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How to Promote Collaboration and Local Ownership in an Aid Project

A Case Study of the Mkula Hospital Project in Tanzania

Master's thesis in Design and Construction Project Management

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Gothenburg, Sweden 2018

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Cover: Pump house under construction in Mkula, Tanzania, and energy supply by a windmill for the previous pump. Photo by Angelica Lexell.

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Abstract

A case study of a small-scale foreign aid project at a hospital in Mkula, Tanzania, was performed as a part of this thesis. The primary objective of the project was to improve the water supply for the hospital. The researchers, referred to as we, lived in the village of Mkula for eight weeks during the implementation of the project.

The purpose of this thesis is to evaluate how collaboration could be improved in the project and how local ownership by the hospital could be promoted. An inductive research methodology was applied starting with the case study at Mkula Hospital. This was followed by a literature review concerning topics chosen after identifying patterns based on our experiences during the project.

Throughout the project process we collaborated with the Hospital Management and several local actors. In order to achieve the aim of the project it was important to work closely with the involved actors, since they possessed unique and important knowledge. Cultural barriers resulted in many obstacles during the project, especially in regards to the process of collaboration and utilizing their knowledge. Thereby, we aimed to find a theory that could have been helpful in the project to utilize all experience and competence and accordingly promote the collaboration. We found the theory of Multi-Stakeholder Processes (MSPs) which includes frameworks on how people and organizations can work together despite very different backgrounds. MSPs promote dialogue which can grow to consensus-building, decision-making and generate the necessary commitment to the implementation of practical solutions.

The analysis showed that several situations in the project where an open dialogue took place resulted in promoted collaboration. Thereby, a main conclusion of the study is that implementing an involving approach inspired by MSPs could have contributed to the sharing of different experiences, motivations and expectations in an earlier stage. This can facilitate overcoming the cultural barriers identified in the study, such as language, perceptions of time and ethnocentrism. With present dialogue, diverse views can be developed to common strategies and goals. In turn, a more consistent involvement of the Hospital Management throughout the project process could be a way to promote local ownership for Mkula Hospital since solutions can be adapted more to the local context.

Keywords: Foreign Aid, Tanzania, Case Study, International Collaboration, Multi-stakeholder Processes, Dialogue.

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Sammanfattning

En fallstudie av ett internationellt småskaligt biståndsarbete på ett sjukhus i Mkula, Tanzania, utfördes som en del av denna studie. Projektets främsta mål var att förbättra vattenförsörjningen på sjukhuset. Studenterna som utförde studien, som hädanefter refereras till som vi eller oss, bodde i Mkula i åtta veckor under genomförandet av projektet.

Syftet med denna studie är att utvärdera hur samarbete kunde ha förbättrats i projektet och hur lokalt ägande av sjukhuset kunde ha främjats. En induktiv forskningsmetodik användes, där utgångspunkten var fallstudien om projektet på Mkula Hospital. Därefter gjordes en sammanställning av teorier som kunde kopplas till våra upplevelser under fallstudien.

Under hela projektprocessen samarbetade vi med sjukhusledningen och flera lokala aktörer. De involverade aktörerna hade kompetens som krävdes för att uppnå projektets mål. Dock var det svårt att utnyttja aktörernas kompetens på grund av kulturella barriärer och vi upplevde stora svårigheter i samarbetet. Därmed eftersträvade vi att hitta en teori som kunde ha varit till hjälp i projektets utförande och främja samarbetet. Vi hittade teorin om *Multi-stakeholder processes* (MSPs), som innehåller strukturer för hur människor och organisationer kan arbeta tillsammans trots varierad bakgrund. MSPs främjar dialog som kan leda till konsensus mellan parter, förbättrad beslutsfattande och skapa hängivenhet för genomförande av praktiska lösningar.

Analysen visade att en öppen dialog främjade samarbetet i flera olika situationer. En slutsats är därmed att implementering av ett involverande tillvägagångssätt som är inspirerat av MSPs kan ta tillvara på olika erfarenheter i utförandet av projektet. Det kan även öka förståelsen för varandras motivation och förväntningar i ett tidigare skede. Genom involvering och dialog skulle de kulturella barriärerna som identifierats i studien, såsom språk, uppfattning av tid och etnocentrism, kunna övervinnas. Utöver det så kan olika synsätt utvecklas till gemensamma strategier och mål. En ökad involvering av sjukhusledningen under hela projektprocessen skulle i sin tur kunna främja lokalt ägande, eftersom lösningar kan bli mer anpassade till den lokala kontexten.

Nyckelord: Utländskt bistånd, Tanzania, Fallstudie, Internationellt Samarbete, Multi-stakeholder Processes, Dialog.

Acknowledgments

This master thesis concerns the collaborations within the engineering aid work at the Mkula Hospital in Tanzania, initiated by the Healthy Hospital Project Group. The aid work was performed during an eight-week field study in Mkula, from January to March 2018. Within the project, several organizations were involved to support the project, mainly Engineers Without Borders, Architects Without Borders, ARQ and RISE. Furthermore, SIDA provided support through the Minor Field Studies program.

We would like to thank our supervisor and examiner Martine Buser for dedicated support during the study, both remotely during the time on site in Tanzania and back in Sweden. Thank you for contributing with your expertise in the field and the feedback we received during our study.

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Abbreviations

AICT	Africa Inland Church of Tanzania
ASF	Architects Without Borders
EWB	Engineers Without Borders
HPG	Healthy Hospitals Project Group
MSPs	Multi-Stakeholder Processes
MoU	Memorandum of Understanding
NGOs	Non-Governmental Organizations
Sida	Swedish International Development Cooperation Agency

1

Introduction

During the last decade, the aid environment has reshaped significantly (Fengler and Kharas, 2011). Private donors, such as international non-governmental organizations (NGOs), have become donors to a larger extent from previously only representing a small share of aid volumes. The number of aid projects have increased but the average scope has shrunk. This development has resulted in larger fragmentation within the aid environment with complicated donor coordination and monitoring. Efforts by private donors are difficult to track within existing monitoring mechanisms. Without any sufficient tracking system including all donors, the efforts are challenging to overview. This is problematic as all donors must be aware of the other efforts in order to not misdirect the aid work. Fengler and Kharas (2011) still emphasize that projects of smaller scale may target needs in isolated communities and make a significant change with limited funds. As such, contributions are still important but due to the emerged fragmentation within the aid environment, it has become more essential for aid projects to be carefully performed.

An important concept related to foreign aid projects is *local ownership* (GSDRC, 2016). By building local capacity, using local systems and resources, communities can be less reliant on external assistance. Experienced foreign donors and governments, civil society actors and NGOs have emphasized the importance of promoting local ownership for effective and sustainable development outcomes (InterAction, 2016). Participation of both citizens and governments allows for better use of resources and also strengthens the responsibility among them. Furthermore, promoting involvement of the recipient in an aid project is considered fundamental when aiming for local ownership and thereby reducing aid dependency (Sida, 2017a).

A case study of a small-scale foreign aid project at a hospital in Mkula, Tanzania, was performed as a part of this master's thesis. The main objective of the project, further referred to as the Mkula Hospital project, was to improve the water supply for Mkula Hospital. Several NGOs were involved in the project for support and funding, mainly Engineers Without Borders (EWB) and Architects Without Borders (ASF). This effort was part of the new aid environment, being a small, private engineering aid work with no external monitoring. The aid work in the Mkula Hospital project was complex as it included parties with very diverse backgrounds. The intention was to encourage an effective collaboration to prioritize the right needs and further promote local ownership.

