The Role of mHealth in Uganda
- A tool to reach development?

Bachelor thesis in Media and Communication
with focus on Peace and Development studies.
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Abstract

Title: The Role of mHealth in Uganda – A tool to reach development?

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Aim of Study: The thesis addresses mHealth in Uganda and aims to map out how different factors affect the field and what challenges there are in using mobile phones.

Method: Grunig and Hunt’s five PR-models, Semi-structured interviews

Theories: System theory, Network theory, Critical approach and Feminist Community Action, Westernization

Material: Interviews collected in February and March 2013 in Uganda

Main Conclusions: By using the theories we concluded that the organisational structures is unorganised due to lack in communication and organisation. We also concluded that many factors affect the field and to reach development in Uganda the organisations need to target the whole system of components. Coordination from governmental institutions and a will for collaboration between NGOs and government is important if a sustainable organisational structure and development should be attained. ICTs such as mobile phones can be a useful tool in reaching this goal.

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Key words: mHealth, M4D, ICT4D, NGOs, organisational structure, peace and development, communication, Uganda, System theory
Thanks to
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“Fredsfamiljen” that makes everything easier
and is always a source of knowledge and support.

...and all you others that contributed to our thesis!
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List of Abbreviations and Acronyms

$ - United States Dollar
eHealth - Health supported by Electronic process and communication
GDP - Gross Domestic Product
HDI - Human Development Index
HMIS - Health Management Information System
ICT - Information and Communication Technology
ICT4D - Information and Communication Technology for Development
LRA - Lord's Resistance Army
M4D - Mobiles for Development
MDG - Millennium Development Goal
mHealth - Mobiles Phones and Health
MoH - Ministry of Health
mTrac - Mobile phones and tracking (Monitoring essential medicine supply using mobile phones)
NGO - Non-Governmental Organisation
PDA - Personal Digital Assistant
SIDA - Swedish International Development Cooperation Agency
SIM Card - Subscriber Identity Module Card
SMS - Short Message System
SPIDER - The Swedish Program for ICT in Developing Regions
TIU - Transparency International Uganda
UN - United Nation
UNDP - United Nation Development Programme
UNICEF - United Nations International Children's Emergency Fund
US - United States
USAID - United States Agency for International Development
U-report - Mobile phone users with the tools to establish and enforce new standards of transparency and accountability in development programming and services
WOUGNET - Women of Uganda Network
VHT - Village Health Team

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1. Introduction

To start with, we are communication students specializing in peace and development and therefore interested in communication and its impact in low-income countries. When deciding on a topic for our Bachelor thesis the field of Information and Communication Technology (ICT) was interesting to us. Mobile phones are a commonly used tool for achieving development. In addition, mobile phones are an easy accessible communication tool and widely used in low-income countries (Wicander, 2010). Furthermore, another topic that is common in development is health. Health covers three of the Millennium Development Goals (MDGs) and is recognized as one of the main factors of poverty in the world (UN, MDG, 2013), making it, in our opinion, a very important field.

The fields combined are called mHealth (mobiles and health) and it refers to all that includes mobile technology that facilitates the communication in the health sector such as reporting irregularities and corruption, creating awareness and informing about diseases as well as reminding patients about health visits, vaccinations and treatments (Unwin, 2009). During the first stages of our research we noticed that there is a knowledge-gap and that many reports was positive towards mHealth but few have described any negative effects of implementing mobile phones in health. That is why in this thesis we try to question what challenges there are in mHealth, how the challenges impact the field and what can be done to improve mHealth. To give a sense of mHealth we will outline how mobile phones are used as a communication tool in different projects. Several interviews have been done in Uganda in order to answer the questions. Uganda is a country that is positive towards new innovations thus creating an acceptable platform for establishing Information and Communication Technology for Development (ICT4D) programs and projects, the country is developing rapidly within the field of ICT4D and therefore we have chosen to conduct the research in Uganda.
2. Background

2.1 The History and The Present

To understand the situation in Uganda we will present a summary of the modern history of Uganda, and the impact it has had on the situation today.

Uganda is called the pearl of Africa because of its green valleys, many lakes and mountains. (Landguiden 1, 2013) In the beginning of the 20th century Uganda was a relatively peaceful nation despite British colonial rule and was a country that had an expanding agriculture. It wasn’t until the 1940’s that dissatisfaction started to emerge in Uganda and the people started to oppose the British rule. The dissatisfaction resulted in independence in 1962 and Milton Obote became Prime Minister. (Säkerhetspolitik, 2013)

Obote ruled until 1971 when, in a military coup, Idi Amin gained power. Amin managed to kill much of the wildlife, kill over 300 000 Ugandans and destroy the economy of the country in eight years. In 1978 he tried to take over power in Tanzania but failed, instead the Tanzanian army managed to defend their country. Meantime, the world had grown tired of the political regime of Amin and in 1979 he was overthrown when the Tanzanian army invaded Kampala and forced Amin to surrender. Obote was reinstated as president but the people of Uganda continued to suffer greatly since researchers have shown that just as many people died under Obote’s rule, since Obote killed the people that had supported Amin and also implemented harsh laws against the Ugandan people which killed many. Obote was overthrown by the rebel leader Yoweri Museveni in 1986 and is the president of Uganda in 2013. (Ibid)

In 1999, Museveni sent Ugandan troops to Democratic Republic of the Congo to help the overthrowing of their president Mobutu Sese Seko, after many years of constrained relationship between the two nations. Since other nations became involved this evolved into The Great African War. This resulted in a poor economic growth in Uganda due to the many years of conflicts and the cost of war. Today the
relationship between Museveni, and the now ruling president of DRC, Kabila, has been improved. (Ibid)
Uganda has, under Museveni’s rule, become more stabilized and he has gained some international respect for his work, but still there are parts of Museveni’s rule that, according to the world community, needs improvement. The main critic against Museveni is that the elections are not democratic, corruption is high and poverty is still a factor despite the high number of NGOs in the country and the economic funding that the world society supplies. Also, there are still an ongoing conflict between the state and Lord’s Resistance Army (LRA) but LRA mainly resides in neighbouring countries and the north of Uganda. (Ibid) See Table 1 to further understand the situation of Uganda today.

Table 1. Statistics of Uganda
(Worldbank1, 2013) (White African, 2013)

<table>
<thead>
<tr>
<th>Indicator (Uganda)</th>
<th>Value</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>35.52 million</td>
<td>2011</td>
</tr>
<tr>
<td>GDP total</td>
<td>16.81 billion USD</td>
<td>2011</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>487 USD</td>
<td>2011</td>
</tr>
<tr>
<td>Population under poverty line (under 2 USD)</td>
<td>24.5</td>
<td>2009</td>
</tr>
<tr>
<td>Health expenditure, out of total GDP</td>
<td>9.5%</td>
<td>2011</td>
</tr>
<tr>
<td>Life expectancy at birth:</td>
<td>54 years</td>
<td>2011</td>
</tr>
<tr>
<td>HDI ranking</td>
<td>167 (out of 187)</td>
<td>2011</td>
</tr>
<tr>
<td>Ranking of high-burden malaria in Africa:</td>
<td>3rd place</td>
<td>2010</td>
</tr>
<tr>
<td>Ranking in high-burden tuberculosis country:</td>
<td>16th place</td>
<td>2009</td>
</tr>
<tr>
<td>Country Mobile Coverage</td>
<td>90%</td>
<td>2002</td>
</tr>
<tr>
<td>Mobile cellular subscriptions (per 100 people)</td>
<td>48%</td>
<td>2011</td>
</tr>
</tbody>
</table>

2.2 History of Uganda’s Health Care Sector
In 1998 the Ministry of Health (MoH) restructured Uganda’s health care structure by decentralizing it and creating a structure with four different levels. The system would function as a referral where the bigger hospitals would provide support and supervision to lower health facility units. Ever since 2000 the MoH have created a five-year strategic plans that elaborates on improvements that needs to be done within the Health Sector. In order to understand the health care structure see Table 2.
Table 2. Health Centre Structure (Kavuma, 2009, ), (Ministry of Health, 2010:11)

<table>
<thead>
<tr>
<th>Health Centre</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH CENTER I / VHT</td>
<td>The first contact for someone living in a rural area such as Katine would be a community medicine distributor or a member of a village health team (VHT). The task of the VHT is to be the link between the community and the formal health care. They are responsible for identifying community health needs as well as providing preventive information to the community regarding health interventions such as immunization campaigns and malaria control. Each village is supposed to have these volunteers but in many cases they are either non-existent or they do not have basic drugs for diseases such as malaria.</td>
</tr>
<tr>
<td>HEALTH CENTER II</td>
<td>According to the Ugandan government’s health policy, every parish is supposed to have one of these centres. A health centre II facility, serving a few thousand people, should be able to treat common diseases like malaria. It is supposed to be led by an enrolled nurse, working with a midwife, two nursing assistants and a health assistant. It runs an out-patient clinic, treating common diseases and offering antenatal care.</td>
</tr>
<tr>
<td>HEALTH CENTER III</td>
<td>This level of health facility serves a county or a parliamentary constituency. Tiriri health centre IV, located just outside Tiriri trading centre in Katine, is the main facility for seven sub-counties, which make up Soroti county. A health centre IV is a mini hospital. They are in charge of laboratory services for diagnosis, maternity care, general out-patient care and supervision of the sub-county. It should have the kind of services found at health centre III, but it should have wards for men, women, and children and should be able to admit patients. It should have a senior medical officer and another doctor as well as a theatre for carrying out emergency operations. These centres should have about 18 staff, led by a senior clinical officer and sees about 100 patients per day.</td>
</tr>
<tr>
<td>HEALTH CENTER IV</td>
<td>Ideally, each district is supposed to have a hospital, which should have all the services offered at a health centre IV, plus specialised clinics – such as those for mental health and dentistry – and consultant physicians. The aim is for every district to have a hospital, however this is not the reality partly due to the constant sub-division of districts. As of today in 2013, there are 112 districts in Uganda however, in 2002 there were 56 districts. What this means for the health care is that there are a lack of educated people to work in the 112 hospital and patients are overlooked due to the limited resources. (HSS &amp; IP 2010:11 p 4) The lack of human resources will be developed further in Findings.</td>
</tr>
</tbody>
</table>

In this research we have had the opportunity to interview health workers working in Health Center IV and have followed other organisations out on a site visit to see how different Health Centers work and how organisations work with them. We visited all the different levels of the Health Center structure.

In 2000 the MDGs were stipulated by the United Nations (UN). These were designed to create a platform for peace and development work to focus the aid in the low-income countries for the coming 15 years. There are eight goals and each goal have its own ambassador that makes sure that countries are fulfilling their responsibilities.
The goals main focus are on decreasing poverty, improving health, creating a sustainable development and empowering women and children. These goals have been UN’s main focus during the last 13 years. (UN, MDG, 2013) We believe the MDGs being important goals for reaching development and have therefore chosen to focus on health communication since three of the MDGs include health related issues. Health is an important element in a country’s budget (World Bank 1, 2013) but also an important goal in decreasing poverty (UN, News, 2013). From our interviews we have discovered that Uganda’s health care system is seen as an insufficient system due to many factors that we will elaborate further on in this thesis. In addition, we will explore some of the positive features of the health sector in Uganda but our main focus is the challenges within the field.

Many factors have contributed to the conclusion of the health sector in the country, such as poor infrastructure and challenges in communication. Due to poor living standards and insufficient support from the government, health facilities are often under-equipped, lack of human resources, medical equipment and medicine. (Dr. Joshua Kibairu, Chief of Hospital Kawolo, 2013) In our Findings we will elaborate further on these factors, how they have become challenges in the communication of health issues and how organisations have chosen to overcome the different challenges.

2.3 History of Mobile Phones in Uganda

The use of mobile phones in Uganda has developed rapidly from one percent in 2000 to 48 percent in 2012. (World Bank 2, 2013) Mobile phones are seen as an effective communication tool and have been used to develop services for the population. Mobile Money is an example of such an application. It is developed as a bank account, where you can save money, send remittances and pay services and bills through your Subscriber Identity Module-Card (SIM-Card). The past years more mobile phone applications have been developed and has been extended and used as a tool by institutions for registration and documentation. One example is the project mTrac that was initiated by the Ministry of Health in cooperation with United Nations International Children’s Emergency Fund (UNICEF) in Uganda.

UNICEF Uganda. mTrac is the largest mHealth initiative in Uganda, with over 2,000 health facilities using mobile phones to submit weekly disease surveillance and medicine stock updates. By filling in a form and texting the combinations of the result
of the form, data is transferred to a server at the MoH Research Center where it is stored and dealt with according to the results. These are a few examples of many successful mHealth innovations in Uganda. (UNICEF, 2012a)

2.4 Previous Research

As mentioned before, health has a major impact on development work and UN has acknowledged this in three of their MDG’s (UN, MDG, 2013).

Better health is central to human happiness and well-being. It also makes an important contribution to economic progress, as healthy populations live longer, are more productive, and save more. (WHO, 2013)

According to Tatalović, a journalist at The Guardian, it is not easy to achieve better health in low-income countries, many hindiers and challenges have to be considered and faced before achievement can be attained (Tatalović, 2013). When we tried to get acquainted with the field of mHealth from abroad, we quickly noticed that very little documentation had been done regarding the challenges of mHealth projects in low-income countries. Most of the things that were documented were successful project reports where the challenges were not elaborated on whereas the positive sides got more attention. In Gudrun Wicander’s research, Mobile Supported e-Governmental Systems, the author criticizes previous research and argues that there is a lack of documentation. The author stresses that Electronic Health (eHealth) tools, that involve mHealth, should not be seen as an universal instrument that always works as a communication tool in all health related situations. (Wicander, 2010:48)

Even though the field of mobile phone research is rather new, researchers such as Caroline Free, senior Lecturer in Epidemiology stresses that mobile phones as resourceful tools that could improve communication in remote and rural areas as well as increase transparency and structure in low-income countries. (Free et al. The Effectiveness of Mobile-Health Technologies to Improve Health Care Service Delivery Processes, w.y. ) The field is a dynamic field that is constantly changing which means that the research has to be constantly updated in order to understand and evaluate new challenges and factors that influence the field. In the report by
Wicander, she states that the authors Sein and Harindranath argues that ICT needs to be examined more,

...there is a need to conceptualise the many perceptions of ICT and the manifold impact of ICT in society as information and knowledge are always grounded in a local context. There is also a need for disaggregation of ICT since ICT is not one single entity; instead it includes several parts, e.g. several technologies. (Wicander 2010:31)

Not only is ICT a field that needs to be further explored within research but also mobile phone technology and the opportunities that exist within this field. The documentation that previous researchers have found describes social, cultural and economical factors that influence the field. Kojo Boakye et al (2010) brings forth an example in their case study: Mobiles for Development, where poor infrastructure and bad roads hinder development and in this case a mobile phone can help to overcome the communication difficulties. UNICEF Uganda has written many project reports where these factors have been mentioned. However, Wicander stress that many researchers forget to point out the impact that technology can have in a negative way, such as creating a digital divide where people that have access to the technology has a huge advantage over the people who do not have any access. (Wicander, 2011:91)

Furthermore, the documentation we found was often general information about mHealth or ICT4D, revealing the positive factors in Uganda’s neighbouring countries. We found some information about the challenges in Uganda but often it was small episodes in a larger report. In the reports many ICT tools are documented such as computers, radio, Personal Digital Assistant (PDA) and mobile phones. This means that some of the ICT4D projects documented do not exclusively use mobile phones and are therefore not relevant for this study. An example is the report by Groupe Speciale Mobile Association (GSMA) et al. (2011) that is mainly about the digital divide between men and women and only two pages is about Uganda. Additionally, the report focuses mainly on the positive sides of women and mobile phone usage. The Ugandan government has published several reports and papers, an example being the Health Sector Strategic Plan (HSSP) where the benefits and positive sides of mHealth have been highlighted. These reports are filled with statistics of the status of
health in Uganda, what needs to be improved and what should be done to improve the health and administration on a national level. (Ministry of Health, HSSP III, 2010)

While systems for supervision, monitoring and evaluation exist there are enormous challenges. Monitoring, supervision and mentoring have been weak and irregular. Furthermore the capacity of the HMIS\textsuperscript{1} is still inadequate for example timeliness of reporting is currently estimated at 68%. (Ministry of Health, 2010: xvi)

What the strategic report doesn't address is actual methods and concrete actions to improve the health in Uganda. Ministry of Health has given out strategic reports and all of them are rather positive towards ICT and health, but also describes the status of health in Uganda as something that can be improved but miss to propose concrete actions on implementing the improvements.

To conclude the field, there are several reports, books and articles that deals with the field of ICT4D but are mainly about the general status and a few are in-depth analyses. The challenges are rarely described and the positive effects of using ICT4D are highlighted. This creates a problem since many NGOs and institutional bodies consider ICT4D to be the ultimate solution and few consider ICT as a tool that may not only be a solution but may brings challenges as well. The documentation of M4D and mHealth is even less extensive, and is still only described in a positive light. This creates a knowledge-gap that many ignore to explore due to the willingness to use innovative solutions to foster development.

3. Research problem

The field of mHealth is still new and in some regards un-researched, especially when it comes to low-income countries such as Uganda. As we wrote in Previous Research, organisations have mainly highlighted the positive effects and not the challenges that the field of mHealth faced with. Therefore we have chosen to explore the challenges that exist in the field of mHealth in Uganda, a country that invests in this area. The purpose of this thesis is to contribute to the discussion regarding the challenges using System theory, Communication theory among other theories, try to address how

\textsuperscript{1} HMIS – Health Management Information System.
organisations can overcome these challenges. Through our research we hope to contribute with a new perspective to the field of mHealth.

3.1 Research question
The thesis will answer the following questions:

- How are mobile phones used as a communication-tool within the mHealth projects in Uganda?

- What are the challenges within mHealth in Uganda for organisations, health facilities and the people of Uganda?

- How can the organisational structures and the sustainability of mHealth projects be improved?

We will answer these question by using our own observations, answers we obtained in our interviews and focus groups as well as publications from organisations working in the field of mHealth. We have chosen this approach since we found a knowledge gap that we believe is, not only interesting, but important to investigate. Most organisations claimed that the innovative field of mHealth was beneficial at almost all levels and since we found very little criticism of the field we decided to research mHealth and all the factors that we have found having an impact on the field.

4. Theoretical Framework and Methods
The thesis also focus on communication and collaboration with international donors and what challenges there are in Uganda when it comes to mHealth and what positive sides it can contribute with. To guide us and provide an perspective in the analysis we have used several of theories that will contribute with giving meaning to our findings. To start with we use System Theory, Network Analysis and Critical Approach as general theories that helps us understand the complex structure within an organisation and a community.
4.1 System Theory

System Theory was founded by Bertalanffy and he published a book in the subject in 1968. In the coming years many scientists in several fields adapted and used the theory. The authors Katz and Kahn were two of the scientists that used the theory to explain organisation structure. They believed that the communication flows in and out of the system.

Katz and Kahn (1978) argue that organizations should be conceptualized as complex open systems requiring interaction among component parts and interaction with the environment in order to survive. (Miller, 2009:58)

A system is many parts or components that interacts and creates a whole. In an organisation it can be the personnel, departments etc. that represents the parts. To understand a system the researcher has to recognize and understand how the different parts are connected. The different parts have a hierarchical ordering within the system and are also interdependence towards each other. They are either open or closed, meaning that they do or don’t allow communication and information to flow in and out of the system. How receptive the organisation is to communication varies, it is also called input-throughput-output, but in the rest of the thesis we will refer to this process as feedback. Feedback is vital for the organisation to be able to adapt and correct mistakes. According to Katz and Kahn a system can reach the final state, e.g. in a project, from a number of different paths and is therefore not bound to one path to be successful, this because of the complexity of a system (Miller, 2009:63).

System approaches aim to simplify the process of our thinking about, and managing, complex realities that have been variously described by system thinkers as messes, the swamp, wicked problems, or in relation to environmental issues, resource dilemmas. (Reynolds et al. 2010:5)

One of the features of System Theory is that there are connections between the different parts in a system and these parts create different subsystems or supersystems. When working with groups and individuals it is important to map the relationships between them and how the flow of communication works, also called a Network analysis. The density of systems also has influence on how the flow of
communication works. The higher density a community or organisation has, the more connected the parts are and the communication flows are more easy since the system is more interconnected. (Miller, 2009:72)

As presented earlier in the thesis, one of our research question focuses on the challenges that different subsystems face (organisations, health facilities and the population). Conducting research in a country such as Uganda, with many organisations, networks and systems, applying a system approach will help us get a deeper understanding of the interconnecting relationships, the communication flows and the hierarchical structures that exists.

The critics of System Theory argue that the theory focuses too much on the different relationship components of the subsystems, limiting the focus of the reality as a whole. (Covington Jr, 1998) At the same time the theory have been criticised for being too broad and that it has given no concrete solutions within development studies (Wicander, 2010). However considering the amount of subsystems, networks and development issues that we have found during our research, the general part of System theory can describe and explain our findings in a more comprehensive way.

4.2 Critical Approach

Critical Approach derives from System Theory and builds on Max Weber and Karl Marx ideas and theories. The approach aims to have a critical stand against social research.

First, critical theorists believe that certain societal structures and processes lead to fundamental imbalances of power. Second, these imbalances of power lead to alienation and oppression and for certain social classes and groups. Third, the role of the critical is to explore and uncover these imbalances and bring them to the attention of the oppressed group. Emancipation is then possible, either through direct political action, individual resistance, or awareness of the oppressed individuals. (Miller, 2009:101)

Miller brings forth the three concepts that are of importance for critical theorists within organisational communication: power, ideology and hegemony, and emancipation. Power relations and the construct of control and domination, is
according to Miller, central ideas in all Critical approaches. The authors Conrad and Ryan outlined in 1985 three approaches for the critical perspective of power relations within organisations: traditional approach, symbolic approach and Radical-Critical approach, the most relevant for our thesis is the latter one. The Radical-Critical approach focuses on the depth of organizational relationships and interactions, and how social, economical and communicative factors, such as money, wide network and influence, come to create and maintain power relationships. (Miller, 2009:102)

Ideology and hegemony, the second concept, focuses on the organisational hierarchy and how attitudes and believes creates an ideology that, according to Miller (2009), is seldom questioned. In the critical perspective, ideology is associated with systems of power and domination created by hegemonistic rules that thereafter shapes an organisational ideology that fosters social imbalances. Miller (2009) argues that too great imbalances might later lead to act of emancipation, an act that is seen as a way of creating awareness and “communicative action” on the part of the oppressed. By using these different concepts we will be able to further analyse the power relations between organisations themselves, organisations in relationship to institutions as well as organisations in relationship to their project participants. (Miller, 2009)

4.3 Westernization and Modernization

Westernization is a process in which societies adopt western ways of living. The western influence imposes on other cultures to embody the western values of democracy, traditions, free markets and limited governments, human rights and individualism among other areas. According to the author Samuel P. Huntington (1996) the West, meaning the West European countries, rich governments in North America and other European settled countries, such as Australia and New Zealand, has had a major impact on every other civilization. The expansion of the West has promoted both the modernization and the Westernization of non-Western countries. Huntington stresses that the relationship of power and culture of the West and the power and culture of other civilizations is the most pervasive of the world civilizations. (The Clash of Civilizations, 1996:46). The author compares the approach of Westernization with modernization and emphasises that it is two different processes that people often see as one. Modernization, he explains, is rather a process
of developing attitudes, knowledge, culture and values into a more modern aspect.

...modern societies could resemble each other more than traditional societies for two reasons. First, the increased interaction among modern societies may not generate a common culture but it does facilitate the transfer of techniques, inventions, and practices from one society to another with a speed and to a degree that were impossible in the traditional world. Second traditional society was based on agriculture; modern society is based on industry (Huntington, 1996:69)

The process of modernization and Westernization will be referred to in our findings and analysis and used as a framework to detect situations of Westernization within the project landscape.

4.4 Feminist Community Action

According to April A. Gordon, Professor in Social Science at Winthrop University, the women have always been a part of the community work but since the men are usually the providers of money the women’s work have been seen as less important. (Gordon, 2007:293) According to Marjorie Mayo, Professor in Community Development at Goldsmiths, London University, women were neglected in community work and it wasn’t until the 1970s, when Mayo among others, promoted women's role in the community, that the view started to change (Dominelli, 2006: 2). Traditional gender approaches or ideologies such as sexism believes that men and women are different, which means that men have the dominant role and are the providers of material needs while the women have the domestic responsibility and are the mothers and the carers. (Dominelli, 2006:29-31)

Lena Dominelli is the Chair of Applied Social Sciences at University of Durham in UK and currently Past President of United Nations Liaison Officer. According to Dominelli, to address the inequality the Feminist Community Action took form. It addresses quality of life and issues that affect women, foster equality, democracy, connectedness and inclusivity. The Feminist Community Action focus on gender, and see it as a vital part in the community work, to achieve development and peace but also a way to change the...
...capitalist patriarchal social relations between men and women, women and the state and adults and children... (Dominelli, 2006:17).

Dominelli define feminist community work as:

...a theory and practice of community intervention that takes women's experience of gendered oppression in community settings to challenge the lack of community provisions for women: poor quality of services women receive; unequal relationship between professionals and women; and unequal treatment of women workers. Feminist community work is collective action that aims to transform social relations in more egalitarian directions and alter both women's and men's behaviour alongside changing institutional policies and norms. (Dominelli, 2002c:5)

In this thesis we will use the Feminist Community Action to explain our Findings. By introducing the gender issue into the discussion and including the women's perspective in the development work many aspects of community life have been improved and/or been highlighted and organisations are now working to improve the conditions for women. For example, domestic violence, child sexual abuse, equality between men and women, and allowing women to tend to her own and her children’s health are now targeted by development projects. (Dominelli, 2006:18)

There also is growing awareness that gender is needed if national economic and political problems are to be solved. (Gordon, 2007:309)

Feminist Community Action focuses on women and their status and role in communities. They question the difference between men and women and how race, class, ethnicity and age impact gender issues. The goal of several Feminist theories is to give a voice to the women and point at the things that women contribute with in a community, and the same can be said about Feminist Community Action. (Dominelli, 2006) As mentioned above, the role that a woman gets at birth includes household work and taking care of the children and the only way to change it, according to Feminist theorists such as Dominelli (2006) and Gordon (2007), is to work on an institutional and an individual level. Many of the organisations we worked with had programs and projects that included the issue of women inequality, and worked with Feminist approaches, such as Feminist Community Action. (Dominelli, 2006).
So why should NGOs focus especially on women when working with mobile phones? The reason is that the men are quite easy to reach when using a mobile phone since many of the grown-up male population in Uganda have a mobile phone (Owiny, 2013). Women on the other hand have less access to communication tools such as the mobile phone and this is one of the reasons why we need to focus on the women and their situation in the community.

Analysing our findings through the Feminist Community Action will provide another view on how organisations choose to approach the gender issues in Uganda and how that can come to create further challenges. We will develop this further in our result and the chapter Gender issues.

The critic against Feminist Community Action is that even though it includes the individual perspective it does not emphasise it enough. This means that individual women may be forgotten and it is mainly the institutional and the community at large that is looked upon when Feminist Community Action is used and implemented. (Dominelli, 2006:135) Critics also claims that the approach can be considered to be westernised and do not take into account the traditional values that does not pose a threat towards women’s empowerment. Since this thesis mainly is about the organisation and how they address gender issues in the programs and projects we still believe that the Feminist Community Action is the right approach to use when analysing our findings.

