. The opinion mainly depends on the individual perception; the same applies for COLR as 32 percent of respondents had a negative opinion on this. The rest have no opinion on this. These results highlight the room for filling the gap and emphasize to make the system further harassment free.

Before computerization, the term harassment was directly related to the VA, certain studies documented that every time land owner faced the VA they have experienced the harassment from them, which is mainly during obtaining the land related documents. It is very clear that, from this new computerize system; at least now the land owners are free from harassment.
5.2.11: **Computerization v/s creating awareness about the encroachment of government lands**

Encroaching government land is a national problem and Karnataka indeed is no different in this case. During computerization, one of the major objectives of the government apart from delivering the land records was to ensure that this new system identifies the encroached government lands.

The results from the study had differed results compared to the government statement on generating awareness on the encroached lands. According to the respondents view, around 78 percent were not aware of this. Only a set of 21.5 percent of respondents opined that "yes the computerization has resulted in generating the awareness on the government encroached lands". The more number of respondents stating as "no" to awareness may be attributed to the fact that usually such government land information will be with the revenue officials and the land owners might not have much knowledge on that.

5.2.12: **Positive opinion for the computerized RTC according to the land size category**

To analyze the relationship between the land holding and response to the COLR were documented from the interviewed respondents and the results of that are presented in table 4.25.

Among all the interviewed respondents, the large farmers (having land of more than 10 acres) were more positive on this approach of computerization. This is mainly due to the fact that much of these large farmers was educated, often visited the town and was capable to understand the advantages of the new system. The obtained result when cross checked with the educational level, the more educated respondents were in the category of large farmers. The study area witnessed a small regional variation among the taluks. The positive response has decreased according to the land holding category. This depicts the
importance of education for the success of any project. The study results had direct relationship with different land holding category. Higher the land holdings, more is the positive opinion on the COLR as it is linked with the education and social status of such respondents.

5.2.13: The percentage distribution of respondents with regard to availability of computerized RTC

Assessing the success of any new scheme or program depends upon number of factors and success indicators. The success of COLR can be assessed by considering the different factors, which were categorized into respondents view, official view and higher officials view.

Before getting into the details on the time factor, all the respondents were asked in general about the time consumed during obtaining the RTC from the kiosk. Inter-regional variations in the answers were noted with 58 percent of them stating that there was no delay in obtaining RTC. Any project in its initial years with more than half of the users giving positive opinion about it is considered as a good success. The result obtained holds good and accomplishes one of the project objectives of BHoomi; as it aimed at reducing the time involved for the land owners during obtaining any land records. Parallel to this, the Government has to work on the reasons for which 32 percent have stated that they experienced delay. Various reasons may be attributed for this delay starting from the non-functional computer system in the Kiosk, absence of kiosk operators, power failure, too many people lined up to collect the RTC and so on. One has to work on these factors to make the RTC collecting process much smoother and efficient. The more number of respondents stating the experience of delay in Gulbarga district may be due to the fact that, the geographical area in this district is vast and the people have to travel miles to reach the kiosk hence, causing delay. When compared technically, Gulbarga district was lagging behind Tumkur district. The detailed comparison on time consumed
before and after computerization are been discussed in the following section in the chapter.

5.2.14: Time consumed for obtaining land records prior to Computerization

In Karnataka, before computerization all the land records were issued manually. A comparison on time taken to obtain the RTC with the new computerized system and old manual system was strongly needed to assess the project. All the interviewed respondents were asked with the questions related to old system.

Interestingly more than 50 percent (table 4.27) have stated that they used to obtain the RTC with in a day. In the earlier manual system of issuing the RTC, the VA was the concerned person to issue the RTC and his job profile included traveling to all the villages in his jurisdiction. More number of respondents stating as ‘within a day’ may be due to the fact that, the concerned land owner used to meet the VA during his visit to the village and obtain the RTC in the village itself by avoiding his personal travel.

Besides these 50 percent, about 18 and 16 percents of respondents have stated that it took around a week and two for obtaining the RTC. This can be attributed to the facts that VA was the only person to issue the RTC, the absence of VA or long leave of VA and VA attending other works in the head office may have caused this big delay. This was very frustrating to the land owners and by this, certain important works may be delayed. This experience emphasizes on the importance of computerization and on its efforts to reduce the time. Further, a less percent of 4 have stated that it took 15 to 30 days; this may be due to purposive delay of the VA in issuing the land records. In the village setup and earlier to computerization, VA was the key person for all land related issues and the personal enmity is common in such cases hence, causing the delay in issuing the land documents. More positive statement from the Tumkur district respondents was noted. This
is mainly due to development of the district and due to the concentration of more educated respondents in this district when compared to Gulbarga district.

5.2.15: Time consumed to obtain land records after computerization

One of the important objectives of the research was to analyze and compare the different aspects attributing to the success of COLR and to compare the same with the old manual system. To capture the positives and negatives on time requirement, a separate section was dedicated to this. According to the government and the revenue department officials, the opinion on the time consumed for obtaining any land related documents were strong towards its reduction, meaning, all claimed that due to computerization, the time needed by the landowner to collect the land related documents had come down drastically.

The results obtained from the study had a varied response. A majority of 42 percent have stated that it took them a complete day for obtaining the RTC. The result obtained reflects almost half of the sample size mentioning the delay; this result obtained is not favorable for the official’s opinion of reduction in time. The reasons for this may be that these land owners may have traveled from a long distance to obtain the records causing the delay. The other reasons for the delay may be due to the absence of the kiosk operator to issue the RTC, power failure, and kiosk operator attending meeting or any other protocol works. It is clear from the results that many aspects need to be still considered for the better implementation of the project. Though the RTC issuing process hardly takes a minute, but for much of the respondents it has taken a substantiate amount of time. This indicates, the project is fine from the technology point of view, but the much needed aspects to be considered is on its functioning. With few modifications in the process, it may result in a better organized RTC distribution system with much quicker and smoother transactions.
Inter-regional variations were observed, the delay aspects were more in Gulbarga district. This is mainly due to the long distance traveled by these respondents. The taluk kiosk being far from the villages and traveling with limited bus facility contributed for the further delay. On the other hand, the delays in kiosk also have contributed to the problem.