1.1 Background

Approximately a third of Africa's population is estimated to be malnourished (Sida, 2015). Half of the share of extremely poor people in the world live in the sub-Saharan countries in Africa, living on less than 1.90 dollars a day (The World Bank, 2018). In Tanzania, the majority of the population lives in poverty, mostly in rural areas (Sida, 2017b). Sida is a public agency that aims to reduce poverty in the world on the behalf of Sweden's government. By regional attempts, they assist Africa's various actors in challenges where there is a need to coordinate efforts (Sida, 2017c).

According to Sida (2018), Sweden is one of the countries that provides the most aid to Tanzania. A close collaboration for development has been present between the two countries for over 50 years (Regeringskansliet, n.d). The Mkula Hospital project is an NGO initiative by a Swedish project group focusing on aid work in Tanzania.

1.1.1 The Mkula Hospital Project in Tanzania

The Mkula Hospital project was an initiative by the Healthy Hospitals Project Group (HHPG), further presented in Section 3.3.1. The primary objective of this project was to improve the water supply for the hospital. Furthermore, an evaluation of the infrastructural situation and condition of the facilities was performed in order to suggest suitable future improvements. The researchers, henceforth referred to as we, lived in the village of Mkula in Tanzania during eight weeks while managing the project with remote support from the HHPG.

1.2 Purpose

The purpose of this thesis is to investigate collaboration within the Mkula Hospital project and how it affects the outcome of the aid work. The aim is to evaluate how collaboration can be improved and how local ownership by the hospital can be promoted in the project.

1.3 Limitations

The limitations of this study are as follows:

- Only one project has been evaluated, the Mkula Hospital project. Therefore, conclusions of this study will only be applicable for this aid project.

- The method builds on participant observations, therefore the result of the study is heavily influenced by our perceptions.
- Our perceptions of the occurred events can be difficult to fully present as the social content of the events often are subtle.
- During the time on site, our main focus was to proceed with the project. Therefore, relevant events for the research were sometimes insufficiently documented.
- No professional interpreter was used during the case study, as none was easily accessible. This might have resulted in misunderstandings during the study.
- One of the Hospital Management members operated as interpreter during the first weeks of the study. Accordingly, his perceptions might have influenced the result.
- Interviews with four persons were planned as they were the key persons involved. However, one of the scheduled interviews with a person from the Mkula Hospital Management was not conducted due to unforeseen circumstances.
- Interview answers by the Mkula Hospital Management can be biased by their hesitation for criticizing us, as we possessed large influence on the donations.

1.4 Research Questions

Three research questions (RQ) were formulated based on the purpose of the study.

RQ1: What barriers can be identified in terms of collaboration between us and the parties on site within the Mkula Hospital project?

RQ2: According to the literature, how can we promote collaboration in the Mkula Hospital project?

RQ3: What aspects of the project need to be strengthened to promote local ownership for Mkula Hospital?

1.5 Contribution

This thesis contributes to the knowledge of how actors can be more involved during similar aid projects as the Mkula Hospital project. Mainly, how to facilitate future collaboration between different parties for the Healthy Hospitals projects. Furthermore, this study can also contribute to an enhanced understanding of the difficulties of collaboration in other small-scale aid projects. The aim is to

encourage local ownership and assist with the exact need for the hospital.

In addition, the findings of how to promote collaboration in an international project can contribute to the construction sector. Mobility across national borders to exchange information and services has increased as a result of globalization (Arbetsförmedlingen, 2016). Globalization further results in a more integrated market. Internationalization is a consequence of globalization and appears in the Swedish market of technical consults (Bennewitz, 2015). Accordingly, more domestic actors are established abroad and foreign actors start operating in Sweden. This leads to a merger of parties with diverse backgrounds who need to collaborate.

1.6 Disposition of the Report

The structure of the report comprises several chapters, presenting the methodology used, case study and connected theories. Further an analysis and discussion are both connected to the research subject and finally, a conclusion is presented. An overview of the chapters is presented:

- **Method:** The second chapter includes the methodologies used in this thesis, an inductive approach including a case study and a literature review.
- **Case Study:** The case study is presented in the third chapter and explains the development of the progress on site of the Mkula Hospital project. Information about involved actors and certain situations are highlighted without any reflective thoughts or opinions.
- **Theoretical Framework:** The fourth chapter comprises a literature review which includes subjects on aid work, local ownership, cultural differences, international collaboration and further information about the Multi-Stakeholder processes.
- **Analysis:** The fifth chapter connects occurrences within the Mkula Hospital project to the stated theories and are further analyzed with reflective thoughts and opinions.
- **Discussion:** In chapter six, discussion and statements are presented.
- **Conclusion:** Final conclusions of the research are presented in the seventh chapter. Additionally, recommendations for future research are given.

2

Methodology

An inductive research methodology was applied in this thesis, starting with an eight-week case study at Mkula Hospital in Tanzania, followed by a literature review and an analysis. With an inductive approach, the researcher is producing a picture of the studied phenomenon throughout the data collecting and analyzing process (Lodico et al., 2006). Hence, methodically observing and seeking for parallels within the collected data to establish more compiled statements. The specific direction of this study was determined while conducting the research. In the case study, the data were collected through participant observations, interviews, and documentation. Thereafter, a literature review of the identified phenomenon was conducted in order to anchor the found patterns in existing theories.

2.1 Case Study

When a research contains "how" or "why" questions of contemporary events and when the researcher has limited control, using a case study as method is advantageous (Yin, 2009). Accordingly, this method was chosen in order to answer the research questions in this study. The main composition of the case study was based on the approach by Robert K. Yin stated in the literary work *Case Study Research: Design and Methods*. Stated by Yin:

"A case study is an empirical inquiry that; investigates a contemporary phenomenon in depth and within its real-life context especially when the boundaries between phenomenon and context are not clearly evident".

- (Yin, 2009)

The parties analyzed within the case study is presented in Table 2.1 and will be further presented in Chapter 3.

Table 2.1: All parties analyzed in the case study.

Parties	Description
Contractor	Local actor, constructing pump house
Equipment Installer	Local actor, gave tender on equipment installation
EWB Representative	Representative from EWB in Tanzania
Health Secretary	Administrator at Mkula Hospital and our main contact person on site
HHPG	Initiators and coordinators of the Mkula Hospital project, foremost located in Sweden
Hospital Engineer	Key person of infrastructural knowledge at Mkula hospital
Hospital Management	Management of Mkula Hospital including Medical Officer, Hospital Engineer and Health Secretary
Installer A	Local actor, installing outdoor equipment
Installer B	Local actor, installing indoor equipment
Medical Officer	In charge of Mkula hospital and responsible for final decisions
Project Coordinator	Project coordination of the HHPG, foremost located in Sweden
Pump Supplier	Local actor, installing pump

2.1.1 Setup to Enhance the Quality

To evaluate the quality of a study, four different criteria are essential to consider (Yin, 2009). The first criteria is *construct validity* and covers distinguishing appropriate measures for the study. Moreover, *internal validity* is a criteria when events and their cause of occurrence must be credible. A third criteria, *external validity*, concerns the generalization of the discoveries within a study. The last and fourth criteria is *reliability*, which entails that the method of the study can be replicated and the same results would be observed. As stated by Yin, there are several approaches to improve the quality of a case study concerning these criteria. Research design, data collection or data analysis are the stages where the approaches can be utilized. The approaches used in this study, including what stage in the process they are applied, are presented in Figure 2.1.

EXTERNAL VALIDITY "Use theory in single-case studies"	CONSTRUCT VALIDITY "Several sources of evidence" "Establish chain of evidence" RELIABILITY "Develop case study database"	INTERNAL VALIDITY "Do explanation building"
RESEARCH DESIGN	DATA COLLECTION	DATA ANALYSIS

Figure 2.1: Applied approaches in the different stages of the research in order to enhance the quality of the study. Figure modified from Figure 2.3 by Yin (2009).