4.5 The Five Models of Public Relation

The authors and researchers Grunig and Hunt created the four models of public relations in 1984 that refers to the different type of communication flows that are used to reach the society. The four models consist of: the press agentry/publicist model, the public information model, asymmetric two-way communication model and the symmetric two-way communication model. The press agency and public information model is also known as one-way communication flow models, where the sender has all the power over the communication process and is seen as authoritarian. (Larsson, *Tillämpad Kommunikationsvetenskap*, 1997:40) Grunig and Hunt divide the two way communication models into two different kinds, the asymmetric and the symmetric,
however some theorists such as Windahl simplifies the model and refers to that the two-way communication flow consists of a balanced power (in comparison to the one-way communication flow) consisting of dialogues and mutual understanding. (et al, 1992) (as appeared in Larsson, 1997:7-8) This is, according to the Grunig and Hunt an oversimplification but it is seen as the foundation of communication flow. According to Grunig and Hunt the two-way communication flows are divided into an asymmetric and symmetric model. The symmetric model have the same structure as explained by Windahl (1992), whereas the asymmetric model resembles a one-way communication flow, where the power is imbalanced and the focus of the communication is on the sender trying to persuade the receiver. (Larsson 1997:40)

In 1995 Grunig et al. developed the model further and added a fifth two-dimensional model of public relations.

The model is asymmetrical at each end- targeting (sec) both the organization and its public- and features a symmetrical, “win-win” zone in the middle. (Gregory-Knight, 1999:382)

To achieve the win-win situation, where both the organisation and the people can benefit from the work and advantage from the solution, it requires, according to Gregory-Knight, compromises from both ends. According to Grunig, Grunig and Dozier (2002) for strategies to be appropriate and influence organisations they have to compromise but also, to achieve the win-win situation, aim for cooperation that is constructive and the organisation's need to say a win-win for all or no deal at all. (Grunig et al. 2002)

All the organisations in the field of mHealth are trying to get a message across to the public e.g. immunization for the children, inform about preventive measures against HIV/AIDS and so on. The organisations can be described as both non-commercial and/or commercial organisation that wants to get a message out there or a practice/activity that the organisation wants people to adopt. According to White and Dozier (1992) this means that all organisations shares the same organisational environment and have the same decision patterns within the structures of the organisations. The optimal situation here is that the organisation is open and is getting
influence and feedback from outside and can hence base their decisions on that, but this is not always the case. Broom (1986) describes that the range of organisations is wide and stretches from relatively closed organisational systems (generally impervious to feedback and change) to organisations that is relatively open (generally open to feedback and change). This is also transferable to top-down organisations were closed organisations use the asymmetrical model of communication and hopes for consent among the recipients (Paisley, 1989). According to the authors Rice and Atkin

...the two-way asymmetrical model is less effective in achieving objectives than the two-way symmetrical model. (Rice, Atkin, 2001:236)

As mentioned before, it is important in the mHealth field that the organisations get their message out there to the people but it is equally important that there is a symmetrical two-way communication where the organisation put emphasis on feedback from the recipients and the power is distributed along the communication flow in an appropriate manner. It is also crucial for the organisation to create cooperation and collaboration were the power at the ends are asymmetrical (power structures are clear and there is a hierarchical order) and in the middle of the collaboration/communication there are room for symmetrical (proportional power structures where there is a zone for discussion about the power) and a goal to reach a win-win situation. With a win-win-situation we mean that organisations and the collaborators see the big picture and aim for the best solution for all in the long run. Grunig and Hunt’s communication model will help us understand the communication flow within and from organisation as well as feedback (two-way flow) and how to improve current communication.

The models most relevant to our thesis and our findings are the information model, the two-way asymmetric and symmetric communication models and the fifth model.

5. Methodology

Our research was conducted between February and March 2013 in Uganda, however the process of preparing and getting acquainted with the field started already in
September 2012 in order to apply for a scholarship. The writing process was conducted April to May 2013.

We chose to perform our research in the field because we thought it would give us a deeper insight in the actual challenges of mHealth that would not be possible from afar. We also believed that the experience of traveling to Uganda would be valuable to us and give us an important understanding of the field. Because of the institutional and organisational willingness to invest in ICT4D, it was easy for us to come in contact with several organisations that were interested in our research and positive towards collaborating with us.

5.1 The Organisations

We performed 12 interviews during the time in Uganda. The organisations, NGOs\(^2\), fund, individual researchers and health workers that contributed to our thesis was UNICEF (mTrac, U-report and Sean Blaschke), Women of Uganda Network (WOUGNET), Health Child, i-Network, Transparency International Uganda (TIU), Text to Change (TTC), Dr. Joshua Kibairu, Chief Administrator of Kawolo Hospital, Michael Ntitigeka, Head Corporate Relations Office at Faculty of Computing and IT, Makerere University and Isaac Shinyekwa, Research Fellow Trade & Integration, Makerere University and two focus groups. For more information about the interviewees see Appendix 1.

While conducting the literature review we noticed that UNICEF has been very active in implementing various mHealth projects both in cooperation with local organisations and with the ministries. We contacted UNICEF in Uganda and were fortunate to receive Sean Blaschke, Health System Strengthening Coordinator at UNICEF Uganda, as contact person. In addition, we were in contact with two NGOs; Women of Uganda Network (WOUGNET) and Health Child that both work with various ICT’s, among them mobile phones, as well as spreading health information. Throughout our visit in Uganda we tried to reach the Ministry of Health but were unsuccessful. It would have been valuable for us to have an input from the ministry,

\(^2\) An organisation is in this thesis referred to a body of groups that in a structured way works towards a certain aim or cause. It can be both connected to governmental bodies as well as independent from the government. A Non Governmental Organisation (NGO) is independent from the government.
since they have valuable information and would have given us an additional perspective of the field.  
During the last weeks of our visit in Uganda Health Child helped us to get in contact with the local community that they work with in the district of Jinja (located in the south-eastern part of Uganda.) In Jinja we got the opportunity to interview two focus groups that had existed from 1-3 years and consisted of 7-9 women. The focus group interviews were from the beginning designed for individual interviews. We were not told that we were meeting a group until the day before, but since we were already well acquainted with the field it was easy to improvise some questions that would fit the group that was interviewed. (See appendix 2) The fact that there were no men in the group, except the Village Health Team (VHT) and the translator, was out of our control. On the other hand, since many organisations efforts are directed towards women and children we did not object to only have women in the focus groups. One of our contact persons from the organisation Health Child had to act as a translator because the women in the focus groups felt that they could better express themselves better in the national language Luganda than in English. The opportunity of interviewing a focus group helped us getting a deeper perspective of the fieldwork that organisations, such as Health Child, carry out. We were able to create an area for discussion and analysis among the participants than having individual interviews where that aspect might have been missing.  
We also got to follow UNICEF on a site visit to Buikwe, just outside of Jinja, where they were going to supervise the mTrac project, where we visited one general district hospital and three smaller health facilities to evaluate their results and receive feedback regarding their project. Even though we had one interview during the site visits with the chief of the general district hospital, we chose to focus more on observing the communication made between UNICEF and its project participants and how UNICEF work with the health facilities.  

5.2 Research Design  
When designing our research questions we chose to focus on the subject of mHealth on a project basis, and what challenges that exist with implementing and sustaining the method of using mobile phones within the health sector. We made a semi-structured interview guide, which according to Mikkelsen (2005) captures the essence
of the interview environment that we wanted to create. Our semi-structured interviews were based on a written checklist of question/topics that we discussed (see appendix 2). Mikkelsen describes semi-structured interviews to fit with interviewees that are seen as key persons and thus attain more knowledge and a deeper insight. The interview has space for unexpected, relevant issues that are followed up by further questions. (2005:89) Because of the lack of previous research in the field, using a semi-structured interview technique gave us an opportunity to ask follow-up questions where we felt that the key person had an expertise in the subject. At the same time an interview guide gave us a more consistent structure with the interviewees and the limitations on the research. Most of the interviews we did were individual ones where a specific person representing a specific organisation or an expert in a certain field would meet with us. When visiting most of the organisations we were not always sure who we were to interview and therefore we couldn’t always prepare a specific interview guide for that specific person. We instead had to prepare an interviewed guide that was more general suiting the organisation’s activity. During the interview process we transcribed and structured our findings. We discussed the results and wrote down important observations in order to plan and restructure future procedures.

Starting with interviewing the organisations was a way for us to approach the field with more knowledge. Wicander (2010) brings up the method of using a top-down and bottom-up approach in the method of gathering data and how such an approach is suitable when you have, as in our case, experts of the field that can fill you in with valuable information and reflections before visiting the actual field. The bottom-up approach would later be used as a way to see if the organisation’s work has reached the goals that they claim it has and if their purpose and method of using mobile phones is communicated clearly to the participants of the project.

Our research design would according to Mikkelsen (2007:144) be a methodological pluralism, as we use several methods to conduct it. Our research is a qualitative research with quantitative features where we collect data through observations and semi-structured interviews. We conducted our interviews by using a recorder and taking notes, nine out of twelve interviews were recorded, when not recording the interviews we made sure to take notes. The ones who were not recorded were the
focus groups because of a noisy environment and the interview with WOUGNET because it was rather informal. The interviews will be the main source that we will base our findings and analysis on. We will also base our analysis on theories and literature that deals with health and mobile phones but due to the fact that mHealth is a new field and the literature is limited in quantity the main material is therefore the interviews.

We have chosen an inductive approach of structuring our thesis in which we begin with concrete empirical details where we start with the finding from the top-down approach and the project landscape as a whole and then works towards a bottom-up approach and the situation of the field and the project participants. After presenting our findings we will continue with the analysis and show how our theories helps us analyse the challenges that we have found, describe what is lacking and how the project landscape can be improved. We end our thesis with a conclusion where we gather our thoughts on the topic and give our perspective on future measures.

5.3 A Critical Aspect of Our Role and Method

Mikkelsen stresses that;

From the practitioner’s viewpoint the academic ‘position’ or point of departure for a study is crucial for the focus of the study, for the question asked, for decision on data to be collected, and for intended results of the analysis. (2005:135)

With this presented we like to emphasise that we have taken into count our role. We had no experience of fieldwork in Uganda, and we had our preconceptions and expectations of how the field might look like before arriving and what answers we would obtain, which at first may have influenced our choice of method. When discussing observations, of how we were received by organisations in Uganda etc. we felt as Mikkelsen (2005) describes it in the exchange theory where she compare human interaction with economic transaction. People give and receive symbolic resources such as social approval or material and where the exchange relations tend to be balanced. In our case however we felt at first as if the relation was not balanced, as if some organisations saw us as an asset of influence, knowledge and investment, rather than communication students. Hence, we realised that some organisations
preconception of us was that we could bring influence, investment and knowledge, which in their case might have affected the outcome of their answers in the interviews.

There are in addition critical aspects that have to be reflected on regarding our choice of method. We chose a semi-structured interview guide where there is a risk, as we divided the interviews between us, that the wording might be different and may have affected the way the interviewee interpreted the question and chose to answer. We concluded that we could have asked more thoroughly whom we were going to interview when WOUGNET helped us book interviews with different organisations. If we would have had this knowledge beforehand we could have asked more in-depth questions. Furthermore, the question we asked could in some cases (e.g. the focus groups) have been more developed and thought through and hence we could have attained more information.

5.3.1 Credibility

When it comes to the credibility of this thesis we believe that the interviews we performed are genuine and generally reflect the different organisations and experts values and views, but we also believe that the interviewees personal values and experiences were reflected in some of the answers.

We interviewed several organisations (see Appendix 1) and they gave us answers that contributed to the validity of our thesis but looking back we could have interviewed a wider range of organisations and hence incorporated more thoughts from organisations that work in Uganda.

In regards to the women focus groups in Masese, Jinja, we were accompanied by the organisation Health Child, and one of the organisation’s team members, Daniel Iringo, helped us with the translation. The women may have believed that we were a part of Health Child and this may have influenced their answers. Otherwise there were no visual language barriers and we did not have much problem understanding our interviewees.

5.3.2 Planning

When reviewing our preparatory work we could have planned more visits before heading to Uganda. The last 1,5 month in Uganda we tried to reach the MoH; had we
started already 3 months prior to the trip we might have had a chance. As mentioned before there is also a knowledge gap existing in the field of mHealth and that made it somewhat hard to find information before arriving to Uganda. Therefore, the first weeks we had to get acquainted with the field, and we spent valuable time getting informed and finding basic knowledge regarding the subject.

As for preparatory work before coming back to Sweden, we transcribed our interviews in Uganda but could have started on sketching on an analysis or on the theories and through that book more interviews if needed or if we had additional questions. This together with our time frame became a limitation where we had to be sure that we did not collect too much information and that we had all the necessary information before leaving Uganda.

The facts we present in this thesis are from different sources and some of the facts and information are general descriptions of the situation in Uganda and does not always reflect the situation in the areas we visited, where the organisations had their offices. It is also important to point out that some of our conclusions and analysis is a general description and is not always suited to every situation in Uganda. Therefore the outcome of our research cannot be applied everywhere in Uganda.

6. Results

We will start with presenting how mobile phones are used and what services are provided in Uganda when it comes to mobile phones and then present the challenges that exist today in the field of mHealth.

6.1. Mobile phone usage

- How are mobile phones used as a communication tool within the mHealth projects in Uganda?

There are, as stated earlier, a wide range of mobile services in Uganda such as Mobile Money (e.g. remittances and savings account). One vital, and for this study crucial, mobile phone usage is that organisations and companies send information and communicate with the people through Short Message Services (SMS). In Uganda, 48 percent of the population are subscribed to a mobile phone (World Bank 2, 2013),
usually a mobile phone is shared within one household or neighbouring households (Focus group 1). This means that even though only 48 percent of the population are subscribers, the use of mobile phones is actually higher than the statistics show. Furthermore, 90 percent of the country has network coverage, making it easy to connect and reach a large percentage of the population (White African, 2013). In 2009 the statistics showed that 29 percent of the population had a mobile phone subscription and that is an increase of 19 percent in two years (48 percent in 2011). Uganda and many other low-income countries have leapfrogged when it comes to mobile phone usage (World Bank 3, 2011), which has resulted in many positive results. According to Isaac Shinyekwa, the Research Fellow Trade & Integration at Makerere University, mobile phones have become a tool that bridges poor infrastructure and creates better communication. Services that were complicated and required a lot of planning before, like transferring money to relatives in other parts of the country, becomes easy and safe with the new technology (Shinyekwa, 2013).

Before Mobile Money, people who wanted to transfer money had to physically take the money and give it to the person due to the fact that not many people in Uganda had bank accounts. Now, with Mobile Money, people can transfer money between mobile phones. The SIM-card functions as a bank account where credits are stored. People can then deposit the credits in actual money. The costs of using a mobile phone and charging it with credits are not very expensive, minimum amount to charge a mobile phone is 500 Ugandan Shilling (approximately 20 US Cents) and most of the people can afford it (Shinyekwa, 2013).

With the increasing popularity of using mobile phones in Uganda many organisations, such as the one we interviewed, have considered it to be a useful tool in spreading information and communicating with subscribers. It is also used as a way for organisations to get insight on what is happening around Uganda. There are several applications where the population can e.g. send in their thoughts on a certain matter, report on inadequate public service or report suspicion of corruption. The mobile phone is used as a tool to increase transparency and accountability in all levels of the society. (Emoit and Karatouga, 2013) Text to Change (TTC) in Uganda is an

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3 Accelerate development by not going through intermediary steps and instead move directly to more advanced methods. (Cascio, 2004)
organisation that works with educating the people of Uganda in health related matters. The message that is sent out can attain questions such as *Do you know there is medicine that can treat HIV?* And the recipient can answer back and in return TTC can give the right answer and further inform the public on the subject. TTC partially works with other partners by setting up mobile phone programs to send out different questions and inform the public on a wide range of subjects. (Namirembe, 2013) Another organisation, Transparency International Uganda (TIU), works with receiving messages from the people about transparency and accountability (Emoit, 2013). To summarize, according to the author Tim Unwin, ICT has the ability to work as a tool for reducing medical errors, educating health workers, improving patient service, improving health system management and gain access to evidence-based care through best practices (Unwin, 2009).

6.1.2 Mobile Phones and Gender
Another factor in the M4D field is the gender issue. According to Betty Walakira, Executive Director at Health Child, women in Uganda have for a long time experienced a lack of influence and haven’t been able to stay informed about important issues like health. The tradition is that the woman looks after the children and the man is not as involved which means that if only the man owns a mobile phone it is a possibility that information that is important for the woman might not reach her. If the is the case, the woman and the children will not benefit from all the services that a health facility provides. It has also been proven that when a woman own a mobile phone and attain important information, she informs the other women in the village that could benefit from the information, which creates a communication flow that benefits the community. (Walakira, 2013) In the chapter Gender Issues we will elaborate further on the gender digital divide and how mobile phones can come to empower women.

6.2 Project Landscape
- *What are the challenges with mHealth in Uganda for organisations, health facilities and the people of Uganda?*
According to Uganda National NGO directory, there are 350 NGOs working in Uganda and even more organisations. (Ugandan directory, 2013) To understand the project landscape one must understand how organisations work. Organisations use the term programs when referring to the implementation of projects to serve as guidelines, regulations and norms. A program is an action that is aimed at a specific goal e.g. improving the lives of women, stop pollution, creating communication in a system etc. Within the programs there are projects that work towards the aim of the program. To take the example of UNICEF, the fund has as a goal to improve the lives of children and the mothers and within this program there are different projects to reach this goal, such as mTrac. The project is mainly to improve health, which in the long run will create benefits for children and their mothers. Organisations have a vision and a goal of whom to assist and help, but the projects is not always directed towards the specific problems that are their main focus. Some projects are directed towards challenges and hinder surrounding the problem. mTrac falls under the program of improving the health situation of communities in Uganda. In order to reach this goal, the organisations have to track what disease that are most common so that they know how to act accordingly. In order to track diseases, the MoH have, with support from UNICEF, implemented a form for health facilities and hospitals to fill in whenever they treat a patient with a specific disease. The communities of the project is the medical staff who need to get trained and encourage to fill in these forms, while the program’s main focus still focuses on the community members. This is one example of many projects that are carried out in Uganda. (Blaschke, 2013)

6.2.1 Implementation

Shortly after our first interviews we noticed that the country’s project landscape lacked coordination, not only in the field of ICT’s and mHealth but in general. According to Blaschke at UNICEF the situation of two different NGOs implementing the same project in the same community have arisen before, and the project participants have shown confusion when having to provide two different NGOs with the same kind of information. In addition, many organisations work with the same type of projects and face the same obstacles, but if they would collaborate and share best practices, mistakes could have been avoided. (Blaschke, 2013) We will develop
this theme later on.

During our interviews we asked the question; *What economic, social and cultural issues are involved in using mobile phones for health?* A very general question that requires the organisations to have an overall knowledge and understanding of the project landscape. Having an overall knowledge about the field and its obstacles creates a better awareness of how organisations have to work with the surrounding issues in order to create a sustainable solution. Many organisations however were not at first able to answer what challenges they were faced with, except for their own field of expertise. It was first when we gave them examples, or developed the questions further that they started to think of different projects that others had implemented, but they could not deliberate and reflect on it extensively. Through our interviews we have discovered how important it is to be knowledgeable of, not only the issues that the organisations themselves work with, but also to be aware of other issues that may have an effect on their work. Knowing how other organisations deal with these issues will increase their understanding of the field as well as it might create further collaboration.

There is an aspiration for the level of coordination to be strengthened in Uganda. It is crucial that decision-makers are provided with accurate and appropriate information upon which to develop health policies (Unwin, 2009:255).

### 6.2.2 Ministry of Health

In the interview with Blaschke (2013), he stresses that the MoH have in the past years become aware of the coordination problem of Electronic Health (eHealth) projects, where mHealth is a part of the field. Therefore they implemented a strategy in 2012 in order to better organise the projects implemented by NGOs. One of the strategies is a moratorium that consists of regulations of the procedure of implementing eHealth projects. (See appendix 4) The moratorium stipulates that organisations need to first get their project plans approved by the Technical Working Group (TWG) of MoH in order to proceed with the implementations. The TWG has one consultant, that has the aim to control that the projects being implemented can somehow consort with existing systems and that they meet the needs of the MoH. They also develop national strategic plans and policy frameworks for organisations and governmental
institutions. (UNICEF, 2012b) The implemented moratorium is explained to be a way for the ministry to have more control over the project landscape, what is being implemented and to make sure that the projects are sustainable and suitable for the field. This also becomes a way for MoH to reduce duplicates of project ideas that are implemented in the same area and gives them a tool to coordinate so that organisations collaborate more and funding is focused on the right kinds of projects. However when visiting different organisations in Uganda and asked them about their view of the new regulation, many seemed to not know about the moratorium but was aware of the lack of coordination and communication from the MoH. (See Appendix 3) In the analysis we will further elaborate on the moratorium, its benefits and challenges.

6.3 Graveyard of Successful Plans

We have identified three factors that together structure the sometimes problematic relationship between receivers and donors in Uganda, sustainability, communication between donors and receivers, and time.

According to Blaschke (2013) one challenge, among many, when trying to implement a project is sustainable funding. Many donors are eager to fund projects within the ICT4D-field since it is a new field that could lead to innovative ideas and foster development, but the funding is frequently for short-terms i.e. one to three years. By the time the funding runs out some projects have found other donors or become self-sustainable. However many of the organisations we met expressed concern over having their project terminated because of lack of funding which seemed to be a common problem. (See appendix 3) It is not only the organisations that are affected by the loss of funding but also the communities that take part in the projects. When a project runs out of funding the community is in some cases worse off after a project is terminated than before the project started. An example of this kind of situation is when communities are given a communication channel e.g. SMS from health facilities about certain health services which is a part of an on-going project. Before the project was implemented the community might have used another system e.g. word of mouth. The community starts to rely on the SMS services and when the project ends after two years and the health facility is left without the proper tools to manage the system, the community is left without the communication channel that they are most accustomed
to. Then they have to start using old systems that might be hard to return to.
(Blaschke, 2013)

6.3.1 Feedback
Communication between donors and receivers and reaching a common understanding of what is needed is the second factor. The health facilities and the personnel we met emphasised on the fact that the donors in some cases do not ask the receivers what they are in most need of but instead provides them what the donor himself think is most useful for the receivers. One example comes from Chief Administrator of Kawolo Hospital, Dr. Kibairu Joshua. The hospital had received an X-ray machine despite that it was not the most pressing equipment that the hospital needed. The hospital use the machine but after a few years it broke down, and by then the organisation that had provided the machines was not present anymore for guidance. In addition there were nowhere in Uganda that you could find spare parts for the machine because it was not made in Uganda. Dr. Kibairu (2013) says that the X-ray machine has been broken for several years and now it is standing in the hospital collecting dust. Dr. Kibairu stresses that as a receiver you have a hard time refusing donations due to the belief that the donors will be offended and never offer funding again. This means that the most pressing needs might not be addressed due to lack in communication and understanding. (Dr. Kibairu, 2013)

International donors often provide funding from the West and high-income countries. Alongside with the funds come regulations and directions of what the funds should contribute to. Since donors rarely ask for the national organisations or the communities what they need the funding are not always focusing on the most pressing needs. This create a problem since donors often puts effort on issues that will attract most attention in the West and do not adapt their strategies on feedback from the recipients. (Blaschke, 2013 and Dr. Kibairu, 2013)

The third factor related to the problematic of funding and donors, is time. The project implementers have predetermined that the different steps of implementing the project will take a certain amount of time, however during the implementation process they face obstacles that have stalled the process. Due to these challenges, important procedures such as knowledge transfer are often overlooked and the project participants are left without the right tools to keep the project going.
6.3.2 Scaling-up

To go further into the donor problematic we will continue with the time aspect and develop the challenges further. Blaschke claim that some call the project landscape in Uganda for ‘The Graveyard of Successful Plans’ due to the challenges of scaling-up. One reason why, is because the funding is often short-term, projects start off as a pilot, things might take a longer time than expected or cost more than expected, and donors cannot invest in it for a longer period of time. (Blaschke, 2013)

During our interviews we asked the question; Do you have any pilot projects at this moment? And; Are you planning on scaling-up? The usual answer was that they had many pilot projects that they implemented in different communities in Uganda but it was hard to scale-up since funding usually ran out. According to Eunice Namirembe, a pilot project is usually between one and three years and these pilot projects are common in Uganda because many donors are interested in getting involved in an innovative project in ICT4D. According to Namirembe,

...most of them [the organisations] want to do a small mHealth program and then just show it around. (Namirembe, 2013)

This implies that making a program/project in an innovative field is a trend that many international and national donors are eager to try, but scaling-up is harder. The organisations that we interviewed conveyed that it was mainly the funding that was the problem. Donors come in with ready strategies and a calculated plan for the funding and the cost for a project. What many fail to include in the strategies is the start-up period, were organisations review what possible obstacles exists for implementing the project, which is a process that can be more expensive and take longer time than the donors predicted. Also donors tend to set a timeframe that works in their own countries but that needs to be adapted to Uganda. Okuti at i-Network and Namirembe at Text to Change both stress the problem of poor preparatory research about the field of Uganda. Trying to implement a project in a community requires a buy-in time within the community as well as gaining the project participants appreciation. (Okuti, 2013: Namirembe, 2013) Also, the technological aspect of mHealth can be expensive and can consume a large portion of the funding. One example can be that some organisation provides the service of voice messages as an option to overcome illiteracy, but this service is more expensive than sending SMS,
which some organisations fail to take into account. This results in that there are not many sustainable projects that will sustain people over a long period of time and the people that have come to trust a service e.g. get notifications on immunization care is not longer getting the important information. Previously they may have trusted another source e.g. word of mouth but are now used to the SMS based service. (Namirembe, 2013) Okuti stresses that going back to the old system of getting information may be hard and a long process:

You [The donor] end up leaving that rural person even worse of than before. Because you [The donor] found them managing their lives in a way that they knew how then you [The donor] tell them “No! You can improve it.” Then in the process of improving it you [The donor] jump out, then they are lost. (Richard Okuti, 2013)

This is not just a problem in Uganda, as Blaschke points out, it is a global problem. (2013)

6.4 Communication

In the organisations we encountered in Uganda there were a lot of internal and external communication flows between organisations, their counterparts and the participants of the projects. In the interview guide, one of the questions dealt with feedback, we asked if the organisations put efforts in obtaining any feedback from the project participants. There were many different answers however time and funding seemed to be the most common challenges in not only collecting feedback but also reviewing it and taking it into count when organising the strategies and implementations for programs/projects. The author Mefalopulos (2008:30) stresses the importance of communication between stakeholders within the development field and Servaes (2003) emphasises the same point, that one of the crucial factor of development projects is that there is an existing dialog. Dialog by both authors is seen as;

...a necessary ingredient for building trust, sharing knowledge and ensuring mutual understanding. (Mefalopulos, 2008:8)

Pruitt and Thomas argues that dialog should not be seen as a form of chit-chat, but rather as a process where participants understand each other’s situation in order to
develop new options of addressing a common issue. Nevertheless is the dialog as important between organisations and their project participants, as it is between organisations themselves. (Pruitt and Thomas, 2007:20) (appeared in Mefalopulos, 2008:23)

6.5 Corruption
Before funding reaches the actual project many organisations have been involved. According to Linda Polman, a freelance journalist and writer of War Games (2010) the problematic of donor budget is that what initially is donated to a special cause ends up being a lot less because of delegation of tasks. She writes that the donations that should go to a project usually are consumed by the organisation that takes a share of the donor money and use it for travels, salaries and other expenses. The organisation later on delegates the task of performing the needed labour (e.g. employ people at the location) to another organisation that additionally takes a share for similar expenses as the first organisation. The second organisation then again uses a sub-organisation to do the labour that also takes its share of the donated money. In the end the actual project ends up with a small part of the originally donated funding. Funding that was aimed for a cause instead ends up in the hands of other organisations. (Polman, 2010:135)

In November 2012, Uganda suffered a severe corruption scandal where millions of donor funds were embezzled in the office of the prime minister. Al Jazeera claims that millions ($) of aid money had been stolen and embezzled from officials and put into private accounts of individuals. Several Ugandan officials were suspended and there was an investigation. As a result of the scandal, many donors such as the European Union, UK, Sweden and Norway decided to withdraw their donations to the Ugandan Government. (Al Jazeera, 2012)

Corruption is present not only at the governmental level. When interviewing the focus group in Jinja it was discovered that community members, who often had a limited income had to pay for public services that were supposed to be free of charge. One example was when VHT were given the task of distributing free mosquito nets from the MoH to community members, in order to prevent the increase of malaria in Uganda, the mosquito nets were distributed but not for free, community members had to pay for the nets, leaving some of those who could not afford it with less protection
against Malaria. (Focus Group 1, 2013) There are many cases of when the funding do not reach the receiver and where corruption plays a big part in the loss.