On the other side, a notable percent of 20 (Table 4.28) have stated that it has taken half a day to obtain a copy of RTC, even this can be considered as a delay because technically the process of issuing the RTC takes only few minutes. A lesser percents of 14 and 6 have stated that they received it in one hour, five minutes respectively. This is a good response and this is what the project aims at. This may be attributed to the fact that, some of the respondents interviewed were from the taluk headquarters and some were from the villages which were very near to place where the kiosk is located. For these respondents the travel was not an issue and they might have planned the visit by prior confirmation on the power and availability of the operator resulting in much quicker transaction.

When compared to Tumkur district, Gulbarga district respondents experienced much delay. This may be due to, poor infrastructure facility, far distances traveled by the respondents and due to the backwardness of the district in all the developmental activities.

5.2.16: Amount of money spent to obtain RTC before computerization

Obtaining land records before computerization has its own procedures and the amount of money involved in obtaining it differed from place to place as it did not have any specific prescribed fee from the Government (the government fixed price was too low and none of the VA followed it). Comparison of the cost before and after computerization was considered as a better pointer to judge the efficiency of the COLR,
accordingly, an attempt was made for the same and the results are presented in Table 4.29.

It is clear from the table that, on an average, the overall spending was more than Rs 64. This amount is considered as high for a farming community but when compared this with the new computerized system, the amount spent was low. The main reason for this is, in the old system, the RTC was issued directly by the VA wherein the land owners did not have to travel to the taluk headquarters resulting in reduced miscellaneous cost involved.

In the old system, the government prescribed fee was very low and only few knew about it. The other important and interesting information collected was that, in the old manual system, apart from the money, the land owners used to pay the VA in kind (fruits, vegetable, grains etc.). There were also cases where, some of the farmers used to obtain the RTC only by paying in kind to the VA. Where as, in the new system, the amount spent on others added to the cost, resulting in more spending.

The spending was almost same in all the study taluks except in Sedam. The reason for this may be due to the fact that, Sedam is one of the backward Taluks among the other study Taluks and the VA may have utilized this opportunity to charge a high price to issue the land documents.

But in the old system, the role of VA was very important both in issuing RTC and the cost aspects. Some of the VA misused his position and grabbed money by issuing the RTC for higher costs. However with the introduction of the new system, one has to consider the objective of reducing costs and corruption at the grass root level.
5.2.17: Amount of money spent to obtain RTC after computerization

By computerizing land records, the government aimed at reducing the cost involved for obtaining the land related documents. The official fee prescribed and fixed by the government to obtain a copy of RTC is Rs 15. However, in reality, the cost incurred per land owner was more. It is clear from the table 4.30 that 130 respondents have spent between 76 rupees to 100 rupees to obtain the RTC. When compared between the study taluks, the average amount spent by the respondents was higher in Gulbarga district. The total average amount spent by the respondents in the study area was Rupees 98.24.

The reason of high spending may be attributed to the fact that, even though the official fee fixed per RTC is Rs.15, if the land owner had land in different parcels, then he had to get the different RTC by paying Rs.15 per parcel. In general, many of the landlords will have plots in different parcels resulting in more spending. The other important reason apart from this is the opportunity cost involved during the visit to taluk to obtain the RTC. As there is only one kiosk in taluk, land owners from all the villages under the particular Taluk had to come all the way from their villages. The travel cost, food, and miscellaneous cost are much higher extent than the actual fee. Moreover, the delay at the kiosk would result in staying for longer time in the taluk, which is directly proportional to the more spending resulting in higher expenditure. This has to be considered as one of the major constraint and the government has to work on reducing this additional burden. Opening of more kiosks in different regions of the taluk may provide a solution to this issue.

More spending in Gulbarga district may be mainly due to its vast spread geographical area resulting in more travel distance. This results in higher amount being spent. Interestingly, only 2 respondents have stated to have spent exactly Rs.15, which may be due to the fact that these are the people who were from the taluk headquarters (HQ) itself.
and may have taken only one RTC. Very few (21) respondents have stated that they have spent between Rs.15 and Rs 30, which is a good result to consider. These land owners may be those who were from the nearer villages to taluk headquarter or may be a single land owner, hence, avoiding the other costs and resulting in less spending. As the number of 'less spent respondents' is low, reducing the cost may the key element to be considered by the government and by this it will also stand by the objectives of BHoomi/computerization project.

5.2.18: Distance traveled to obtain computerized RTC prior COLR

For the better understanding and assessing the new computerized system, it was very important to collect and compare the information on the distance traveled in the old system. In the old manual system, as the VA used issue the RTC and other land related documents, the general expectation was to witness very less or nil traveling by the land owners. But from the research findings it is clear that all the respondents were had to travel a considerable distance. This may be due to the non-availability of the VA at certain time and when the RTC was needed. The usual practice of the VAs was visiting the villages in a particular day and time; if a land owner misses him during the scheduled visit then they had to travel to next village to find the VA resulting in considerable amount of traveling.

When compared among the study areas, the distance traveled was more in Gulbarga district when compared to Tumkur district (Table 4.31). This is mainly because of the bigger geographical area of Gulbarga District when compared to Tumkur district. Gulbarga District is a dry region wherein, one can witness acres and acres of dry land between each village. Where as, in Tumkur district, the villages are located close to each other and in such a setup, when the land owner had to travel in search of the VA, it would be lesser distance when compared to that in Gulbarga district.
5.2.19: Distance traveled to obtain computerized RTC after COLR

To assess the effectiveness of the COLR, all the respondents were asked to share their experience on the distance traveled to obtain the land documents. In the new computerized system, all the land owners have to travel to the taluk HQ to obtain the land documents; the inputs provided by them were very helpful for assessing the success of the new system.

In Gulbarga district, respondents traveled more when compared to the respondents from Tumkur district. This can be attributed to the fact that Gulbarga district is much bigger in terms of its geographical area when compared to Tumkur district. As a result, land owners were traveling more to obtain RTC at the taluk headquarters. Only few (22 %) respondents were residing in the range of 0-5 Kms distance and these may be the respondents from the taluk itself or may be from the villages nearer to the taluk. A fair amount of respondents traveled a distance ranging from 5 Kms-20 Kms (table 4.32).

On the other extreme, a few have mentioned that they have to travel distances ranging from 50 to 70 kms to get a copy of land documents, which is a very tedious for the land owners. The distance traveled is very much related to the time consumed and the amount spent. The only alternative to avoid this long distance travel may be by establishing alternative kiosks. Twelve per cent respondents from the Gulbarga district have mentioned that they travel more than 70 Kms to obtain a copy of RTC. It is very hard for such land owners and Government has to think in a positive way to cut down the travel distance.

