

# ICTD SOLUTIONS FOR DECENTRALIZATION OF GOVERNANCE

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# Certificate

This is to certify that the thesis titled **ICTD Solutions for Decentralization of Governance** being submitted by **SURBHI JAIN, PREETI RANI** for the award of **Master of Technology in Computer Science & Engineering** is a record of bona fide work carried out by them under my guidance and supervision at the **Department of Computer Science & Engineering**. The work presented in this thesis has not been submitted elsewhere either in part or full, for the award of any other degree or diploma.

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# Abstract

The objective of this project is to give the power of governance in the hands of rural India by the means of technology [4]. When information will be retrieved as well as generated by the local people, it will provide a quick platform to the people in grievance redressal as well as the information generation. Human Access Points (HAPs) of the village will be provided with the mobile applications [5] which acts as a bridge in establishing communication with the local community. HAPs can launch surveys, view active surveys of GramVaani, can broadcast any urgent voice message or text message through the Gramvaai IVR setup. NGOs are provided with web portal to notify HAPs. Web portal provides communication interface between NGOs/ District personnels/ Officials and HAPs. It provides functionalities for admin registration, notifying HAPs, launching surveys, viewing survey responses and so on.

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# Chapter 1

## Introduction

### 1.1 Objective

The objective of this project is to achieve decentralization in governance through the mobile applications. It aims in the delegation of power in the hands of local community people known as human access points (HAPs) to foster local governance. Panchayat members will be given an Android phone pre-loaded with a local governance application which is used for the dissemination of information to the local community people. These volunteers will use installed mobile application for the broadcasting of audio announcements, sending of quick text messages to the registered members of the community. Application will also be used to launch the recent ongoing surveys to the relevant target members of the community. It will help in community monitoring, improving awareness, spreading of social welfare information, dispersing information related to government schemes and other livelihood services.

### 1.2 Motivation

We can see various regions of India where information unreachability is a major concern. In the modern era, smart phones have become a massive infotainment tool which can be used for the information reachability in resource lagging areas. Also, E-government and related Information and Communication Technology (ICT) are commonly understood to provide a great opportunity to innovate the business of government by fostering efficiency and reforming public management [7].

Firstly, People of rural areas are deprived of these smart phones which is the key reason of information deprivation among these people. Secondly, administrative people working top in the hierarchy are unaware of the local

community problems. Thirdly, rural people are poorly literate which hinders them from the information.

Keeping above problems in mind, delivering of voice messages on the basic phones of the local people by their own community members using mobile applications is the best tool for information dissemination. Local people (panchayat members/ HAPs/ Volunteers) can serve their community better. Voice messages become accessible to even poorly literate people. Also, Voice calls will help poor people in a better way. With a mobile service subscriber base of 377.73 million in rural areas as on March 2014, it indeed is a good idea to use mobile to bring local governance among the community people and foster social change [?]. Delegating information through mobile phones to such a large subscriber mobile base will effectively help in managing local issues of the local people by the volunteers.

## 1.3 Brief Description

Decentralization is the process of redistributing or dispersing functions, powers, people or things away from a central location or authority [?]. Decentralization provides the opportunity for a wider diversity of innovations, and increases flexibility of government in the context of changing circumstances. This is so because the decentralized, participatory model of governance mainstreams the many groups of citizens that were previously excluded, and creates greater scope for local and community self management. This means that the vast reservoir of talent, innovativeness, creativity, problem solving capacity and leadership qualities which have previously laid dormant in the local population is now able to find expression, and can be applied to the problems, visions and aspirations of the local community, and will also be available to contribute to nation building. [?].

### 1.3.1 Advantages of Decentralization

#### 1. Better control and supervision

Decentralisation ensures better control and supervision as the subordi-



nates at the lowest levels will have the authority to make independent decisions. As a result they have thorough knowledge of every assignment under their control and are in a position to make amendments and take corrective action.

## 2. Quick Decision-Making

Decentralisation brings decision making process closer to the scene of action. This leads to quicker decision-making of lower level since decisions do not have to be referred up through the hierarchy.

## 3. Facilitates diversification

Under decentralization, the diversification of products, activities and markets etc., is facilitated. A centralised enterprise with the concentration of authority at the top will find it difficult and complex to diversify its activities and start the additional lines of manufacture or distribution.