### 6.6 Languages and Literacy

According to the World Bank, in 2010, 73 percent of the population over 15 years old in Uganda that could read and write (World Bank 4, 2010) but the numbers do not specify in what language. In Uganda there are approximately 40 different languages spoken. English is spoken by 10-20 percent, mainly in the bigger cities and used as the main language in higher education. Luganda is understood by a third of the population in Uganda. (Landguiden 2, 2011) Because of the many different languages the population are not always able to communicate with each other. This implies that although people that can read and write might not be able to do so in the same language. This is a challenge in the communication and the organisations expressed concern and said this is a hindrance in many projects. This means that the information they are trying to communicate is not always received or understood and the project is therefore not always successful.

The SMS-based services is usually in English but there are organisations such as Text To Change (TTC) that have messages in Luganda as well which is beneficial for the population since more people can understand and receive the information. In addition there is the fact that even if they speak the language the people might not be able to read and understand the message. A solution that organisations such as TTC use is to have recorded voice messages that the people can have access to. Some organisations have started to provide this service as well but so far it is mainly in English. (Namirembe, 2013) To take in consideration, the rate of youth (ages 15-24) that can read and write in 2010 is 87 percent so the numbers is improving in Uganda, which means that in a few years this might not be a major problem. (World Bank 4, 2013)

### 6.7 Infrastructure

As we mentioned before in the section History of Mobile phones in Uganda, the usage of mobile phones in Uganda have developed rapidly from one percent in 2000 to 48 percent in 2012 (See Table 1). Even if this implies that less than half of the population in Uganda have a mobile phone there are a strong possibility that a family member, neighbour or a relative own one that can help to inform and increase the
communication between the people and institutions, organisations etc. In comparison, the number of Internet users in Uganda is 13 percent. (World Bank 5, 2011) With this in mind, there is a logic behind why organisations in Uganda chose to use the mobile phone as a communication tool instead of the computer. For example, as mentioned earlier, mTrac is one of the projects that have chosen to collect data by using the mobile phone since the mobile phone is an easier accessible tool for the population in Uganda.

The organisations mentioned that using a mobile phone and other ICT-tools was a relief instead of visiting all communities and give them the information orally. (See Appendix 3) The mobile phone saves a lot of time and resources since sending a message is less time consuming and less expensive than driving to the community. Especially when Uganda’s roads are not always reliable and safe e.g. during the rain period many roads get flushed away and the communities are not accessible. However, using a mobile phone is not problem-free. Electricity is an infrastructural problem that affects the Ugandan population. Not only does the electricity not reach all parts of Uganda, but it also get affected by bad weather, such as heavy rain. When it’s raining too much the electricity goes off because it can’t handle the bad weather conditions. Therefore the people can go without a mobile phone for a couple of days. In addition, the rural areas that don’t have access to electricity have to travel or send someone to a charging center. When interviewing the focus group in Jinja, the women mentioned that there were often thefts of mobile phone batteries at the charging stations. The women (or the men) may come with their own mobile phone and leave with one that has a less efficient battery. (Focus group 2, 2013)

6.8 Gender Issues
As we stated in the section of mobile usage, gender is a factor that was overlooked for a long time. In the last few years the gender divide and the fact that women are not equal and do not have the same rights as men has been put on the map of development work. UN began to implement the gender on the agenda in the 1970’s but still oppression against women remains strong all over the world. (Dominelli, 2006) To improve health, women need to be involved since women seek health information more frequently than men do. Women do not only search for health information for themselves but also for others that she cares about in a larger extent than men do. (Unwin, 2009: 270)
Some of the organisations we visited were well aware about gender roles in Uganda and worked to improve the situation of women, while other organisations were not that familiar with the issue and took less interest of women in their development work.

Traditionally women are the one who care for the household, the children and the family’s well being, whereas men are the ones who earn the income and usually the one in the household who have access to a mobile phone. When interviewing the two focus groups in Jinja, consisting of only women, we asked questions about their mobile ownership and if their husbands supported and allowed them to use mobile phones. The answers that we obtained from the interviews were mixed and they could be interpreted that their husbands did not always support their mobile usage;

  My husband doesn’t like when I talk on the phone to other men, then he would hit me. (Focus group 1, 2013)

Important to point out is also that a persons access to a mobile phone also depends on their economical status. In Kampala, the capital city in Uganda, we could easily detect that the mobile phone ownership was higher than out in the rural areas. In Kampala it was also more likely for a women to own a phone than in e.g. Jinja. The gender structures are somewhat different in the urban cities than in the rural areas and the mobile phone ownership can be a reflection of this. (Sahn et al. 2002)

In the Feminist Community Action the capacity building approach is an important factor that feminists promote as a path towards empowerment of women. According to Dominelli (2004),

  Capacity building refers to strengthening people’s ability to improve their quality of life. (Dominelli, 2006:43)

To be able to promote capacity building the interaction between individuals in the community (and community to community) need to be extensive and participation and commitment is necessary. In the end this will create a higher level of empowerment for women. If a woman is empowered she might look for work outside the home and take more responsibility for her life and not depend on the male relatives around her and can hence create improved her standards of living due to her
capability to take care of herself and her children, have an extra income and so on. 
(Walakira, 2013)

In the field of mHealth many projects that are directed to the population are focusing
mainly on women and children’s health. As mentioned earlier, women are also a hard
target group to reach (because of the lack of accessible communication-tools) and in
order to get through to them organisations have to take into consideration the gender
barriers that exists in Uganda. Professor Michael Ntitigeka (Head Corporate Relations
Office at Faculty of Computing and IT, Makerere University) a national
immunization campaign where the MoH used mobile phones among other
communication tools, to remind the population to get their children immunized. The
problem that arose was that the women are often the ones who take care of health
related issues in the family, and most likely the ones who would bring the children to
health facilities. However, the men are often the one who have access to the mobile
phones and were the ones who got the messages. Not as many women and children
turned up to the health facilities as MoH had predicted and Professor Ntitigeka
stresses that this was a communication problem where the gender divide played a big
part. (Ntitigeka, 2013) (GSMA 2011:11) If a woman have a mobile phone and can get
information it empowers her and decrease the gap of the gender digital divide. Still,
this is a part in the field of mHealth that lack documentation.

But little research has been done on the impact of this on gender relations, thus
limiting opportunities to engender ICTs at the policy level. This problem is not
unique to Uganda... (Okollo, 2003:42)

Being aware of this communication problem, some organisations such as Health
Child try to include men in their programs, teaching them about the importance of
being involved in family health procedures and how they themselves can improve the
family’s health situation. Health Child was the only organisation out of those we
visited that had a clear focus on including both men and women in the process of
improving health situation.
6.9 Conclusion of Results

We have found many different hinders in the field of mHealth and the project landscape of Uganda. Not only is the infrastructure a hindrance, as previous researchers have stressed, but the obstacles that organisations have to face are covering more areas than that. As referred to in the section Project Landscape, the donor problematic is widespread. The issue of short funding, donors with high demands and little knowledge of the field have contributed to creating a project landscape referred to as the Graveyard of Successful Plans where great projects are implemented as pilots but not sustainable enough to run for a longer period of time. In addition the lack of coordination from higher institutions such as the Ministry of Health and the fact that organisations (in some cases) rarely communicate with each other has lead to a project landscape with many challenges.

By coming to these conclusions we will in the coming chapter apply our theories to further analyse the situation described in Uganda and try to answer our third research question.

7. Analysis

In the previous chapters we have mapped out the challenges and the issues that are affecting the field of mHealth in Uganda. We have deliberated on the questions; What are the challenges with mHealth in Uganda for organisations, health facilities and the people of Uganda? And; How are mobile phones used as a communication tool within mHealth projects in Uganda? In this chapter we will try to answer our last question.

- Why do the organisational structure in Uganda lack coordination and how can the organisational structures and the sustainability of mHealth projects be improved?

The analysis has been divided into issues and challenges we have recognized in our findings and by using different theories we will try to explain why the field is structured in the way it is and how it can be improved.
7.1 Lack of coordination

The project landscape in Uganda, previously described as a field that lack coordination, has come across many different challenges and issues. As explained earlier it is a field with many stakeholders, organisations and even more projects. The general structure can be referred to Bertalanffy’s System theory model where the structure of different subsystems, i.e. institutions, organisations and communities is interacting within different networks, i.e. projects and platforms, creating an interactive relationships and hence power structures. The interaction, or the lack of interaction in different subsystems, comes to contribute to how the project landscape looks as a whole. (Miller, 2009:63). As we discussed in our findings there are cases where similar projects are being implemented in the same area by two different organisations. In addition, organisations were implementing their own mHealth systems in public hospitals without the MoH being aware of what was going on in their hospitals. By studying the project landscape as a system, in accordance to Bertalanffy, Pruitt and Thomas, they would argue that there is a missing dialog between the subsystems, i.e. between institutions and organisation, where there lacks a common understanding (Mefalopulos 2008:23). According to the authors Pruitt and Thomas, the subsystems should collaborate more together to address common issues (Pruitt, Thomas, 2007). It should be noted however that just because it is recognized that there is a lack of coordination in the project landscape it does not imply that there are no organisations that collaborates and actively interacts with other organisations.

The authors Gregory-Knight and Larsson describes the lack of communication between organisations adds to an attitude of ignorance they have towards each other and the projects being implemented, which foster an environment of competition between them. The situation in Uganda is rather complex and can be referred to more than just one communication model. (Gregory-Knight, 1999 and Larsson, 1997)

When applying the model to the project field we can draw the conclusion that there is basically a one-way communication flow in many of the systems. As deliberated on in the findings the behavioural culture of the communities also have an impact when accepting projects. Sometimes the communities accept the same kind of projects that is implemented from different organisations, even though they have to do the same
procedures twice. The community’s dependence on outside organisations presence and funding contributes to the competitive environment among organisations and might through that lead to a continuance of one-way communication. Organisations demonstrate what they are working with by presenting their activities through a public publicity approach such as posters in health facilities and at the same time informing of their presence to other organisations and communities through networking platforms and community meetings, which is a public information approach.

7.2 Ministry of Health

It is easily assumed that there should exist a classical organisation structure where the MoH, as a governmental institution, has the overall power of bureaucracy and the task of coordination.

With great powers comes great responsibility (Voltaire, 1832).

However, in an interview with Richard Okuti, Senior Consultant at i-Network, he claims that this is not the situation of Uganda as they have had difficulties in catching up with the innovative changes of eHealth projects. The MoH has the past years realised how disorganised the project landscape has become and have tried to structure the health sector, an outcome of this is the implemented eHealth moratorium. (Okuti, 2013)

By applying a Critical approach to the analysis of power structures in mHealth, we can see that there is a relationship established between the MoH and the organisations. However the organisations are not always content with the way that the relationship is formed. There are many components within the radical-critical approach that are malfunctioning, the communicative and social factors are almost non-existing (Miller, 2009:102) as many organisations try for months to reach the MoH (See Appendix 3). The MoH, on the other hand, try to reach the organisations through different implementations of regulations (Ministry of Health, 2013), where they seemed to fail, according to the organisations we interviewed (see appendix 1 and 3). According to Betty Walakira, Executive Director at Health Child
...we submitted documents to them [the Ministry of Health] and I think we submitted them in September last year. They haven't called us, we followed up, but I think they did that kind of stopping and holding mHealth projects /.../ Because you submit to them and literally they just sleeping with their documents. (Walakira, 2013)

Using Adding Grunig and Hunt’s five ways of Public Relation models to the situation it can be concluded that the communication between the MoH and the organisations have a one-way communication flow focusing more on the public information model where they provide information and don’t pay enough attention to feedback (Larsson 1997:48). The organisations on the other hand are trying to reach the MoH with feedback, questions and a wish for support. As mentioned earlier, Mefalopulos argues that dialog between stakeholders is necessary in order to have an interactive system where building trust, sharing knowledge and coming to a mutual understanding is fostered (Mefalopulos, 2008). Miller, on the other hand, discusses the different concepts of Critical approaches within organisational communication, the concepts being power (which we will deliberate on later), ideologies and hegemony and emancipation (Miller 2009:101).

According to Mefalopulos, statement regarding communication between stakeholders can be concluded that the organisations lack great trust and mutual understanding, not only to the MoH but also between each other. (2008:30) Connecting this with Millers discussion, the lack of visibility and dialog between the MoH and organisations can be seen as it has given the organisation’s an environment to create their own ideologies, attitudes and beliefs on how to operate within the field hence creating incoordination. The organisational ideology that the MoH is striving to create by implementing regulations such as the moratorium, will take time and it will as well require them to establish a deeper network and relationship with the organisations. As mentioned in our chapter Methodology we have tried to reach the MoH for an interview about their relationship with the organisations. Unfortunately they did not reply to our invitation and therefore their perspective of the project landscape have not been represented in this thesis.
7.3 Donors and Scaling-Up

ICT4D is a favoured field, which constantly is updating and creating new innovations. Because this area is exciting and gets a lot of positive feedback from many different directions, it also becomes attractive to donors. With Uganda being a country where both the government and organisations invest in this field, donors have shown an interest for ICT4D.

As we have stressed in our finding, one of the problems with ICT4D in Uganda is funding and making projects sustainable. As explained, today there are many that are investing in pilot projects of one to three years (Namirembe, 2013). After the pilot project have run its course, and it have been confirmed that it has a good impact on the communities and geographical area, it should scale-up and involve more recipients and increase the projects reach. The organisations we visited told us that scaling-up was a hard task and not many donors were willing to keep funding project over a long time period. As we have explained earlier, there is a multitude of reasons why scaling-up is hard. This is part of the donor problematic that exist in Uganda today.

According to Grunig and Hunt’s model, we can conclude that there is an asymmetric two-way communication between donors and the organisations, where the national and local organisation believe they have more power than they do. During the time spent in Uganda we discovered that the power relations between the donor and local organisations is of vertical structure where the donors have the upper hand. According to Namirembe, donors come in with ready plans and programs and since the funding comes from them, they have most of the power in the relationship. To create more sustainable projects there has to be a change in both donors and recipients attitudes (Namirembe, 2013). It is a communicative problem as well as a problem with unbalanced power. The international donors/organisations are not always aware of the most pressing needs of their beneficiaries and funds might be directed towards something that is less pressing. This implies that donors often adopt a one-way communication flow and do not see the importance of a two-way communication flow. The problem of communication between donors, organisations and communities can also be compared with Westernization, which implies that countries in the West have a “know-it-all” approach towards low-income countries such as Uganda. The
term can be used because the donors from the West believes that implementing a project and working in their way, according to their time frame and with their approaches is the most efficient way. Okuti (2013) emphasises that there are different methods and a different culture in Uganda. Applying a “know-it-all” approach is insufficient, for both the organisation receiving the funds and the donors themselves. It is important that the funding focus on what the project participants are in need of and not what the donors think that they are in need of. A better way of reaching the communities and organisations appreciation, as Okuti (2013) claims, is receiving a common understanding of how the field in Uganda works. According to Mefalopulos (2008:23), by using a communication model that emphasis on feedback and mutual interaction the problem of donors understanding the field could be improved. It’s important to emphasise that the West’s influence also affect the work of the organisations and the system as a whole. In the end donors have more influence than one might think they have in Uganda (Okuti, 2013). According to Miller it creates imbalances in the power relations, since most power lies with the donors who are funding the projects. Due to the organisational beliefs and that social, economical and communicative factors are in favour of the donor, the system that is in place today is hard to change. To change the way national and local organisation’s views the status of donors, the attitudes and ideologies need to be targeted and there has to be a willingness to change from both sides. (Miller, 2009)

As mentioned earlier, the is an imbalanced in power and there is a top-down system, meaning the higher up on “the economic ladder” the more power an organisation has. See the structure of power in Uganda in Table 3 below. We will develop the power structure problematic below.

7.4 Hierarchy and Power
The hierarchical order in the system should not be neglected, all the parts play a role and all are crucial to reach development within the field of mHealth. But some parts need to be targeted first, according to the System theory (Miller, 2009). For example, if the people can’t afford a mobile phone the service of sending out a message is quite unnecessary. As explained many have access to a mobile phone or can take part of the information through a second hand source, therefore it is not a major factor to consider. Other issues that have to be considered first are network coverage,
electricity and infrastructure, literacy and language. If the people of Uganda are able to receive a message but are unable to interpret it the service is quite useless. These factors were considered by many of the organisations but maybe not to the extent necessary. Many of the organisations did not have time or the funds to start from scratch and work with certain issues first. Through some background research regarding the community they will implement the project in, they could figure out the different parts and which parts are most essential to focus on in order to reach as many as possible. According to Grunig et al. a two-way communication flow between the project participants and the organisation could easily map out what the community needs and what the organisation can contribute with (Grunig et al., 2002).

When dealing with hierarchical order in a system the organisations need to be aware of the power that influences the different parts. Also to take in consideration is if the power relations are worth maintaining within the organisation and when working with partners and beneficiaries. With that we mean if the current structures and how the power is distributed within and outside the organisation is the best way of reaching development.

In Uganda we noticed that the big national and international organisations have the power and dictate the rules for the rest of the organisations. The organisations and institutions that are ruled by the government are of course under the directive of the politicians and other institutions. This shows the imbalance in power and what it may lead to. The communities and local benefactors that should benefit from these projects rarely have an input in what strategies will be implemented in their villages and it is hard for the communities to get empowered and become emancipated.

William Esterly, the critical author of A White Man’s Burden, brings forth the situation of Westernization within foreign aid. Esterly draws a connection back to the imperialism and the end of the Second World War where self-rule and decolonization became universal principles.

The West exchanged the old racist coinage from a new currency. “Uncivilized” became “underdeveloped.” “Savage peoples” became the “third world.” There was a genuine change of heart away from racism and towards respect for equality, but
paternalistic and coercive strain survived /.../ Meanwhile the enterprise of the West transforming the Rest [low-income countries] got a new name: foreign aid. (Esterly, 2006 p. 21)

With this Esterly emphasises that what donor many times sees as “harmless aid” often is a process of Westernization where the donors have more power than the people whose lives are planned to improve.

The interviews with the focus groups also confirmed that the communities do not have much power when dealing (or not dealing) with international donors and big organisations. This creates an imbalance and is not helping to structure the organisational incoordination that exists now in Uganda. The state of the communication today in Uganda is an asymmetrical one-way communication that builds on a top-down structure, and feedback is not a commonly used tool to structure the organisations. According to Larsson to create an understanding within the system there has to be a higher level of communication, and also a shift from one-way communication to an informative two-way communication where lessons learned from the field and the grassroots are combined with the international field of development. (Larsson, 1997) Also a higher level of understanding and collaboration between the organisations to avoid duplication of project is important. If different organisation in the same geographical area would communicate and create collaboration where the whole system was targeted, the success of the programs and project would most possibly be higher (Miller, 2009 and Grunig, 2002).

We noticed that many organisation, due to lack in time and funding, did not include feedback/two-way communication in their work. The Critical approach present ideologies as seldom questioned and that makes it hard to change (Miller, 2009). This is one way to explain why the uncoordinated development system in Uganda is hard to change, so complex and why the organisations do not actively trying to improve the communication with the MoH or other organisations.
As Miller explains, this creates power imbalances where bigger organisation has more influence, due to the fact that they are high up in the communication flow, and dominate the field. The local organisations and the recipients (the people of Uganda) may then feel undermined and if the imbalances are too great it might lead to emancipation as a way to change the power structures (Miller, 2009).

7.5 Corruption in the system

What further complicates the system in Uganda and make the field complex is that corruption in Uganda is widespread, from the individual level to the governmental level, and as mentioned in our previous chapter, it affects the health situation in Uganda. Services that should be free of charge are not, there are stock shortages in drugs and money is disappearing. With the corruption being widespread at all levels of the system, the power structure of the project landscape can be questioned. Who is it that actually possesses the power on the different levels? What social, economical and communicative factors does the corruption add and remove from the health sector? And how does that affect today’s organisations structures? This, as mentioned
above, adds to the unorganised situation because few really trust the health system and reliability is hard to gain.

7.6 A Tool or Solution for Development

We have now analysed the organisations and the field of mHealth and will go further in on ICT. The organisations and the experts that we encountered and interviewed saw ICT as the ultimate tool that could solve communication issues, such as reaching people with health information. Unwin states that,

ICTs are important tools for supporting health system functions and for achieving Intermediary and final goals of the health system (Unwin, 2009:252).

Some acknowledged the fact that ICT is a tool and not the solution to health issues, however in some interviews with the organisations it was clear that ICT was seen as more than a tool, for example, some viewed ICT as a game changing innovation that is the solution to solving health issues. The organisations had problem defining ICT and creating a general picture of the importance of the tool in the field. Due to the fact that they rely on ICT so much and believe that if the tools were used correctly many issues could be solved, the organisations are bound to be even more unorganised and confused. According to Unwin the organisations can not just focus on the health care instead they have to focus on surrounding areas such as water and sanitation, basic education etc. for the ICT’s should be successful. (Unwin 2009:274)

This can be connected to the Critical approach where the thought of ICT as a solution is an ideology that is not often questioned (Miller, 2009). Since donors favour ICT, and the field is connected to power and influence, it could make it easier for organisations to choose to concentrate on ICT. This might lead to that other equally important areas that do not include ICT, are neglected. The hegemonistic rule of ICT creates imbalances in the field, but if that depends on the success of ICT in the field or the fact that donors favours it is hard to tell. This is of course a generalization and not all organisations gave answers that reflect the idea of ICT as a solution.

7.7 The Gender Divide

Gender is one of the aspects that is most frequently stressed by the organisations in Uganda and implementing strategies that effectively target women and empower them
in the communities is vital to reach development (Owiny 2013, Walakira 2013). Many organisations stress the relevance of women’s work and deem it as one of the most important parts in the system, which might be true. Women have for a long time been underrepresented and the problem of empowering women still remains today. Feminists are trying to empower women and the feminists have gained respect recognition by almost all stakeholders worldwide. (Dominelli, 2006) As mentioned before, domestic violence and other areas have both been highlighted and targeted or the women’s role has been improved. Still there is much to do. Using the Feminist Community Action might help the organisations to see the value of including the women, what to focus on, and hence making them equal to men. According to Feminist Community Action, all levels of society would profit if women were empowered, especially on an institutional level, such as economical and social structures (Dominelli, 2006). Organisations in Uganda are skilled in including women in their projects, also when it comes to mHealth. One reason is innovative projects such as focus groups consisting of women and a VHT’s where the participants can discuss issues and be a support and a help to women in need. According to UNDP, a joint action with support from an organisation is stronger than an individual woman. Also, creating a safe platform, or a focus group, is a way to give the women a voice and a chance to get their thoughts out in the open (UNDP, 2013). This is a process and it will take time before women reach the same level of empowerment as men. ICT and especially mobile phones, since they are easily accessible tools, are one way to improve the chances to mobilize women and create a platform for empowerment. The organisation’s we met in Uganda that worked with women’s empowerment and mobile phones was sure that mobile phones was a good tool to achieve this. The organisations highlighted the benefits and not many saw problems with using ICT’s neither was bound to target the surrounding issues that could arise when women use the mobile phone as a tool for empowerment. There was only one organisation that had included and targeted men in their goal towards empower women (Appendix 3). The problem is that since many organisations in Uganda are targeting women in particular, the surrounding areas and what influence the women’s rights in a community is neglected. For example, if an organisation target women’s empowerment and forget/neglect to include the men the woman may not be empowered at all since the man have, according to cultural norms, the right to decide over the woman when they are married. This means that the woman is empowered as
long as the man is allowing it, which is not empowerment at all. Organisations need to work at all levels, including the role of the man and his perception of the woman. To give the woman a voice and for a woman’s work to become as valuable as a man’s, the organisations have to target different aspects of the field and create an understanding that the woman’s role in the community is influenced by many components i.e. the gender issue is a part of a system. (Miller, 2009)

This implies that organisations with different goals needs to collaborate and together target the whole system instead of organisations stand alone and trying to focus on one part of the system and hence other parts are neglected or overlooked (ibid.). Furthermore, while collaborating there has to be a wish to look outside the organisational boundaries and aim for the best scenario for the system (the system in this case is the people, the institutions and NGOs that work within Uganda).

8. Conclusion and Suggestions for Further Research

Being communication students from Sweden and arriving to Uganda as not yet very experienced, we have been able to see the field of mHealth from a different perspective and hope to have contributed with new ways of perceiving the field and its challenges.

With this thesis we hope to have contributed to enhancing the knowledge base and that we have provided a broader picture of the mHealth field. In this chapter we will start by concluding our thesis following by suggestions of topic and issues that we believe needs to be further researched.

8.1 The Big Picture

To be understood from our findings there are many challenges that are found when looking into the field of mHealth, but how can they be solved? Corruption, donors with their own strategies and an uncoordinated project landscape in Uganda are parts of the challenge of mHealth, but what many organisations fail to see is the big picture and see all the factors that have an impact on the field of mHealth. Many of the organisations see the parts (infrastructure, corruption, gender division, literacy etc.) as separate that have nothing, or very little, to do with each other. This means that one organisation can focus on one issue e.g. gender and the role of women in the communities but neglect to address the rest of the community in
their work, or the organisation are not giving them correct education to actually benefit from the services that the organisation is providing. If we use the example of the woman who was not allowed to talk to another man on the phone without being treated in a negative way by her husband, she still stressed that the mobile phone empowered her by giving her access to important information as well as being able to communicate with others. However no one had educated her husband and other community members on the importance of women owning a mobile phone. Since all of the different parts (corruption, gender division, infrastructure etc.) are parts of a bigger system and all influence each other it is important that the organisations are aware of the impact they have on the field even if the organisation at hand is not capable of putting effort on all parts. During the interviews we asked the question “What economic, social and cultural issues are involved in using mobile phones for health?“ Some organisation did not have an answer except for the part that their organisation was involved in. It was first when we gave them examples that they started to reminisce about memories and projects from the field. The reason for this, according to our findings, can many times be that the organisations are too small when it comes to human resources, they lack funding and time to be able to see the bigger picture, the whole system and hence does not have the capacity to provide with an overall service. Bigger organisations, or funds such as UNICEF are capable of focusing on more parts and be involved on more levels. As stated above, there is a need for organisations to set collaboration before competition so that more parts can be targeted. However we must emphasise that this was not always the case as some parts were targeted while others were neglected. Better cooperation and communication through more active platforms could create a common understanding of the system and a more balanced project landscape.

8.2 Collaboration before Competition

In order to put collaboration before competition in the organisations in Uganda there has to be a will to understand what is best in the long run for all, and not what is best for the single organisation right now. Referring to Grunig and Hunt’s fifth approach it can be concluded from our findings that the organisations need to have a more asymmetric power hierarchy where the structure is clear and where there is a management that makes decisions that affect the whole system, in this case the MoH. For this to be achieved organisations need to communicate more, in accordance to
Grunig and Hunt’s win-win zone approach, where there is room for discussion and collaboration and the best solution for all is agreed upon. (Grunig et al., 1995)

As the MoH for the past few years have tried to structure the project landscape it has, according to our finding, not always been successful. Organisations have not always been aware of the new implementations and regulations that the MoH stipulates as well as the MoH are not always aware of the projects that the organisations implement. The only organisation we interviewed, or in this case a fund that had a good and giving relationship with MoH was UNICEF. Why they have a better relationship with the MoH is unclear, in parts this might be due to the fact that they are a body of the United Nation and has as their priority to work with the government. However further research on this would be interesting, by analysing the relationship between UNICEF and MoH there might be a certain method that perhaps is applicable to others and hence could increase the MoH influence and dialogue with the NGOs. This would then, hopefully, decrease the uncoordinated situation and improve cooperation.