The analyzed result indicates that the new system requires long distance traveling from the land owners. If a land owner has to get a copy for a second time in a short interval from the time the first one was obtained, again, he has to travel all way from his village to obtain a copy
resulting higher amount money and time spent. The distance traveled is directly proportional to the time and the amount of money spent. This burden can be considered as one of the major constraint and government has to work out means to overcome this.

5.2.20: Respondents opinion about alternative kiosk

As discussed in the previous sections, in the new computerized system, all the land related documents were distributed only at the Kiosk located at the taluk headquarters and all the land owners has to visit that taluk to obtain all the land related documents especially, the RTC. The research aimed at capturing the solutions for this. For this, all respondents, officials, concerned persons were interviewed on their opinion for an alternative kiosk.

Apart from 6 per cent of respondents, all the other interviewed respondents have opined in favour of an alternative kiosk. The six per cent of respondents who have answered “no” for the alternative kiosk may be the residents of the taluk headquarters who did not have to travel to get them and hence, stating that there was no need for an alternate kiosk. Out of 194 respondents who have urged for an alternative kiosk, the majority have opted for an alternate kiosk at the hobli level (Hobli is next revenue boundary after taluk and before GP, each taluk will comprise couple of hoblies, the number of hoblies in the taluk depends on the geographical area of the taluk). The reason or opting the hoblies as their option for having the alternative kiosk may be that these hobli headquarters are generally nearer to the villages and the particular land owner will be very comfortable in visiting the hobli headquarters rather than the taluk headquarters. On the other hand, the advantage in this establishment will be the lesser amount of money spent and the time involved when compared to that with the taluk visit. Practically, this is viable because, usually Hobli level will have a decent revenue office and office can provide the facilities needed for opening a kiosk.
Few respondents have opted for opening an office at the Panchayath Level. From the landowners’ point of view, it will be very helpful and easy for them to obtain a RTC at this level. But when viewed from the Government perspective, it will be very difficult to open kiosk in all the GPs as each taluk on an average will have more than 12 GPs. The cost involved for setting up offices at all the GPs will be very high and it will be difficult to maintain them.

A very less percentage of respondents have opted for kiosk at the village level and it will be very difficult for the Government as well. But the concerned department can document this and in the future such a thing may be a possibility.

**NOTE:** As in all research, this research also had a considerable time gap from the time of data collection to the drafting of discussion chapter. During data collection, all the visited taluks had only one kiosk and after a year recently, the government has introduced an alternative kiosk at the Hobli level. But the new kiosks at the Hobli level are being operated by private people and this set up is operating with many problems. It was very satisfying to note that the research finding was very accurate, as one of the observed factors was considered by the government.
5.3: Impact of COLR

5.3.1: Land owners’ opinion on impact of COLR adoption

As discussed in the methodology chapter, all respondents were interviewed to capture the views and impacts of the computerization and all the documented responses are presented in table 4.34.

In spite of all the complaints which the land owners had on the new system, it was good to document some advantages and positives from the land owners’ point of view.

From the land owners’ point of view, no or less scope to manipulate the land records/RTC (98 %), reduction in land disputes and land related conflicts (90 %) and enhance the availability of finance and crop loans (83 %) were considered as the most acceptable positive points with higher percent of respondents mentioning these points.

The point on the manipulation may be attributed to the effectiveness of the new system in bringing down the manipulation in land records. In the new computerized system, the security for all the land records related data is very high and not dependent on the VA as it was in the old system. Reduction in land related conflicts can be related to the fact that, in the new system, all the land details are clear and the less or no opportunity for manipulation resulting in more clean and accurate records. The third advantage is on enhancing the loan opportunity may be related to the fact that in the new system, the delivery of RTC is very accurate and the land owner need not depend on the VA to get one. At the same time, all the banks, cooperative societies and other lending institutes are more comfortable and secured in sanctioning the loan and other benefit against the computerized RTC. Now, all the financial institutions have banned the manual RTC and have made computerized RTC a must to avail any loan or other benefits.
The other advantages identified by the land owners were: the new system facilitates in land sale and purchase (73 %), creates awareness on the land reforms (72 %), nil or less dependent on the VA (66 %), no need of land owner’s physical presence at the kiosk (65 %) and also opines that this new system acts as an important tool for all land related activities (70 %).

The new system facilitating the land sale and purchase is an important point to consider as it highlights on the accuracy of all the land related computerized documents. Majority of the interviewed respondents shared their experience by opining that the new computerized RTC has enhanced the confidence of the land buyers. In a country like ours where land is very important, in parallel, we have recorded a large number of land disputes. It is very good to know that this new system has a significant role in reducing land disputes and facilitating a healthy land related transactions.

Less or nil dependency on the VA has been listed as the advantages by the land owners. This is because in the old system, it was the VA who used to act as walking kiosk and the dependency on him was high. Now by this new system, the particular landlord need not depend on the VA to issue the land related documents. On the other side, it was known that, in the old system, sometimes VA use to purposefully delay the process of issuing the land related documents to the person who were not in good terms with him or to those who refuse to pay the asked money.

Majority of the land owners have mentioned that in the new system, the option of any person can obtain the RTC by walking into the kiosk as one of the greatest advantage as it reduces or completely frees the land owner from depending on the VA. This is mainly because, in the new computerized system, any person can walk into the kiosk and obtain the copy of RTC against the survey number. This will result in
reduction in time and cost of a particular land owner as they can request any known person to get one during their visit.

5.3.2: Officials opinion on impact of COLR adoption

Apart from the land owners, different sets of revenue officials were interviewed to capture the views on the computerization. All the documented responses in the table 4.35 are the brief common point as opined by the officials from all the study taluks. Officials at different revenue cadres were interviewed and the pooled points on COLR have been presented in the table. It is very important to note that the views and responses of the officials differed from that of the land owners.

Increase in collection of revenue (accountability of the revenue collected) (96 %), reduced the work load of VAs (93 %) and More transparent land records (88 %) were the first three important positive points mentioned by the officials.

Increase and accountability on the revenue is mainly by the strict prescribed fee by the GOVERNMENT to all the land related documents. All the land owners have to pay the prescribed fee to obtain a copy of the land records and the collected money is accounted in a prescribed format hence not giving any chances of misusing it.