## 4. Executive Development

When the authority is decentralised, executives in the organisation will get the opportunity to develop their talents by taking initiative which will also make them ready for managerial positions. The growth of the company greatly depends on the talented executives.

## 5. It promotes motivation

To quote Louis A. Allen, Decentralisation stimulates the formation of small cohesive groups. Since local managers are given a large degree of authority and local autonomy, they tend to weld their people into closely knit integrated groups. This improves the morale of employees as they get involved in decision-making process.

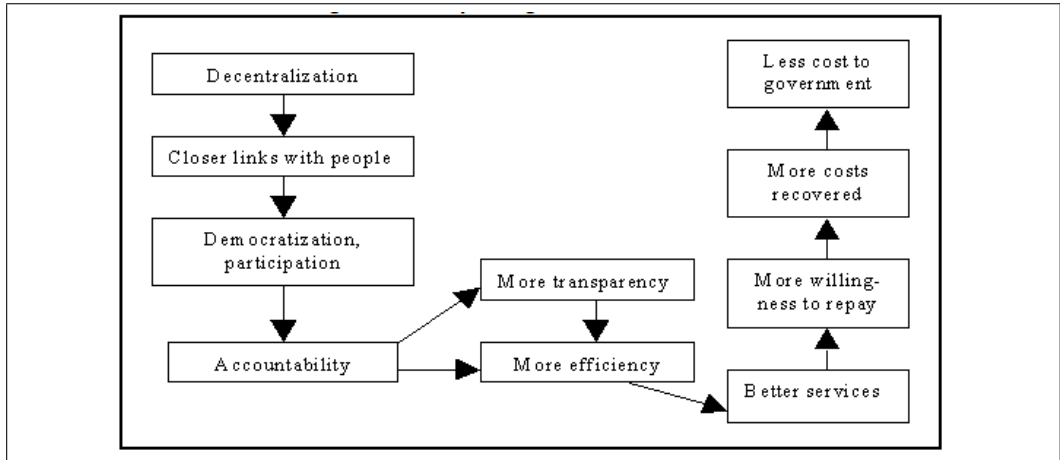


Figure 1.1: Advantages of Decentralization of Governance

Consequently, the designed application will be used by the volunteers for the easy dispersal of information to the local people. People will remain informed about the ongoing government schemes, daily livelihood services and other local news. Participation in the ongoing surveys will also be managed and tracked easily. Delegation of community monitoring in the hands of volunteers will help in achieving the decentralization of governance effectively.

## 1.4 Literature Review and Related Work

India is witnessing a phenomenal increase in mobile phone usage particularly in rural India over the last few years. Mobile handsets have become affordable and feature-rich making them amenable to value added applications. There is a consensus among mobile service providers, mobile content developers, banks and other financial institutions, policy makers (i.e., Reserve Bank of India, Ministry of Panchayat and Rural development), and various regulators (i.e., Telecom Regulatory authority of India, Indian Banks association, Insurance regulator of India, Mobile service provider association) that mobile applications is a viable way to reach information and service to rural people. The following papers were reviewed while developing the concept.

- Emergent Practices Around CGNet Swara, A Voice Forum for Citizen Journalism in Rural India, ICTD12 [6] : This paper talks about the

initiative of CGNet Swara, which is a project similar to JMR active in Chhatisgarh. The authors explain the deployment of the system, and their experiences. It also delves into qualitative and quantitative analysis of the data coming in, of the callers, topic about which stories were reported among other things.

- Designing Mobile Interfaces for Novice and Low-Literacy Users, ACM Transactions on Computer-Human Interaction. 2011 [5]: This study explores different interfaces for low-literacy and novice mobile users. The authors conducted two studies comparing text-based interfaces to other different alternatives such as, one: automatic solutions including graphics, spoken dialog and text-free user interfaces and second: a live human operator. Based on these studies and interviews conducted with the subjects, the authors cite results regarding the comfort of novice users with the different mobile interface components. They also lay down certain design recommendations while designing mobile user interfaces for such users.
- Citizen Connect SMS Mobile Application [?] : This mobile application empowers citizens with access to information and grievance redressal of local government services. SMC was launched to provide latest information and facts to people and take the government services to the doorsteps of the citizens. They launched a mobile app Citizens Connect that enables information sharing and service providing through latest technology. The mobile app, which can be downloaded free of cost on Android phones, provides information regarding elected and administrative wings, registration procedures, recruitment advertisements and even rainfall. Users can also check birth and death certificate details, property tax details, pay water meter bills and share feedback. Having launched in 2013, the app has already received over 18 million service requests and 7400 complaints.
- Mygaon, Web Platform [?] : The initiative is centered around India's 6.4 lakh villages, and more importantly, their efforts towards ensuring that each of native village is prosperous, healthy, and safe place to live. Mygaon's vision is to create a comprehensive, dynamic and interactive