Another area that needs to be dealt with is the donors’ situation where the organisations are dependence on funds. In the current situation many of the donors and NGOs use a one-way communication flow where we instead argue for a two-way communication flow to create a better relationship and collaboration between them. Feedback is a crucial tool to achieve development and address the most pressing issues. Today’s situation where organisations work with the same issues in the same geographical area, duplicating their work is the result of an uncoordinated project landscape that lack in guidance. In order for it to be a good collaboration between organisations, the issues of donors and how they choose to contribute to the field have to be addressed as well. We believe that an awareness of the system and its parts has to be developed not only among the organisations but among donors as well. In order to create more sustainable projects donors have to fully understand the field and its challenges. The uncoordinated way of investing in various pilot-projects without being fully aware of what else is out there is a big hindrance in creating a sustainable project landscape.

By having a more coordinated system within the project landscape in Uganda, where organisations are more aware of each other, one may be able to better coordinate
collaborations to fit bigger and long term funding from donors.

8.3 The Fifth Model

We will use Hunt and Grunig’s model of communication and the fifth approach to explain what we believe is the optimal way towards improvements. According to Grunig et al. (1995), an organisation need to have an asymmetric power hierarchy where there is a clear structure and where there is a management that makes the decisions. Then the management need to see the big picture and aim towards development for the whole system. For this to be achieved the organisation need to use an asymmetrical communication flow within the organisation, but towards other organisations and the recipients there has to be a symmetrical two-way flow in the communication where the systems are open and the power are equal between the participants. This is called the win-win zone where there are room for discussion and collaboration and the best solution for all is agreed upon. (Grunig et al., 1995)

To sum it all up, we believe that NGOs in Uganda need to start putting communication higher on the agenda and collaborate more with each other. For them to be able to do that the MoH need to be approachable for guidance and establishment of regulations and coordination.

We have mentioned and brought up some of the problematic of the field of mHealth, but there are still a lot to be analysed. To start with, as we pointed out in our previous research, mHealth is a new topic that needs to be further researched and especially in low-income countries. ICT has its positive sides, which we have mentioned and we have brought up the challenges that we have found in Uganda, but there are surely more challenges that needs to be elaborated on to increase awareness and fill in the knowledge gap of the field. Because mHealth is a new field we have had to find previous research and theories in both the field of mobile phone technology and health, and through that try to combine the fields. Therefore we will also suggest further research in not only mHealth but in the separate field of mobile phone technology and health issues. The fields is changing rapidly and the factors that influence the field are changing with it, this makes it important to continue researching mHealth and be critical against not only M4D but also ICT4D.
8.4 Health Care Structure

Many health facilities, organisations and individuals see the problem with the health care structure as well, being divided into four levels and where the bigger hospitals have the task of supervising the lower units. As Dr. Kibairu emphasised, that they themselves, that are considered as a big hospital, also face the same challenges as the smaller units (shortage of personnel, of equipment, of medicine and the lack of funding). Having the task of supervising more than just his own hospital he sees as an increase of workload. Dr. Kibairu emphasises the decentralisation done in the health care structure in 1993 has to be re-evaluated because the situation in Uganda today is very much different. Our research does not reach as far as dealing with all the difficulties of the health care structure, it focuses more on the communication done within the sector. However, seeing all the challenges that they deal with there is definitely room for improvements. We believe that a discussion regarding whether today’s system is efficient enough, stable and sustainable enough, is necessary in order to keep improving the health structure.

When seeing the “surface” of the challenges there might not seem to be many, but we have recognize that digging deeper into mHealth has shown that there are more than just the technical or organisational challenges to face, there are as well behavioural and cultural challenges that will take time to overcome. Creating benchmarks and initiating ways to communicate and create a stronger organisational network can be a way of overcoming the different challenges. The NGOs have to be aware when they use the mobile phone that it is a tool and not an answer in itself and that many factors affect the field.
References

Interviews


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Books


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**Electronical**


Appendix 1 - The Organisations

1. Health Child
Health Child was registered in Uganda in 2005 and work mainly in the Jinja and Wakiso districts. The organisation is mainly focusing on children and the parents in the communities with actions and advocacy by working with both local and international partners, state and not state actors. Promoting better health and education for the children and adults are the organisations cornerstone. Contact persons during our contact with Health Child was Betty Walakira (Executive Director), Sarah Nalule (Project Coordinator) and Daniel Irongo (ICT Officer).

2. I-Network
I-Network is a NGO that was registered in 2002 that works with facilitating, supporting and advising the use of ICT. The organisation works as a platform were organisations can share information such as lessons from the field when using ICT tools in Uganda. Through this i-Network hopes to extend the positive sides of ICT tools and achieve a higher level of development in Uganda. Contact person at i-network was Richard Okuti (Senior Consultant).

3. Text to Change (TTC)
Text to Change is an organisation that has developed a platform that organisations can use to send out and receive text messages, voice and data. They are based in several countries and the head office is in the Netherlands. TTC provide software development, content development, data analysis and interpretation, and visualization and reporting. The organisation was registered in 2008 and specializes in innovative mobile phone solutions and since 2008 TTC's platform have been used in more than hundred projects. Our contact person in this organisation was Eunice Namirembe (Country Director, Uganda).

4. Transparency International Uganda (TIU)
TIU was registered in Uganda in 1993 and work against corruption and an increase in transparency and good governance, both on national and local levels, with emphasis on health, education, water, private sector, extractive industry and political corruption. TIU also perform research about the link between corruption and poverty and how to empower communities to demand accountability. The contact persons at TIU was George Stephen Emoit (Accountant) and Moses Karatouga (Communication Officer).

5. UNICEF
UNICEF is a fund that exists in 191 countries and have several country programs and National committees. The main focus is children and the fund work on influencing decision-makers both on grassroots, national and international level. Unicef also work to turn innovative ideas to reality. The belief within UNICEF is that caring for children is the cornerstone of development work and human progress. Education, health and safety is some of the issues that UNICEF work with. Our contact person at UNICEF was Sean Blaschke (Health System Strengthening Coordinator at Unicef Uganda) Sylvia Birabwa (mTrac Data Monitor & Information Responder).

5.1 U-report
U-report is a branch from Unicef and is one of the largest social monitoring networks
in the world, with over 190,000 registered users reporting on development issues in their communities. The service is free for the people of Uganda and allows young Ugandans to tell their stories and work towards a positive change. It is also seen as a way to educate the communities and make them unite and have a common platform. U-report was launched in 2011. Our contact person at U-report was Emanuel Bayo (T4D Consultant)

6. WOUGNET
WOUGNET was registered in 2000 and was collaboration between different organisations in Uganda working with developing ICTs in favour to women but also women can take advantage of ICT to address national and local problem to create sustainable development. WOUGNET also aims at incorporate traditional information exchange channels with new methods and focus on levelling out the power of ICT to disseminate information more quickly and accurately. Our contact at the organisation was Moses Owiny (Youth and Tech for Development Officer).

Professors and Focus Groups

**Shinyekwa, Isaac**
Economic Policy Research Centre (EPRC), Makerere University.

**Niyitegeka, Michael**
Head Corporate Relations Office at Faculty of Computing and IT, Makerere University.

**Focus group 1 and 2**
The interviews were conducted with 7-9 women during approximately 30 minutes. The women were between 18-60 years old and there were many children present at the interviews. The interviews were held in an informal tone without a interview guide in Masese, Jinja. We used a translator due to the fact that the women spoke Luganda. Daniel Iringo from Health Child translated from Luganda to English.

**Dr. Kibairu, Joshua**
Chief of district hospital in Kawolo. The chief of the district hospital have responsibility of the administrative and the overall responsibility.

**Appendix 2 - The interview guides**

**General Interview Guide**
Depending on what we choose to focus on the questions will be different; here is a selection of questions that can be used. Some will be specific to the organization that we are visiting. What is written in parenthesis is only for us to have an example in our head so that we can explain the question in case of confusion from the person we’re
interviewing.

1. Tell us about your project
   a. When did it start
   b. How was it implemented
   c. What is your strategy/have it changed during the past years
   d. What is your goal/aim?
   e. Who do you reach and how many?
   f. What time plan do you have? (e.g. Is it a one, three or five year project?)

2. Do you receive any funding – If yes, from who and on what terms?
   a. How do you cooperate with donors?

3. Do you do any project evaluation/feedback? If yes, in what form and how is it later used?

4. What, according to you, has been the most obvious positive sides with this project?

5. What kind of obstacles/hinders you have come across during the project?

6. What have you experienced being the most difficult part of carrying out this project?

7. What economic, social and cultural issues are involved in using mobile phones for health? E.g. gender, literacy, infrastructure, perception of mobile phone in Uganda.

8. Do you work more on an upscale/top-down or bottom-up approach? Is your focus on advocacy and changing politics or a bottom-up approach e.g. the small health clinics and its clientele?

9. Do you have any pilot projects at this moment?
   a. Are you planning on scaling-up?

10. Do your project/system complement other ICT/mHealth/eHealth projects within the same area?

11. What do you think about the eHealth approving process by the MoH TWG?

12. What are your plans for the future for the project?
   a. If giving it to the ministry, is the ministry trained to support it? Do they have enough knowledge to maintain it?

**Focus groups interview guide**

The interviews were performed in Masere, Jinja that is a district in central Uganda. The interview was performed in two groups and both focus group interviews was under 30 minutes long.

1. How long have you been a group?
a. Do you like being a part of this group?

2. How many of you have mobile phones?
   a. Do you get messages to the mobile phones about informative and valuable information, such as health related issues?
   b. How often do you receive messages?
   c. Are the messages helpful in your everyday life?
   d. In what way are they helpful?
   e. What are the messages mainly about?
   f. What are the main hinder or challenge for you when it comes to mobile phones?

3. The people that do not have access to a mobile phone, do they receive the information and how?
   a. Is the group a support to the women that do not have a mobile phone?

4. Are the men supportive of their wives having a mobile phone?

5. How is the health situation were you live?
   a. What kind of diseases is most common in the area were you live?

6. Give examples on what you learn and get information on in the group when it comes to health?

7. What do you want to be improved in the area were you live when it comes to health?
Appendix 3 - Interviews

1. Betty Walakira
Executive Director at Health Child

Date: 01-03-2013
Time: approximately 09.00 a.m.

Present: Betty Walakira (Health Child), Martina Mattsson and Safi Sabuni

The interview
(Due to the fact that we did not have the recorder in the start, the beginning of the interview is not a part of the transcript.)

...few aspects of primary health care. So we voice, worked with women in the village groups and increasing or trying to improve pregnancy outcomes for women and we do that through a number of things and strategies. We have now structured work with public health facilities. These are supposed to provide free services, and we also work with VHT (Village Health Teams) they are community volunteer health workers that are invested in the communities. So in terms of public health facilities we look to, we collaborate with the district health office and through the collaboration then we are able to go to the lower level health units and we start from health center 4 and health center 3 and health centers 2. And of course the VHT were the LC one the community level sits. And in all those health categories these are specific population that is served. For example, but that mission that I could share with you. I can give you each population that is served by each level of health center. So we look at the community and look out for the pregnant mothers and sensitize, we do 3 things. We do sensitization, but we also do systematic follow-up and tracking of pregnant mothers and we refer to the health facilities. But at the health facilities we plan with the health workers for sessions and at least then we know on this on this day we have, we expect this number of pregnant women and how many will turn up then they should be able to get this kind of services. And the good thing with it once you engage the district ten you have gaps like there is no equipment and things like that. Then the district are sure to get the facilities stocked and a number of things that are required for- effective service delivery. So that is what we do.
And then the VHTs, the community level health workers, we consider them a core element of the project because they identify the pregnant women. They do home visits and then we form, we work with them to form family support groups where pregnant women may meet in their communities. It is meetings we call come-let-us-eat-and-learn-together. Some of the women we always meet and discuss over tea or something but this was around a nutrition session for pregnant women and during the sessions they are able to discuss issues related to the health of their children and themselves. They also gives the VHTs easy way to implement them because they can mobilize, or she can mobilize like 10 women, or 3 families support group made up of 10 women each and they are able to meet with the women.

Q. How often do you have these meetings?
We do them, for the meetings for the family support group we are planning for quarterly but that time it will take place every 2 months. And now we have reduced
the frequency to at least 4 times. But in the tracking it depends on when the woman is supposed to turn up because they all don't have the same time of turning up. So the VHT goes and reminds them that tomorrow they have a home visit or a session at the health facility-remember to go.

Now, in terms of mHealth we have worked with the mobile telephone.. I believe that Text to Change have told you. They are the partner that have been responsible of sending out mass text messaging. But they/we have done it in the form of questions because in the communities we are implementing community sensitization through different strategies -community radio, talk shows, we do text messaging and we do community sensitization. So we use text messaging to measure the knowledge and we send out to a number of, we have been sending out over 1500 but these numbers have been collected before by the VHTs. Once we send out the questions the people respond and then we know what area is lacking. For example, a previous project we found out that there were issues in prevention to mother to child transmittance of AIDS/HIV there were still people lacking in terms of information. Now we are able to plan and say: Ok, so lets increase our sensitization in this area and also through the SMS we mobilize the community members to turn up at the health facilities for services. But for us we have been sending out lots of text messaging because we Text to Change, that we work with, tend to work better with numbers. But pregnant women, for us, It has been 465 women that we have been systematically been followed up from their first trimester and second trimester to the end to see the outcome. And on another issue like weight of the baby, what the baby measure, was the mother able to give post-natal care. So what we discovered is that in terms of SMS and mobilization to get pregnant women to turn up at health facilities you find that word of mouth is still more popular because you ask them: So how did you get to know about these activities and about the scheduled sessions? The mothers will tell us that the VHTs easily remembered, were reminded by the local VHTs and also the mentioned the phone. So for us, the phone came second. But you realize that mobile phones represent an opportunity -it was at that time and people was basically trained to mobilization So we think it's useful and as a result of that we carried out a another project about mobile phones and text messaging that involved family...It has not yet been published but it.... completed. So we get pregnant women or rather women of reproductive age and we send them messages to measure the outcome of a number of family planning indicators. We found that text messaging for example, there is a big difference thing that they could see. We got a control and implement for a population and we saw that there is a world of difference in terms of options. Because these women are, we got the information before intervention and after intervention we saw that…and we saw that there is a sizable increase in terms of optional planning size in the families.

So for me, mHealth is an opportunity that can really be exploited however it may not be an sustainable (?) solution.

Q. What do you mean?
You can not say you will only work with mHealth … to any optional, any health services you need to compliment it and the thing we saw with mHealth-anyone can send a text message but people need to identify who the person is sending the text message. For example, me I think in our case we were able to get very good results on family planning and optic because we are known in the practical areas and we also, were they didn't have phones we would ask them to tell us another person that they
know, within their area that can help them to send the message and we send a SMS to them instead. So were the VHT's are active word of mouth also come in handy. But it is still a upcoming thing and more studies need to be done for example, for us, we found that using text messaging we are required to reply. We used English and local languages in the instance of were we where working with Text to Change but we found that people responded more in English and I think it is because here local languages have not been taught in school. However there is also a limitation because not many people can speak English. Therefore if you're doing text messaging in Luganda and you expect people to give you feedback you may not get a very good response rate. And I think Text to Change have shared that with you in terms of response rates. The issue of language need to have to stay at English text message is a limitation. But in our case for family planning is an optic (?) text messaging was sending the messaging in local language and also in English is an issue of languages because they are not required to reply anything. You find that people who have received messages in local language were more likely to turn up at health facilities.

Have you noticed any difficulties with illiteracy? That people can't read and write? That is an issue especially when it comes to replying. If you are using it to assess levels of knowledge. Literacy is definitely an issue. It's because as a country we don't have a local national language.

Martina Mattsson speaks
For us it is a big issue since because we don't have a national language and when we don't have one language we use English instead.

Betty Walakira speaks
However the capacity of people to read and write is very relative. I know you have been in the communities and you have seen people use their local language. It is not easy to find a person who can craft ably express themselves in English. Reading, speaking or even writing so that becomes a very big hindrance and therefor it raises the question if you can use text messaging as a way to get feedback. But I think if you have to do it then also the problem people that can read their local language can not always easily write it. So that is also a hindrance.

Q. We have also come across that it is quite a new law from the MOH that all mHealth project has to go through them and be approved. Has that had any affect on your work?
It hasn't. For us, we submitted documents to them and I think we submitted them in September last year (2012) till now. They haven't called us, we followed up, but I think they did that kind of stopping and holding mHealth projects but the ministry has not come with more to address that issue. Because you submit to them and literally they just sleeping with their documents.

Q. We have talked to other organizations and they feel it can be a hindrance of innovation and certain organizations get approved their projects but some are not?!
The issue is, one thing I don't think it can hinder innovation, personally that is. Cause in any country for things that happen is we need to have assistance (?), guidelines to implement health projects and avoid duplication. Because one of the issues is that came up is what the ministry wanted to check up on was the issue of data. We were
all coming up with different kind of data and data sets and needing to use like mobile phones to intervene with data, and what the ministry did was to put a hold. So what they said was that if anyone wants to collect data from a public health facility they have to go through the resource center who are in charge of the, for example, the HMIS. Talk to them and let them include your specific data requirements in the national database. So for me I think it is good 'cause it harmonize the business. You work with health centers and a growing network and you can find (?) Health Child has giving, Unicef has given, UNFPA has given- we all have our data collection requirements. And what a task it gets for the health workers, so I think that is good that the ministry jumps in to really authorize these projects as they are coming. 'Cause otherwise they are, in terms of implementation it can hinder and you have specific guidelines that always will be behind yet mobile phones are providing a unique opportunity for reaching out to communities in a bigger way. And in a way in a new way also.

Q. We have also discovered that mHealth is a new area that is very popular so many do the same thing in different areas and there is no really harmonization. So do you think that the MOH could facilitate? It could indeed facilitate that one. But again what we have to notice is that poor monitoring system by the ministry. Me, I think, with this decentralization - one thing is that it present an opportunity to actually for you guys to kind of look at issues of decentralization and how the system operates. Well, we have the ministry of health and each districts has its own developmental plans and districts are run independently. So what the ministry does is to supervise the districts hospitals but all the health centers (2 and 3) ...are provided by the districts. So the ministry does not have authority over district health centers so what I was going to say is that I wish the ministry could also put conditions on NGO's. For example, issues of accountability. If I am in your districts I should be able to provide you with reports, I should be able to tell you what I'm doing in your districts. Because that way it gets easier for the ministry to supervise in different projects.

Q. But you collaborate a lot with the ministries? We do but at national level not so much. We participate in the technical working on meetings but at child health (?) meetings next week. … But we do have that technical work group meeting on maternal and child health. So that is how we collaborate and kind. And you want to make sure that each partner is accountable. 'Cause we are avoiding issues of fighting over beneficiaries. You now, they come and I'm doing these sensitization and they do the same thing. It's better they go to another area and you don't waste resources.

Q. Yeah, that is very true. Accountability is a big thing and that is another thing you discover that people do projects that is very short term, a year or so, and then funding runs out. So it is hard to scale-up in Uganda? It is very difficult. One of the things that they see, like for us we present the result of the projects in Jinja and other districts and the districts need some kind of technical support to integrate. Then you experience there is new learning opportunity to integrate them within the implementation. And also one thin we have noticed is the lack of flexibility on the development plans that have developed by each districts or even the ministry of health. So you may propose, and it has not been taken up as an issue or something like that. So that is about scaling up. And we are also aware of that
for example our ministry budget, the health budget has reduced from I think 8.8 % to 7. something. So naturally we don't have enough money from the government to take on all these new ideas. Because me, I think that, the priority of the ministry of Health has warranties -issues of staff, cause clearly the health centers are under-resourced and then salaries of course to ensure the discipline. And of course basic supplies that are necessary for each health center to operate- We are still at that level. So take on new things may not be that easy. That is why I personally think that maybe it is time that the ministry acknowledge that we can not do this, for example, when it comes to mHealth. That they get a private person to do the work for them and they (the ministry) just pay them and it's a private entity. That one of the mHealth aspects.

2. Dr. Joshua Kibairu  
Chief of Kawolo Hospital (District/General)

Date: 18-03-2013  
Time: approximately 9.30 a.m.

Present: Dr. Kibairu Joshua (Kawolo Hospital), Sylvia B (UNICEF), No Name (Trainer), Martina Mattsson and Safi Sabuni

The interview
Mkono was a big district which was split into four districts right now, we have Kajunga, we have the parent Mkono, then we have Buikwe which where you are now and where the hospital is, and then we have Uvuma. Uvuma is an island but having so many small islands. This is [Kawolo Hospital] the general hospital south this region. The district have a population about 429,000 people, but the hospital being a general hospital would receive people from all over, as far as greater Kampala, Koseta, Banda. You could imagine somebody from Banda would be going to Naguru or these other nearby hospitals but they come all the way here. This side has special deliveries for reproductive (?) services, they all come here. Then there is another challenge with this being very close to the high way, and being the closest center, so many accidents that occur along this road end up here, and we are unequipped to manage these accident victims. When you see our so called emergency room, it is basically nothing, just a room like this one [looking around] with nothing to resuscitate accident victims, so that becomes a very big challenge on our part.

Then also the infrastructure, as you look as the hospital it is very old. It has never had any major renovation, never since it was open in 1968. Because actually the lifespan of the building is what….?

Martina Mattsson speaks  
What could it be… 14?

Dr. Kibairu No!... 30 years! 30 is the general standard. After 30 years the beauty is obsolete. Either you demolish it or you revamp it. But ours have never had any of such, but we keep let it go down. We have cracks all over there [Pointing to a wall]. Trees are growing and they’re splitting the building and we move on like that, as a third world country. So that is another serious issue. Then the population is growing. I think you are aware that Uganda has the second fastest growth population in the world, second to that of I think China. So the fertility rate in Uganda is six point….?
But you people should know these things… Especially people working with UNICEF, this is public health information.6,9, that is the fertility rate in Uganda, so a woman in reproductive age in Uganda produces about 7 children, that what we live with, it’s that bad. Then the other problem that we live with is teenage pregnancy, people from 14 years are delivering because of the high dropout from school and poverty. So the cycle begins, if you produce at 16 chances are high that even your child will start producing at 16, because of the poverty levels. Then the other issue has to do with funding from government. The funding is very, very low compared to the service needs of the hospital. The hospital as I said is a general hospital offering both curative, preventive, promotive and habilitating services. We have four wards, not organized according to disciplines, no, it’s according to sex. Even if you had a surgical problem and you are a man you go to the general men’s ward. If you are women who had a surgical problem, you go to women’s ward. So we classify them according to sex. Except the other two, that is paediatric ward and maternity. Pure specialities. The bed ward passage rate [How many beds that are suggested in one yard] is 95-98, the recommended bed ward passage rate for the country is 85. So we have passed the recommended national indicator. And there we find many children on the floor or sharing a bed in paediatric ward. Then common cause of morbidity is of course the usual Malaria, Anemia and Respiratory infections. A tad on the line now is HIV, people get [the virus], due to poor information capture, the data capture is not very good and then the message and coupled with poor funding, because we don’t do outreached. We still practice the old medicine, you sit at the hospital and wait for sick people. There are more challenges, and one is donor costs. Donors come here and prescribe things, which don’t work. Things like decentralization that is a very absolute thing in health. When you decentralize a health sector, what is a district going to do? Ideally it should be funding those health facilities, and then it should have the technical competence to do the supervision, to do the MRI. But busy because of the so called decentralization they don’t do well, I mean you don’t supervise what you don’t do. I don’t expect now for you people [meaning UNICEF and mTrac] managing data to come and you don’t know what you are going to manage, to supervise for me. It creates doubt in my head. But these are tablets prescribed by donors and they engage WHO, they engage consultants and now they have engaged a system of consultant from Brittan to work out contract based employment to the civil service. They have already started with us, they talked with us, they talked leadership. People work with a contract they work because they are sure they will get paid, but I’m not sure of the next city that’s why people work in projects, you get good money, even thought they are not sure of the next 5 years. But now me is earning penalt, how will you put that in the contract? I don’t understand whether the donors are here and they told you, one with the consultant from Britain in workshop. That because of faith… the health sector is donor cost.

People come here and they prescribe things that don’t work. I can give you an example, in decentralization, the structure that this general hospital has is three askaris [guards], managing 23,4 acres of land of the hospital. How am I going to make us of these askaris? One askaris stand there, another one is going to work at night and the third one is off., so who care for their safe. [Pointing outside the window] Up there you see it’s all hospital land. When I came here 10 askaris, some would be guarding the other side up there at the quarters, then the other would be guiding the other side another two here and then there would be one patrolling within, the patience, the wards. That is no more. But this is the tablet prescribed by…? – Donors! And they use what they call… Structure! What is the level? General hospital
3 askaris, how many radiographers, 2! Two radiographers with the population that grows. When our “Scan” was still functioning we had 40 x-rays per day. But now it is done, we don’t do x-rays anymore. Well at least it was donor funded, the donor prescribed, they came here with the project and put up x-rays. Moved the old one and put a new one. And so they moved the supervision by contract for 4 years, and when it expels the government should take over it. But the government is sleeping, ever since they went away to Darfur, but these people knew that this was going to expire in the next year but nothing is done, up till now. So these are donor, donor, donor, donor issues, or development partners. Now come to mTrac, which is our biggest problem. I heard that you came here to train 10 people to come here. Sylvia UNICEF speaks UNICEF train 2-3 people at districts level. The 3 people who trained are supposed to train the lower health divisions in how mTrac is working. Sylvia and Dr. are discussing exactly which persons who should be trained, the in charge/records person and the medical assistance.

Sylvia is showing the paper sheet that is to be filled in by the health facilities and explains that there was once a woman who had travelled so far to get a stamp on a document from MoH, the Ministry however did not have an official stamp and the lady had to wait there until they could find something, because she couldn’t leave without a stamp. Sylvia continues describing the benefits of mTrac and using a phone to submit reports on diseases. The meeting continues describing the different procedures for mTrac and discussing how it has been working within Kawolo hospital. Sylvia presents us and our research regarding mHealth.

Q. Is eHealth a good innovation, what are the challenges that we face? [Question asked by Sylvia for us]

Yes well it is a good innovation, the only challenge is that I don’t know whether you captured all the initial training of the health facility people. All the in charges and the leadership. Because it is very important for the leadership to own the program. If they don’t own it and you leave it to people who are training there, it will back of fire. I think that is one of the challenges we have here at Kawolo.

mTrac discussion is continuing between Sylvia, the Dr. Kibairu and the responsible trainer about specific personnel at the hospital.

Another bitter pill prescribed by donors, we used to have three curators in the health sector, people who would be capturing information from a day to day basis. But these people were abolished. Work was overloaded onto the nurses. Now this is a nursing sector which is understaffed. Today the range is from 60-50 paperwork and when you force them to do it, they do it the way they want. And then she goes and captures that sheet [mTrac sheet] and she sends it by SMS to mTrac, they find that quality is a matter of problem now. The quality is not good, this you must work on. You must motivate the workers to do it. Now they just do it on routine and someone’s writing something and the next person writes something different.

Q. So they make up numbers?
Yes the numbers are very different, it’s a big problem. So you come at the end of the
To count how many patients have been treated for a specific disease] and you subtract this number with the other, so they say, yesterday we had 480 people which is very wrong. Here’s the first point you are suppose to collect the information and then someone else will continue with the same. Imagine that information being collected at a daily basis, she can’t do it, it’s too much work. The staff moral is down, they don’t want to do things. Then again the prescription of donors. These people have not transferrable, someone is stuck with you until he retires. But before when the health sector was national, then we were reporting to the center, so if you would find a gap you would just report to the center. Then you send somebody else and then you improve. But now with decentralization the health sector…. That’s why you see the health sector in Uganda was growing up till around 1998, but with decentralization we went through the back. Politics. Every county now is almost a district, now if you have only one general hospital and somebody is at U4 and U3. They are not transferrable to a lower unit, because there is no post by structure. SO they are stuck with you, in one hospital, forever, I mean whether he is performing or not performing you are with him now. You are finished. But before, the center could find a level easily where this person could fit, but with decentralization, it’s possible. So those are the challenges, but with mTrac there is hope for the country, hope for the health sector that needs improvement.

Q. So how many should be involved in mTrac at this facility?
They are discussing the question and later coming to the conclusion that 3 people, the chief of hospital, the secretary and 3 other staff.

Q. Are you currently involved in other mHealth project or have you been involved in them earlier?
Sylvia UNICEF speaks
No, this is the first eHealth project initiative that was approved by the government.