The second advantage as per the officials is on the reduction of VA’s workload. This is very much true as VA’s are considered the heart of the entire village related revenue and rural development activities. These are the officials who are in charge of implementing all the schemes at the grass root level. Especially after the decentralization of Panchayath system and after empowering the GPs as the implementing authority, the work load of the VAs has increased immensely. By this new system, at least now the VAs are relieved to certain extent from this land records issuing work and the available time of them can be best utilized for other works.
Transparency of the land records have been listed as the third top advantage attributing to the fact that in the new system, all the records are computerized and accessible to all the citizens which is the main motto of computerization. This avoids all the pre existing land related malpractices and in turn reduces the official’s time in attending such cases.

The other points listed were on; awareness about government land helps in knowing the rent seeking behavior and more accurate RTC’s and very less chances for mal practices.

Awareness on the government land is the main advantage for the revenue officials as the new system clearly indicates the quantum of private land and government land in a particular area. This acts as an important tool for the revenue officials to knit a right track on the government lands. In the new system, the actual cultivator can be easily identified and the possessor of the land can be traced out easily. Further, much of the officials have commented on the accuracy of the RTC, the reasons for the same can be attributed to the reasons mentioned in the previous discussions.

The officials have further mentioned on the advantage of identifying the encroached lands in the new system. In the earlier manual system, identifying the encroached land was very tedious and that process used to consume much time. Where as in the new system, by a single button we can identify the lands that are encroached and this ensure the effective use of the lands and also in turn reduces the land related conflicts.

Effective, discipline and systematic record keeping has been mentioned as the other advantage of the new system. This is mainly because in the new system, all the information is stored in a particular format giving rise to a systematic method of record keeping. All the old papers have been replaced with the CDs and hard drives paving path to modernization and electronic era.
5.3.3: Factors influencing landowners for adopting the new technology - COLR.

To study the impact of the COLR and its adoption, the results obtained from the research were analyzed using the Logit model. From the results obtained through logit model, it clearly indicates that, there is a positive association in factors like education and income on the adoption of COLR. Meaning, higher the income and education level, higher will be the adoption rate. This has been proven in the research by majority of the respondents being educated (75% of the respondents had high school and college level education). This indicates that, the adoption to any new technology is directly proportion to the factors like education and income. Hence, it is very clear that income and education influences the adoption rate to the new computerized technology.

Further, apart from the education and income, when we consider the age of the respondents, the analysis has arrived at a negative significant. Meaning, higher the age of the respondent lesser will be the adoption rate. The same has been observed in the research, as the research results had much of the older respondents and hence resulting in less accepting the new system.

5.4: The constraints and infrastructural bottlenecks in the effectiveness of COLR

5.4.1: Constraints faced by the respondents/ land owners during obtaining the COLR

For the research to be more statistically strong, a technique named "Guarantee Scoring" was adopted. The steps and the working of this tool have been explained in detail in the Methodology chapter. In brief, this tool encourages the respondents to rank the indicators provided and later by using the formula all the answers of the
respondents are pooled and scores are assigned accordingly. Higher the score indicate the higher ranking.

In this research, all the given indicators were developed by an initial pre visit to the study areas. Further, all the developed indicators were used in the interviews and all were asked to rank them. The collected data was later analyzed and obtained result is presented in table 4.37.

In the study, Garret scoring technique was used mainly to know the constraints of the COLR and was designed for three sets of respondent's category. Category one were of the kiosk end user i.e. the land owners, category two comprised of all the revenue officials interviewed and category three included the kiosk operators.

In category one (table 4.37), the major and severe constraint faced by the land owners was on the long distance traveled. This was ranked as the number one problem with a highest score of 475. This is mainly because of the single kiosk at the taluk headquarter. By this all the land owners in the taluk have to travel all the way to taluk office for obtaining the land related documents resulting in long distance traveling. The other important reason is that, usually the area of a taluk will be wide spread and the people residing at the villages located in the border of the taluk have to travel a very long distance. Particularly in this research, in Gulbarga district which is one of the biggest districts with huge spread geographical area, the land owners in this area by default traveled a very long distance to obtain a copy of the land records. Where as, this was not at all a problem in the old system as VA used to issue the land documents and the land owners never use to travel as VAs use to visit the villages often.

The next three ranks on the constraints were on; high transportation cost, opportunity cost and people complaining on the high fee fixed for the RTC.
High transportation cost can be attributed to the long distance traveled by the land owners for which they have to spend on different modes of transportation. Opportunity cost, many of the land owners complained on the opportunity cost involved. These costs were mainly on the wages lost by visiting to the taluks and the costs incurred during the taluk visit. In the taluk, one has to spend on the food and water, in some cases due to delay in issuing the documents, to kill the time many have shared that they spent money either by going to movie or by chatting with friends in the hotel resulting in a additional spending. These types of expenses were not observed in the old system. Majority of the interviewed respondents have complained on the high fee fixed for the land documents, though the fee fixed is just Rs15, but many considered it as high and have ranked it as top 4th constraint. In the old system, some respondents shared that they never used to give the cash to the VA to get a copy of RTC, many have shared that they use to pay the VA in cash once in a while and use to compensate him by offering kind (grains, vegetable, fruits etc.).

The other constraint listed and ranked were on; Irregularity of the kiosk operator, absence of VA, delay in the kiosk, kiosk closer at holidays, only one kiosk in the taluk and non functioning of the "Nemmadi Kendras" and lack of information and facilities.

Irregularity or the absence of the kiosk operators is mainly due to the fact that, the revenue department has not appointed any new staff for this program and they are using the existing staff to run the kiosk. This sometimes has been resulted as a problem, because during the absence of the operator or when the kiosk operator goes on a leave, the replacement is very difficult and hence will create a problem for issuing the land documents.

In the cropping season, for availing loans all the lending agencies insist for the new computerized land documents or RTC and during these periods the land owners approaching the kiosk will be more. The existing
system at the kiosk does not have any formalized system set up for the land document/RTC distribution and this results in congestion and long queues at the kiosk causing delay in the RTC distribution process.

All the judicial and police cases on the land related issue need a copy of RTC during filing any compliant. During the national and other holidays the kiosk will be generally closed and any urgent requirement for the RTC on these days is not possible. This has been considered as a major problem, where as in old system during these types of urgency the particular land owners use to visit the VA's house and some how use to trace him and obtain the RTC.