The case study was a single-case and thereby complemented with a literature review of applicable theories in order to strengthen the external validity. Furthermore, within the case study, various methods to collect information were used. Yin (2009) uses the term "sources of evidence", and six sources predominates in case studies; archival records, interviews, documentation, participant observations, direct observations and physical artifacts. Yin states that it is preferable to use several sources in a case study as they could complement each other, but that not all are applicable to all research. In this case study, participant observations, direct observations, interviews, and documentation were used.

In order to enhance the advantages of using several sources of evidence, two additional concepts can be pursued (Yin, 2009). Firstly, a case study database should be established to structure the collected data. This was partly done in this study, as daily handwritten notes from all activities and observations within the case were collected in one notepad. Additionally, relevant information and documents were summarized in a Survey Report, not included in this thesis in order to maintain the anonymity of the involved parties. The second concept is to establish a chain of evidence so that the reader of the study can track the reasoning from raw data to conclusion. Accordingly, the ambition in this report is to have clear connections and citations to the collected data from the different sources of evidence.

With the intention to create internal validity, the "explanation building" approach was applied in the data analysis. The intention of this approach is to find explanations for events or outcomes related to the studied phenomenon within the case (Yin, 2009). Aligning with the majority of the case studies using this approach, a narrative form is used in this study. Firstly, the occasions of the project process without our perceptions are explained in the Case Study chapter, Chapter 3. In the Analysis chapter, Chapter 5, our own reflections supported by the theoretical framework are presented.

2.1.2 Participant Observations

Since we took a central part in the daily work within the Mkula Hospital project, participant observation was the predominant method in this case study. The participant observation method is particularly applicable if the research problem is in terms of human interactions observed from the inside and if it can be studied in an everyday context (Jorgensen, 1989). This method was considered to be suitable for this study since collaboration of the parties within a specific project is investigated.

As a participant observer in a case study, the researcher can adopt several roles and participate actively (Yin, 2009). One role is *Participant as observer*, which means that the researcher is a full member of the social context studied and its role is known for the other parties (Bryman and Bell, 2017). We foremost adopted the *Participant as observer* role during the study and our role as students was

generally expressed to the other engaged parties.

During the eight-week case study, we took daily notes of the events that included collaboration between us and the parties on site. The participants and contents of the events were noted and also if something extraordinary in terms of collaboration occurred. After every week, we analyzed the events of the week and the progress of all participants. Furthermore, we noted reflections regarding potential backgrounds for certain collaboration outcomes.

Participant observation has significant advantages in some studies, but can include several challenges (Yin, 2009). The researcher can access information that could be particularly hard to receive in other ways (Jorgensen, 1989). Furthermore, the researcher's perception from the inside is of many considered to be very meaningful in order to give an authentic representation of the studied phenomenon (Yin, 2009). Meanwhile obtaining a thorough inside perception, it is vital for the researcher to retain the external perspective in order to maintain a systematic observation (Flick, 2009). The effect of being too close could be that the researcher follows the collective perspectives on site without questioning. To maintain a scientific research, it is important to keep a distance to the parties observed. In order to maintain a distance, we strove to keep a professional relationship with the involved parties. Although, since we worked closely with the Hospital Management and lived in the village of Mkula during the study, neighbor to one of the key persons, several personal relationships were established and the objectivity may have been affected.

Furthermore, another difficulty in participant observations is that participating can require much focus resulting in less time for observing (Yin, 2009). Due to the setup of this case study, we participated to a large extent. In order to not lose the focus on observing, both of us participated in all meetings and had daily contact with the involved parties.

2.1.3 Interviews

In case studies, interviews are vital to collect information (Yin, 2009). Yin proposes that the interviews should be held as supervised conversations where the questions follow a clear but fluent line. During this case study, the interviews conducted had the form of focused interviews. The questions were predetermined before the interviews and were performed during a shorter time period of approximately 30 minutes. Notes were made during all interviews and complemented with recordings.

Key persons in the project were interviewed with the main purpose to get their view of the project. In Table 2.2, the persons interviewed are presented. With the *Medical Officer* and the *Health Secretary*, the interviews were held in English without an interpreter, but with the *Project Coordinator*, Swedish was used. The interviews were conducted in the end or after the case study by the time we had

started our analysis. Therefore, some questions also aimed to confirm or deny our hypotheses for certain outcomes of the project. When asking such questions, they should not be leading and be constructed in a way that welcoming new perspectives from the interviewee (Yin, 2009). Accordingly, the questions in each interview were structured in that manner. All interview questions are collected in Appendix A. Note that the questions for the *Project Coordinator* are translated into English.

Table 2.2: Persons interviewed within the case study.

Interviewee	Position	Time of interview
Health Secretary	Health Secretary at Mkula Hospital	Case Study Week 6
Medical Officer	Medical Officer in Charge at Mkula Hospital	Case Study Week 6
Project Coordinator	Project Coordinator of Healthy Hospital Project Group in Sweden	After the Case Study

2.1.4 Documentation

Within the case study, documentation was used as a complement to the other sources of evidence. When collecting data in a case study, relevant documents may be a significant component (Yin, 2009). For example, it can be used for confirming other details found in the study and find names of a person or organization mentioned by other means in the study. In this study, documentations regarding previous progress in increasing the water supply at the hospital were collected and investigated. Furthermore, documents over the management structure and staff at the hospital were examined.

2.1.5 Data Analysis

According to Yin (2009), one useful approach to analyze the case study data is to follow the theoretical framework that helped form the direction of the research. The theories can help screen the data and target relevant findings. As the inductive approach was used in this study, the collected data formed a basis for the choice of theories. In turn, the statements in the theoretical framework helped gather the related data which facilitated the analysis.

2.2 Literature Review

Additional to the case study, a review of relevant literature was conducted. Due to the inductive research approach, the subjects of the reviewed literature were chosen after the patterns from our experiences during the case study were identified. Moreover, Flick (2009) proposes that a variety of literature types should be utilized in qualitative studies. With this in mind, both theoretical and empirical literature on the research subjects were reviewed. Firstly, theoretical literature regarding general components of aid work, cross-cultural collaborations and cultural differences were

evaluated and compiled. This to present different views of perceived collaboration barriers during the case study, and also to gain understanding of the major issues related to aid work. Further, literature was gathered regarding theories to promote collaboration in relation the experiences in the case study.

2.3 Ethical Concern

Qualitative research can be connected to ethical issues, therefore considering ethics while conducting such research is of large importance (Flick, 2009). The participants in the study shall not be exposed to any harm due to the research outcome. In this study, no hazard for the participants based on the subject is identified but all parties are mentioned without names to prevent unforeseen risks. Additionally, no personal details have been included in the thesis in order to protect the integrity of the participants.

Moreover, the participants of the study must participate voluntarily and be given information of the study objectives (Flick, 2009). It was clarified for the Hospital Management that the field team consisted of students performing research based on the aid project. Although, the precise aim of the research was not highlighted for the management before starting the data collection due to the choice of inductive research. Simply because the setup of this method implies that the purpose is defined while performing the research.

When analyzing the collected data, justice should be given to the participants of the study and their opinions (Flick, 2009). Explanations for certain outcomes should be based on collected data and not be founded on judgments of the participants personalities. This is particularly significant in this study, as the researchers worked closely with the participants' in the case study during a longer time period. Therefore, an emphasis has been put on representing the persons as fairly as possible and relating our personal experiences to existing theories. Further, all interviews were recorded in order to allow the researchers to give an accurate picture of the opinions of the interviewees. Henceforth, the interviewees' expressions have been cited directly in several cases in the analysis.