Q. Why do these people have attitude problems?
They don’t like change. They are underpaid, the poor structure. If you went to the quarter land you would see how staff are living. In the houses with holes outside, with mosquitoes it affects their assumption towards work. They become demotivated.

There are a group of people that support a lot the projects called Sustain. And it has it staff posted and the nurse earns something like 900,000 shilling and the lab technician earns something like 1.8 million shilling and the lab technician in the government sector earns 400 [shilling], so how will you look at that motivation of today. The attitude, how do we solve it? When you go to our patient department, group two sees on an average 250 people per day. But the standards say they you spend how many time per consultation…? 15 minutes per consultation, that means you would see 32 people in 8 hours working and pay. 32 and there are 200, who is going to see the others? Unfortunately the interview recorder ends without our knowledge. The discussion of the difficulties of donor problematic is further discussed, however nothing that we have used in our thesis. In addition Kawolo hospital staff, showed us around their ward and we met some of the nurses working in the different wards. mTrac supervision visits continued to other smaller health facilities where we observed instead of asking questions.
3. Emanuel Bayo  
T4D consultant, U-Report, UNICEF Uganda

Date: 25-03-2013  
Time: approximately 15.00 p.m.

Present: Bayo Emanuel (UNICEF), Martina Mattsson and Safi Sabuni

The interview
The interview starts with presentation of our work  
We are communication students from LNU in Sweden. And our focus is on mobiles and health. We came in contact with Sean because of mTrac and U-report. And we saw that you had a health section [In U-report] as well, so that’s why we were interested. And right now we’ve been out with some organizations interviewing. We were out with Sylvia last week so we got to see how the mTrac supervision was done.

Bayo speaks
I’ve been working on the U-report project for now 1 year and 2 weeks and it’s basically an SMS enabled system that provides a platform for the young people across the country to voice opinions on issues that affect them on various topics. So what ideally happens is that we poll them on every week on various issues and seek their opinions. The U-report system is able to collect this information and it’s aggregated and marked to specific districts. So we are for example interested, or for example the world bank is interested, whoever suggested a poll and wants to know something on a particular issue and asked us to poll the young people. Then we could as well applicate this information, from district level to regional level and compare how different regions are doing against each other and subsequently share this information with, whether it’s a government partner or a faith based organization or civil society organization. We occasionally call U-reporters asking them to send in questions directed to their specific MP’s. We subsequently through the UPFC – Office of the Ugandan Parliamentarian Forum for Children forward these questions over and they actually publish this. We have published a newspaper, by weekly. Bayo Shows a Power Point presentation shown at a conference presenting U-report.  

What is suggested here is a platform that is provided for young people to voice opinions. Basically what happens is that people text in the word “JOIN” to 8500, that’s our short code and they’re automatically involved onto the program. Weekly they receive polls on various issues, where they respond and the SMS is free by all mobile networks in Uganda, and the costs are taken care of by UNICEF. U-report partners with over 10 CSO, faith based organizations and government ministries. Our biggest of course being government ministries because the essence of U-report is to support not only UNICE programs internally but to support the government in its various programs with it’s various programs. One of the biggest hindrances is that the government is facing a lack of data, lack of information and U-Report goes out today to over 189.000 young people across the country which is quit an opportunity.

Just to mention some of the partners we have Scouts, GEMS, Education movement, Malaria consortium, Ministry of Health, Ministry of Education and Sport, Ministry of Gender, Labor and Social Development is our biggest government partner. While launching the U-report in May 2011, it was a partnership with the Ministry of Gender
Labor and Social Development. This happened on the 13th of March when the President in his speech, on the African Scout’s Day, hosted in Western Uganda, made a comment about U-report. The reason I put it here is because for the last 2-3 years we’ve been walking towards getting as much support from the government as possible, and having them using the tool as much as possible. So for the president to come out and say this was quite something. We send weekly polls on various topics, and then we send back results to the reporters. I mean you must complete the communication, if you are asking them for something and they give you their feedback, their opinions, then you must also get back to them results or what ever to keep them motivated.

Bayo informs about his PP
To give you an example off a poll “Hi U-reporters, go to your local health center and tell us, do they provide you with an HIV test? Yes or No?” The essence for this particular poll was to tell us whether or not people were being charged for HIV tests. HIV tests are conducted free of charge but it’s not the case whether we’re talking of Kampala or talking of other country destinations. People are charged for these services, it’s not right. So we wanted to get a sense of what is happening out there. And so from the aggregated results we got there was about 80% who says they’ve gotten HIV test before and they weren’t charged, and 20% says they were charged. So this is the information we share with our life sector. Life sector is basically mandated to keeping children alive and all health related issues, like mTrac of course, because it has a purely health mandate, tracking drug stocks and supplies in different hospitals and clinics across the country.

Then still and alive we have what we call family health days. Through statistics that were provided to us, it’s clearly documented that in the past few years Uganda has been recording a decline in humanization rates. It’s actually the greatest decline in the East- African region. And people are asking me why is this happening, and so family health days was partly brought on-board to help solve this problem. Family health days is basically a program that runs from Friday and Saturday, but around places of worship where people come, and they provide them with free health services, above registrations are done. People get free antenatal care especially rather expectant mothers. People are provided with free HIV testing if they want that. And the reason they chose Fridays and Saturdays is because Friday’s people congregate around the place of worship. The place of worship on Fridays is usually Mosque and so that’s the reason for Friday and picking places of worship as a point of service. On Sunday’s it moves to churches and we specifically work with Church of Uganda in this case, which is domination as well as the catholic church. What we physically do here is sit down and send SMS’s to This by the way happens in selective districts, it doesn’t happened in all the district. So, I think the last time it happened it was in the second week of April. But what usually happens is that we send an mass SMS to this district informing people that family health visits returned so go to your place of worship. Inform your neighbours, take your family along and things like that. So they wrote back with any queries or any questions, “We haven’t heard about this before what is it?” And we sent SMS back to these people in real time, explaining whatever information they are missing.

I’ll give an example. During the micro planning of the health days a person who were helping this buss with medicine and the whole program were being paid half the money they were suppose to be getting so they u-reporter texts in and says “I got half
the money” and when we dug deeper, it was realized that this was happening to another 119 people, so it was like a huge scam. And so we went to the root of the problem and we were able to send it out. In a way it also help monitor whether services are being delivered. I’ll give another example. Last week we ran a poll on water “Tell us whether or not you have water in your community tub, at a borehole whole if it’s in a borehole or whatever that you are using. Tell us whether you have water today, yes or no” so people respond and provide us with your districts name. After the whole analysis, we share this information with the district engineers and so when the funds are allocated to this district we send SMS to these people asking if the water has been fixed, yes or no. And this way you can easily tell from here without having to move up to the districts. In a very huge way U-report helps monitor whether services are being delivered to the local people. Bayo continues with PowerPoint What happens automatically in the system is, it tags each response to the specific district and then you have these overall key where red means no and green means yes so that you are able to understand what persons in a specific district are saying.

[Talking about the real time statistics shown on the webpage.]

Using of collective information and policy and advocacy. The best example here is the Youth Fund, it’s a capital venture fund that was past in the budget in 2011. Positionally a funder is put outside to help the youth in starting up businesses. Whatever the U-reporter suggests is what becomes the basis of the topics we use. Then the radio programs also run on a more frequent basis then the TV-shows. We currently have 1 program no actually it ended last week in Gulu. Not everything that people send in is related to the polls. If it doesn’t charge me anything then it doesn’t stop me from sending in whatever. We have someone called KGB, every morning he would send in an SMS saying “Good morning U-report” and then in the evening he would send in another one saying “Good night U-report” and he does that consistently every day. So, the point is that we have a lot of unsolicited SMSs some of them cannot be used for anything and others cannot be ignored. I will give an example, we get tons and tons of questions and examples on HIV, so what we’ll do is we as U-report team are not technically or any experts and cannot answer these questions. So what we do is that we get a partner that is an expert in this part of area. We give them log-ins where they receive these SMSs and they can go online and actually see the SMSs U-reporters are sending in. So what the system does is that any HIV, we have a range over what you call key words, HIV, Aids and things like that So all messages are plugged and put under one folder. And what they do is that they log in and see all of these 1000 questions. Some are not necessarily questions but reporting rape or defilement. As long as it [the message] has the word HIV in it, it is send to the experts. Some of these texts form the basis of the content that we share through newspapers. There’s a percentage of unsullied SMSs then we have questions for MP’s, so you have MP’s answering directly to U-reporter questions. Then we have sections where we share poll results but whenever this happens we send out an SMS to all U-reporters telling them “Tomorrow there’s a poll-out in a new. Look for it if you have access to a newspaper.” But the interesting thing is that we get significant number of people responding back “I don’t have a newspaper, what do I do?” But I think what is more interesting is that we get SMSs from people saying, “Where we are we do not access newspapers.” And yes through an SMS with no cost we are able to communicate, so that only point to how U-report is able to involve a person in a
pretty remote area that is unable to access any national newspaper. The statistics show that the national newspaper division has a distribution of 33,000 daily across the country. We have 180,000 U-reporters so that means we are reaching over 3 times what the national newspaper is able to reach. And through SMS people are pointing out that they have no newspaper where they are, it just gives us that indication. It’s sad, but again, it shows you how people want to be heard, how young people want to express themselves but they have no ability of doing that. This is what U-report is doing, giving them the opportunity. “Give us your views and we forward them.”

I will give another quick example. We have a section on the U-report program that is dedicated to the MP’s. So MP’s are able to call us with issues that they want directly to the constituencies, or they might want to understand what young people think about a particular thing, and they want a national view about it, so in that case we kept these questions. We have someone who looks up these SMSs every morning, by going through the MP page. What essentially happened is that we share this suggested poll by a group of partners, if it’s sensitive enough, if it’s good enough then we send it out to aid the constituency the MP want’s it to go to or national. Then we do a quick one page or two pages report and this is like 1 day or 2 days and send it to the MP using it for whatever purpose that he or she needs. Then the other which are just tackled is engaging MP’s, there’s that that I just explained but the other is we have newsletters that we print out every morning and share with all the MP’s through the UPFC Office. They actually deliver to the pigeonhalls of every single MP in the country. Some of the content includes poll results and the section of MP’s responding to your important questions. Then the other use of U-report is an emergency system. We have unsullied SMSs that have words like outbreak, Ebola, Cholera and things like that. Last year when we had this outbreak of Ebola in the Western Uganda, we send a lot to them, how they should be able to see Ebola victims, how you can and should avoid contacting them. The main aim is not to create panic but on the same time to give people information on how to avoid it and report any case of Ebola victims in the community. We actually worked with the Ministry of Health and the World Health Organization on this. Those were the ones who dropped the poll and we sent it this poll, and whatever information we get back we share with them. So they provided us with frequently asked questions (FAQ) and we respond to some of these question. So whatever information they share with us we share with U-reporters if someone wants or wanted specific response on Ebola.

We had nodding disease; it’s a peculiar one. For some reason was only the region in northern Uganda. What happens is that it affects children under 12 years mainly. It has the same symptoms as Epilepsy, but in a chronicle stage the child nods at anything. If he’s near a wall, he’ll just begin nodding his head against the wall. If they are near fire or cooking, they might even get burned. There is no specific treatment for this specific disease. We sent mass SMSs to U-reporters in those villages to educate them more regarding the disease.

Q. So how is it spread?
There’s no clear indication on how it is spread, but it’s said that it is a particular plant that people eat that causes this. But that is not for certain, just hearsay.

[Pointing at the Power Point] Then this is real +20 UN conference that occurred last year in June. Those are the delegation from Uganda, a couple of ministers. But their
there in was a U-reporter as well. At the UN conference the focus was mainly MDG and whether or not countries, especially developing countries such as Uganda, should continue with relying on donor money and things like that. The minister for example could not give…well she could, but it’s not advisable to just responses or give in to whatever others are saying. So the trick we brought in was how about we scan people in Uganda how they feel about Uganda depending on donor money. And so they dropped the question sending it to us by e-mail. So I got it, send out the poll and within 24 hours I have results and a short report. We just send it over to the minister and she gets it first thing when she wakes up and she shares this with the delegation. That is just a quick way we are able to use U-report, it’s real time information.

[Refers to the Power Point] This is just a symbolic of the global appearance that U-report is getting. We have it launched in Zambia, where they specifically use it to address issues of HIV for the past year. Burundi should be kicking soon, hopefully next month. DRC, Congo, is also contemplating this in the next few months. This is just the level of interest that U-report is getting on the UNICEF offices.

This is just a summery of the best usage of the information we gather. Advocacy which initially... Accountability I gave the scenario of the water availability (boreholes) and the family health days where the people are getting these services for free.

Then trending, establishing attitudes towards specific before doing and after interventions and that the baseline. Give an example of for example before collecting information on whether or not it’s been practiced in Uganda. What we do is first to establish a baseline “where is it at right now” so we send very neutral questions asking people for example whether or not they are practicing it in their communities or whether or not they hear it being practiced in their communities. And then thereafter go ahead informing them about the dangers, the health implications of practicing this and providing them with an alternative ways on how they could…

\[\ldots/\text{discussion about sex education in schools, that are not currently happening.}\]

This is the report. But it’s an open tool system that can be customized for pretty much anything. Your creativity using the program is more limited. As I just pointed out Zambia is using this specific for Aids and we just found multiple ways of engaging as many people as possible through various creative ways, creating different features and pages. Some of the democratic information we take from U-reporters includes, districts, village, sex and age and recently occupation. So if you for example want to send an SMS to say, teachers across the country, that are interested in U-report, you are able to do that. If a specific tool is targeted to lets say Gender, then we are able to do that.

Q. You have been operating for over a year and you are already covering so many different areas, what challenges have you faced when implementing this? It definitely comes with a lot of use, which we continue to plan even today, with the new features that we calculate into the system. But on the data management site. One of the biggest challenges is for example the unsullied SMSs, the range of topics that people send in SMSs are… we cannot anticipate everything, we cant. And even while for those we have been able to we do not have the competent people to respond to these SMSs, or if we in some cases have, they do not adequately do that. We do not pay a dime to any of the partners we work with. So it’s basically based on their
commitment to the program, but we’ll for example drive them to answer these questions. So that is one of our biggest challenges, dealing with the unsullied SMSs. And there are some that have been really sad, but the problem is that they are very individual and we cannot focus on one person, tomorrow someone else will have the similar problem and we don’t have the resources to deal with that. What we try to emphasize to our training is that U-report is not an emergency program. But the stuff we get we just cannot ignore. We try to as much as possible get on board partners that are experts in these areas so if we have several SMSs on justice related issues, then we can forward this over to our partner that specifically deal with justice for children or something like that. So that’s one of our biggest challenges. The other one will probably the networks, we are dealing with 5 mobile networks here, sometimes for one reason or the other, for example MTN has a bigger issue and we want to send a poll, we are not able to get back the level of response we expected. This is out of our control. That would be the other one. The other would be language.

Q. Are you sending out messages in only English?
We send it now in English but we have incorporated Luo and Karamoja onto the program. This is automatically able to tell who SMS the platform if it is in English or Karamoja. But I mean, in northern Uganda we have over 30 languages, we cannot satisfy everyone, we cannot calculate all this stuff into the system, and so we have just limited it. We just started with 1, English and then we brought on-board Luo, which basically covers the sub-regions. Then Karamoja is North East. It’s one of the most remote areas in Uganda and you find a lot of things being practice today, people are not educated and you can find the lowest level of literacy, that’s one of the reasons why we wanted to incorporate Karamoja. UNICEF has a kind of obvious focuses on Karamoja, there are about 7 districts that constitute the level of Karamoja, and these 7 districts are a part of the focus districts, simply because of the different challenges the region faces.

So in terms of languages we are not able to satisfy everyone, we just leave it to three, but again even with the three we still get a lot of SMSs in Luo and none of us here speaks Luo for example. And so if we need a quick translation on what someone’s saying, we are not able to do that. We have contracted someone before to handle the Luo SMSs, those I think are out biggest challenges. But then again the unseen one are probably something we shall face for the numbers to grow, just imagine we have a million people subscribing to the system. The SMSs free of charge, how would we pay for all this communication taking place? But that is something that is not so much of an issue now but probably in a few years when we significantly grow, maybe that will be a problem. Then we obviously people optimal to the system. It’s free to opt-in and opt-out, we averagely have around 2500 people opting-out the system, but the funny thing is that a lot of these people re-join the system for, I don’t know what reason. 2500 is a fare number so I wouldn’t really point that out as a challenge. Then the other would probably be the communication loop, when you send the SMS and you have to keep these people motivated to respond. When I respond to a poll, I obviously expect more than just, naturally, with time I will expect more than just the result of the reports. I’ll expect someone replying in the shortest time possible to whatever SMS I send U-report, whether it’s unsullied or if it’s related to a particular poll. And we are not able to do that, we cannot respond 180,000 people ending in reports. So keeping people motivated to consistently provide this information is one of the other challenges. So far we have been doing a lot of work, but it’s still a challenge, we currently involve 25-35% respond rate, but taking that up is a big
Q. How do you keep people motivated today? Is there any specific measures being taken?
Not exactly. Well deliberately we try, just to give a few examples, when we had a U-report conference that work together U-reporters and law-makers, MP’s basically, we went through the system and picked out what we now call U-report dedicate, these are persons that respond consistently and respond to whatever polls we send out. So we invited them over for the conference in Kampala. So basically they represented “I’m a U-reporter from Gulu, I’m representing all the U-reporters from Gulu.” These are simple ways of trying to keep them motivated.
When we have SMSs quotes in the newspaper, we send them an SMS telling them that “tomorrow” your SMS is featured in the new version of Monitor [Ugandan Magazine]. The TV show we have a section where we interview U-reporters and the chunk is feed unto the video that is shown across the country, that a way. We have t-shirts that we give away we have wristbands that we give away during the training. So these are the simple ways on top of the feedback. U-report, 24 percent says they went to or they accessed HIV test for free and the expect to pay, they want that information, they want to know the state of affairs. These are the simple ways we pick to motivate them. But again it’s more or less the same thing we do with partners, keeping them motivated. We don’t give them any money or anything. It’s a win-win. They want the information on any issue and you put it there for them to utilize. But on the other hand we need for them to be able to help us raising the polls and things like that. We want them as involved as possible. The spirit we are trying to create here is that this is something that you should own. It’s not something for UNICEF but rather it is something that is in your hands. You must utilize every opportunity you have to use it maximum. So just keeping them as motivated as possible is a work in itself. Just a few of the challenges and how we keep people interested in the program.

Q. Do you know how much of the SMS that you get in that are health related?
It’s hard giving a percentage to those because they are unsullied SMSs. What we are trying to do is to create a link to mTrac where I get an SMS from U-reporters saying “we do not have any drugs here”, “the health staff has been missing for the last past months.” And we forward these SMSs to mTrac.

Q. General question, what is the positive thing of using a mobile phone in a country like Uganda?
U-report SMSs are free of charge, so anyone from wherever are able to send in an SMS at no cost, but I think what is more important is that you are able to send in these SMSs in any kind of phone, whether it is a basic Nokia, you are able to send this SMS. And just for the comparison I did earlier we get responses from people saying, we have no newspaper, but you are getting this information through SMS that only tells you the extent of coverage. The reach where you can communicate easy. That is like the biggest advantage of us using SMS to communicate, link U-reporters to number 1 decision-makers, and then link number 1 decision-makers to these people whoever they are. But must importantly link U-reporter to another U-reporter, for example one in Northern Uganda to one in Central Uganda. I think that is the biggest advantage of using SMS, it’s cheap, it’s affordable, as long as you have network you can send SMS at whatever time.
Q. And people are able to charge their phones?

Well that’s another unique challenge in itself. What happens is that a poll is open in an average of 48 hours, so anything that comes will go into the poll that is currently open. One of the features is that you are able to reassign these answers back to where they are supposed to be. And the biggest reason for this is that you organize things like that. You might send me an SMS today and I’m not able to receive it because my phone is off. And once I’m able to charge it and it’s back on, this could be a day later or few days later, I receive the SMS and respond to you later. And these responses are captured and we are able to send these back where they were. So that’s like a creative way we deal with the SMS.

4. Eunice Namirembe
Country Director, Uganda at Text to Change (TTC)

Date: 13-02-2013
Time: approximately. 02.30 pm

Present: Eunice Namirembe (TTC), Moses Owiny (WOUGNET), Martina Mattsson and Safi Sabuni

The interview

Q. Can you tell us your work, what you do and your organization?
TTC started in 2007 and we started by sending out SMS to people ...awareness on HIV/AIDS and then asking them questions that they could later answer. … So that was the original plan and it was started by a foundation called BAS? its Dutch so when he was watching the a documentary on ABC he saw that it was a problem in mobile technology in Africa and he was like why don't we use mobile technology in health issues? So he came here. It was just a small funding when they organized it-an information center. Back then it was very easy to get numbers from Airtel -about 15 000 numbers, and said they wanted to share information about HIV/AIDS in western Uganda. People were not responsive, like 20 % of the people responded and giving information so the program only lasted for 2 months. So that is how TTC started. And it has grown to do more in health and education, sanitation, ...so it is expanding. We are in about 12 countries-two in South America.

Q. So how many offices do you have in Uganda?
We have one office in Uganda which is like the Africa office and one in Amsterdam. The Africa office coordinate all the African countries.

Q. How many works on this office?
About 15 people work in this office but we have people in the call center so that is
part-time workers. They are also about 15 people.

Q. So what do you actually do, do you have call center were people have complaints or more questions about health?
It's more of an outbound call center, it's not an inbound so we actually call people but they never call in. That would be very expensive to maintain.

Q. What do you do when it comes to mHealth or mobile health?
mHealth is very extensive and we mainly do SMS, voice, data collection, so that is mainly-that is the technology we apply. mHealth has grown so I'm not sure what you wanna know? But we mainly use technology such as SMS, voice and data collection. ...using mobile. Our cutting edge or our initiative really using simple mobile technology tools to share information on health for achieving change. So we don't go into really complicated mobile technology but very simple technology.

Q. So what is your goal with TTC? The big vision you have?
The big vision is really to share information by using mobile technology ... simply by doing it. There is where we even can reach people that even in a basic form using, selling information by using basic form. You don't have to have Internet, or something to set up you just don't have to have an application but using a basic form. Connect and share information on health and still have a change.

Q. Can you give us an example of what kind of information you could send out?
We send out information on TB, on malaria, on HIV/AIDS. On a number of ...eh...on many diseases but we one example could be for health education purposes considered a message trough the partner “Do you know there is a cure on HIV/AIDS?” answer Yes or No. They will respond and based on that we will know what the health education level. People know that actions.... So those are some of the questions you can ask or we send them a SMS saying to them to go to the nearest health center and let them know that you have an appointment with the doctor or to take your medication now. We remind them so it's that kind of questions.

Q. Do you use Airtel or connect directly?
No we have a short call numbers and we are making 5 years tomorrow so big celebration! But we have 2 short call registered in Uganda -short call meaning short-call-web numbers 8181 or 8282. Short numbers where you can send SMS. So we have 2 short-calls registered in Uganda right now and they are committed to all mobile providers so it's no longer before where we used costly services. …

Q. So how many do you reach by cell phones in Uganda?
We have many programs in Uganda and I would say that 10 health programs, the rest is not really health or somewhat in touch in health, they are not really health. At least 10 health programs. We work with partners and Non-profit organizations like USAID…

Martina-And they provide you with funds?
Yes. They provide us with the funds to … of course when they come, they come with their mobile numbers or we try to collect the numbers for them. So it's difficult to say that these are the numbers of people we reach. But we do send out over 4million SMS. We reach many people I even think more than 4 million people. But that is
coordination of programs. …

**Q. When you have a project is it more of a pilot or do you usually scale-up?**

**Long-term projects?**

Most of the program are pilots. Of course there are never, people never want to scale-up or invest, most of them want to do a small mHealth program and then just show it around, like I did a mHealth program. Most people don't have funds to scale-up-it's very difficult. You know, there are many gaps to fill in by the technology and technology is very expensive. Voice is more expensive than SMS. So that is reasons why we don't scale up. It's really the funding. There are platforms that you don't have to spend so much money as well, such as SMS.

**Q. What are the main positive sides of these projects involving mHealth?**

The positive sides are when you send an SMS and you see that there has been a increase of the people going to the health center, or coming for a service or there is really positive sides to see when you send out an SMS to remind people to come to the health center. You find that actually there has been a...a reminder makes a difference or the awareness is actually doing something for the health education. You inform people on TB and people even refer people to them afterwards. So that is some of the positive tools that you find that helps.

**Q. What have you find being the negative sides of the projects?**

The negative sides are there because you send the SMS and you expect some one to read them and actually someone don't read them. They receive them and they don't read and you ask why and they answer “I don't know how to open this message!” And then they get excited but they don't have access to the network, but actually the network is not there. So people have a mobile phone but they only retrieve the messages in a certain time, maybe when they go to bed, and the community center is not open then. So you send out a voice message and the number will be of. So that are some of the challenges we face and see. And people don't have the mobile phone and certain times they share their mobile phones and sharing might a male person and they I send a message on maternal health or reminding the mother to come to the hospital to do an AFC?. And if you send out this message to the man he has the one who has to remind to go for health care on a regular day. This is some of the challenges. And project are expensive to scale-up. So people keep asking us- You were sending us these messages and then it stopped.

**Q. So the gender issue is a big problem?**

The gender issue is a problem but I think I can not prove it. It is...in our programs so that is why I am mentioning it. But I can not prove it! You can find that there are definitely phones sharing in the family and the mother will give the phone number to the husband but you can not be sure ….drinking....

So that is a culture thing that has effected us, we want to share everything.

**Q. And how many are pilots of your projects?**

It's difficult to tell.

**Q. We have learned, from talking to other organizations, that there are a lot of mHealth projects in Uganda. Do you collaborate with other organizations if you work on the same areas?**
If we know about it! But sometimes if we see that the partners are asking for the program that are similar to another we might prefer to partner with them. If we see that the partner are using phone and SMS we actually even push to enter in a partnership. … We always try to push partners to collaborate with others and we are also part of the consortiums sometimes of partnerships were we work with other people.

Q. We have also heard that now in Uganda, when you start up with an mHealth project you have to go through the ministry of Health. How has that affected your work?
It hard because most partners are approach us, they want to do the mHealth projects but only if it is approved by the ministry of Health and it is tough since it is hard to get it approved. We feel that it might hamper the innovation. Because if I have funds from USA and the time of this funds are one year and up to one year and if a program is not approved the actually I have to give the funds back. The project can be very interesting so I feel that as much as the ministry is very useful but you want to be very careful because you don't want it to hamper innovation.

Q. Do you think that many projects are not approved because the ministry lacks time or they have certain expectations?
I think it is the bureaucracy. …

Q. So what are your plans for the future, where do you wanna see yourself in 10 years?
The plans for the future are that we want to be active in more countries. We have a lot of demand, the demand is to much. So we would like to expand to more countries, to develop innovative use of mobiles and pushing people. So we are looking at that as well.

Q. How do you evaluate your projects?
Our partners don't evaluate the projects but I try as much as possible. If I see a problem I report it I try to implement it next time. After one year this is what we see and think about the project. But you just don't do evaluation in a health program without making it a bit scientific. So I always recommend, I always like that part to be attached in a research.

5. Focus Groups in Masese, Jinja
Focus group 1

Date: 21-03-2013
Time: approximately 11.00 pm

Present: Seven women from the focus group, five children, Daniel Iringo (Health Child and translator during interview) Bernard Zim Oneka (Health Child), Sam (VHT), Martina Mattsson and Safi Sabuni

The interview
Q. How long have you been a group?
The oldest member has been in the group for 1 year.

Q. Do you like being a part of this group?
We really like to discuss everything together. We have got a lot of help from Health Child, they have educated us by giving lessons in nutrition, health and healthy diets for children. Many organisations give services that have to do with helping children in terms of education and health.

Q. How many of you have a mobile phone?
[6 out of 7 women raise their hand]
I get to borrow my husbands phone instead or I get information form the women and the VHT in the neighbourhood - The woman without a mobile phone

Q. How often do you receive messages from the VHT?
Every third month we receive messages concerning immunization. Sometimes every second week, but you sometimes forget to check your inbox.