Only one kiosk in the taluk has been listed as a problem and all have insisted an alternate kiosk. The government of Karnataka has set up an alternative single window system called "Nemmadi Kendras" for all land and revenue related issues. These are operated at the Hobli levels, but majority of the respondents have complained that these kendras are not operating at the full swing and have insisted for its better operation. The reason for this is mainly due to the fact that, these kendras are run by the private people and they do not follow the norms set by the revenue people. When asked to the Kendra owner on this, from their prospective, the lack of internet facility and major power failure is the major problem for them to provide the better facility.

The last problem listed was on the inadequate information available at the kiosk. As many land owners were first time users, due to their nil or less educational level they were not in a position to understand on the new computerized system due to inadequate information available. In these situations, some cooperation of the revenue staff is a must and it is not been observed in any offices till now.

It is clearly observed that, all the mentioned constraints were similar and not much variation were observed between the study taluks. One can analyze that, the government initiative on the COLR is very good approach and was started mainly by keeping he rural community in
mind. Some small changes to the exiting system may answer all the above mentioned points.

5.4.2: Constraints faced by the officials

After documenting and raking the constraints of the kiosk users, it was very important to document the constraints faced by the officials at their level. All the interviewed respondents in this section were the revenue officials who were directly involved in this program and in the operation of the kiosk.

The top three constrains listed were on; 1) lack of adequate staff, 2) decentralization needed, and 3) high work load on the revenue officials (Table 4.38).

Lack of adequate staff has been listed as number one constraint as per the officials. This is mainly because, as discussed in earlier section, the revenue department has not hired any new staff for this computerization program and has been managing the show with the existing staff. As the kiosk easily needs 3 to 4 persons for its operations, this gap has not been filled. Usually well performed VAs was deputed to the kiosk and their post has been merged with the other staff which has in turn created a huge problem in staff allocation. To overcome this, all the interviewed officials have strongly urged for the decentralization in the department and have suggested forming a separate “Bhoomi cell” and employing new staff for COLR. The third constraint listed by the officials is on the heavy work load on the officials. This is very much true, because revenue department is one of the important and high work concentrated department. All the revenue activities and the new program related to revenue should be handled at this level. Less staff and more programs has resulted in creating a problem on work allotment and on its implementation. The only suggestion and answer to this problem is to increase the staff to witness the better results.
The other constraints/problems listed and ranked were on; lack of infrastructure facilities, transfer of officials, non availability of higher officials and non cooperation from the local members.

Lack of infrastructure is considered as an important constraints faced by the officials and has been ranked fourth in the table. This is mainly because, all the visited kiosks at the taluk level were operating at the building attached to the taluk office and no new building were built for this purpose resulting in place congestion. The other problems on these were on the lack of proper high speed printer to print the documents, no better big screen computer, no batteries, less security for the server and the computer during the rains, no proper cabins and no proper working air conditioners (specially in Gulbarga district). All these problems has to be tackled for the smooth and better functioning of the system. The major requirement to achieve all these is to have a separate, well planned building for Bhoomi operations; by this many of the constraints will be automatically solved.

**Research example** – *In one of the interviews, when I visited a taluk office the research came across the above mentioned problem, as the interview was during the rainy season due to heavy rain, the water logged into the computer room had created a huge problem on its operations. To over come this all the systems were switched off resulting in non-issuing of RTC on that day. Due to kiosk closure, people started to protest against this. It took some time and involvement of senior officials to solve this problem.*

Transfer and non availability of the officials has been listed as next two constraints. By transferring the existing officials, mainly the senior officials, it takes time for the new person to adjust to this office environment and during that period many of the works will suffer delays. The new system requires and has a thumb login system. To remove the old official’s login and to introduce the new login it will take some time hence resulting in piling up of works specially the correction and
mutation works. As these senior officials are required for all the corrections and data changes, availability of these officials at the right time is very difficult as these officials will have other duties to perform and require them to travel a lot resulting in the delay in the entire process.

Non cooperation from the elected representatives is witnessed as one of the constraints. This is mainly because, certain decision has to be taken by the consult of these elected members and in many cases these elected members will be uneducated or with very less education resulting in non understanding of the issue.. Better and efficient norms for the elections and candidate eligibility are the only remedy for this problem.

5.4.3: Constraints faced by the kiosk operators

Documenting the views of the kiosk operators was considered very important for the research and all the visited kiosk operators were interviewed to know on the constraint at their level. As not much regional variation was observed in the constraints faced, all the constraints were pooled to arrive at a list of common constraints implying for to all the study Taluks. All the constraints listed were ranked using the Garret scoring tool. These kiosk operators are the revenue staff in charge of distributing the computerized land documents. Usually they are of the VA cadre or sometime a VA deputed to this job.

The top three constraints or the problems listed according to them were (Table 4.39);

1) Lack of trained kiosk operators.

2) High dependency and work load on the trained operators and

3) High dependency of VAs on the senior officials.

The number one constraint quoted by all the operators was on the lack of trained kiosk operator. This is due to the fact that during the
computerization, the government gave training to only a certain number of staff and at present all the offices are facing the shortage of these trained operators. As some of the trained operators are already retired and filling their gap has not been achieved yet, this has resulted in further shortage of trained manpower. In the initial days, the government aimed at using these trained persons at taluk level to train other staff and this was not achieved due to improper planning. Due to few trained personal, the dependency on these operators is very high and these people are always under the pressure, which is a problem and has been listed as number two constraint. As the new computerized system requires certain computer skills, not all in the department can act as an operator. This problem has to be resolved for the smooth functioning of the system, this can be easily achieved by hiring new staff and by providing additional training to them, It will be helpful to have certain number of staff as a back up to train other staff and to act as operators during the absence of the original.

Apart from the above mentioned main constraints, the third constraint according to the operators is on the high dependency on the senior officials. As discussed in the earlier section on the login concept, all the needed entries to the land related data can be made only by the senior official login and this demands the physical presence of them. Due to the high workload and traveling of such officials, this can not achieved according to the plan resulting in delay. Al the interviewed suggested for on the decentralization and to form a separate Bhoomi wing, appoint a staff exclusively for this and totally dedicate there time and job only to works related to Bhoomi. If this is achieved then the over all operation of Bhoomi will be without any hassles and the entire process will be much quicker and efficient.

