

# Implementation of an e-Judiciary Service for Traditional Justice Administration in Dwesa-Cwebe

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**Abstract – The digital divide is one of the main factors contributing towards slow rural development. One major area where the digital divide is still prevalent is in the administration of justice. This is a common scenario especially in the administration of justice using the traditional procedures. The legal and judiciary services are lagging behind in terms of technological developments and scientific advancements. This is due to the fact that the judicial officers and legal authorities have no adequate knowledge and experience about the benefits of Information and Communication Technology (ICT). This paper describes an Electronic Judiciary Service from a developmental perspective for a rural marginalized community. The designed e-Judiciary service serves as a method of embedding ICT in the legal and judicial services of the Dwesa-Cwebe marginalized community.**

**Keywords – Dwesa-Cwebe, Marginalized Community, Traditional Justice Administration, Judicial Services, Judicial Information, e-Judiciary Service, and ICT4D.**

## 1. INTRODUCTION

There are many ICT4D (Information and Communication Technology for Development) projects that are ongoing around the world and most of them are currently being deployed and used in marginalized areas [1]. These projects are ranging from e-Services, network services and mobile web services. One of the various rural areas that have ICT4D projects deployed, is a rural community called Dwesa-Cwebe. Dwesa-Cwebe is located on the Wild Coast of the former homeland of Transkei, in the Eastern Cape Province of South Africa. The Wild Coast refers to the coastline of the former Transkei and lies between the Mtamvuna River in the North and the great Kei River in the South [2]. Dwesa and Cwebe are different rural communities that are separated by the Mbashe River, but they are habitually jointly referred to as Dwesa-Cwebe [3]. This is the location where the e-Judiciary service will be deployed for utilization by the marginalized community and their traditional justice administrators. In Dwesa-Cwebe an ICT infrastructure has already been deployed and there are approximately four years of research activities at the location. The existing ICT infrastructure so far is deployed in four schools namely: - Mpume, Ngwane, Mtokwane and Nondobo [4]. A number of

ICT services have already been deployed, for example, an e-Commerce and e-Government platforms are already operating. The Dwesa-Cwebe ICT4D project is operating with positive participation from the local community members and researchers from the University of Fort Hare and the University of Rhodes [4]. As part of the ICT4D projects that are being conducted we have decided to design a legal service that will assist the Dwesa-Cwebe judiciary in managing justice in the location.

In the legal system, the judiciary or the judicial system is an organization of the courts of law (local courts or national courts) which governs justice in the name of the state or a particular country [5]. The term judiciary also refers collectively to judges, magistrates and other adjudicators (like traditional leaders) who form core of the judiciary system and keep the legal system running smoothly [5]. All processes and operations of the judiciary system use paper to record and store legal judicial information.

An e-Judiciary system is an electronic representation of the usual judiciary system. It supports all operations of the standard judiciary system by using technology i.e. it uses computing technology to support the recording and storing of legal judicial information. So the e-Judiciary service serves as a method of setting the judicial services into the current technological trends and helps to incorporate ICT in legal services. The most valuable function of the e-Judiciary service is to digitize judicial information and keep it safe in order to exchange proceedings between the users and different investigating authorities [6].

## 2. RELATED WORK

In the past the judiciary has always been criticized for its failure to implement technology, especially for filling of cases and maintaining updates [7]. There were a number of steps that were taken to solve these problems and the steps that were taken include the embedding of ICT in the Kenyan judicial services. The steps taken include the development of a database system for keeping legal precedents which can be accessed at [8] and another step was the development of an online judicial service [9].

Just like other countries who are struggling to improve their legal services Uganda was also facing a problem of quicker and transparent justice dissemination. The mission and vision of the Republic of Uganda was to build up and administer an efficient and effective judicial system that will be made accessible to all the people of Uganda, a system that is

considerate of their traditions and attentive of their aspirations, and serving the people without favouritism or discrimination [10]. Due to the entrenchment of ICTs in legal services of Uganda there is now a tremendous increase in access to justice, the executive, the judiciary and parliamentarians, and important structures in government judicial services [11]. These changes were initiated by the development and implementation of an electronic judicial service. The developed judicial service is an online distributed web system [12].

The important reason behind all these endeavours is to come up with a service that is robust enough to handle the structure and procedures of the judicial system, and to deliver justice transparently, effectively and efficiently.