3

Case Study: The Mkula Hospital Project

This thesis is focusing on a case study, the Mkula Hospital project. In this chapter the project is explained including project structure, involved parties and the progress on site. Important events relevant for the research are presented but not analyzed. As such, this chapter contains no reflections concerning the research questions.

Our work while living in the village of Mkula for eight weeks consisted foremost of performing engineering solutions in order to increase the water supply for the Mkula Hospital. Throughout the process, we collaborated with the Hospital Management which included daily contact and meetings. Several additional parties became involved, such as contractors and suppliers. Furthermore, the facilities and current infrastructure at the hospital were evaluated.

3.1 Mkula Hospital

Mkula Hospital is located in the village of Mkula in the northern part of Tanzania. It is part of the Busega District, see location in Figure 3.1, and is the only hospital within the area. The village of Mkula has almost 17 000 inhabitants and the district of Busega has approximately 200 000 (National Bureau of Statistics Tanzania and Office of Chief Government Statistician Zanzibar, 2013).

Mkula Hospital is run by Africa Inland Church of Tanzania (AICT) and was founded in 1986 by German and Dutch donors. The hospital has several different services including:

- Inpatient Department
- Outpatient Department
- Surgery
- Dental Care
- Tuberculosis and Leprosy Service
- Care and Treatment Clinic for HIV/Aids

(AICT Mkula Hospital, n d)



Figure 3.1: The location of Busega District in northern Tanzania. Figure by Nathalie Kullberg.

Daily, the hospital has approximately 50 inpatients and 40 outpatients. Furthermore, there is a college connected to the Hospital with three orientations, nursing, midwifery and community health workers.

Mkula Hospital faces several infrastructural challenges within water, sanitation, waste management and electricity, where the water supply is the most crucial issue. Beyond using rainwater as a water source, Mkula Hospital received water from an own drilled well. A windmill was providing energy to a water pump installed in the borehole. The extracted water was transported via pipes to tanks, before reaching the hospital.

The Hospital Management expressed needing assistance in evaluating their current water system and the borehole in order to implement new solutions for improving the water supply. Since sufficient water supply is of major importance regarding hygiene and health, a full examination of the water system and distribution was essential and urgent.

3.2 Initiation of the Mkula Hospital Project

The HHPG initiated the Mkula Hospital project during spring 2017. It is the second project initiated by the group, which earlier was active at a similar project at Kolandoto Hospital in Tanzania from 2015 to 2017. Kolandoto Hospital is, as Mkula Hospital, an AICT operated hospital and the management groups of the two hospitals have continuous communication. Throughout the time at Kolandoto Hospital, in total eight master theses were conducted and fourteen students from Chalmers University of Technology were involved. During these years, the HHPG

coordinated several implementations. The most extensive implementations were a new pump which increased the water supply, a solar driven electricity backup system and construction of a new emergency department.

When the last student group assisted Kolandoto Hospital, in spring 2017, they also visited Mkula Hospital. During the visit, they started an evaluation of a possible upcoming project. As the Mkula Hospital resembled Kolandoto Hospital and the challenges were similar, the HHPG decided to initiate a collaboration in Mkula. A second site visit was carried out in November 2017 by the HHPG. During the visit, relations with the Mkula Hospital Management was established and the main purpose of the upcoming project was determined.

3.3 Project Structure

The main parties within the Mkula Hospital project were the Mkula Hospital Management, HHPG and three students (we and one architecture student). Furthermore, several donors and partners of the HHPG participated in the project and local actors were involved. The project structure is presented in Figure 3.2. Before the project started, a memorandum of understanding (MoU) between the main parties was signed. It was written and introduced by the HHPG and used to clarify the roles within the project, see Appendix A. This is a formality used within the aid environment when establishing a partnership in order to achieve a common goal. In the MoU, it is stated that "Mkula Hospital has full ownership of the project and final decision-making power in all project related questions". Moreover, it is stated that the HHPG has received the mandate to work and execute the activities within the framework of the project.

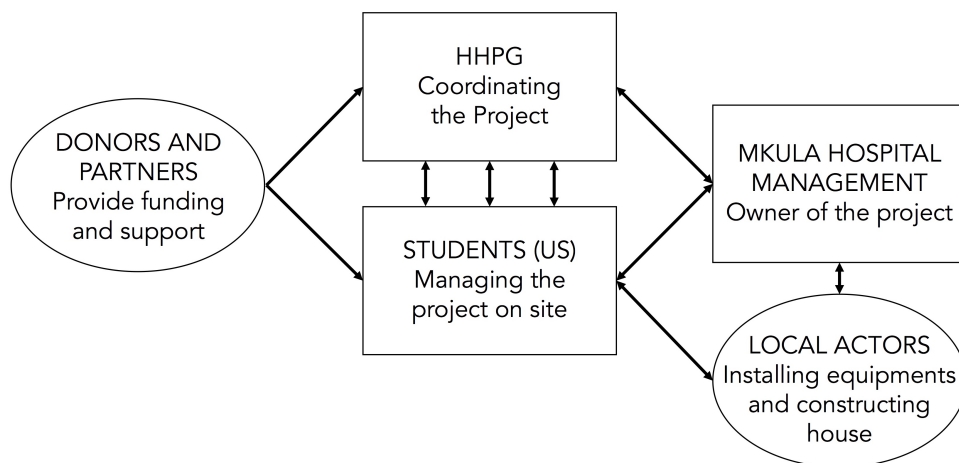


Figure 3.2: The project structure of the Mkula Hospital project. Parties in the squares are controlling the project, while parties in circles are other involved parties.

3.3.1 Healthy Hospitals Project Group

The HHPG consisted of three engineers and one architect. The students, we and one architect, are not part of the HHPG. The engineers in the HHPG had formerly participated as master thesis students at the Kolandoto Hospital and the architect has experience from another student project in Tanzania. Beyond that, they have not participated in similar aid projects. Furthermore, the project group got technical advising and management guidance from former group members and thesis students. The informal chairman of the HHPG, referred to as the *Project Coordinator*, was in charge of the contact with the Mkula Hospital Management.

Communication between the HHPG and us has taken different forms. Before the field study, formal and informal meetings took place. The meetings aimed to prepare us for the project in Mkula, set objectives, share the experiences from Kolandoto Hospital and promote team building. During the first ten days on site, when initiating the project, three members of the HHPG were attending to support us. After the project group participants left Mkula, informal meetings over telephone were carried out throughout the project.

3.3.2 Students

We, two engineering thesis students, were introduced to the Mkula Hospital project in July 2017 and have since then been partly included in the planning. Our participation did mostly consist of applying for scholarships and communicating with Chalmers University of Technology in order to configure the setup of this master's thesis. Our personal motivations for the project was foremost the aim to contribute to people with other living conditions. Furthermore, curiosity for a new context, personal development and academic progress was also motivating us.

Prior to departure for Mkula, we were notified that the main focus of the project would be to increase the water supply. However, we did not know how to solve the problem or to what extent the project should be developed. None of us had earlier experience of the context and had not visited rural Sub-Saharan Africa before. Furthermore, neither of us possessed knowledge of the local language, Swahili.

3.3.3 Partners and Donors

There were several companies and organizations who supported the work of the Mkula Hospital project with varying contribution, displayed in Table 3.1. HHPG is a part of Engineers Without Borders (EWB) as an independently operated project group. EWB is a Swedish non-governmental organization with the ambition to use technical engineering solutions for promoting global development and reducing inequality (Engineers Without Borders, nd).