Apart from the constraints discussed, the other constraints listed were on; poor establishment of kiosk centers, no staff replacement, non cooperation from the senior officials, and lack of operation from the local members.
Poor establishment of the kiosk centers can be attributed to the earlier discussions. As the kiosk operators are the actual staff working on day to day basis in these buildings, they find the kiosk centers with very inadequate facilities. Establishing a separate wing with the better facility is the only suggestion for this problem. Staff replacement has been observed as one of the constraints which are mainly due to the fact of less number of old trained operators. Due to this, a particular operator does not have the option of going on a long leave as the replacement for his position at the kiosk is very difficult. Training additional personals and giving some training to other staff as a back up is recommended.

Kiosk operators usually are of the VA rank and according to cadre wise they are the second lowest revenue official at the Panchayath three tire system. Usually they will have many senior officials above them and will be related to the operation of Bhoomi. In such interactions, non co-operations for such officers are witnessed and also considered as one of the constraints faced by the kiosk operators. Employing the techniques of Personal Relationship training to all the officials in the revenue department may answer this problem. The last constraint listed was on the non co-operation of the taluk Panchayath members, as these members are needed in some operation, usually all the interviewed operators have faced one or the other problems from these elected members. The reason may be due to the educational back ground of such members or due to the other caste politics. Better election norms and electing the qualified persons may resolve this problem.

5.5: The views of land revenue officials regarding the advantages and disadvantages of the new computerized land records system

5.5.1: The views of Tahsildar on computerized land records system

Tahsildars are the chief revenue functionaries at the taluk level, they have a vital role to play during and after the computerization. All the Tahsildars in the visited taluks were interviewed and the pooled information is presented in Table 4.40. The views of the Tahsildars are
very important for the research as they play a very important role in this process. All the information collected was pooled into common views as not much inter regional variation were observed between the study taluks.

The top three advantages of COLR mentioned by the Thasildar were, on its accuracy, second, on the less chances of fraud and third on security of the land related information.

All the interviewed Thasildar rated the accuracy as the number one advantage of COLR. This is mainly because, during the computerization of land records, the Thasildar were the individuals responsible for achieving the computerization in their concerned taluks and are the persons who have witnessed the process from the scratch. During the process of computerization, the concerned Thasildar acted as a monitoring authority and have supervised the process very carefully which has built up more faith on the accuracy.

The second advantage mentioned is on the less chances of fraud. Land and land records are the main prey for the defaulters and the revenue depart earlier had a hard time in handling these cases. The chances of frauds was more because, in earlier manual system all the land related documents were hand written and maintained by different revenue officials giving room to mal practices. Where as in the new system, the concept of hand written is completely vanished and everything is maintained electronically. The access to the electronic data is assigned only to the concerned Thasildar and the login to that data is possible only by the thumb impression of the Thasildar. This ensures a high security to the data and hence reduces the chances of fraud, which is also mentioned as the third advantage by the interviewed Thasildar.

The other advantages mentioned were on; less dependence of land owners on the VA, no need of particular land owner’s presence to get a copy of RTC, helps in obtaining clear records for the buyer and smoothen the land transactions, computerization play an vital role in
the registration office and costs less to the land owners with less time consumed

As indicated by the other officials, all the Thasildars have opined that the new system reduces the dependency on the VA. The reasons may be attributed to the previous discussion and the same holds good here. All have considered the point “no need of physical presence of the land owner at the kiosk to collect the land related documents” as one of the big advantage. As a success indicator all the officials were very positive on the accuracy of the land records and have quoted that, “by this, the land purchasers and sellers are free from the fraud documents and hence resulting in smoother and efficient land transactions”.

After computerizing the land records, the government of Karnataka has started computerizing the registration department under a program called “Kaveri”. The main data input for this program is from the revenue department. All the Thasildars opined that, by this new system of COLR it will be a great advantage for the smooth flow of the “Kaveri”.

The other last advantage quoted by all was on the reduction of cost and time to the land owner. The reasons for the same can be related to points discussed in the earlier sections.

As in all the new programs, advantages and disadvantages run parallel and the same applies for COLR also. The important top three disadvantages listed were; more responsibility on the Thasildars, lack of decentralization, Very less trained officials and only one Kiosk in the taluk.

Firstly, on the more responsibility on the Thasildar. Thasildars are the main top revenue brass at the taluk level and are responsible for many other revenue functions. COLR is a big program and needs a substantiate amount of Thasildar’s time for its smooth operations. At the same time Thasildar has other responsibilities to discharge. In many occasions, the additional responsibility of COLR has taken much of their
time and due to this all the interviewed Thasildhars were facing it difficult to balance the time. Further, all have urged for decentralizing the job profiles and emphasized the need of assigning a individual to handle only COLR related activities.

Less trained personal is the other disadvantage or the problem faced at this level. In earlier days, all the records were hand written and manually maintained, but for the new system it needed trained staff to handle the process and very few have been given the training for the same. This is creating a problem, mainly due to the high dependency on the few trained personals.

One kiosk at the taluk office is also a main disadvantage according to the Thasildhars. As all the land owners from the taluk jurisdiction has to visit one kiosk, handling this many at one kiosk is a difficult task. All have recommended an alternate kiosk to overcome this problem (The government of Karnataka has already started a pilot project on this by the project name “Nemmadi Kendras” and working more effectively on this project may resolve this problem).

The other disadvantages or problems listed were on; difficulties in updating land information, much time consumed for RTC correction, and laborious procedure for corrections related to mistakes in land records.

Updating the land related information in the RTC was one of the key in the manual system. Usually VAs used to attend this work of updating. In the new system, it takes double the time. The procedure is that in round one, collecting the field level information and in round two, the collected information has to be feed into database. This is bit difficult to achieve and all have reported that annual updating has been delayed for the same reason.

Corrections in the land records have been noted as the other disadvantage or problem in the new system. This applies both for the
official corrections and for the corrections as requested by the land owners. This is mainly because in the old system, the correction were easy as it was hand written, the lower officials used to do the correction and the same used to be verified and signed by the Thasildar. But in the new system, every correction is linked with the application which operates at the first come first out system and this creates delay. Secondly, for each and every correction the Thasildar has to attend the case and his presence for the thumb impression is needed. In the busy schedule of the Thasildars, it is very difficult for them to take out time for this activity and hence resulting in delay in dispatching the corrections. On the other hand, by this delay the applicants are also suffered and a long waiting and delays are witnessed resulting in delays to the land owners on all land documents related activities. Some changes and simplification of the correction process may be the best the solution to overcome this.