### 3. OVERVIEW OF TRADITIONAL JUSTICE ADMINISTRATION

Traditional justice administration is a process that is predominately carried out by the traditional or the chief's court. The fundamental nature of the traditional justice administration system lies in the participation of communities in resolving their disputes, and this is different from the formal judicial system where disputes are deferred to the magistrates' courts and supreme courts to be adjudicated upon by officers who would pass judgements [13]. The traditional court deals with all disputes that are brought to it as long as they are not "serious" cases [14]. Some of the cases that this court resolves include livestock rustling and teenage pregnancy. The main difference between the traditional court system and the formal court system is that traditional courts do not adhere to any prescribed or written set of rules, but are guided by the culture and tradition of the community or tribe they operate in, and, this technique dispenses justice easily and quickly [13].

In magistrates' courts every operation is written down and processes usually takes a long time to be finished due to the number of stages to be considered. In a traditional court the rules of procedure are not written down, but depend on the extent to which the particular members of the court at the given time are familiar with the appropriate procedure [14]. Although the traditional court is informal in nature, the legislation requires that the traditional court should record in detail the names of the parties, particulars of claim, particulars of the defence, judgement and the date of the judgement [14].

Researchers and political organizations have argued that the traditional court approach to justice is restorative (meaning that the traditional court has an ability to restore health, strength, or a feeling of well being) [15]. Through those arguments it was discovered that the role of traditional courts is not to establish who is wrong and then punish him/her, but instead to find the root causes of the dispute with the objective of restoring relationships that may have suffered as a result of the dispute [15].

Dwesa-Cwebe, as a rural marginalized community, is also operating under the same procedures of traditional justice administration. Therefore, this is the reason we are undertaking the e-Judiciary service in the rural area.

### 4. ICT AND THE JUDICIARY SYSTEM

There is a wide gap between ICT and legal services and this gap is caused by the lack of knowledge in the use information technology by legal authorities and judiciary systems. This is a common scenario in almost all parts of the world and especially the under-developed countries, taking into account the rural marginalized areas. The use and benefits of ICTs has increased efficiency in the public service and private sector though the speed of change is not encouraging at all [16]. This means that ICT introduced helpfulness in the working place but the rate at which the change is expected does not display what the transform should be. It can be observed that incorporating ICT in the judiciary system can result in an efficient judicial system that can result in a better working environment for legal service providers [16].

ICTs offer opportunities to provide integrated support to judicial and administrative functions, to create an interconnection of internal and external judicial institutions (for example, local village courts and urban magistrates courts), and develop a standard for monitoring and controlling of legal services [17]. The following figure shows a link between ICT and the judicial services. It illustrates how a relationship can be formulated between the two and how ICT can simplify the judicial services.

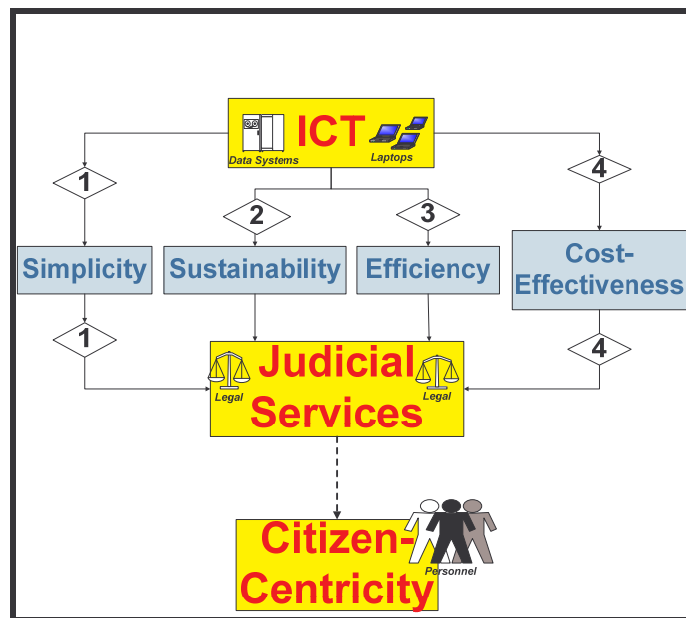


Figure 1: View of ICT in Judicial Services

In Figure 1, number 1 demonstrates that embedding ICT in judiciary systems can provide simplicity of judicial services and operations. This means that with the use of ICT the complex judiciary operations can be simplified. Number 2 shows that the significance of ICT in the judiciary services can result in sustainable judicial services and operations, meaning that the judiciary can work productively with minimum wasted efforts. In addition to that, number 3 and 4 illustrates that ICT can produce efficient judicial services and operations, and cost-effectiveness of services is guaranteed through the use of different technologies like free and open source software. Overall, the dashed line portrays how ICT in

judiciary systems can generate an improved and manageable judicial service that has a user-friendly connection between citizens and judicial services.