EWB have been partners with HHPG since the beginning of the Kolandoto Hospital project. They have contributed with large-scaled donations, but in the Mkula Hospital project, they did not support with any funding. However, the

HHPG used some of their organizational tools, such as performing transactions through their bank account. In the interview, the *Project coordinator* explained that earlier members of the HHPG have been associated with EWB, thereby a personal relation and a mutual trust has developed. As such, HHPG had no obligations towards EWB except giving continuous updates and information about the project.

Simultaneously as the Mkula Hospital project, another EWB project was ongoing in northern Tanzania. A Swedish volunteer working at this project visited us in Mkula and became one of our contact persons at EWB. The volunteer is further referred to as the *EWB Representative*.

Table 3.1: The different donors in the Mkula Hospital project.

Actor	Type of Support
Architects Without Borders	Flight ticket for one HHPG member
ARQ	Project funding
Engineers Without Borders	Partners
MFS Sida	Personal scholarships for thesis students
RISE	Project funding

3.3.4 Mkula Hospital Management

The management team of Mkula Hospital consist of seven members and all major decisions regarding the hospital are taken together. However, the *Medical Officer* has large influence within the decision-making and determines priorities for the hospital. During the Mkula Hospital project, the *Medical Officer* was the partner representative for Mkula Hospital and therefore in charge of decisions on behalf of the board. Furthermore, he had a vital function in the project and communicated extensively with many of the key parties.

The *Health Secretary* at Mkula Hospital is a member of the Mkula Hospital Management. He had the responsibility to help with the interpretation and integration at the beginning of the project. During the field study, the *Health Secretary* was managing a lot of the planning, invited relevant staff for meetings and assisted with a lot of data collection.

Another member of the Mkula Hospital Management team is the *Hospital Engineer* who has been employed by the hospital since the opening in 1986. He was in charge of the water system and all water-related issues. Thereby, the *Hospital Engineer* was present during the majority of tests, observations and discussions about the borehole and the water supply system. Due to his employment from the opening of the hospital, he has extensive knowledge of the hospital's infrastructure and contributed with relevant experiences. However, he possessed limited knowledge of English.

Several members of the Mkula Hospital Management are from different parts of Tanzania. As such, some have different native languages even though all of them speak fluent Swahili.

3.3.5 Local Actors

In order to implement the desired solution for increasing the water supply, several local actors were required to be involved in the process, see Table 3.2. Further information about their involvement in chronological order in the project is given in Section 3.5.

Table 3.2: The local actors in the Mkula Hospital project.

Actor	Type of Company	Involvement
Contractor	Small-scale construction firm from a village close to Mkula	Constructing pump house
Pump Supplier	Multinational supplier in water solutions in the region of East Africa	Selling and installing the water pump
Installer A	Large national contractor within civil, building and electrical	Installing extensive equipment adjacent to the pump house
Installer B	Small-scale construction firm relatively close to Mkula	Installing equipment for the pump house

3.4 Preparations for Field Work in Mkula

The preparations for our stay in Mkula started in July 2017 after being introduced to the HHPG, the organization and the intended project in Mkula. In order to receive additional information and experience, we read through the previous master's theses from former civil engineering students involved in the Kolandoto project. During the autumn, we also met some of the former students who told about their experiences on site. We applied for different scholarships and made a draft of the project plan. During the whole time of preparations, we had continuous contact with the HHPG. Further, after the HHPG visited Mkula in November, we received more detailed information regarding our visit. Additionally, we attended a three day course in December hosted by Sida. The purpose of the course was to prepare university students for conducting minor field studies abroad. The course contained information about issues related to diverse foreign cultures, Swedish development efforts, security and personal health. The two weeks prior to our departure to Mkula, we practiced common phrases on Swahili and collected general information about Tanzania.

3.5 Project Process

The project during our field work consisted of different, partly overlapping, phases. These are referred to as; initiation phase, evaluation phase, procurement phase, construction phase and handover phase. The overall process of the project is displayed in Figure 3.3.

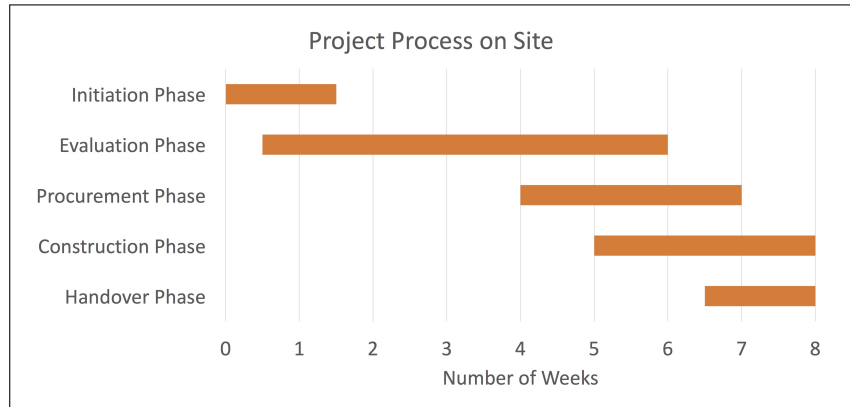


Figure 3.3: The different phases of the project during the field work in Mkula.

3.5.1 Initiation Phase

The *Initiation Phase* started when arriving at Mkula Hospital in late January 2018 and continued until the following week. Three members of the HHPG were present during this phase but returned to Sweden during the second week. We were firstly informally introduced to our main contact person from Mkula Hospital, referred to as the *Health Secretary*. This followed by a formal meeting with the full Hospital Management where everyone presented themselves. Afterwards, we received a tour of the hospital area and were presented to the hospital staff.

Besides from the MoU, the Project Plan had also been produced by the HHPG and sent in advance by mail to be reviewed by the Hospital Management. Within the Project Plan, presented in Appendix C, the relevant components of the project were presented with guidelines, method, partners, description of needs, project goals, time frame and budget. In the conducted interview, the *Project Coordinator* explained that the ambition with the Project Plan was to have a discussion with the Hospital Management about what should be executed within the project and how. He further states that this intended discussion is of importance to involve the views of both parties. Both the MoU and Project Plan were thoroughly presented by the HHPG to the Hospital Management during a formal meeting, and a further meeting was held where the MoU was signed by both parties.

3.5.2 Evaluation Phase

In the process of finding out which solution to implement for the water supply, an evaluation consisting of different elements was conducted. The HHPG wanted the

evaluation to begin as early as possible in order to implement the solution before our departure. Thereby, the *Evaluation Phase* started in the middle of the first week. The evaluation proceeded until week six. To begin with, we gathered information and conducted calculations regarding the current water supply. In addition, we mapped several possible solutions and aggregated information about these to make an assessment of which system was most appropriate. The information was foremost regarding technical aspects and economy. The evaluation was very time-consuming as many components had to be evaluated and gathered from different sources.

Furthermore, we attended three meetings with authorities in the area where Mkula is located. During our first week on site, we and the HHPG were invited to the District Commissioner at the Busega District Council. Information about the HHPG, the Mkula Hospital project and our intended efforts on site was presented. The third week, we initiated two further visits, one at the water authority in a nearby village and another with the water authority in the district. In the meetings we were accompanied by the *Health Secretary* and the *Hospital Engineer*. Our purpose with the meetings was to obtain information about the current water situation in the district and the village of Mkula in particular. We wanted to ensure that our project did not conflict with other efforts and eventual water projects in the area. At these meetings, we were informed that a large water project will start in January 2019 with the purpose of providing Mkula and several other villages in the district with better water supply. It was, however, stated that our project in Mkula would not conflict with their or other projects.