5.5.2: The views of Shirshedhar on computerized land records system

In the revenue department, Shirshedhar is generally known as Deputy Thasildar. Shirshedhars play a vital role in the COLR program. In this research, as mentioned in the methodology, interviews were conducted with all Shirshedhars in the visited taluk. The functions and duties discharged by these officials are almost similar to those of the Thasildar.

Not much variation were noted between the study taluks, hence the collected information were pooled into one set. The common advantages and disadvantages are presented in the table 4.41. The three most common advantages mentioned by the interviewed officials were;

1) Maintenance of accuracy,

2) Avoidance of malpractice and
3) Less responsibility for VA which helps them to concentrate on other work.

As mentioned by the other officials, even these officials have rated the accuracy as number one advantage followed by avoidance of malpractice. The reasons for these may be the same as discussed and mentioned in the previous section on the Thasildar views. The third top advantage mentioned is on the responsibility of VA. In the new system, the VAs are out of RTC issuing process and hence the time earlier used by them for this can be used for the other works. This is very much true in this new era of Panchayaths decentralization. But on the other hand, contradicting to this statement, majority the VAs also has opined that the new system has taken much of their time. This explains the difference in the opinion among the different cadre officials.

The other common advantages mentioned were; no need of physical presence of the particular landlord at the kiosk and on less cost involved. The other different points mentioned by these officials were on the friendly nature of COLR for the single, aged landowners and for the female land lord. This can be attributed to the fact that, in the new system, any one can obtain a copy of the RTC from the kiosk by using the survey numbers. By this system, these aged and female land owners can send some friends or relatives to get a copy. Where as, in the old manual system, it was very difficult for such categories of landlords to identify the VA and to obtain a RTC.

The other advantage mentioned is on the land sale facilitation. The same reasons as discussed in the previous sections can be attributed here.

As like in the other officials interviews, all the Shershedhars were asked for the problem or the disadvantages in the new computerized system, the common top three problems mentioned were on;

1) Long distance traveled by the land owners,
2) May end up with more time and money to be spent by the land owners and

3) More time consumed for the new entries and corrections.

The long distance traveled is mainly due to fact that all the visited taluks has only one kiosk and all the land owners had to travel all the way to the taluk head quarter to get a copy of land records/RTC. This has been listed as number one disadvantage by the entire interviewed official. Further, all these officials opined that in some cases, the time and cost involved is more because of the long distance traveled by the land owners and due to the opportunity cost. All the officials have also emphasized the problem of more time consumption for the new entries and corrections. New entries usually arise by the land partition and a new record has to be created for that. In the existing system, this process takes much time and hence resulting in more time consumption for other applicants. As this problem has been emphasizes by all the sets of respondents, now it is in the hands of the government to take some initiatives to resolve this and hence paving the path for smoother functioning of the system.

Apart from the above discussed problem, the other problems or the disadvantages mentioned were; electricity problem, software problems regarding transfer and inheritance of land, availability of Thasildar for login, making small changes to RTC which takes long time, and only one crop season entries are made.

The power problem was highlighted by all the interviewed officials. This is mainly because of the often load shedding and power cuts witnessed in the rural areas. Though battery back ups are provided at the kiosk center, in circumstances like a whole day power cuts, the provided battery back up won't last for entire day. This has been mentioned as a common problem. Some have mentioned on the software problem noticed during the entries related to land transfer and land inheritance.
This is the problem relating to the delay in the process due to the lengthy procedures.

Availability of the Thasildar for the login has been noted as a problem in the new system. This is mainly because, in the new computerized system, for all the changes in the data and for making corrections, the thumb login of the Thasildar is must. But, when the Thasildar is away from the headquarter or when he or she is on leave, this procedure of login act as a major constraint and results in delay in functioning of the entire process.

The other problem mentioned was on the delay in the correction process, the reasons discussed in the previous sections holds good here. All have mentioned on single crop season entry as a disadvantage as it fails to provide the extract the information on the current status.

5.5.3: The views of revenue inspectors on computerized land records system.

The opinions of all the interviewed revenue inspectors (RI) are been documented and presented in table 4.42. RIs play a vital role in the day to day operations of Bhoomi. The main roles and responsibilities of RI are; initial verification on the newly entered data, making the necessary changes to the data before producing it to the next higher officers, getting the consent of VA and villagers on any new application and documenting the same. RI is also assigned with the permission to access the original data through their thumb login and this allows them to make the necessary changes to the data. Usually three to four GPs constitute a RI’s area of operation and he will be in charge of all these GPs for all the revenue related activities. RI is the official in between the Thasildar and the village accountants.

As in the cases of Thasildhars and Shershedhar on the regional variations, the same applies here as not much variation was observed in the views between the study taluks. Hence the views of all the RI
interviewed were pooled and the most common top two advantages of COLR mentioned by them were; 1) By this system, RI will have more time to attend to other works and 2) land buying and selling is smoother.

The first advantage quoted on the more time available for the RI is mainly because, in earlier days when manual system was in operation, RI used to have much works related to land records, his verification and signature was must before transferring it to the higher officials. After this, usually the RIs used to assist the higher officials as and when required and overall had very busy and important role to play. By all these roles, RI was not able to concentrate much on the other revenue works. Now by this new system, at least they are happy that certain major portion of work has been relaxed from their shoulders. As like the other officials in the previous section, the RI has considered the system as very helpful for the land transaction which is mainly because of the easy access of land documents to all with the exact accurate information. The accuracy, availability to all and avoidance of mal practices are the other factors considered as the advantages in the new computerized system.

As asked to other officials, all the RI was asked with the other face of the new systems in terms of its problems and disadvantages. It is interesting to know that the answers differed from officials at one cadre to other which is mainly because all have answered mainly by considering their role and have opined according to their perspective.

The common problems or the disadvantages mentioned by the RI were on;

High dependency on the VA for the "J"slip transfer, more frequent travel to the taluk office, some land owners have to travel a long distance for getting any land related documents, more time consumed for new entries related to land transfers, only one kiosk and the last on the less staff to handle this program.
The high dependence on the VA for the transfer of the J Slip (this is one of the form used at the revenue department during the land transfers, partitions and during any quires related to land), is mainly due to the fact that under the new system, VA are mainly authorized to attend related works on the J slip. By this, unless and until the VA sends it to the taluk office, no other work will move forward resulting in delay of the process. Earlier it was very easy as the RI used to get the J slip directly from VA and he only used to make the necessary changes immediately.