Q. Do you think receiving messages of information and reminders is a good tool?
Yes, it is very good, it reminds us about family planning meetings and training sessions.

Q. Did you receive the messages when you where pregnant?
… some of us did, some did not.

Q. What else do you use your mobile phones for?
For communicating with each other. I use it for mobile money. I use it to get information from different organisations.

Q. Have you faced any challenges with mobiles?
I can’t always afford charging the phone with airtime, so I can go months without it. The phone companies steal from us, they charge us with applications that you haven’t even bought, and you notice at some point after buying airtime that all your money is suddenly gone. There are also friends who borrow your mobile phones and transfer money from your phone to their SIM without asking. Later they have to pay back. Charging the phone is a challenge. I can go many days without charging my phone. Also at the charging centers they would switch your battery when you are not watching and you will be returning home with a broke battery. If you go back and tell them, they will simply neglect it and say that the phone was probably broken before. Also my husbands don’t want me to have a mobile phone. If I talk to another man on the phone my husband gets jealous and hits me [laughter breaks out] Yes, many marriages have gone bad because of mobile phones.

Q. Have your husbands gotten used to you having a mobile phone?
Some yes, some no.

Q. Have your health been improved because of the service that is provided through SMS?
Yes, we can communicate with relatives who are sick. If they get admitted to a
hospital they can easily call a relative to come make them company and take care of them.

Q. How do you find the health care?
There is a shortage of drugs and medication. We have to buy a lot of those ourselves, which we cannot afford. It makes our health worse and unstable. Malaria for example has been very high among children. But the nurses are nice. Also the MoH was suppose to give us free mosquito nets but the health workers charged us money, even though they were suppose to be free. And health facilities only give out to the pregnant mothers. In Uganda you are supposed to receive free mosquito nets every 5 years.
Two more women and their two babies joins us as the discussion continues regarding what they want Health Child to contribute with in the community and how they view the work that the organization is doing.

6. Focus Groups in Masese, Jinja
Focus group 2

Date: 21-03-2013
Time: approx. 12.00 pm

Present: Seven women from the focus group, three children, Daniel Iringo (Health Child) Bernard Zim Oneka (Health Child), Sam (VHT), Martina Mattsson and Safi Sabuni

The interview

Q. How long have you been a group?
At least three years.

Q. Do you like being part of this group?
Yes

Q. What do you learn in the group?
Family planning mostly, but also nutrition and its impact. I mean, if we eat well we feel better. It is especially important when considering our children. We learn how to behave during pregnancy, what to eat and so on, but also when someone else is pregnant and what to do then. We get messages, mainly from Health Child, during our pregnancy that helps us and let us know what to do.

Q. How many of you have a mobile phone?
(six of the women raises their hands)
Q. The people in the community that doesn't have a mobile phone, how do they communicate with others?
They borrow a mobile phone sometimes or if we [the people with a mobile phone] get some important information we tell them without a mobile phone.

Q. Do you receive messages on your mobile phones and how often?
Yes, we do get messages on the mobile phones, quite often we get them too. At least a few every month.

Q. Are the messages helpful in your everyday life?
Yes, they are.

Q. What kind of messages do you receive?
Mostly from relatives, neighbours, and friends but also from NGO's and the nearby health facilities. When we joined the women support group [the focus group] we get informative and educational messages on our phones. We receive many messages on family planning.

Q. What challenges/hinders do you face when it comes to mobile phones?
Sometimes it is hard to charge the phones due to power cuts or there is no plug-ins available. The batteries can be of bad quality. There are special places where you can charge a phone and pay a few shillings for it. But the people that manage these places are not honest and sometimes they switch my battery for a battery that is of worse quality. You don't notice it at first, and when you do there isn't much you can do. There is also the problem with friends and husbands loaning the mobile phone and when they return it they have deleted the messages, even though I haven't read them yet.

Q. Is your husband/man supportive of you having a mobile phone?
Well, the men buy the mobile phone and they use it, and I can use it as well. And as long as I can use it is good. So, yes most of them are quite supportive.

Q. How is the health situation here? Are the staff at the local health facility friendly, do you receive health treatment when you need it?
The hospital staff is friendly and often helpful. But many times they don't want us there and we get denied treatment. It is hard to get drugs when we need it.

Q. What do you want to be improved in your community?
We want access to drugs and medicine to our kids, we want to be able to manage on our own. With that we mean that Health Child could give us education so we can learn a profession and work and make our own money. Then we and our children would have a chance for a better life. Learn more about family planning. We would also appreciate if we could contact other groups in Uganda and exchange tips and advice.

Q. What diseases are most common here where you live?
For the kids it's cough, malaria, diarrhea (especially during rainy periods), ears that isn't fully out-grown, and some children doesn't get hair on some spots on their heads.
The grownups suffer from malaria, syphilis, chlamydia and HIV/AIDS.

7. George Stephen Emoit, Moses Karatouga
Accountant and Communication Officer at Transparency International Uganda (TIU)

Date: 13-02-2013
Time: approximately 12.00 am

Present: Moses (from the organisation WOUGNET), George Stephen Emoit (TIU) and Moses Karatouga (TIU), Martina Mattsson and Safi Sabuni

The Interview
Q. So you want to tell a bit more about your work and your organization?
Maybe briefly, TI Uganda is an initiative that is focused on accountability and transparency. Of course we focus on the different themes and service delivery, we are looking at health and education. And of course there are program that are running in those sectors, and specifically for northern region. We've run two projects that are basically looking at health and education. For health specifically we have an program that was initiated by the Swedish program (SPIDER)...in developed countries. This project has specifically looked at teacher absentee, health worker absentee and were using ICT components to do that. We set up an ICT call center where information, we use it as a platform for reporting cases of absentee in the different health centers. And of course as we collect this information we use it as a business for advocacy the end of the day. Now we are able to engage with the district local leaders and how to improve of the sections of absentee in the health centers.

Q. So you are more on policy level than bottom-up perspective?
No, we are actually on the ground, we are using existing structures. Those are the VHT (Village Health Team). We also have accountability-committees (we call them VACS) -those are the people we are training at the grassroots and we train the how to monitor. Yes, it is basically what we are looking at in northern Uganda and its issue of absenteeism. Of course the premonition? process is, we engage all the stakeholders-those are the local leaders, the village people themselves together with the health management thorough things like integrity development backs? we have signed, last year we have signed development packs? These are like commitments from the leaders themselves that we are going to se that these are a good transition. It's like commitments thus we are, we play the middlemen. Yeah the middlemen. As he said, what we are using, we are using a call center to do this, to do reporting. Yes, it is the reporting but also it has turned out that people are using this facility to also find out about health issues apart from the reporting itself. And how is it done? These issues that are reported we have weekly talk shows...

Q. On the radio?
Yes, on the radio! It is weekly, are they two or one? I think two every week. Yeah,
two talk shows and this is where we share what we got in from the communities and what people have to say, yeah sure.

**Q. And it is mainly in the northern Uganda or all over?**
Basically it is for the northern region. Of course looking at the funding aspects we could not scale it up to cover other districts but of course the issue are cross cutting and maybe in the future if we are able to able access funding, we're able to scale-up.

**Q. So that is in your plan, to scale it up?**
This is actually a pilot project so we are looking forward to take it up after, sure.

**Q. We have talked to UNICEF as well and they mentioned that you have to go through the Ministry of Health and get your project approved from them. How do you feel about that and is that something you have been helped by?**
(Moses from WOUGNET help explain the question.)
The thing is, that now in a project that is dealing with mobile health and any eHealth initiative has to be approved by the ministry of health. It is like, it has be a new directive from the ministry of health so she is just trying to...

We are not aware by that, but we are trying to fix a meeting with the Ministry of Health which we think ...there is actually a Swedish; SIDA, a new project coming up were we going to monitor health and education through a mobile application. Right now we to series of meeting, consultation meetings, we have managed to get a number of ministries- however the health, I was just talking to the secretary of director, we are failing, actually he is failing to meet us. He said he can not meet us, yet those are the rights to called we have too meet before we role-out the entire problem, sure. So, as you mentioned we have as you are going to start, there some issues, probably they don't want to meet us and all that so we have those absents?.
There are local issues such as accountability...

**Q. I know that Swedish government stopped their funding because of corruption scandal, like 6-8 months ago, is that something you feel has affected you or, since you have a lot of contact with SPIDER and SIDA?**
I think we are not much affected because our projects coming directly from the SIDA component but you ought to know of course there is a lot of issues with the funds that release the money. Then maybe they can see how to coming to terms with, and maybe affect the donation again.

**Moses Owiny speaks**
I think that the funds that were channelled directly to the government...
Yes, but for the programs they will still access these funds... for accountability and transparency and other specific engagements.

**Q. So what is your goal with the pilots and programs? Is it that you want to create transparency all over, is that your main goal?**
Yes, the focus is to create a platform and also empower the communities, that the will demand accountability, at a local government level and even at national level so ours is to empower and create a … where they can create, they are able to dialog from all issues that is about accountability and transparency.
Q. So you receive funding from, are you self-sufficient or...?
Yeah it entirely depends on fundings from different partners that have been funding specifically different projects within the service sector. Yeah so, but for SIDA specifically I think they handle the ICT and also we have accountability component were we develop a profession to monitor the budget and the funds transfer from national level to the districts local authorities. So, and or course there are other partners that we are working with, funding different sectors that we are working with.

Q. So what have you noticed, like pros and cons while using mobile phones or ICT in general in projects?
For northern Uganda you will see that we changed strategy to the call center. Initially we were using a mobile app, a SMS platform, and it turned out that the monitors can not send these because, you see, it comes with a cost.

Q. Is it MTN you are using?
Yes, MTN and there was a cost. It is normally 500 (shilling) and the other issue was because some of them was in school, we were working with the communities in a grassroots level and somebody would send a message with a very big problem, even when he or she didn't have the money. But to type a message and report on an issue it becomes a bit difficult and...voice...toll-free line...call all the time and report.

[Moses Owiny asked]
Q. Is it in the local language?
Yes. We have, people that handle it can speak the local language.

Q. So what are the main benefits from using ICT?
There is a lot. In terms of reporting, of course, you remember, I think in the last quarter there were issues to do with staff that actually were absentee from work and because of this engagement the citizens could, the community members could be able to report and after following up the district officials could, we actually found out that this person left voluntarily working somewhere else. So there was an intervention and he was removed from the payroll. Because you were continue to add the salary but when actually he didn't working. So, these are some of the cons and our impact at least at interventions created, you know. But it is also about improving service delivery so if this people are aware there are monitors out there the people monitoring them, going to this health center to find out if this people at work. You will find that this health person is always at the health center so this is the impact.

Q. We have also been told that there are a lot of projects within mHealth and ICT and do you cooperate with other organizations to not do the same thing in two places?
Yes, actually with NOA (National Association Women Uganda) yesterday a strategic meeting where they brought all of us together. It was mainly about -what are you guys doing, what each NGO is doing? Not to contradict at the end of the day. So we normally have a such agreements.
Because if you look at it the thing here...(showing a pamphlet) they working partnership with many organizations. You can see they are working with the .... That collaboration...In all our projects we work with other partners. We see what they can contribute with towards achievement and project objectives. We bring them on-board. And that is why we have even for this project right now have consultive
Q. So economic, social and cultural issues are involved in using mobile phones in Uganda. We are from Sweden so we have to put ourselves in Uganda's position... so is there any economic, social or cultural issues with mobile phones?
Specifically, in terms of the kind of work we, it is the first time we are using apps and maybe after interventions, actually we would see what are the challenges. As of now really not into go much really engaged in using apps on accountability grounds. I'm sure that after implementation we will be able to see the problems. Maybe you could look at it in a communication perspective? Of course, you look at when you take the areas were we are operating the number of mobile users are not that much compared to the sittings offered. The numbers of mobile users here, that is why the current mobile apps programs that we want to be doing we are looking at Kampala...these are within the circle lines compared to those ones that are, and also probably look at the price of a mobile phone, iPhone and all that...Only that it is quite different now because many people are getting to own mobile phones as it was then. But for issues of technology and all that, of course, somebody from the urban area would have more knowledge compared to somebody up there.

Q. On the countryside, is it mainly men that have mobile phones? Or is it both?
It is crosscutting, they are all men, women and youth. And actually youth have more...because in secondary school you really want a phone. So it is crosscutting. They all have phones…both women, men and youth.

Moses Owiny speaks
I think some of the challenges as well in the rural areas it gets into issues of infrastructure. For example in many rural areas you might find that there are no telephone companies working so that the communities are not able tap the mobile net by their mobile phones. So if you go deep in your areas in northern Uganda and companies like MTN, Airtel that they actually develop boosters to be able to tap the networks—they are not there. So it limits the use of mobile phones and phones in such areas.
So maybe just to add on issue of power, charge mobile phones, in rural areas compared to here (Kampala).
Yes, I think still in terms of, based on my experience with WOUGNET men still take an upper hand in handling mobile phones and then still a gender issues in terms of access and we have even had experience where mobile phones owners been used as to kind of simulate violence, domestic violence at home.

Q. Because it's a power thing?
Moses Owiny speaks
Yes, power relation. In many households in Uganda and it is pre-dominant in the rural areas. So that power relation and gender issues always put women in a little compromised in terms of absent of mobile phones and usage. But you might actually find a household were the man doesn't allow the wife to have a mobile phone for reason we understand is the woman are not allowed to own it. These are gender issues so the issues are what we try to do is encourage them, both men and women, to understand the importance of ICT and they be open to them. Both of them can use it
and initially to enable them to ...daily activities.

Q. Is it more usual for men to be able to read? Is the literacy rate higher among men? Because you have to have some skill in reading when using a mobile phone. Yeah, the literacy among men, in my experience, the rate tend to be higher among men and also because men have the flexibility even to do other things. For example, if you set up a information center in rural area the likelihood that more men are going to use the services of that information center is very high because they have the flexibility and time to go whereas women have more time to do household work and work in the garden. So they will concentrate more on the domestic work. And then men would probably have the time to move and read newspaper and attend this and this. So women without getting that opportunity, same as the men, will have the upper hand against women.

Q. Is that something you have noticed in your projects/pilots? Yes. But of course if you talk about empowerment you would specifically/basically look at the men more empowered then the woman. Of course in the areas is were we operate. We call these committees that we have, the volunteers- the VACS, most of them are comprised of men then the women. You are not going to call a meeting at ten o’clock then a woman is down in her garden. A man can afford to...you know...so you find that men are more involved then the women.

Q. Is that a problem for you or do you think they will speak for the community in a good way? Most country problem, if you talk about community participation, is not about men it's about a collective contribution for each and every one, respective of your sex. Yeah, so it is a problem. Because I believe women still have issues that they could represent better than the men. And because of that limitation they are not able. This way the struggle continues and be more aware ...trying to bring women aboard. All projects that you are doing under grants are to involve both men and women. So men has to allow their women to attend those meetings. Of course when you look at our thematic areas we don't have that specific gender program although our partners have like a anti-corruption to do with gender where they are addressing those issues. For us, when looking at corruption it's quite holistic. We are looking at everyone being involved, so if I/we want volunteers you don't look at why there are many men compared to women. You just look at -If you are willing, let us train you!

Q. So have you noticed a lot of improvements in the late years when it comes to transparency? Probably to be specific, in the ICT? Looking at the reports, yes, there is some kind of improvements 'cause that is looking at actions, actions that has being, people that are involved, stakeholders that have been involved at the end of the day. So, well, I came up quantitatively I can say that yes probably this percentage is better but I believe it is some kind of improvements.

Q. Do you do evaluation after a project and see, or feedback in some way? Yes, we do. There are these instrumentalist. But I think we also moving towards having an elaborate M and E component that report on our impact and maybe telling to our first on the implementation. But ideally what have been, most of them are pilot based. We have a review committee back in the community and we go back to the
community and say- Ha, what has happened and what have we done? What are our intervention, what have been affective? And of course we are able to report on that.

**Q. Do you try to implement the feedback/evaluation from the start in the projects?**
Of course it's an extension and usually what we do we give feedback to our committees. Because in the end of the day the project is a pilot until one year. At the end of it, of course you've created structures. All we try to do is keep the structures working and with these we are able to involve women to ensure that some action is taken. Of course the challenge is issues of continuity. You brought up these structures and they are doing their job and all of a sudden because it comes to an end...you don't know what to tell them but you know. There is no continuity. That is one of the biggest challenges.

**Q. You have a pilot and then after a year you can't, it's not sustainable in the long run. So when that happened does it just shut down or is it given to the ministry?**
No, what we do, like for instance, some of the issues that we have been picked up and if there are new projects coming in that specifically addressing education sector we try to bring all in and scale-up. So we are able to use the information again.

**Q. So you don't try to give it to the ministry?**
As we said, we work with other stakeholders so for example we write these reports, we bring them together, discuss them. These are the issues at hand and we tend to share information so if let say a project has stopped we will take it up and use the report. We empower each other. And some organization has really welcomed interventions and even up to the end of the projects they still want to work on the structures.

**Q. So for the future, what is the big goal? What do you want TIU to become or what is your perfect scenario?**
Our vision is a corrupt-free Uganda. But of course attaining that is HAHA. So that is what we look for through all these intervention that we try to put in place and working with stakeholders. We are looking at least 80 % that the communities are empowered because now they know what kind of funds are coming and they are able to fill up...I think that would be something and at the end of the day they are trying to take down the corruption tendencies at the community level. So ours (goal) is empowerment and if people are empowered they are able to monitor every government program they are able to hold people accountable. An if a minister is seeking to a re-election at the end of the day he will really try to show that “these are the issues that I promised and I have achieved 90 % of them, give me another chance.”

**Q. So in the end you want everyone to be empowered and be able to handle this themselves?**
Yes.

**Q. When did you start this project?**
2011, but it is ending this year, in June. But another one stated in September 2012 and end in 2015. It is Action for Transparency that is funded by SIDA then the other is
Q. And how is your structure? Do you have only this office or do you have offices in other districts?
Apparently we have a field office in Gira? And we have a more than in one region and we also have a new office coming on board. And we are gonna have a new office soon, a regional office in the Midwest. We should ideally have two offices.

Q. I can imagine it's a lot of job. How many are working here?
We are about 15. But we also have field officers.

8. Richard Okuti
Senior Consultant at i-Network

Date: 12-03-2013
Time: approx. 11.00 am

Present: Richard Okuti (i-Network), Moses Owiny (WOUGNET), Martina Mattsson and Safi Sabuni

The interview

Martina Mattsson speaks
We are students from Sweden, doing a thesis on mHealth, the benefits and hinders around it. We have talked to different organizations so far and also we’re going out to the health centers and talking to them, but for now we have interviewed different organizations.

Richard Okuti speaks
Maybe a bit of introduction on my side as well, my name is Richard (surname) and I’m one of the senior consultants at i-Network. And to give you a picture of how i-Network really works. It’s knowledge sharing but also expertise organization so on the knowledge sharing side we share knowledge about how ICT can help for development and that can be tried from education to agriculture to health to human rights to governance, but all making sure that we’re doing it in the aspect of how ICT can play an catalytic role in development. On the expertise side, we sometimes do projects… directly implement projects that can actually facilitate as we learn to apply ICT in their various environments. For me specifically, my interest has been mostly in agriculture, but then we have other areas to do with governance, we have areas to do with health and we have areas to do with education and others. That is more of a broader picture of how i-Network works, so knowledge sharing and expertise. 

Q. Do you work together with other organizations? Yes, we always collaborate with other organizations, one of our biggest collaborator is the government of Uganda of course. There are other development organizations, like Uganda Catholic Medical Bureau. Like Uganda National Council of Science and Technology, that’s still government (giggle). But also SNV in full… I’m not sure… but it’s some NGO from Sweden or
Q. So you said you collaborate with the ministry, or the government?
[Richard] Yeah with government, generally that means Ministry of ICT (MoICT), National Information Technology Authority, Uganda’s Communications Commission, National Planning Authority, Uganda Institute of Communication, Ugandan National…..Research Center. URA something, it’s a research center… I’m forgetting the name.

Q. Ok, and how is that co-operation going?
Hm, right now… Because most of the collaborations and co-operations are project based, right now specifically there is not one collaboration going with the National IT Authority, The others came and went. When future collaborations come up we… Yeah but right now there is only one ongoing one. Apart from that one there’s another project that is ongoing, which is the collaboration between 4 groups, between 4 development organizations focusing on mobile health, and something to do with how mobile phones can be used to extend health services to various areas.

Q. Do you receive funding from the government as well when you collaborate with them?
We have two models of funding. One of them is, and the key one is that we’ve been getting funding from the Netherlands government, through the IICD, which is the International Institute for Communication Development. However we also, because I told you that there are another sharing [of knowledge] on the expertise side, usually we are the one that present ourselves from the expertise angle we charge professional hours, so we get income from doing that work, and that’s how we get revenue. SO we revenue, through offering some services but we also get revenue through some funding from outside. From [the] government of Uganda we hardly get any funding for our activities, but we can get payment for our services.

Q. We look at how different organizations evaluate themselves, is evaluation something that you try to do during your projects?
Yes evaluation is the very key, especially in the kind of projects that we do. Most of the time, there are different types of evaluation that different organizations use but we introduce an other type of evaluation which I think is very special. Participatory feedback(?), is an evaluation form that combines quite a number off issues, it combines learning during the evaluation, it collects relevant information but also provides points for future actions, collective measures, and it’s done together with the group, together with the project beneficiaries, the project promoters, it’s all evolving. And we think it’s unique and a very good way of evaluation, which we knew, and it’s the very key in our projects. But of course there are other types some are very academic.

Q. What positive things have you experienced with ICT’s and what hinders have you faced?
Positives is of course very many, and specific to us we can say that first of course which is very straight forward and we usually ignore is that communication is improved, so we find it much more easier to communicate with people all over the country, which usually is ignored because it’s not obvious for someone who is kilometres away, which was not obvious in the past but it is a very serious
benefit. Also we can hold discussions all over the world. We have a discussions list with over 1,500 members, I think it’s now hitting 1,800 and these are people who are interested, people who are experts, people who are policymakers. Actually the list is organized at government level so it’s actually used for debates that can cumulate into proposals for policy change. And so it’s a very powerful mailing-list. That is a very big benefit, where people discuss and come up with solutions. But also report problems. Then for specifically where my biggest interest is which is agriculture, farmers have began to demand more market related information. They like to know what is the best inputs for farming, what are the best seeds. They use ICT to check this, price information from mobile phones. Sometimes they check on the computer and print out news where it’s suppose to go further to the public, because not everyone have access to computers. We have a literacy problem here as well so, those who can read and understand translate it to those who cannot read and understand to be able to capture. So, there’s evidently a lot of improvement in the way farmers do their work as a way of ICT. In education, there are small components of e-learning which are coming to play, but that’s more general and not in our work of i-Network. But I network still has experience with health. Like dealing with maternity issues, reminding pregnant women through phones that your time is coming up, you need to go and…. Yes, and all of those kinds of things. So there are some practical ways may not be very significant at the moment but they will grow in time.

From a national service you can see that we have some eGovernment services now that we are getting, because of implementing ICT solutions /…/ some e-services are coming to place. Generally some doctors are also able to advice some people in rural hospitals using this technology. There’s a project in Mulago where they collect data from the rural areas and sending them to the central database using ICT. So generally I think it’s working and it is catalysing development, in this part of the world. However it comes with a lot of challenges, one of them is that we still have a big section of the society that is not literate, that cannot read English, that cannot understand some of the logical issues that comes with literacy. All of that is very important in ICT. You need to fill that gap, someone needs to learn some of these things before they can effectively use the tools that are there. So literacy is a very big challenge, imagine a number of our communities are illiterate or half illiterate. Some are literate but still language is a barrier. Because these things are not in local languages, so it becomes difficult, African languages are not so easy and not so straightforward. You may translate word per word but the meaning is totally different. I don’t know if that happened in Europe as well but it’s a thing here. Then of course power, electricity is one of the biggest nightmares in this part of the world. It’s a good thing now that electricity is getting to quite a number of places but then someone acquires a phone, but without charging it becomes useless. Someone acquires a computer but it becomes useless to try to use it because if you are running normal power it’s expensive. If you are running solar power there are also some implications. Some of the bigger machines like printers, bigger tools can not be used because the power can not support it. So those are really serious hindrances. Another hindrance is that this tools need to be maintained, the software needs to be improves, it needs to be maintained. When it breaks down the computer it needs to be maintained. So it becomes difficult, there’s only someone who knows how it should be used and when there’s no one around to take care of it when it breaks down.

Q. As we said we’re writing our thesis on mHealth and it’s impacts. How have
you seen the area of mobiles and health developing the past few years?
I think I should invite someone else to talk. As I said I’m very clear on agriculture and that’s something that she can provide more useful information than I have Margret, colleague to Richard comes in to the room and adds to the discussion.

Q. Martina and I are writing our thesis on mobiles and health specifically and we were asking the question of how have the area developed through the years in Uganda?
We have partners that we work with in health related issues and education issues, but we do not focus on mobile phones. But we share information on those two, we are suppose to be an information-sharing platform like i-Network is. We have a shared platform with IICD. So we have not targeted mobile phones specifically for now we have met separate websites, it’s called repository where we put information for our health partners and our education partners. And that is the best we can do for now. We are just sharing information, but we do not have a specific project for mobile phones. We just pass e-mails, try to find best practices within health and education, so we share it with our partners.

Q. So you don’t do any projects yourself, or you just function as a platform? Margret answers
Yes, like a platform.

Q. How many do you have in that platform? Margret answers
The main mailing list or the one for the partners? [Safi: the partners] For the partners we have 24, there are about 10 in health and 14 in education.

Q. Have you seen that the platform has affected their work somehow?
They are supposing to but they are not very active. When we call them for best practices or when we call them for training, that’s when they are most active. But for mailing their things, I don’t know if they have a problem with Internet, probably because they are not very dynamic in that way. But if you call them and you will train them in something, they all come. But communication online, that’s not good. I’m also trying to find out how to get them more involved.

Q. How often do you have trainings?
We are suppose to have 1 main one for education and 1 main one for health. But also smaller trainings between partners.

/...../ Talking about contacts and other topics

Martina speaks
But like you said, I think we have discovered the big problems because I think all the organisations have mentioned a thing about it’s not organized and people just spits out projects but they are never long term, so that’s good that you mentioned that too.

Richard Okuti Speaks
Maybe another hindrance is when development partners come and then they jump out when they run out of funds and the project has not gone through its lifetime. So that is also a hindrance that is there. And we are thinking of how to tie them in, to come and do the whole time, because with this new innovative projects, first you need to get a
by in from the community that you’re going to work with. When you get a buy in and their appreciation then you need to start working with them and kind of hold their hand for a year or two. Most likely it will take about two years, and then start to withdraw thereafter. And it could take a process of between 3-5 years, but what happened is that a lot of development partners come with a lot of interest, and they have a lot of money, and on the second year they jump out. The process of appreciation, learning and the whole dynamic of how to work with the new… you know the whole change situation it all crashes, it crumbles and I’ve had one experience like that, and it was very interesting.

**Q. Does it feel like organizations come in and they are very unprepared of what they are facing.**
They come in and they are very objective with their expectations, then they realize that “oh, there’s a language barrier”, then they realize that “oh, there is a literacy problem”, because they came with the assumption that all we are doing is to come and plug in ICT, and do some change-management around that, and then all is well. But then they come in and they realize that “oh, there is a bit of education here.” Even with power, they realize that there is a serious challenge, power is on 30 percent of the time per week, 70 percent of the time there’s no power. So that becomes a new issue to address. That makes the whole duration of an integration project longer, because then you have to work with all these applicable solutions to all that, and give it to the longer time and then at the long run, I think some people [development workers] get tired. You end up living that rural person even worse of than before. Because you found them managing their lives in a way that they knew how then you tell them “No! You can improve it.” Then in the process of improving it you jump out, then they are lost.