## 5. THE E-JUDICIARY SERVICE

Generally, all rural communities have some challenges that are common to each community and most of these challenges are faced by the traditional justice systems. Traditional justice systems present a number of key weaknesses which include the lack of safeguards against violations of human rights and legal information, inconsistency and lack of certainty of decision making, vulnerability to partiality and corruption of local decision makers, lack of intellectual strictness in investigations, limited enforceability of decisions and the limited ways of punishment to offenders [18]. Regardless of the popularity of the traditional systems, these systems have been almost neglected in the developed communities, even at a time when the justice sector has become a rapidly expanding area of assistance [19].

This is where the e-Judiciary service comes into place, as it will reduce the weaknesses faced by the legal system and especially in the administration of justice by means of traditional procedures. Consequently, the e-Judiciary service will allow the legal system to have effective access to digital information technologies and this will in turn reduce the digital divide within the judicial services domain. Through this service a legal communication platform is provided for building and maintaining a legal relationship between the rural leaders, community members and urban justice system.

### (i) *The Need for an e-Judiciary Service at Dwesa-Cwebe*

In the judicial system records and vital legal information are kept on paper, files and cabinets. This leads to a high possibility of the loss of valuable legal data due to issues such as misplacing of the records or the papers being lost or thrown away in rubbish-bins by mistake. The situation becomes worse for a deep rural marginalized area like Dwesa-Cwebe where there is no proper protocol of safe-keeping judicial records. The reason behind this is that the Dwesa-Cwebe village does not have a magistrate's court, it uses a local village court which is known as a traditional or the chief's court. The Dwesa-Cwebe traditional court is governed by the Chief and his Counselors, and it operates under Customary Law. The judicial gatherings and operations of this marginalized community are held under a tree or in a kraal (which is their traditional court) at the chief's house. The chief's counselors are responsible for keeping the necessary records of every judicial operation or occurrence. Because of these facts an urgent need of an e-Judiciary service at Dwesa-Cwebe is necessary.

The objective of the Dwesa e-Judiciary service is to computerize the Dwesa judicial information and make it available online for use by the community [20]. The service will help the judicial authorities and the community to keep an eye on the progress of traditional cases from the time the case is registered until the judgement is released [20]. The system is responsible for grouping similar law points, traditional court

rules, similar traditional cases, local complaints and related traditional acts, and will ensure easy retrieval and grouping of judicial information [21, 22, 23]. This grouping will be made possible by an administrator of the system.

### (ii) *The Adoption of an e-Judiciary Service at Dwesa-Cwebe*

The adoption of an e-Judiciary service at Dwesa-Cwebe will help facilitate the dealings with all the Dwesa legal issues and make them available to the rural community for use [20]. This means that adopting the e-Judiciary service at Dwesa will provide a legal technological representation that will assist and smooth the progress of the Dwesa-Cwebe judicial system. Taking up the e-Judiciary service provides an environment for the efficient storage and retrieval of judiciary documents and all the information regarding cases is securely stored for the citizens to retrieve whenever needed [24]. So the implementation of the e-Judiciary service at Dwesa-Cwebe is necessary for safe keeping of important legal information because, once the information is captured and stored, its accessibility is guaranteed [20].