More number of visits to the taluk office is considered as the disadvantage of this new system. This is because in the new system, as mentioned, for each and every initial change, the concerned RI has to attend it before forwarding that to the Thasildar. This is very tedious job and requires lot of traveling to the taluk office as the main data bank is situated at the taluk level. In the old system, RI uses to attend these works at their office itself and used to travel to head office very rarely and during those visits, they use to get the signature of the Thasildar.

The other disadvantages mentioned were on the long distance travel by the land owners, more time taken for the corrections and the single kiosk for a taluk. The explanation in the previous sections on the similar points holds good here. The other disadvantage highlighted by these officers is on the staffing. All opined that additional staff is very much required for handling this program and it was known from the interviews that the government has not taken any new staff and the entire show at the taluk level is run by the existing staff. By deputing certain staff for this job has resulted in shortage of staff for other works and this has been considered as a major problem.

5.5.4: The views of Village Accountants on computerized land records system

Village accountants are the main persons and the intermediate between the land owners and the revenue department for delivery of all the land related documents. In the old manual system, the roles of VAs was very
important and were the persons who use to issue all the land related documents, at the same time these are main persons responsible for taking all the application on the correction, mutations and on other land related issues. VAs was also responsible for the annual updation of the crop information in the RTC. After computerization the role of VAs on the land document issuing has been taken over by the kiosk and their role has drastically come down. As many VAs have witnessed both the old manual system and the new computerized system, from the research point of view it was very important to capture their views and the same have been presented in the Table 4.43.

The top three advantages of COLR mentioned by all the interviewed VAs in the study areas were; 1) Less work pertaining to RTC, 2) Relief from farmers coming behind them around the clock for getting RTC and 3) New system allows concentrating more on the other works.

All the VAs has mentioned the reduction in their involvement and work on the RTC as number one advantage; this is because, in old manual system it was the VA who was responsible of all the activities related to RTC i.e. starting from preparation of RTC, regular updating, making correction and issuing to the land owners when needed. This used to take much of their time, mainly because the area of operation of a particular VA on average is 8 to 10 villages with hundred of acres under his jurisdiction. Where as in the new computerized system, VAs are exempted from all the above mentioned roles and their work on the RTC related issues has drastically come down. So by computerization all the VA find this as a great advantage from their prospective. By this all opined that now they have much time to concentrate on the other works. VAs are the persons working at the village level and after decentralization of Panchyath system the work assigned to them have been increased drastically. Now by this computerization at least they are able to take a good amount of time to other works which was highly
difficult in the old system. This has been observed as the number three advantage.

Relief from the land owners has been mentioned as the number two advantage, which is mainly because in the old manual system the main roles of VAs was on land documents preparation and issuing the same. Specially the issuing of RTC would take much of their time and land owners use to approach thee VAs in any time of day which used to result in high restlessness. In the village set up, denying the issue of RTC during the landowner visit to his house is a crime and people use to take it very seriously, hence irrespective of the day and time VAs use to issue the RTC. Now after computerization since VAs are not in charge for this, the major problem of people approaching them all the time has been come down and the VAs are much peaceful now resulting in stating this point as number advantage of computerization.

The other advantages listed were; on the easy access of RTC from the kiosk with less or nil dependence on them and on the access of land records to anyone with the survey number. As mentioned and commented by all the revenue officials, the easy access of RTC has been listed as one of the advantage. In old manual system high dependence on the VAs was witnessed whereas, the new system as overcome this and both the VAs ad the land owners are benefited from this.

In old manual system, VAs use to issue the RTC only for the particular land owners and the representatives of them were not entertained. Some time it uses to create a huge problem to the land owners as well as to the VAs. From the land owners point of view it was difficult to get the RTC if the land was in the name of their parents or in the name of any absentee family member. From the VAs point, it was difficulty to issue the RTC to who ever approaches him as it would create many land related disputes and end up with misusage of the RTC. So by this new computerized system, availability of RTC to any person with the survey number has
solved both the mentioned problem and has facilitated the better RTC issuing process.

As asked to other sets of officials, all the interviewed VAs were also asked to list of disadvantages or the problem on COLR from their prospective. The top three disadvantage or the problems listed were; 1) More visit of VAs to taluk office and no traveling allowance is given for this purpose, 2) 2-3 days in a week will be spent in taluk office, no much time for others work and 3) More time for any new entries.

The increased number of visits to the Taluk office has been listed as number one disadvantage, this is due to the fact that in the new system for any updation, correction and changes to the land data has to be done only in the taluk office and all the issues in the particular VA's jurisdiction has to be handled by the concerned VA and for which he has to travel to the taluk office resulting in more number of taluk visits. The distance travel will normally be more and has to depend on the bus or the other mode of transport for which the department has no extra provision made for such travel. This has resulted in spending personal money and almost all the interviewed VAs shared that they are spending money from their own pocket for such travel and insisted from us that this topic has to taken up to the senior officials to introduce the travel allowance. Due to these increased travel, much of the time will be spent on the traveling leading to shortage of time to attend the other works, this has been listed as the number two disadvantage. The third problem listed is on the delay in the correction and new entry process. Certain changes in the correction software are recommended to solve this problem.

The other disadvantages listed were; VAs responsibility to answer farmers for the delay in the entry, more burdens on farmers in terms of traveling and money, and More time has to be spent on this, apart from all our other works.
The delay in the corrections and new entries has to be answered by the VAs, as the land owners file the applications to or via VA all the area people will be behind the VA to know the status on their application. Due to the slower functioning of the correction process, it takes more time and hence resulting in VA handling the pressure from the land owners. Whereas in the old system, VAs never use to come across these problems as the correction and entries were made manually by the VA and after the signature of the higher officials it use to be ready for its issuing. All the VAs considered the land owners travel to the Taluk from getting the RTC and the opportunity cost as one of the disadvantage. All suggested for an alternate kiosk and for the better operations of the already existing “Neemadhi kendras”. The VAs travel, number of visits to taluk office and computerized data entry system has demanded more time in this activity and all are facing accurate shortage of time to attend the other works. All have suggested opening a separate wing for Bhoomi and to hire or depute new staff exclusively for this program.