**Q. Are there many organizations that work like that, that they come here and then they just jump out?**
There’s quite a number, and there’s also people who want to make quick back. Someone writes the projects, and they say yes I can do this and that. They say, this is the budget, you fund them, and then they go to the carbond and buy a big car and build big house and give you nice reports if you’re the one who funded and then when they come here you show them something that is not working. The challenges go to several places, the management of such initiatives in Uganda is not very good, so you can’t actually track this people or monitor them to actually see that they are doing what they’re suppose to do. At the end of the day the implementers who also are Ugandans end up misappropriating the resources. Sometimes on purposely, because the money carrying mechanism is very poor, so they do what they want. At the end of the day the impact is not filled, so there is also that problem. The challenge that if you don’t do change-management and appreciation very well, the project might be rejected by the beneficiaries. There is a beneficiary level, there’s an implementer level, there’s a partners level and all those have to be addressed, and that has also to do with leadership problem. Leadership at most of our African countries is very wanting, up to the top to the president level, the institutions are all in. It ties into a very big challenge that has to be addressed. Because if it’s good up there [on governmental level] then the monetary mechanism are good and everything that has been done ties into a national strategic plan, which then can be evaluated by different people. Everyone you know brings something on to the table. Those are the challenges we have in our [African] countries.
Q. What do you think is the first step that you have to take to come over these challenges? What exactly needs improvement right now?
When you look at it technically it’s all about good planning, putting in place benchmarks for monitoring your plan and then having the right implementers in place and you move and that’s the technically. But when you look at it beyond the technical aspect, there are a lot of other issues, ethics of the people, of the community, dealing with issues of corruption.

Q. So it’s a change of mind and attitude that is needed?
Yes we need a serious… what’s the word… there is a big word for that type of change. They call it like 360 degrees kind of change. So working with the minds, people have to accept that the world is for everyone. The thinking has to change, and then we improve technical competences in various areas. Do workable plans, with measurable benchmarks and evaluation criteria’s and all that.
But I guess that is a… model for anyone.
The issues that play in countries such as Uganda are way beyond just technical issues. You bring in a project here [pointing] and you say “ok, this is the most disease effected area, I think we need to start here.” And you say “but last time there was a project here, why don’t you take this project this time to that side“ That’s the reasoning. “That tribe has got these projects many times so the project should go there.” It’s not about this disease we have no cure for and how we deal with it? It’s an emergency situation, so respectable which tribe needs the… has an emergency. Those things are still going on and… We could talk the whole day [laughter]

Q. We have heard that recently the MoH have put a regulation that all the eHealth projects needs to go through them, and they have to be approve, have that affected your partners?
Yes it’s affecting a lot of people, and why it is affecting a lot of people, I’m not sure whether out partners are affected, but why it is affecting a lot of people is because people moved way ahead of the ministry, they were sleeping when people were trying to find solutions for ICT’s here and there are opportunities to solve many problems in better ways but the ministry did probably not even know how to set up email addresses… So… Ok maybe they know how to set up e-mail addresses but… That is sometimes how much they sleep as people are moving. So right now they are saying, all you guys out there who are doing this, cut! Come back to us, we want to see what you are doing. So it ties back to the issue of the bigger strategic plan, which if they had earlier, could have been cooperated all these different. And they all would have work within an agreement. But now they are realizing that they need to coordinate all of these various situations, which they should have done long time ago. So definitely it’s affecting, but in the long run I think it is a good thing what they have done, because some people claim to be doing a lot of things when they are doing a lot of nothing.

9. Isaac Shinyekwa
Research Fellow Trade & Integration, Makerere University
The interview

My name is Isaac and I’m a researcher here, and I specialize in trade and regional integrations. But at one point I’ve done pieces of work here and there in ICT and the outcomes and how it is helping people in development work, health and education. I don’t know if I have all the answers, but I will try to answer.

[Safi speaking] Basically we are doing a research on mobile health to see how it is carried out in Uganda, what are the difficult parts, the pro and the cons and if it is an efficient tool for the future. So, now we are going around asking different organizations and researchers working in this ICT field, to get more knowledge about it and to get their aspect on the issue and the tool. So

Q. We heard that you have done some research on mobile usage. Can you tell us about it?

I did 4 years ago, I will try to remember and just talk generally. I did a study on Uganda that got Health Ministry Information System, called HMIS, for laying information from the lowest units, which is workers at health center 1, the village health team they call it. They record diseases and they record the number of patients and that goes to health center 2, which goes to health center 3, and then at health center 4 which it could be a district hospital. So they have had a couple of systems of doing recording, they have forms, they summarize that information and then use that information. Sent all of it to the ministry of health. Now there was a problem that you cannot monitor diseases very quickly. Because by the time those forms are filled and you know, if it’s malaria is an outbreak. There was a project by IRC (International Rescue Committee) with the faculty of medicine at Makerere [University] and the Ministry of Health. They pilot out an electronic system which could trigger away this information very quick and where you will be able to monitor where outbursts are taking place because you have all the information in time. So they had that project and I did a cost and benefit analysis of the two systems which one is better, do you save or don’t you save? The results indicated that when they used the electronic system apart from being fast and be able to monitor quickly you reduce the costs with 24%. That is one of the very good ones I remember. Apart from that there was a project that were using ICT’s, they were using PDA, Person Digital Systems, they were using what they call jacks, so you fill in the information on that little gadget and then you go to a jack (an outlet, contact socket) and just point [your device] and it just picks up the information [and sends it]. Now another thing they were using it for was continuing medical education. The doctors and health workers in upcountry areas, who don’t have access to the newest information and in medicine they did not get the continuing medical education. It was difficult to hold seminars and inform, so there was a program under that same project to upload some of the recent findings, and they go up to upcountry where they in charge, download this information and everyone at the health centers hold kind of an internal seminar. So that would cut down the cost of converging people into one place for a seminar. You could find things on a daily
basis, new findings from a general and new directions, and if you had a question or you have problem and you don’t know how to deal with that, just put that information [in you PDA] come to the center [closest bigger hospital with an outlet] and they send back an answer. That was one very good application that I found.

Then we have the HIV positive patients. They need to take their medicines regularly, so there was a project and what they do is that you get a reminder, from the center, to your mobile phone, so you can remember to take your medicine. I came across that as one of the applications for mobile phones, for health.

Then another application was by Straight Talk Uganda, which is a project that reaches the youth and discuss youth stuff. If your question was in productive health, you just send it [through your mobile phone] and you’ll get an answer back. These are old projects, now the problem with those projects is that after the man has gone, the project also dies. For example if you are in Kampala, and you are sick and you are looking for a clinic, you just type in ‘Clinic Kampala’ and they will give you the possible clinics you can go to for all those types of treatments. [Martina: Was that just in Kampala or could you do it on the countryside also?] No, you could do it on the countryside also. They had a record of all clinics. One of the biggest problems I have realized with these things is that the projects they come and go. There is no sustainability of funding for them, the innovations are quite good, extremely good, and they could make a whole lot of difference, but nobody was willing to take them up. One of the problems was also who manages it, it’s what you call BBC here, BBC means Born Before Computers. Now, there are people who grew up in a system where there never were computers and they have a problem to adopt eInnovations. In the ministry’s members, there are people who say we don’t want anything [to do with eInnovations] of course they will give you their reasons, they think things will break down and the whole system collapses, but the biggest problem is adaptability. Policymakers, there are very few young [people] who are coming in [to work within the ministry]. So there are those big limitations that really have held [us back]. And I really don’t know why the ministry of health has not… because this was a tested thing… person behind the initiative, after that, they were really go down. Once you have PDA’s or old computers you don’t have to... But the paper thing, when you just keep supplying paper from time to time…

Mobile phones are being used for different purposes; one is mobile money or money transfer, which is the overall concept. Now these ones have made quite commendable impact on people. You want to send money to someone up country, it just the matter of pressing buttons. We had cases where businessmen were getting robbed. [because they carry a lot of money]. People used to send money upcountry by bus called The Yellow Pages, people really lost a lot of money. You send your son or you daughter or your grandparents money, it may never reach, now with mobile money, the money goes… [directly]. This has really revolutionized and is doing three major functions. Function number 1 is money transfer MT. The second is payment, people are using it for making payment. The third one is called where financial institutions are using it [mobile phones] for transcending money for money service. We have SAGE projects, its for the elderly a project. They are being given 10 dollars per months, and have the opportunity to save their money on the SIM-card.

[Summary because of noise in the background.]

A big problem is that people are losing their jobs when functions are being done by mobile phones.)
We are seeing a lot of applications coming up and largely there are making a lot of difference in the lives of people. ICT has come to transform lives, there is no way we are going back. Even those resisting are being overtaken, that’s the bottom line. You resist it and after some time you cant. The only limitation is that when project ends. MTN had one of their workers hacked in to their MT system and they lost about 7 million dollars, they played around the systems, but that did not stop MTN from growing.

Q. Is there many Ugandans who move away from Uganda and send home remittances?
Yes, recently had a report about remittances, at one time remittances were either equal or even more than our earnings, in terms of exports, so that gives you the magnitude. The local and their social networks here are so strong, so remittances pay for school fees and meetings, so remittance to homes is a very big thing. It has really enhanced.

Q. I have a question about the sustainability of projects, as you said the big companies are OK, they can do even if they have a fall-back they can still come back. But how do you think you can improve the sustainability of those very good pilot projects that are going well but as soon as someone leaves, the project is gone?
Those who are prepared by market forces, where somebody is making profit to provide a service, those ones don’t have a problem. But these other that are dependent on government [funding] there is no way [they will make it] the government has to come is. Looking at projects with donors such as USAID and UKAID, I can assure you, the moment the project is done and the evaluation is done that will be it, because government has many competing things to do. It either the government or other ways it’s difficult, when it revolves around money.

For the ministry of health, this country has serious problems. At one time it was admitted that the budget for health ministry was equal to the budget for treating political officials outside Uganda. The biggest challenge is with government and projects, once the funder goes out, that’s the end. It ‘s very difficult when it involves money. Bill Gates will not do it forever, he will come in, after the project is over…

Q. The ministry of health came with a new proposition that now when you want to carry out a project revolving the subject eHealth, you have to go through the ministry of health to get it approved. We haven’t seen the criteria’s, but maybe that is something as well as well that you can put criteria of sustainability. Do you think that such a criteria will get less people doing projects?
I don’t think…. The ministry has a mandate to do certain things and once you want to do it you have to go through the ministry. But the reason why sometimes they make life difficult is they want to own the project and run it, it’s the money, simple! Even if you put a very good criteria that assures sustainability, if the funding is from a project, you cannot guarantee that whoever is giving you the money will continue supporting you with money. However good a project is, by any means involve somebody who is going to get money from it. It’s not about outreach it is about how do I benefit from this? That is what is going on in Uganda. As long as people are buying them [ministry of health] in by getting them involved, and involved means, we are going to get money from it.
10. Michael Niyitegeka
Head Corporate Relations Office at Faculty of Computing and IT, Makerere University

Date: 13-02-2013
Time: approximately. 10.30 am

Present: Michael Niyitegeka (Makerere University), Moses Owiny (WOUGNET), Martina Mattsson and Safi Sabuni

The interview
At the college of computing I wouldn’t say we’ve had a deliberate policy or a deliberate approach to doing mHealth projects or mobile phone projects. But out of their own interest, both academics and students have gone into health related projects that are for mobile. And from then you get to see the need, the desire but also the interest in terms of update for those projects. We’ve also been involved in doing work for consulting business that has been given to the college and the college develops the tools and then they deployed in different entities. There’s one project that I know was funded by SIDA, Swedish Government, which is really mTrac, it was about human resource tracking, using technology to track human recourse but also to get to collectors much data about the different health professions that are available, that are in this country.

There is one research group that has done some group work in mobile health, and that research group is called, the Artificial Intelligence research group. So if you go to our college website, you will be able to see research groups under research, but one specific one is Artificial Intelligence and they’re trying to develop a mobile device using artificial intelligence, mobile applications using artificial intelligence that recognize malaria. So by using artificial intelligence they are using typical smart phones from China. So not your iPhone, not your very high-end phone but also not your very low-end phone in between, so the typical android in about smartphone.

They have done samples, pilot tests to a level about 98% acceptance. What the guys is doing is microscope is what this phone can do to detect, sometimes even much better than a person because malaria parasites represents themselves in a given pattern, so using the computer knowledge called button recognition, these technology now is able to tell when seeing a blood sample that has malaria parasites and when it doesn’t have malaria parasites because it matches the pattern. So that is one big project that we have. We’ve also been involved in developing small systems, if I can put it that way. So the students have developed small systems for lets say the eight support organizations, where they go in and support the organizations to develop their application and the organizations takes it up (To higher ministries?). The most recent that has attracted global attention, if I can put it that way, is a maternal application that sits with the mobile phone and the essence is to transform your smartphone slightly high-end device on to an ultrasound scan. What you’d call the traditional birth attendant toolkit, which was a peanut, traditional birth attendants used that to listen to the fetus status of the wound. That requires experience and skill that most of our
traditional birth attendants may not have. What this kids have done is to develop this application that sits on the mobile phone, connected the speaker to the peanut, so they will place the peanut on different (showing on his stomach) and the microphone (the peanuts…) will pick the sound and take it to the form, and then the form will say “this is the fetus status, this is the fetus heartbeat,” this is a couple of things that a typical basic ultrasound scan would do. So those are the two major projects that I can talk about that have been involving… a number of other projects are really individual projects so members of staff that are really interested in health are doing a lot of projects. We had one member of staff here who developed a assimilation model for immunization. Using that model you can be able to tell when is the right time to run an immunization campaign. She worked with different samples of different sample sex. The question was, even if immunization is free, why isn’t the turnout 100%? Because typically if it’s free, then you’d have everybody coming on board, but that was not the case, so what is the underline challenge. And later she came up with a model to say that if it’s rain season or if it’s harvest season, people are going to prioritize. All these factors will contribute to a decision of whether I should take my child for immunization or if I should go and do my other business that I think is more important. So how do you do the messaging.. who delivers the message, who do they listen to, all these factors contribute too. Yet we take it for granted that if it’s free, then everybody will run for it. That hasn’t been implemented for one reason or the other, but it’s there like I said so we have many people doing research, members of staff doing research. But sometimes it takes a long time for it to be taken up by the sector in health, if I can put it that way. So those are some of the big projects I could talk about

Q. Do you get any sponsoring for these projects?
Some yes. Malaria one was funded by the Microsoft, they got a Microsoft grant. The maternal tool was a students contribution to a global challenge, the Microsoft imagine cup, and at the end of last year they received a grant of 50.000 US Dollar to implement their project, to do the pilot, the clinical trials. So some of them yes, some of them no. They do it for research, and once they have completed their study, like you guys are doing, they find better jobs to do. They run of and forget their projects.

Q. So these are undergraduate or graduate students?
Both. And some are faculty research.

Q. So you teach at the communication, information, technology…?
Yes, I’ve been teaching on IT, Information Technology and the IT programs, both at undergrad and postgrad. My background is business strategy, so I mainly handle courses better that are IT, strategy related, or that expose students to the integration of business and IT. Yes. I’ve been involved in a couple community initiatives, both at personal level but also on institutional level. I’ve been involved in initiatives that are towards mentoring students in how to work in these projects that have a community dimension.

Q. What we are trying to figure out is also the positive and the negative effects of ICTs, having so many ICT projects within Uganda?
I think that’s a big problem. I think that until recently the MoH was not aware of how many projects that are IT related and also mobile related. So you would find a small component, a small project, taking place in a given context in a given district, and the
same project, by a different donor is happening elsewhere. So that creates a kind of clash in terms of… Or I don’t want to call it a clash… but overlap, and at the end of it all, we do not get the real benefits out of such projects because they’ve done the pilot basis and once they have completed their funding from donors, no one is interested in taking the project beyond its pilot, and that is the greatest challenge we have. So, my take is that, it is important that on government level we have a direction that if you’re going to do any project that is mobile, these are the areas that government is interested in and lets all put our efforts to that. I know that when you have scattered projects, like I said, you do not realize the real benefits out of those projects.

**Asked by Moses Owiny**

**Q.** I wanted to ask Michael about the maternal, the use of high end devices by hundred to work like an outer scan machine, how would it really work on a phone of mine, like this, would that require people to buy phones that have already been worked and programmed?

The ideal situation is that we are working with Nokia, that is the ideal situation. That this devices will be manufactured specifically for health, that is the ideal situation. The non ideal situation is that you’ll be able to download this application from, lets say the Nokia store, and that means that only health professionals will be allowed to download, because you don’t want to put in the self-diagnosis, because then you have a lot of issues. But I know in developed countries, people now have their own ultra scan in their homes, with it you can see everything, whenever you want to see your baby you just take out the machine. So that is where we are heading to, the big picture is that this will be adopted and the WHO will accept it as a technology. Because in Africa it is a big issue, maternal mortality is extremely big. But also know pro-clearing an ultra scan, if you are to do it for every health care facility, it is extremely impossible, but it is possible to but as many devices as possible for every health center. So you have a phone, like this, and then you can interpret. Now the next bit is really to try to translate this reports that are generated by (assisting?). And because you also know that very few people can read, even their local dialect, very few people can read. So the guys are still working around “How do we get this device to do a voice, listen?” So it generates a report, but then it gives you a vocal report, that is a lot of work to be done. So this kids are really trying to say “can we first get this accepted?” If it is accepted as a standard, let me devote other platforms and also bring other developers, global effort to get into mobile ultra scan.

**Asked by Moses Owiny**

**Q.** How many are in the team working with this project?

They are 3. They have a mentor who is a medical doctor and the other are IT – computer science students.

**Asked by Moses Owiny**

**Q.** That is going to be really interesting?

It should be, surprisingly the government haven’t picked interest in it.

**Asked by Moses Owiny**

**Q.** That is our government?

It shouldn’t be that way [Laughter].
Q. We heard that, an mHealth project has to now be approved of the MoH, is that true?
Yes, that is what I am trying to say; I think that there is a governing council now that has been put in place that any health technology mHealth project, must be approved by the MoH. I think the whole thing with this is really to bring sanity in this whole…. Because everybody was doing something. One time we had an mobile Monday event and I think we were close to 10 project in mobile, and all these guys didn’t know what the other person was doing. So you come and say this is what I’m working with, and I would be like [Laughter] we are doing something similar. So they started a consortium called the mHealth Consortium, and there is a gentleman that is called Ashis Brahma, he works with the University of Uganda. [Chit-chat]

Q. We are trying to understand the whole field of mHealth, which is a very big field, but what would you say is, here in Uganda, specifically, the main cons and pros, so we can get a better understanding of what actually is the big challenges and the big benefits from it?
The big benefits for mHealth in Uganda are really the ability to be mobile, because access is a big challenge. So we have access and we also have human resource. Access is a big challenge but also we don’t have adequate human resource. So when you put those two together, mobile can extend the bridge the gap between human resource and access. So where you have a few people, what is doing, calling, talk to an expert etc., that in its sense is trying to help out, bridge the gap between lacks of human resource but also access. Cause those are the key things for me that ICT is standing out for health. The other issue is, for a long time Uganda is not going to be totally connected as it is in Europe, where you have telecom lines everything is going is definitely mobile, you have mobile internet, you have mobile, everything here is going to be mobile for a long time. And therefore if you’re going to think of solutions that are going to help move and help us transcend fast, I think we need to think seriously about mobile, cause if we do not, then we will have serious challenges, that’s how I see it. The cons, anything that is technology it changes very fast, especially now. So you have it now and tomorrow it doesn’t work, which requires you to do an upgrade and if it has cost implications then you have to pay. So the whole total cost of ownership may be an issue that many times you don’t factor in The other essence is that we have not fully invested in understanding what technology can do for us as a country. Because everything that comes at us we seem to say ‘Yes we can take that one, yes we can take that one’ but not necessarily, because some times you need to step on the side and say, ‘no I don’t need this, this can’t work for me, this can work for me.’ That’s my take.

Q. Because it is very important to know why you should use mobile phones, instead of spending the money on vaccines instead just directly. So have you noticed an improvement since the mHealth projects started, or do you think the same amount of lives would be saved if you actually invested the money in vaccines or cold storage instead?
My take is that, when you talk about immunization and vaccines, Uganda doesn’t have a shortage in immunizations or vaccine drugs, it’s very rare that we report shortage. But it is also common that we destroy drugs because they expired, so it implies that it’s a difference between demand and supply has not been met. A lot of supplying and less demanding, but we also know that there are very many parents who don’t take their children to…. So how can I use this mobile phone to make sure
that the drugs I have supplied are used? How do I demystify all these needs about immunization? So that is my take, it is that mobile or technology will never replace the key components of health, or the fundamentals of health, access to medicine, access to human resource, professional, what I know what technology will do is that it will bridge the gap between the two. So it comes in really as an enabler as opposed to replacing.

[Safi speaks] That’s a really great answer, it really feels like you explained why communication is so important!

I will give you an example. In about 2002, the government of Uganda put in place what they called a Role Back Malaria Program, so the essence was to fight malaria. But they were targeting children below the age of 6. So they gave every household, the majority, if you child fell sick you are required to take your child to a designated community health worker, and that community health worker would give you a package, which had the dosage. But you, the mother, you go with your son, who is below six, the son is given medication, but you are not told, listen, the medication only works for him. It has been purely packed for the child below age of 6. And because you are not aware, when you fall sick, you take your son’s medicine. Do you understand the communication with it? Now, then they said “ok, to eliminate that, you’ll bring in your child to the community health worker and the community health worker will administer the medication” That is very good, but again, not properly thought out. If I am 6km/miles away from the community health worker, which is common, what is the likelihood that today I will go, I will come back tomorrow, I’ll come back the other day, I’ll back the other day, what is the likelihood? Project failed. Project 2, now I’m trying to show you where communication is a big issue in health matters. Homes were identified and each home was given a number of mosquito nets. The message was, if you sleep under this mosquito net, if a mosquito gets in touch with this mosquito net it would die. So if you sleep under mosquito treated net, treated. Now that’s a chemical that are put on this net. If a mosquito get in touch with this net it will die, and that’s true. But that requires you to continuously take this net for treatment, or you buy the chemical and treat it yourself. People asked and they never had called it, but when I was doing a study with my wife. When we were talking to the people, people asked the question “If a mosquito gets in touch with a mosquito net and it dies, what about me who is sleeping under this net, everyday? What will happen to me? What is the health implication?” Because it means there is something in this net that, if it can kill a mosquito then it can also maybe have an impact on my. What happened to the mosquito net (asking me and Martina) (they put them) under the beds, they used them for something else. Communication! I have been sleeping under a mosquito net for 9 years or so and I have not treated it on a regular basis. Sleeping under the mosquito net itself is protective enough, because if I cover myself, by the time I’m going to bed, I’m keeping the mosquito away, that’s the bottom line. The issue is, how do you communicate? How do you engage? But how do you use devices like these (mobile phones) to get the message down? That’s what I’m thinking. It has its opportunities in terms of replacing the human person, when we have shortage of skill, but it also have its other value, addition, where it can contribute as oppose to directly replace.

Q. So is it possible to send out that kind of information on SMS and the people would understand or other people in the community could explain the
information to those who can't read?
You need both. You need your SMS but it must be an integrative solution, not just one. Because SMS for people who can read. Voice maybe so that they can listen to it, maybe if it is through the local FM station. So if you look at the communication plan, it must be a complete plan. You need to have the community, elders, if some says it, then everybody else will do it.

11. Sean Blaschke
Health System Strengthening Coordinator at UNICEF Uganda

Date: 11-02-2013
Time: approx. 11.00 am

Present: Sean Blaschke (UNICEF), Martina Mattsson and Safi Sabuni

The Interview
How the UN and UNICEF set-up/organized:
UNICEF - focus on maternal, youth and child (up to 35 years old) health. Crossover with other UN agencies (UNFPA).

Programming in 3 core areas-
1. health-nutrition-HIV-AIDS space (in Uganda it is one big section, in other countries it can be different sections)
2. education - more work on primary education than secondary
3. child protection - birth registration, child help-lines, gender violence,

Every office have an evaluation team (social policy) since UN is an evidence based organization, gather knowledge so we can “make our case”. Headquarter in New York, regional offices in Dakar, Nairobi, Panama etc. that works with overall strategies-they do not have that much money, the core of UN (and UNICEF) work is on country level-there is where the budget sits, the power is within UNICEF. We are active in almost every country in the world, we deal with providing technical support to the government. Higher income countries such as Sweden, Norway, UK has these things called UN National Committees that do fundraising but also advocacy that take the information and promote certain causes. That is the overall structure of UNICEF and all the work we do here is on behalf of and with the government so we operate fairly different from NGO’s. They get their funding from grants and donors so they tend to try to focus on project that has specific needs where what we do is sit with the government and come up with a joint work plan, usually to fill in, in areas they prioritize and where they ask for technical assistance or funding the areas that we support. So country by country our programs are very different as well. Some countries focus primarily on up-stream work so they will only focus on the ministry's, advocacy, countries that use to be more implementing switched to more up-stream and now they are switched back to field-implementation. Uganda is one of the bigger offices in the world and is a mix between the two. We do a lot of national level work and also implement a lot of projects as well. So, the technology component, were does that fit in? UN hasn't traditionally known to be technology-savvy but that is starting to
change a little bit. WHO, for example, has really starting to step up their work around support to government that develop eHealth strategies focusing on standards. That is an area that they has in the last few really started to engage much more heavily in. But with UNICEF... so the idea...so I come from the... the original team from the technology for development (T4D) and there is a similar communication for development unit (C4D) that SPCC type work and the social and behaviour communication. So “the for set up” ? The same sort of way so there were an innovation that was initiated in New York about 2007-2008. By then the global directory communication throughout SAPRA?. He after a few years decided he wasn't gonna make the wide organizational change so he came to Uganda to service the country representatives here. So e brought a few of us over to set up a team on ...development unit at the UNICEF Uganda office with the idea that we become the investment use paste, the innovation hub and then work to support the region we work to show how it can function for New York and that they would then be able to use us as a model for expanding support to other country offices. And so I came over with him and a few others in late 2009 and started very small, my background is not in technology. My masters is in economic and political development and my field experience was, in the past, within livelihoods. I started to work in health and nutrition-space about back in 2008 on UNICEFs first mobile phones projects allowing using SMS for nutrition surveillance. And ...(a car)... so when we came...the UN strategy it was...was to really map out what was existing, what was going on. Not to really re-invent the real work with the government to identify priority areas and then to serve as a support team to our traditional program sections. One of the main areas where I have seen things go wrong with these kind of projects is when they are lead by the technology people. Where our company comes in and does the entire education management information system and the program folks that should be responsible for guiding the process say 'This is confusing and we don't really know much about this tech-stuff. Why don't you guys take care of it?' We have really been working to de-mystify technology and our program teams in to be driven by the objectives of program. But technology should be a tool they use. So I switched to the health and nutrition team about year and a half ago to focus only on that area. Largely because we were expanding very rapidly. We set up a birth registration program with Uganda telecom and Uganda registration Services Bureau. I think we have 1.2 million people already registered in that system, we are running a system called eduTrac for tracking teacher absenteeism. I think we have 1600 schools now engaged in that. And so, a team that started with two, you know, technical project managers but not “techies” quickly started to balloon and grow and at this stage I think we have... grammars sitting within UNICEF. My team and the health and nutrition group, we have 5 key people how work under me, and then we suctioned 3 people to the ministry of Health. Avery small team have quickly grown very big in the last couple of years. So that is kind of UNICEFs broader engagement.