After four weeks on site, we and the Hospital Management reached a decision on what solution to implement for increasing the water supply. The most important aspect considered in the decision process was the ability to extract as much water as possible and meet the demand of the hospital. Moreover, the solution had to be related to economic aspects, both to the investment budget and the operating cost in order to be locally sustainable. Solutions without increased operating costs for the hospital were evaluated but these could not meet the expressed need as the borehole had limited capacity. Therefore, the solution that could extract the most water was chosen. This solution was deemed feasible to implement during our time on site and with the provided funding. It did however entail increased operating costs for the hospital, but this was consulted with the Hospital Management. The chosen solution is very common locally and was similar to one implemented at Kolandoto Hospital.

3.5.3 Procurement Phase

The chosen solution consisted of purchasing a new pump to be installed in the existing borehole. As such, the current system in the borehole, a windmill driven pump had to be uninstalled. The new solution further required the services from four different contractors. Firstly, the pump needed to be safe from weather impacts, sabotage and theft. Therefore, we had to contact a construction company

in order to construct a house for enclosing and protecting the pump. We were presented to one contractor, the *Contractor*, by the Hospital Management. We decided to hire them without reviewing other contractors, partly due to our limited time schedule.

When contacting the *Contractor*, we had no finished blueprints and only ideas of the house design. We visited the borehole together with the *Contractor* and the *Medical Officer* to discuss what kind of pump house had to be constructed. It was decided to not dismantle the windmill, but to detach it from the pump and construct a pump house enclosing the windmill. See a picture of the windmill in Figure 3.4.

The new pump required two additional services, one extensive installation outside adjacent to the pump house and one installation inside. During week five, *Installer A* was contacted to perform installations outside and a quotation was received at the end of the week. Together with the Hospital Management and the HHPG at distance, we decided to accept the tender from *Installer A*. Further into the process we received information about the additional installation needed inside the pump house. Therefore, we had to contact another contractor, *Installer B*.



Figure 3.4: Windmill that drove the old pump in the hospital owned borehole. Photo by Nathalie Kullberg.

Price negotiations and signing of *Contract Agreements*, (an example of the general layout is displayed in Appendix D) took place with the respective local actor, the contractor and both installation companies. The signing of *Contract Agreements* were important for us in order to ensure security for all involved. The overall setup of *Contract Agreements* was created by former students from Kolandoto Hospital and edited by us. In the contracts, details were stated regarding the scope and duration of work, payment, cancellations, control and responsibilities. We signed the contract with the *Contractor* during week six and with respective installer company during week seven. However, no signing occurred with the *Pump Supplier*.

3.5.4 Construction Phase

Before our departure from Mkula, only one of the planned implementations had started. Without agreeing on the final terms or signing the Contract Agreement, the *Contractor* started to construct the house at the beginning of week five, see Figure 3.5. All quotes from the other local actors were not yet received, we therefore paused the construction process temporarily. In the middle of week six, after receiving the quotation from *Installer A*, the construction was resumed. Prior to resuming, the final terms were agreed upon and the contract was signed. Unfortunately, due to time-consuming complications along with the process, the house was not completed when we left Mkula at the end of week eight.



Figure 3.5: Started house construction before signing any Contract Agreement. Photo by Angelica Lexell.

3.5.5 Handover Phase

Our part in the Mkula Hospital project ended when leaving Mkula. The Figure 3.6 shows the construction site by the time we left Mkula with the pump house still not completed. As such, all responsibilities were handed over to the Hospital Management before our departure. One formal meeting with all members in the Hospital Management was held, explaining all components in the project and their status. Together with the *Medical Officer*, we reviewed all relevant documents and developed a time plan for finalizing the project. Also, a document that summarized important details of the process and all local actors was handed over, containing information about installation dates, contacts and payments. Additionally, a workshop was held with the Hospital Management to determine future infrastructural demands and priorities for the hospital.



Figure 3.6: House construction when us leaving Mkula. Photo by Angelica Lexell.

After our departure, the HHPG kept contact with the Hospital Management. The *EWB Representative* was also continuously involved in our project as she would remain in Tanzania for the upcoming months. In order to maintain the relationship and review the progress of the project, the *EWB Representative* visited the Mkula Hospital in May 2018.

3.5.6 The Outcome of the Project

Eight weeks after leaving Mkula we received information that the pump installation was completed and the hospital was supplied with sufficient amounts of water. Hence, the main purpose of the Mkula Hospital project was achieved. Figure 3.7 is showing the newly installed pump with flowing water and in Figure 3.8, the finalized pump house is shown.



Figure 3.7: The newly installed pump with flowing water. Photo by the *Health Secretary*.



Figure 3.8: The pump house eight weeks after our departure from Mkula. Photo by the *EWB Representative*.

The information about the completion was delivered by e-mail directly to us by the *Medical Officer*. He also sent a brief description of how the project had been carried out and finalized. However, we received additional information from the *EWB Representative* that some corrections regarding the pump house were not completed. Supervision of this work and communication with the *Contractor* was managed by the Hospital Management. The full outcome of the process in relation to the one we planned is displayed in Figure 3.9.

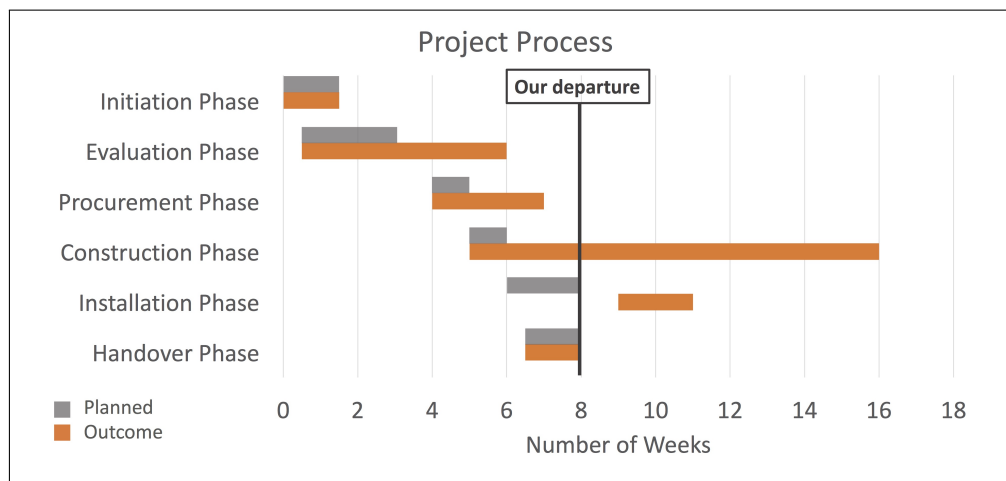


Figure 3.9: The outcome of the project process in relation to our planned process.

4

Theoretical Framework

This chapter presents knowledge from existing theories in order to evaluate the collaboration structure within the case study in Mkula. All the literature was gathered after conducting the case study and thereby chosen to explain the perceived phenomenon related to collaboration during the project. Aid work is defined and related issues are explained. This is followed by theories regarding cultural differences due to its perceived influence on the collaborations on site. Finally, partly answering on **RQ2**, a theory that could be used for promoting collaboration in the Mkula Hospital project is identified and explained.

4.1 Definition and Purpose of Aid Work

Foreign aid can be divided into two parts, humanitarian aid and development aid (Sida, 2017a). The main purpose of humanitarian aid is to support suffering people during diverse catastrophic scenarios while development aid aims to reduce poverty and promote democracy in a long-term perspective (Sida, nd). Moreover, aid can be both financial or technical, where the latter consists of knowledge transfer through working with or educating staff in an aid recipient country (Odén, 2006).