web platform of information on villages in India in order to facilitate impactful and accelerated social change. On My Gaon, one is able to browse through real-time information on villages in India in a rich and visual manner. One can also view information regarding verified organizations which are involved in successful and highly impactful projects in these locations. They introduce 'Village Champions' - individuals on the ground who are willing to help community people make a lasting impact in the villages and thus provide them with all the information, tools and networks one need to contribute to one's native village.

- Rural ICT : Rural Information and Communication Technology (ICT) is a software platform that leverages cheap mobile phones and opportunistic Internet access for commercial purposes as well as group-based knowledge exchange. Users interact with the platform by dialing a phone number and navigating simple automated prompts using touch-tone keys. It is a knowledge sharing system built for telephony, which empowers its users to engage in conversation, trade or exchange of ideas in any language and with any community, thus surmounting literacy and language challenges. The voice portal is a 24-hr system where customers can record their order any time, it will thus help in saving time, effort and money. Orders placed would be easily manageable, can be tracked and avoid any loss or missing orders. There is no limitation on no. of user availing this facility in a group and thus also can be used for public surveying. This automating of job is to set an online system - to process transactions and announcements.

There are three users of the system named as admins, publishers and the members. The customers register to the system as members. The publisher along with the permission of the admin will handle the system and broadcast messages to respective customers. The members of the system, the customers can place their request on the system. It may be in the form of an order, a feedback or a response. All their response and request will be stored in the system and the publisher or the admin will make sure that the order is being processed successfully. Thus with the help this system, one can record a message (special offers or

notifications) to be broadcasted.

- Comparing Semiliterate and Illiterate Users Ability to Transition from Audio+Text to Text-Only Interaction, CHI09 [?] : In this paper, the authors establish fact that illiterate and semi-literate users cant be both clubbed together into one category when it comes to designing suitable user interfaces for them. This is so because for users with some basic literacy, who though might not be able to read and write flu-ently, text provides an unambiguous mode of interaction. The authors conducted studies where they found that when semi-literate users were presented with an interface with both text and audio support, they soon reduced their dependence on audio while no such improvement was found in case of the fully illiterate users. The paper provides interesting insights into the differences in the responses of fully illiterate and semi-literate users to different UI components.

# Chapter 2

## Landscaping Study

Before building any technology, we must explore the existing technologies of the same domain, their challenges and drawbacks, accessibility of these technologies to the target people and scalability issues. Many questions came in our mind before we started working on the solutions for information reachability to the community people.

### 2.1 Surveys

We conducted on ground surveys in the information deprived and backward areas of Delhi to find the answers of various questions. What type of problems are generally faced by these people? How people use media and mobile phones for solving their community level grievances? How people gain access to daily information, get their complaints solved, receive benefits of Government schemes? How is government involved in solving these matters? How the grievances are amplified which forces government to solve the problems? We tried to find the answers of these questions by conducting following on ground surveys.

1. **Survey of Munirka Village** Munirka is an urban area in South West Delhi, located near Jawaharlal Nehru University (JNU) and Indian Institute of Technology Delhi (IIT Delhi) Campuses [?]. Munirka is a village where development has started in early 1990s. The area is mostly dominated by the jaat community. We entered in a dealers shop and asked about the village life, sarpanch and marginalized group in munirka.

Moreover, we found that the sarpanch of munirka himself lives in Vasant Kunj and rarely visits his constituency. That was very disappointing part as he was not at all involved in solving the problems faced by his

people. He also gave us contact number of vice-sarpanch Bharat Singh who lives in a nearby street in munirka. He said Munirka is no longer a village and the area was well developed where everyone owns a smart phone and living a standard life. All shop owners were well equipped with basic amenities. We also talked to some local shop owners on the main street. The place was still following the village third-tier Panchayati Raj System. Some points are summarized below.