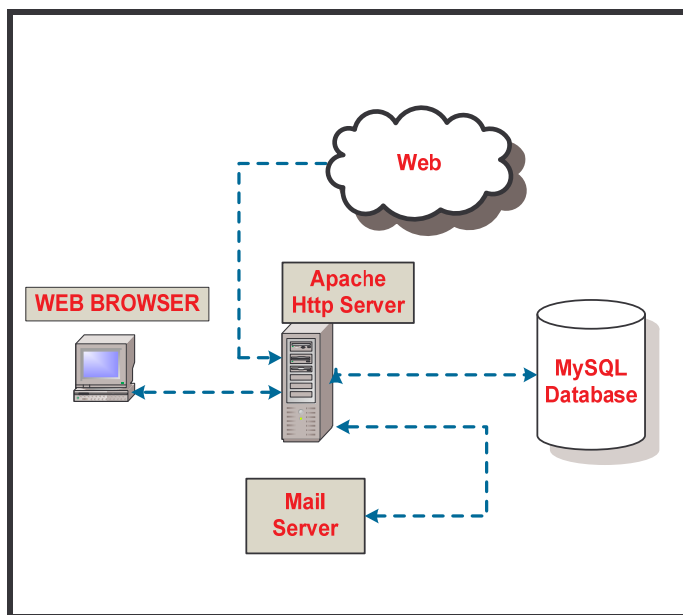
Until now judicial systems in most of the developing countries have been working manually for filing and monitoring of cases, and therefore leaving a possibility for corruption at various stages of the legal system [25]. The e-Judiciary service at Dwesa-Cwebe should act as an important component of a legal system for securing equal justice to all sections of the marginalized community because the system should include fairness, neutrality and timely delivery of justice [23]. So the adoption of an e-Judiciary service at Dwesa-Cwebe (and other rural areas) is essential for improving the working practice and interaction between different judiciary authorities involved in the administration of justice [20]. Implementing the e-Judiciary service at Dwesa-Cwebe will serve as a method of advocating a systematic analysis of the judiciary [22]. This means that the Dwesa e-Judiciary service will break down the difficult judiciary processes into understandable operations.

## 6. E-JUDICIARY SERVICE – SYSTEM DESIGN

The implementation of the Dwesa-Cwebe e-Judiciary service follows an iterative process of development until the final robust software system has been fully produced. The designed service is implemented as a web application i.e. the application is server dependent [20]. The e-Judiciary service is designed and developed using open source software. It has been designed on a Linux Operating System using PHP scripting / programming language and running on an Apache web server and MySQL database. The reason for choosing open standards is that they are a set of free software programs that can be easily obtained by downloading and their source code is freely available [26]. The major reason for using open source software is that at Dwesa-Cwebe the ICT infrastructure that has already been deployed is running in an open source environment. So this means that the e-Judiciary service will be easily deployed because of the compatibility with the existing platform.

There are many steps that were taken and considered during the development of the Dwesa-Cwebe e-Judiciary service. Some of the steps include qualitative research using interviews. The interviews were based on field visits at Dwesa-Cwebe. A range of people from different backgrounds in the community were interviewed, including school teachers, rural community members, the chief and his counselors. Findings from these interviews indicated that the e-Judiciary service was needed, and also informed the functionality that is deployed and made available in the application. The interviews also indicated the level of knowledge within the rural community members about the judiciary and its services. The developer also established an idea of what kind of a system to develop through the interviews. Architectural design and early prototyping were the subsequent steps on the design of the system. Enhanced prototyping and system integration also formed part of the steps taken during the design.

The following figure demonstrates the architecture of the Dwesa-Cwebe e-Judiciary service.



**Figure 2: Dwesa e-Judiciary System Architecture**

In Figure 2, the sole task of the Apache HTTP server is to accept incoming HTTP requests and return the requested resource in an HTTP response based on the HTTP protocol. The MySQL Database is responsible for keeping the judicial records and information, and the Mail Server is responsible for administering the transmission of e-mail messages to the users of the service. The Web Browser section is the place where all the users of the service make use of the e-Judiciary interfaces for their judicial and legal needs.

This service will be loaded at one of the village digital access nodes with a back up/redundancy at the University of Fort Hare.

## 7. SYSTEM FUNCTIONALITY

The e-Judiciary service is designed to accommodate four different types of users. These users are the Administrator,

Legal Authorities, Rural Citizens and the Anonymous Users. Each of the distinct users has its own unique interface to operate on. The Administrator, Legal Authorities, and Rural Citizens interfaces require authorization to be accessible for use at any given time. The four distinct user categories may be characterized as follows:

### (i) *The Administrator*

The Administrator is the manager of the system and is the one responsible for the overall maintenance of the whole system. The system administrator does not require a legal background to draw up the records in an appropriate legal-sounding language. This is because the service is meant for traditional justice purposes and there is no intense legal background needed in traditional justice administration. The Administrator has more tasks than other users in the system and his tasks are categorized as follows:

#### **Manage Users**

The Administrator can add new users to the system when there are difficulties in themselves, and can also edit users' profiles. The Administrator can also activate pre-registered users giving them access to use the service and can also delete users who want to be de-registered from the system.