Regarding donors of aid, there are multiple categories including larger and smaller donor countries, the World Bank Group, humanitarian aid organizations and development-oriented NGOs (Odén, 2006). Donor motives are diverse and could range from solidarity and humanity to control natural resources, military strategy and commercial aims. For the development-oriented NGOs, the motives are often local development, civil society development and to reduce poverty. For aid recipients, the motive is simply a need for increased resources.

Research indicates that aid is successful in terms of fulfilling specific aims within individual projects and programs (Odén, 2006). However, the long-term sustainability goals for the donor, such as poverty reduction, might not always be accomplished. In fact, it is often difficult to make conclusions regarding the long-term sustainable outcome. Country ownership is however stated by foreign donors to promote sustainable development outcomes in local efforts (InterAction, 2016).

4.1.1 Donors' Impact on Aid Dependency

Back in the 1950s and 1960s, the most common type of foreign aid was targeted aid projects where the donor organizations contributed with not only investment costs but also technical solutions and designs (Odén, 2006). Decisions were primarily made by their specialists due to the perception of lacking local expertise on site. The opinions about the control and decision-making of the resources for a project can be contradicted between the donor's legitimate terms and the ownership of the recipient. According to Bjerningen (2013), Sweden and other donor countries in the late 1990s requested to receive an exchange for their contributions, such as local investments in environmental issues. Odén (2006) however states that the stronger the political content of the terms are, the harder it may be for the recipient to accept it. Even though both parties often agree that the donor can make legitimate demands on how the resources are used, opinions sometimes differ in what extent.

According to Bjerningen (2013), the recipient becomes dependent when all the responsibility lies in the arms of the donors. This is one of the main issues within foreign aid. Problems that existed during the 1950s and 1960s were when the budget system failed in many countries and donors ended up in a situation where they had to decide either to terminate the investment made or continue and also support the operation phase (Odén, 2006). Donors were in general required to finance part or all of the investment costs, but operating costs generated by new investments must be included in budget planning in the recipient country. Therefore, local ownership became limited and the donor's decision of what project to assist with became more complicated.

Ownership became even more limited due to the often used organizational form when special project administrations were established for the various aid projects (Odén, 2006). Aid dependency varies with the form of aid and how it affects the management of the recipient country. Bjerningen (2013) states how the purpose of the Swedish aid has been divided into diverse aid targets along with the development and globalization of the world. This resulted in complications within the administration of aid. Insufficient monitoring and planning that is managed in separate project administration complicate the budget and follow-up for aid projects (Odén, 2006). In turn, this can complicate the prioritizing of right local needs and thereby decrease recipient ownership.

Bjerningen (2013) highlights the criticism with the risks that have to be taken within aid, where efforts sometimes result in failure. It can be difficult to directly point at the result of an aid project and it can be hard to separate short-term from long-term effects. He further states that the initiation of an effort is much easier than the continuing steps. Many organizations developed frameworks and methods in order to prevent threats against sustainable aid. However, it soon became apparent that it was not the donors but the aid recipient who would continue to manage it locally. Therefore, smaller donor countries were encourage not to develop their own variations of performance systems, in order to maintain an effective aid work.

4.1.2 Local Ownership to Decrease Need for Aid

Since the 1990s, Sida (2017a) uses the concepts of "development cooperation" and "partner countries" since aid projects and programs are now being developed in collaboration with countries or local organizations, aiming to reduce aid dependency. According to Odén (2006), ownership and partnership have been two highly discussed concepts during the first year of the 2000s regarding foreign aid projects.

A necessity for development projects being locally sustainable is the ownership of the local recipient (Sida, 2017a). When the recipient is well aware and committed to the decisions made, the right needs can be prioritized, resource usage controlled and, in addition, an appropriate plan for continued maintenance can be reviewed (Odén, 2006). Aid has the greatest opportunity to contribute to positive long-term effects when the recipient is committed and convinced of the need and it is important that aid is carried out on the terms of the recipient (Sida, 2017a).

Highlighted by Bjerningen (2013) is the long-time present concept of dialogue within the foreign diplomacy. Although, he further questioning the lack of structure and a clear stated meaning of it. The dialogue has often focused on the main purpose of the projects, organization and review, but Bjerningen (2013) expresses that it should affect its local context and not be a determined plan. In order to achieve concrete results, it is important that the efforts and conversations are adapted to the local discussion. Bjerningen (2013) emphasizes flexible dialogue in order to determine the needs and experiences of the aid project.

4.2 Cultural Differences

Despite today's globalization and wide international collaborations with global communication and efficient means of travel, deep cultural differences remain (Hill, 2012). According to Hofstede and Hofstede (2004), our earth is full of nations, groups and people who think and act differently. When people with different backgrounds and cultures are brought together and exposed to common problems, collaboration is required for solutions. Also, understanding different cultural behaviours can be crucial for how a business or project resembles.

4.2.1 Culture, Folkways and Mores

Within this thesis, *culture* and its components are defined by the book *International Business* written by Hill (2012). Culture is defined "as a system of values and norms that are shared among a group of people and that when taken together constitute a design of living" (Hill, 2012). Values are defined as "abstract ideas about what a group believes to be good, right and desirable", and norms "the social rules and guidelines that prescribe appropriate behaviour in particular situations". According to Hofstede and Hofstede (2004), culture is always partly

shared with others where it was established, and thereby it is a collective phenomenon. Folkways and mores are two separate categories within norms presented by Hill (2012). The everyday routines and social conventions are folkways, with less moral meaning of the actions. It is more concerns about how people are expected to behave, such as good social manner and dress code. Although it can be perceived as ill-mannered to violate folkways, it seldom perceives something evil and in many societies and countries, it is often forgiven if someone unintentionally violates one. Unlike folkways, mores are norms with larger morally significance and violating them can bring extensive consequences. Mores are central elements of how a society and its social life is functioning and many societies have their mores determined by laws.

There are different levels of culture, such as national and organizational culture, depending on how extensive the context is for the shared values and norms among people (Hill, 2012). Nations in different parts of the world are differently structured, have different laws, religions, hierarchy and ethical systems. The individual is the basic unit of a social organization according to Hill (2012) and the individual has often precedence in Western societies. This is opposed to many other societies, where groups are often emphasized.

A distinct example in which countries differ and how people perceive their surroundings is due to the language, both the spoken and the unspoken means of communication (Hill, 2012). Hill (2012) further states that countries with more than one language do often have more than one culture and society. In Africa, a continent where almost one-third of the world's languages originate, have between 1000 and 2000 languages (Harvard University, 2018). The diversity of the languages also appears within the countries of Africa and their population. As in Tanzania, English is widely spoken, mostly due to Tanzania's British colonial era, but Swahili is the official language of the nation (Chepkemai, 2017). Furthermore, there are numerous more native tongues among the various ethnic groups in the country.

4.2.2 Cross-cultural Collaborations

International collaboration requires that involved parties are well-informed about the various cultures which affect the project (Hill, 2012). Organizations who are not prepared for the practices of another culture are likely to fail. Things are managed differently within different societies, one thing that works in one culture does not work within another. Therefore, an adaption of the foreign culture can facilitate several aspects such as negotiations, use of appropriate pay systems and relation between management and labour.

A significant threat against international collaboration is ethnocentrism, which is described as "a belief in the superiority of one's own ethnic group or culture" (Hill, 2012). Ignorance of the culture of other countries is relatively common and can lead to issues in the working process. An example highlighted in *International*

Business and a relatively common and known cultural difference is the attitude towards time. In the United States, giving a person a deadline will probably mean that the person in question takes the task seriously and that the task must be achieved as soon as possible. On the other hand, in the Middle East giving a deadline might mean something completely different, where social networks and relationships are more important than a strict schedule. In turn, this can lead to the occurrence of a barrier when people from different cultures collaborate. An American who insists on giving a deadline to an Arab can perceive the situation in a completely different way. In turn, this can lead to conflict as there is no common perception of how the process should be achieved.