- (a) It is now termed as an urban area but the place still follows the hierarchy of sarpanch, vice-sarpanch and community people.
- (b) Shop owners were using TV as their source of information. Some youngsters were listening to the radios for infotainment.
- (c) People owns the shop and had the information of their residence and their area.
- (d) Almost many people owns the mobile phones.
- (e) Government involvement was very less in their grievances.

**2. Survey of Vasant Vihar** Our next visit was towards vasant vihar.

Vasant Vihar is an exclusive neighborhood located in the South West Delhi district of National Capital Territory of Delhi. We had a visit to coolie camp situated in the same place. It is a slum area where people were living in adverse conditions. There was no proper sanitation facilities and no hygienic conditions. More than 3000 jhuggi-jhopdiyas, some pakke makaans were agglomerated in such a small area. The irony is Vasant Vihar is one of the most expensive residential areas in the world (source Wikipedia) and it still has such slum areas.

Well, we asked various questions to the residents of that place regarding the availability of basic amenities. Whether they are able to avail the benefits of various schemes, are able to solve their problems at community level, or by the involvement of the MLA of their area Parmila Tokas. They said for the issues of water and electricity availability, they approach to the MLAs office to put their problems. Sometimes, Officials or people from some department or ministry come to take surveys for various statistics related to literacy rate, population count, number

of schools, toiletries etc but problems of local people are not addressed. They take numbers and put it in records. One of the person standing near the retail shop said that they make no efforts after the surveys, just take the figures that too improper and report to higher authorities. People were reluctant in answering the questions and were uninterested in sharing the stories and experiences they face and encounter.

- (a) Women were dependent on male members of their family, were unaware of the community information and were carrying no mobile phones.
- (b) Youngsters were carrying the smart phones for receiving and making calls and were using it generally for two applications i.e. Facebook and Whatsapp.
- (c) Local shop owners of the slum areas were carrying basic phones.
- (d) People aged between 40 to 60 were using phones mainly for gas booking purposes and for receiving and making incoming and outgoing calls respectively.
- (e) Youngsters wanted job related information.
- (f) No one was much concerned about health problems and health grievances.
- (g) People rely on words of their peers. Local people generally got informed from mouth to mouth communication by their peers.
- (h) Shop owners are aware of their locality, its problems but have no smart media and were seemed pre-occupied with their own local problems.

3. **Survey of Seemapuri** Seemapuri is mainly a rural zone in Delhi. New Seemapuri is situated at one end of north east Delhi. It has Uttar Pradesh as border on one side and lies adjoining to Dilshad Garden in East Delhi. It is basically a heterogeneous community with multi-cultural, multi-lingual and multi-characteristic features. Most of them earn their bread and butter by picking and sorting of rags. Some are



daily wage earners, street vendors, domestic helps, and many other menial jobs which are the main stay of their sustenance. Few of them are also shopkeepers, rickshaw pullers and semi skilled labourers working in the construction sector. The fact remains that many of the families are unable to feed their children with the meagre earnings they make.

- (a) There are two slums near dilshad garden metro station, Rajeev camp and Sonia camp which were earlier displaced from some other area of Delhi to Dilshad garden due to ongoing construction.
- (b) Rag pickers earn their wages by picking and selling waste material which is too less for their livelihood.
- (c) No government surveillance and cleanliness of the locality is maintained.
- (d) People are poorly literate and have no source of information to participate in social development and governance related activities.

## 2.2 NGOs

A non-governmental organization (NGO) is a not-for-profit organization that is independent from states and international governmental organisations. They are usually funded by donations but some avoid formal funding altogether and are run primarily by volunteers. NGOs are highly diverse groups of organizations engaged in a wide range of activities, and take different forms in different parts of the world. We talked to NGO personnel of 'Action India' working in Seemapuri Area for the cause of community people and for solving their community and livelihood problems.

1. **Visit to Action india** Action India founded in 1976, has taken many big and small path breaking initiatives by grassroots women, which clearly indicates the strong potential in women to become change agents in the process of social transformation. Action India sustains a balance between community based work and the universal struggle for women's

rights. While protesting against wrongs, Action India simultaneously creates alternative modes of self-help, self-esteem and self-assertion.