So about two years ago when we started to look at health we were both looking at aggregated data collection, so this is from a project level. We weren't even looking at it from a system point of view at this stage. We were looking at ways to engage community health care workers with both reporting tools but also be able to send men back for fresher information back. If they report doubling cases of diarrhea we should be able to ask them: Check water resources, look for X, Y and Z so that is was we started. It quickly started to morph registering pregnant mothers and tracking them. At that stage suddenly the whole kind of systems was...ah...weight came down and if we
started registering people... as a patient you will not go to one health care worker, you will probably go to one facility one day, a second facility the next day and another so how will we capture the information at multiple location? If you go to private clinics they are going to have completely different tools that they're using, so, the complexity that was involved, you know... it frightened me. So we, actually at that time, did a mapping of the various e-health projects in the country, I think I identified like 60 to 70 different projects. And those issues are to come up where I think I found 5 projects that had created unique ideas for people, non of which had actually been reviewed by the Ugandan bureau of standards, non of them that were linked to the (?) ministry..(?).. now the multiple tools that we are doing communication management... and so you started to see as the expanding grew, it wasn't going to be one of those 'now, you'll just operate here and I'll operate there' cause none of them were designed to share data in a coherent, cohesion fashion. There's still a lot of arguments and discussion around, you know, national health records, patient records and patient IDs, so UNICEF decided that we were going to need to drastically step up our engagement with the ministry on the coordination side. And so, we started to bring them to the Mobile Monday events, to raise awareness about what was going on. Many people in the ministry they knew about 2-3 projects, but they didn't know that there were 40-50 going on, and so again we started again to increase awareness of this. At the same time there was one pilot that had been doing very well in two districts, it was the precursor for mTrac. For me, this hit a line...with the checklist I had in my head for projects that should scale, it hit every single box. It was taken the weekly disease surveillance form that was already being used by the ministry of health, there was already a lot of pressure to complete it and submit it on time, the major bottleneck was moving this paper form from facilities to districts. When we checked on the facilities they were already using their mobile phones to call in the data or SMS the data. There was a pilot that had shown that this was highly effective, it had run for about a year. Right around that time UKAID came in and also said 'Hey look, this is a pretty exciting project, do you mind working with WHO and the ministry of health on scaling it up nationally?'. And so... I will come back to that. So that's the project that we had branded mTrac. So back to kind of the national side again, where basically the ministry didn't have a strategy in place, the people who were coordinating this were not senior enough to actually really influence the discussions, help financing was a big issue in this.

Q. Was this during 2009?

No, This was 2011, so fairly recent. The 2009-2010 period was still kind of like the wild wild west of mHealth projects. In December of 2011, the director general, who is very senior...there is actually three ministers here, the permanent secretary and then the director general... so very very senior, I think word filtered up enough, and she had just come in as new and said 'Look, this is unacceptable, we need to be doing much better.' Call the meeting, put in place an immediate eHealth moratorium, that basically said 'If you want permission to use your programs you need to get it vetted and approved by the ministry of health before you go to our health centers and train them on tools.' But also at that time there was not an office on place, there was not any vision on place, no strategy on place, structures in place for approving. So, WHO initially, and then UNICEF, we've been seconding people at the ministry of health to help develop this national strategy, criteria for assessing different programs. It's both a slow, and for the government, a quick process. We're not in the place where the monitoring has been lifted yet, so the project still technically need to go through the
ministry. I think most are, I'm sure there are a few that are operating under the radar and risk getting shut down... We've said 'look, it's not productive to fund projects like this if it's not supporting what the government is aiming to do'

Q. Is it private donors or big governmental...?
So the big donors... ah...Most of the money that comes in to support health here comes from USAID, one of, by far the biggest. You have DFID (Department For International Development) who is a very large donor, UKAID, IRISHAID that puts in a fair amount of work. Basically the bilateral governments, mostly European governments and the US, provide, I think the vast majority of the funding. I think we have done... The donors and the health space have, I think, done a really good job agreeing to put one coordinator amongst ourselves and not support projects that contradict this. It's easy to get a 25,000 US Dollar grant for some small project, particularly if you see a lot of academic institutions coming out, they'll go and meet with the (?) in the first year, (another universities name), Makerere. They'll start testing things, and so some of that, as they start going into clinics, that does kind of conflict with what the ministry's trying to do. So there has been some conflict within that. There is also a huge amount of facilities that are private for profit, private non-profit or faith based profit and the government can't dictate in the same way as what tools are being used, so that has been a big challenge too. Once you have organizations such as Mary Stopes, for example, they are able to go and register pregnant mothers who come to the Mary Stopes health facilities, but aren't necessary engaging in what happens when those mothers go to government facilities. And so, there are still issues with the coordination.

So right around the time of eHealth monitoring there were two projects that were given approval to scale up nationally, one was DHIS2 (District Health Information Software 2) which is based in University of Oslo and run by a group called HISP (Health Information System Program) and so essentially it's electronic hAminus, they go in and set up electronic hAminus in each of the districts, so the districts can enter the data and send to the national level. It's been used in somewhere between 18-20 countries, it's open source, it's starting to become one of the de facto... in hAminus towards the news around Africa, now starting to expand, I think Vietnam is starting to use it. So the other project was this mTrac initiative. I think it's worth noting on why it was approved rather than the other 59 that were not. One of the things that we had done very early on was that we briefed the permanent secretary on it and the director general and we had then put in place a steering committee that made up many different people within the ministry. I think one of the failures of other organizations, doing maternal child health, for example, they would just go to the maternal child health group, get permission and just work with them, and so they wouldn't have senior ownership invited. And now as the ministry is trying to funnel everything though the resource center, which is in charge of coordinating all of the eHealth projects, the resource center was not involved. And so, there is a lot of politicking and 'if you come with all of this funneling for your project, I should have been one of the people involved to begin with and there is a good chance I will not be very supportive.' The fact that we were able to get in a lot of different people from the ministry and do so in a structured, formalized manner, that had been, not only approved but put together by the permanent secretary, that really allowed us space to roll out the project. So information on mTrac, I sent you some information to read six months ago...
One of the key decisions that we made, one was to use the open source technology that was already wisely used, the second was not providing people with mobile phones. This has been a big issue, where initiatives and projects designed for smart phones, it's really tough to scale them. I don't want to name any names, but we, in other countries, work with a number of initiatives that after two years they are still working with 10 health facilities or 15 health facilities. Now, that's not a very good investment of money. If we're pumping in a million dollars but we're only reaching 100,000 with 10 health centers, that's not a good investment. Not to say that they aren't good strategies or models in place to get smart phones out there. Grameen Foundation in Uganda has a really clever way where they do a rent-to-own system where.. ehm.. this is not within health, they are community agricultural workers. They give them android phones, they do surveys, the Grameen Foundation sells the surveys and makes money of the data they're collecting and then gives some of that money back to community and workers and uses a little bit of that money to start paying off their phone, and after a year, two years, they own the phone. So that model, made sense, they are also partnered with MTN. Two of the big problems with looking at technology is that people often don't consider: one is support and maintenance, you buy a bunch of phones in Europe, you bring them down here, can they be fixed by the local vendor? If not, then you've got a problem on you hands. The second is power consumption, if you've got two or three phones you've got to keep charged, in a rural clinic you're sending them with somebody who's going to a trading center to charge and to bring it back. So it's a big burden to impose on people, so that is one of the main reasons why we wanted to use the existing phones. Every health worker in this country has a phone, not community healthcare worker, but professional health worker, the only reason they wouldn't have a phone is if it was stolen or lost and they'd probably replace it relatively quickly. So, we have tried to go in with that approach of keeping the technology disruption minimal. There are about 5000 health center in Uganda, if we would have given phones to those health centers, when they broke or needed to be maintained, the ministry of health would have to deal with that. I mean we're struggling right now with maintaining 112 computers at the district, 5000 phones... 10,000 phones, good luck!. You want to do the community health care workers, like many projects are looking at, then you're talking a about 150-100,000 phones out there. Two more thing I want to mention when we're looking at technology and tools is that we're also very conscious about wanting to be an open source for anything that we invest in. If we want to do an IVR campaign, that's a once off, and there's a local company that can do it, then it doesn't matter, we'll go pay it and their license fee, but if we're actually going to invest our time and our resources for the government to take it on, we don't want them to have to be forced to do a contract with the company based in Austin, Texas, that charges 1500 USD per day to come out and fix it, so on the open source side we genuinely are very careful with that as an evaluation. On the exclusivity side, with the telecoms will come sometimes and say 'Hey! I got this great tool I'll give you' and I ask 'Well can you use it on MTN?' and they say 'No!', 'Can I use it on Airphone?', 'No, it's on my network.' Well your network only covers 30 percent of the population, so what do we do? Same thing on the hardware devices as well, I wont name names but there are a few vendors who have developed tools that only work on their devices. That's great, unless your ready to support every single person with your device and maintain it for the next five years, then I'm not interested as well.
So, I don't want to repeat something on mTrac you've already read. The bigger news on the project documents that now got fairly strong kind of data usage buying ownership from...so at the ministry of health we have this surveillance division who deals with notifying these diseases and they publish it every week in the newspaper. They were one of the earlier I think up-takers for the system for data usages. We are now working with national malaria control program with the ministry of health. There is a lot of data on that 0343 form that has to do with malaria. I am not sure how much they are using...I am actually data having a data usage workshop later this week to look at those issues. And move the focus away from reporting to actually using the data. Pharmacy units are kind of the third big group at the ministry of health that benefits from the program. They have been able to use and better quantify drug needs. So the drug distribution in Uganda is a bit, it changed a bit in the last few years. It used to all be run through the ministry of health and then to the districts and then to the facilities. Through the national centralization policy - that has changed. There is now a body called the national medical stores that deal with government facilities. What they do is that they directly supply all health centers the reason how to use with drugs. They do not even have to go through the districts anymore, it's a push system. Do you know how the health system works in Uganda?

Safi: No, I thought that's what you explained before.

Ok, so you have the ministry of health and you have these regional referral hospitals in the centers but I think it's only four or six in the country, there is not very many. Most of the, wit the decentralization policies, most of the power is with the districts. They get the money, for example for health workers pay. It doesn't go to the ministry and then to the district...so that the health workers the ministry of appliance instead directly to the districts.

Q. So that an improvement?
Yes and no. One of the...so there has been an additional problem with the...so Uganda use to have like 45 districts and for political reasons the districts keep getting cut, now there is 112 districts. Largely because with the decentralization policy the people has already...bring services close to the people. But there is a limited number of biologists etc so it is really difficult now to find 112 of them who are willing to work on a remote location instead of 45. We also have a lot of districts that haven't physical facilities. You go out there and there are literally a town of 3000 people with mud huts and you expect highly educated doctors to be administering services where there is no power or no water. So that has been a bit of a challenge with that. But so, within there you have the districts then you have the kind of the health-sub-districts which use to be more powerful but when the districts are being split the districts counties use to have 4 -6 counties. Now the districts have one county which isn't much of a health-sub-district in place any more. Every district should have either a hospital or a health center for, there are relatively similar in the features, they offer except, I think they could do surgery at level 2. But those are the higher level. Every county should have a health center 3 and every perish, that goes under county, should have a health center to. Perish-the last level before village, and then the village...there is no health center 1. Except sometimes people refer to health care workers at health-centers 1's. So there is suppose to be a community healthcare worker for every 25 households, which is usually 100-150 people in total. It varies dramatically from districts to districts whether that ratio is well ranged. In the past the community healthcare worker, VHT (Village Health Team Workers) they should do mostly promotive and preventive...
services, nothing curative. There have been a switch in like 28-31 districts - the government is piloting ICCF (Integrative Communicative Case Management) so they provided with respiratory timers to ammonia, rapid diagnostics tests to look for present of malaria. They are given ORS-sync, ACT, pencilling and the idea is to pull some of the strain of the health-center 2 and 3. For diseases like treated in the community. So that is kind of your larger structure.

How that went back to mTrac, I'm not sure. I don't remember the linkage there. The different groups, the engagement. So with mTrac we now have we have trained every district health team in the country, every district officer, every HMS-officer, every bioethics-officer. We just completed it last week that is the reason why I couldn't be here.

Martina- Sounds like a big project!

Huge project! So the idea with the role-out is that the district health team then go and conduct on-site training at every health center for the health center staff. We have probably done that for 60 % of the health centers in Uganda, I would say about 2000-2500 health facilities have now been trained on mTrac. And we are hoping by April-May we cover the last bit. By that period we have every single health centers in the country sending in reports by SMS into the system. It's a big role-up. The community healthcare worker projects were running a slower... pilot 5000 healthcare workers in it. Actually if you look at it, pilots in other countries or even in Uganda it's one of the biggest community healthcare workers pilots anywhere in the world. So that is kind of were we are with the role-up with mTrac. So going back to how it's linked with other systems. One of the first things we identified was DHS-2, you know, the EHMS-system was one of the main consumers at this stage. So we were working with to be able to send data from one system to another. The biggest challenge, so, you'll se this if you're are talking about systems been able to talk and integrate. There are three areas that tend to provide the biggest headaches. And this is your locations database. Every mHealth applications has usually a concept of location-a health-center. Most are stored locally within the application. Now, what happens when you change your upgrade, you add three private facilities into the database. Suddenly you have all these different versions of it and no longer can you share data between them. So we have been working on the ministry to develop a independent health facility registry that serves as a webpage-service so if you are running a mHealth project you can subscribe to that and get the most recent updates and the list of health facilities. And when it changes your system gets notified “Hi, we have upgraded these units, upgrade yours!” The two other areas are providers so there is kind of an HR-registry. So with many of these systems you need authenticated users that submit in data. We need to know who you are and that you are allowed to submit data into the system. Very burdensome if you are a district and there is four different tools and you have to manage four different databases with the same people. Two similar approach is looking at that. The most challenging one is that is the patient registry. If you go to three different locations how do we know you are the same person and how do we update/share enough information between the systems, where is that information stored and how is it managed, what system is in place for privacy and patient information. That is going to be the big mess when a lot of these pilot starts to figure out how they link it to a national system, to be honest, nobody has planned for. We didn't plan for that in the beginning, it is very tough to plan for since you need to come in from this enterprise architecture approach from the start. And it is very costly.
and actually if you wait until you have these inside setup you can never pilot anywhere. So that is kind of the state of affairs with this and with mTrac you also has this very strong transparency and a building component were we have a hotline for community members that we give support and submit any information. You go to a health center and its noon and it's closed, they get turned away or they try to sell them drugs that is really not for sale. They can report that. For me the exciting thing about this is that in the past this usually have been run by CSO and government watch-dogs and government always questions the data, clashes with them and it's rarely useful. It raises the attention about these issues but rarely solves the problem. With this hotline it's all within the ministry of health and within the statehouse and medicine and health services MHSDMU-health and medicines services. I'll get back to it, I almost never get it right.

So they set up the national level, a help desk, so whenever a message, you're upset about a service and you send an SMS in the messages tag classify and make them immediately available to the district health team for action. The districts health team have usually two week period that they have to respond. If it is not responded on it goes back up to the national level which then decide whether they want to investigate or not. So this is all internal, they don't have NGO's publishing awful information in the newspapers about them. The part I'm exited about is that the government has actually has really embraced this, they like this idea. Part of it was positioning and say Look, in this day and age of technology, if you have health centers that are closed people will find out, the newspaper and media will find out. The watch-dogs are gonna find out. You need to know this before they do, you need to have an opportunity to fix this. So this is your tool, your opportunity to use social media and technology to learn about these things before they, you know, Ebola outbreak in the north hits. You want the heads up that it's happening. (Martina - In Sweden there was a lot of talk about corruption, about 6-8 months ago.

Martina-I think Sweden cancelled all their funds because of...
So that was because the office of the prime minister who, there was funds that were meant for the reconstruction of the northern Uganda after the LRA conflict and something around 160 million USD disappeared. Most of this can be found between people of the office of the prime minister. It definitely impacted funding, OPM can no longer-they do not get any money anymore and the government had to tighten their belt because much of the funds they came to rely on is not coming, same thing applies to the ministry of health. There have been a bit of an issue because some of the fund was directed to the OPM. There is new scandals between the national medical store and the ministry of health. This is very regular. It hasn't impacted our programs and actually the fact that we focused on the government that ? angle I think it has made it a little more appealing. Diffit (?) was one of groups that had cancelled funding to OPM and I think they were one of the first groups that stopped funding but they were also committed to develop their work in Uganda so they have been looking in other ways to support this. For example there is gonna be a massive ….telephone call…..

The good governance transparency this is all kind of things they inherit in any e -and mHealth systems, I mean you create audit trails and message logs so it is much harder to fudge information then in the past. Accountability component for the big funders has been, I think, very appealing. Diff it have been the biggest funders of what will be
the largest bed-net-distributions campaign ever in Uganda. I think there is about 22 million bed-nets that arriving in the next year and every household should be getting two of them. The funders have been very concerned whether they are actually be delivered or not. So we are gonna be using our other tools, I sent you some reports on U-report...(Martina- Yeah, we read about that.

Martina- You (Safi) registered for it.

Safi- I tried to!

What did you try?

Safi- To register.

Did it work?

Safi- No, I didn't get any text message back.

When did you register?

Safi- Like a week ago, but it said you have to be a Ugandan citizen?

No, send me any information and I'll send the U-report team because if people are trying to register and they can't...you don't have to be Ugandan citizen to register.

A guy comes to our table and ask Sean to sign a paper.

So, on the bed-net side, we're gonna use a similar, so the ministry want their own U-report there is a great but. We gonna collect a lot of data we don't want. So we are setting up their version and they are gonna polling every household in the country on whether they have received the impact of the campaign and polling down the line if there have been reduction in malaria rates. And this is largely because there is this understanding that they, the only way that they can advocate or donor funding is if that they can prove that they are using the funding in an effective way. And, my feeling is that, even if corruption is widespread -the majority of the people in government are there to legitimately to do good work. And so, hopefully these tools will help them to identify the problems that are accruing. (Martina-I think it is corruption all over the world, so....and that Uganda was recognized) Yeah, corruption under different names. So that is kind of the quick and short of it!

Safi- Yeah we have a lot to think about.

Martina- I was very impressed by mTrac...and U-report.

If you want to meet with the U-report team, the best is as soon as I get back to I will be bombarded with 50 000 other mail. If I get an email I forward it to the U-report team and see if we can set up a meeting with them. That should be relatively easy.

What other organizations or tools are you looking at? Are you still figuring out which to consider?

Martina: We have talked to WOUGNET and they will actually take us out this week and meet some other organizations Text to Change, i-Network, transparency International Uganda, it's like 6 of them. But that is a start. We noticed that the field is so big and we have to try to narrow it down as much as possible

You picked the right kind of project to focus on. Mary Stopes is doing some interesting stuff, there is another group called Living Goods, you know the avon-lady approach, the women how go door to door selling goods for social good. They have a similar system in Uganda and they are using SMS for sending their data in and reports. For what I have heard its working very well. They would also be willing to take you out and show their work. Again, with any of the stuff I'll be happy to send a
email, like Living Goods. You know, there is always the MBP-village in Isingara in southern Uganda. Earth institute, Colombia University see a village project. They have a group down there that are using ICT it is based by the old …. which was one of the first very heavily published patient registration tools, they have been working since 2009 on it. So a lot of time and experience. It is far away but in a beautiful area of the country. Could be worth going down there just for that.

Let me know however I can help.

Martina- *If you have any clinics or so we could visit, please let us know!*

Even if you had you own …support I could put you into contact with the districts very close to here. Like 30 minutes away. The bigger challenge would be to get out to the health facilities. So you probably had to rent a car, I don't know if you have any budget for this kind of thing. If we can't get you on more official trip by week 6 or 7 that could always be a fall-back alternative. Grab a local taxi, drive for 30 minutes and visit the district health team office. That's doable. But I would suggest, the best thing would be to join one of the support groups visits. I think I probably would like to split you two just because it can be overwhelming if many people show up. So ideally we would find two different ones. One of you go on one, and the other one on the other. Would that be ok? Two researchers might be intimidation.

**Q. When do you think that would be?**

So they are ongoing. We are doing kind of central Uganda for the really bad performing districts to sending people out. I'm not sure if that would be the best ones to visit because these are like-they are not doing well because of management issues and so it would probably not show a good picture of how it is done. Where northern Uganda should be getting their funds for support supervision in the next two to three weeks. So it is quite possible within 4 weeks that that might start. And so Gogo is about 4 hours drive away so it is not to far. There are probably a few support trips to the west and the south which take a little longer to get there because the distance is in roads. Yeah then the training we just did will not get their money, we probably will not have time.

Martina- *3 to 4 weeks would be perfect!*

Safi- *then we should be like more in to the subject and interviewed org.*

So feel free to pester me with emails.

**Q. So is there any, we are going out on Wednesday and Thursday to different organizations and since we are new to this subject what would you think would be appropriate to ask?**

So are you going to facilities, are you gonna talk to health workers? (M,S: Org and NGO's) For me, the process is one of the most important. Where do they come up with the idea? Is it coming from donors, the office? What is the relationship with the government, the facilities, how engaged are they with this? Keep a sharp eye for BS. The whole-what structure do they have in place for manage this, I think is critical? I would look at the kind of, ask questions around sustainability to hand over plans. Quite often you see initiatives that as soon as the funding runs out organizations rush to hand over it to the government that is ill-prepared and ill-informed and didn't put aside that money to fund it. So, really discuss- what is the transition plan and when is the transition, how is it gonna be funded and financed? How is the ministry, are they prepared? That would be an interesting thing to look at. Because again, Uganda has
many time been called the “graveyard of successful plans” and plenty of pilots did everything they suppose to do and were recommended for scale-up and non of them were scaled-up. So why wont they scale-up? So I think that would be a much more interesting question to look at. I mean if you look at value and effectiveness on mHealth-If you just look at it from a project view and not from the long-term vision...I don't think there would be any problem to have investment made. But I think you have to look at the broader vision. I wouldn't go into integration of public systems and standards. I think you're not gonna find the right people. It would be interesting to ask them what the impact of the eHealth (ministry) ...has this been stunted their ability to innovate from, prevented them from turning up projects? Do they feel it is good in the long run or not good. I would ask them what is your strategy for the, do they have a scale-up strategy? And what are their thoughts on, not just on government ownership and costing-models but also how their system gonna deal with the other systems that are doing very similar things? Ave they given that any taught? Are they working to address any of these issues? If you are really looking into the value one of the important things, for UNICEF, is to make investments, to be able to actually look and say for X amount of money we have saved X amount of life. And then compare it to similar interventions that maybe are not ICT interventions. What maybe we just invested it into vaccines or cold storage units? Would we have saved more lives with that investment. So ask an organization about what kind of evidence are they gathering – this is a big critique in the e-and mHealth world- that organizations are not evaluating properly. To do a proper evaluation you normally need to plan this from the start but usually it happens is 3 months before the end of the projects. There is no baseline and they go in and try to do a valuation and it is very tough to attribute any sort of impact or result to their intervention. So that would be interesting, that there are not reasons why?

So shift from a project point of view to were is this project going to be going in 3, 5 and 10 years? What is your business model, you know, sustained financially, what human resources are there existing? So another thing you see with many of these kind of smart phone initiative is that they...for every clinic-Two NGO people supporting them-well, try to scale that is not possible either so can the existing structure absorb these eHealth tools or is that gonna be a beeerier? Focus on the beerier that might prevent scale-up of the initiatives!

Q. The reason why some would have a smart phone, why would people have a smart phone instead of a cheaper one?

Most of the offers meant for the people in the rural communities are often locked to a single network and they only use SMS. You can usually buy them for 30-40 000 shilling. This is starting to change, but most Ugandans in Kampala, I don't know the %, but quite a few will have a job-enabled phone to allow them to access the Internet, basic applications, and smart phones is kind of were the next level of technology lies. But it allows you to put more sophisticated tools on devices. If you are using phones that uses Internet but it is hard to...sustain the phones, maintain the phones and when you talk to various vendors and companies that are investing in it they will only highlight the benefits. You hear with the job-enabler phones -It is much cheaper to send data over the Internet than via SMS. Yes, if you're paying normal SMS rates but if you work for the government you can negotiate incredible low costs and rates. The training costs are much different with smart phones and there is a lot of, there is no single answer. Are SMS the solution for mTrac? We will probably switch to allowing smart phones send in data fairly soon because technology changes and anybody who's
investing in a single tool that only works on a single channel there gonna be obsolete within a year or two. Is there a solution for every day in Uganda (smart phones, that is), no. One of the interesting things is that seen in our office in Tanzania is that there working with a simmap- on a SIM-card you can put small applications and they are working with Tigo to collect some data offline and then it is sent, and I think they can send it on SMS or USD, no matter what the coverage is. But that is one way to get around some of the issues of structure data collection. When we were doing out birth registration here I think there was 12 different fields and to train people to submit a structured form of 12 fields, it's not gonna be possible. So that would be a con to use SMS in a situation where you actually needed quite complex data sent by people that weren't already highly trained. If you see the mTrac form it is pretty easy and even if we change the form we could re-train them on how to send in the data. But for other things it would be more difficult. Anyone who say you have to use smart phone, you have to use SMS- don't listen to them!
Appendix 4 – Ministry of Health Moratorium

 TERMS OF REFERENCE (TOR)

Project/Assignment Title:

Consultant to support Ugandan Ministry of Health (MoH) Technical Working Group around the harmonisation of national electronic Health systems

1. Background:

In response to the large number of health related ICT (eHealth) projects across Uganda, the MoH issued a moratorium on all eHealth projects in January 2012 until these projects can be evaluated and approved by the newly formed MoH eHealth TWG. This TWG was created to ensure that eHealth initiatives meet the needs of the MoH, receive formal approval and are harmonised with existing MoH systems. Donors and NGOs will be encouraged to work together to minimise the amount of duplication, reduce overall implementation expenditure and lower sustainability costs.

The TWG has adopted the following terms of reference for its activities:

• Develop a draft National eHealth policy framework including updating the strategic framework for Health Information Systems (HIS)
• Develop a National eHealth strategic plan and a costed implementation plan to support the national Health Sector Strategic & Investment Plan (HSSIP)
• Develop a monitoring and evaluation (M&E) framework for the implementation plan
• Develop standards and codes to ensure interoperability, information exchange, utilization and harmonization
• Map current and proposed projects in view of harmonization and alignment with District Health Information Software 2 (DHIS2) and MoH identified needs
• Propose best practices for supporting the eHealth program
• Advise on alignment with national programs like National ID, census and birth registration.

The TWG has also begun a process of collecting data from all ongoing and proposed eHealth projects with the purpose of evaluating them and proposing a way forward that meets the objectives of the MoH. Participating stakeholder groups include: WHO, CDC, USAID, Uganda Bureau of Statistics (UBOS), National IT Authority of Uganda (NITA-U), National Medical Stores (NMS), Medicines and Health Service Delivery Monitoring Unit (MHSDMU), School of Computing and Informatics Technology Makerere University (CIT) and District Health Officers from Luwero and Hoima.

2. Purpose of Assignment:

The overall objective of this consultancy is to support the day-to-day operations of the MoH eHealth TWG and assist with the development and operation of governance structures, decision-making processes and creation of technical and policy documentation in support of the TWG objectives. The consultant will be seconded full-time to the MoH and report to the Assistant Commissioner Health Services in charge of the Resource Centre Dr. Eddie Mukooyo. Responsibilities of this consultant will include, but not limited to:

• Gather, analyze and present documentation on existing frameworks, policies and legislation, and best practices and standards from eHealth coordination efforts currently underway in neighbouring countries and supported by agencies such as the mHealth Alliance
• Reviewing and updating the eHealth project evaluation criteria / matrix
• Supporting the eHealth TWG conduct evaluations of proposed eHealth projects including project team interviews, technical assessments and financial reviews, and managing the process of eHealth project approval together with the TWG secretariat
• Creating a governance structure for the creation and ongoing management of the national eHealth programme
• Assisting with the development of TWG subcommittees and their TORs, and providing direct support to ensure they take place regularly and partners meet their obligations
• Working with other donor-sponsored eHealth consultants in developing the eHealth strategic plan
• Planning, attending and contributing to eHealth TWG meetings
• Working with the Resource Centre and NITA-U to develop technical standards and a hosting and network strategy for eHealth, and a hardware and support maintenance
plan for national and sub-national IT infrastructure (such as computers and internet at District level)

- Provide ongoing support to the Resource Centre to operationalize efforts to develop a national Health Information System Policy and Strategic Framework.
- Supporting MOH efforts to provide leadership and guidance on international efforts by UNICEF and other development partners to develop a re-usable set of eHealth tools for national eHealth programs throughout the region.

The initial focus should be on helping the TWG quickly develop the ability to make informed decisions about proposed eHealth projects; however, this work must be conducted within the wider context of the TWG’s mandate, the wider donor/NGO interests in eHealth in Uganda, and within ongoing efforts to develop a national Health Information System Policy and Strategic Framework.