#### **Judicial Operations**

On the side of the judicial functions the Administrator is responsible for recording, viewing, and updating of judicial information, local cases, local criminal records, Dwesa village-court events, local complaints and the Dwesa news. The Administrator is also accountable for taking into account the suggestions posted by users and internet browsers.

### (ii) *The Legal Authorities*

The Dwesa-Cwebe Legal Authorities are the Chief (also known as the Headman) and his Counselors. The Chief and his Counselors are the ones responsible for administering the law using traditional practice and customary law. They are also responsible for maintaining certain parts of the system and this makes them to have administrator rights that are limited to their duties only.

The Legal Authorities' tasks on the system are:

#### **Judicial Operations**

Since the Legal Authorities are responsible for controlling law and order, their administrator rights are limited to recording, viewing, and updating of judicial information, local cases, local criminal records, Dwesa village-court events and local complaints.

### (iii) *The Rural Citizens*

Unlike the Administrator and the Legal Authorities the Rural Citizens have no rights of maintaining the system at all. Their duty is to make use of the service for their judicial and legal needs only. The duties of the Rural Citizens on the system are as follows:

#### **Citizen's Legal and Judicial Needs**

In the citizen portal the users can post and view complaints, can report and view local crime, can check the status of local cases and local criminal records and view the local court hearings. In addition to that, the Rural Citizens can view judicial information like common cases dealt with at Dwesa-Cwebe, procedure of the Dwesa village-court, laws used in the village-court, village-court rules, procedure of reporting local crime, judgement that can be taken at the village-court and the connection between the Dwesa-Cwebe village-court and the magistrate's court.

### (iv) *Anonymous Users*

Besides the three different interfaces for the authorized users (Administrator, Legal Authorities and Citizens), the system has an additional interface (Anonymous Users interface) that does not require authentication to be used. The anonymous users interface can be utilized by anyone who is not registered on the system. This interface gives internet users an opportunity to read about the Dwesa-Cwebe e-Judiciary service, the administrators of justice at Dwesa-Cwebe, the ways of contacting the marginalized location, a portal for posting suggestions (questions and comments) and a chance to read the Dwesa-Cwebe local news.

Apart from the different tasks of the authorized users (Administrator, Legal Authorities and Rural Citizens), they all have an option of editing their own profiles and of changing their authentication passwords using their respective interfaces. Authorized users also have the option of unsubscribing themselves without the help of the administrator when they need to do so.

## 8. FUTURE EXTENSIONS

The Dwesa-Cwebe marginalized community is composed of a majority of illiterate people whose only knowledge is farming [3]. So the system would be an impossibility to use by other citizens because of the language barrier. Possible future extensions to the system include the localization of the system into a language that will be suitable for the rural community as some of them cannot read English, but they can read their own language, which is Xhosa in their case.

Another possible future extension to the system would be an implementation of different access modalities, for example, audio link modalities. This extension would be for the rural citizens who are completely illiterate but are interested in

using the system. It should be in a form of links where if a user points to a certain link with a mouse-pointer the link should produce an audio-voice telling him/her about the link he/she has pointed. An additional potential future expansion would be the rendering of the service on a mobile phone because this will make it available to an even wider user base.

The system can also be extended to neighbouring marginalized communities if they could have an ICT infrastructure deployed in their area.

## 9. CONCLUSION

This paper has discussed the design and development of an e-Judiciary service for a rural marginalized community, Dwesa-Cwebe. The designed e-Judiciary service is for the administration of justice traditionally and for use by the community members for their legal needs. A need for an e-Judiciary service at Dwesa-Cwebe has been identified in the paper and the benefits of adopting such a system have been highlighted and explained too. The design and functionality of the system has also been described in detail and possible future extensions to the service have been elucidated as well.

The development of the e-Judiciary service is a valuable benefit to the Dwesa-Cwebe marginalized community because the system will serve as a method of easing the justice relationship between the community members and judicial authorities. The difficulty of safe-keeping legal data will be eliminated and the availability of judicial information is guaranteed through a user friendly distributed web system.

Once the system is fully designed and developed, the implementation and testing will quickly follow. The users will also be trained on how to use the system and the user feedback will be determined as well.

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