We had a talk with Mr. Praveen from Action India, project co-ordinator Mr. Deven and Mr. pramod regarding Action Indias approach in solving problems of women and various programs like women helping women, Save the girl child campaign, Adolescents Education for equality, Access to water and sanitation, Rural program looking through a gender less. Various sanghs like sable mahasangh maitreyi mela, Hinsa mukt mahilaye , beti utsav were started and are being run.

The NGO works for women empowerment program. We have discussed the ways they follow to solve the problems of women.

## 2. Cause of Action India

- (a) **Eliminate Discrimination** : Action India initiated the Mahila Panchayat (womens courts) as a forum for dispute resolution and realized need and effectiveness of womens support groups. With the help of legal resource persons the paralegal workers trained the mahila panchayat members on legal rights of women with a strong focus on gender equality. Paralegal workers from the community, mobilized members for the mahila panchayats and today we have 9 mahila panchayats in Delhi. Mahila Panchayat has 14 paralegals and 225 mahila panchayat members. Mahila Panchayats themselves involve in solving the issues of women and support all the cases without any bias till the end.
- (b) **Facilitate access to education** : For education related issues, they approach to School Management Committees, Dept. of School Education and Literacy, Ministry of Human Resource Development, Government of India which sometimes involve in solving the teacher absenteeism problem, School Mgmt Team, Mid day meal Distribution etc.
- (c) **Facilitate access to health care** : They approach to health and sanitation committee where they force them to solve the issues, go to deliver reports in person, for complaints they seek for constant

reports and keep receiving to show in case they dont entertain. NRHM benefits are also seeked by people.

- (d) **Enhance access to livelihood and economic rights** : Near the New Seemapuri Road which is approx. at 1 km distant from the Dilshad garden metro station, the complete road is occupied by the rag pickers (kabadi vala) with their sacks. Due to this, this road smells very much and the residents have problem with it. But as the Action India volunteer Mr. Praveen told us, this work is the only livelihood for these rag pickers. Also, the MCD vehicle cleans all the leftouts by the rag picker daily in the evening. We talked to the rag pickers also asking the problems faced by them and how do they get it solved. We found from the conversation that their voice is not heard by anybody nor it is communicated to the govt. authorities. When they were told about the android application features, they found the grievance redressal the most useful. As their primary need is to secure their livelihood and not the secondary needs which they cannot even think to access.
- (e) **Enable participation in governance and development** : They encourage people to participate in the local governance related and development issues of society.

## 2.3 Observations and Suggestions

1. Political Agenda for all the commissions matters more than the actual solution for the problem.
2. School Association Committee (SMCs), health and sanitation committee (HSC) were not able to solve and address the villagers problem effectively.
3. Recognizing and delivering on-ground training to human Access Points.
4. Unawareness of HAPs regarding local community problems
5. Data Security and Multi-lingual Support

6. On ground training is mandatory before launching any scheme, giving any benefits, introducing ICTD media among people, deploying any technology.
7. Manual intervention and involvements are the key elements in introducing big changes and turning heads of the people.
8. The local knowledge of village is very important prior introducing any new model in that place. Necessity of responsible people in various regulatory authorities, commission departments, panchayats, Government officers, NGOs workers, ASHA workers, school teachers.
9. People should themselves come forward to seek solutions and seek information and registering complaints.
10. Mobile phones users are many and they can be given on ground training for making the human access points and local villagers known with the problem and the technologies.

## 2.4 Conclusions

It is analysed from all the surveys that people who live in the underdeveloped areas like rural areas and the slums do not have a platform where they can get all the information about the basic needs which they require in their lifestyle. Information about administration, education, health schemes, employment, agriculture, gas cylinder bookings, land acquisitions can be correctly communicated to them which will help them on fulfilling their needs and eventually develop and making their lifestyle better. But there are certain problems in the implementation of the method.

1. People do not have even small knowledge of operating the mobile phones whether basic mobile phones or smart phones. Condition is even worse with women. Though youth and earning member of the house have phones but still they do not know more than dialing and receiving the call thus intense training is required for the proper implementation of the approach.

2. People are reluctant in sharing the information to the people outside their community. Or they tell data which is partially or completely false. Thus to collect data through telephonic surveys, Trust needs to be built that it is for their welfare only.
3. If started by implementing the approach for all the areas mentioned above, it is unlikely that it will be implemented properly for all the fields and a large dataset of information is required and need to be maintained. Thus the approach should be started by implementing for 1 or 2 areas initially.

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