Hofstede and Hofstede (2004) present that once certain patterns are rooted in the mind, such as feeling, thinking and acting, they have to be unlearned in order to be taught differently. It is complicated since unlearning is more demanding than learning for the first time. Hofstede and Hofstede (2004) further state that a foreign observer, especially when being professionally involved in another society, is likely to judge other societies conventions and try to introduce changes. It is however emphasized that differences in thinking and acting among the parties cannot be ignored if a common solution is to be achieved. Negotiations between involved parties are more likely to succeed if there is mutual understanding for the variety of people's cultural approaches.

4.3 Multi-Stakeholder Processes

During the case study, many obstacles regarding the collaboration between us and the different local actors were encountered. We perceived the project as complex with many actors to bring together. In order to achieve the aim of the project it was important to work closely with the involved actors, since they possessed unique and important knowledge. Thereby, we aimed to find a theory that could have been helpful in the project to utilize all experience and competence and accordingly promote the collaboration, connected to **RQ2**.

4.3.1 Definition of Multi-Stakeholder Processes

In *Multi-stakeholder Processes for Governance and Sustainability*, Hemmati et al. (2002) present how people and organizations can work together in a complex environment, despite very different backgrounds, by using Multi-Stakeholder processes (MSPs). This thesis refers to stakeholders along with the definition stated by Hemmati et al. (2002) as "those groups or individuals who are associated with the project's initiatives and therefore can affect or are affected by the decisions and activities concerning those initiatives". The MSPs promotes frameworks that should be mutual for the involved parties and can be used at local, national and international level. The ambition is to collaborate and bring all involved actors and their views with new ways of involving, communicating, reach

decisions to implement a solution to achieve a common goal (FAO, 2018).

In order to improve the sustainability of projects by multiple participants, MSPs are meaningful guidance for the key stakeholders such as governments, NGOs, private actors or donors (FAO, 2018). They are designed to put people at the centre of the full process and by integrating all parties, different approaches will be brought together and further developed (Hemmati et al., 2002). The MSPs promote better common decisions, contribute creating trust, mutual benefits and shared power. Along with having a common goal, the partnership grows stronger and it invites for dialogue that contributes to sharing resources and to reduction of time waste (FAO, 2018). When local stakeholders are involved, they get a wider perception of which activities are realistic and relevant to their needs. Furthermore, sharing local information that leads to common decisions supports local ownership of the project and its outcomes, which makes the implementation more likely to succeed and become sustainable.

There is occasions where it can be difficult to address the need and significance of gathering all actors together (Office for Coastal Management, 2015). Due to the extent of situation or project, the case will differ. According to Office for Coastal Management (2015), an American organization who provides assistance within complex human-based problems in coastal management, the participation of stakeholders is often not suitable in emergencies and in decisions of a smaller scale.

4.3.2 Implementation of Multi-Stakeholder Processes

The designs of MSPs are not universal tools for all kind of situations but do consider various structures and levels of engagement (Hemmati et al., 2002). Some indications stated by FAO (2018) on how to implement and settle a process of an MSP is presented in Figure 4.1. Depending on the objectives, timelines, involved actors and issue, the process will differ (Hemmati et al., 2002). However, MSPs should be adapted to situations where common strategies, based on combined experiences, views and interests, can be developed with sensitivity and open dialogue.

The process displayed in Figure 4.1 is an overview of how to structure an MSP, presented by FAO (2018). Within the initiation of the process the scope and including objectives of the project need to be clarified. Relevant stakeholders and their interests, expectations, power status and issues need to be stated. Since stakeholders often have diverse, sometimes conflicting, opinions and objectives, MSPs can be used to find common structures and further develop a shared vision for the future. FAO (2018) do also suggest to establish a coordination team and select milestones. All actors should be involved when designing the process of the MSP. During the second part, decisions are made about how the process can be achieved with inclusiveness and shared visions. Here, it is important to build a sustainable collaboration and make sure to develop a relationship built on trust by sharing values, concerns and interests. All outcomes should be communicated on a

regular basis. The third part emphasizes how to maintain the collaboration by detailed and determined action plans on how to secure resources. FAO (2018) promotes to develop capacities of existing competencies of the stakeholders.

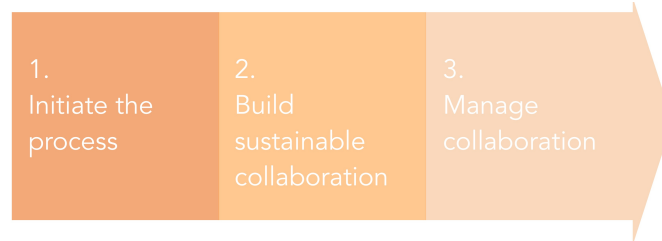


Figure 4.1: The process of MSPs approach.

4.3.3 Dialogue for Common Understanding

A large number of private actors are involved in spread initiatives across borders, participating in international partnerships (Cowan and Arsenault, 2008). Within both national and transnational collaborations, MSPs promotes dialogue which can form the basis of policies (Hemmati et al., 2002). Learning to engage in dialogue means to *"move from hearing to listening"*, opposed to debate where the focus lies within arguing who is right or wrong. Dialogue can also grow to consensus-building, decision- making and generate the necessary commitment to the implementation of practical solutions. The suggestions on how to design such processes aim to create a situation where dialogue can take place in a group of people of diverse backgrounds and integrate their expertise, needs and concerns. These are the definitions of communication and dialogue used in this thesis, cited by Hemmati et al. (2002):

- **Communication:** An act of transmission; exchange of information or opinions.
- **Dialogue:** A conversation between two or more persons; an exchange of ideas or opinions; a discussion between representatives of parties to a conflict that is aimed at resolution.

Dialogue is a way to contribute to a more active progress and a more including collaborative project structure (Hemmati et al., 2002). Further stated by Cowan and Arsenault (2008), the dialogue is demonstrated in both empirical research and practical experiences to be beneficial when improving relationships across social boundaries. Dialogues are opportunities for people to participate in the exchange of knowledge, such as ideas and information. It is also a way to learn from different perspectives and experiences, regardless of diverse backgrounds. Sharing this kind of information can also contribute a belief that one's own views are being taken into account which can create a sense of respect and meaningful collaboration.

5

Analysis

In the analysis, the results regarding the collaboration progress in the project are presented and linked to the stated theories. Relevant findings during the case study and from the conducted interviews are further connected to the three research questions stated in Chapter 1; **RQ1**, **RQ2**, and **RQ3**.

5.1 Initiation Phase

The relationship between the HHPG and the Mkula Hospital Management was established in spring 2017 but was further enhanced during the field trip in November. We perceived the enhanced relationship when arriving in Mkula, observing casual conversations about family and personal interests between the members of HHPG and the Mkula Hospital Management. To some extent, this facilitated our own relationship building with the Hospital Management. Initiation of the informal relationships encouraged the establishment of a formal collaboration.

Aligned with the statement by FAO (2018), the joint objectives of the project were defined in order to encourage all parties working towards a common goal. This decreases the risk of prioritizing needs that are less relevant to the hospital. The MoU and Project Plan were used as frameworks for responsibilities and scopes. Due to the variety of experience and backgrounds of the participants, forming such frameworks aligns with the fundamental elements of MSPs (Hemmati et al., 2002). The meeting felt friendly and welcoming.

During the *Initiation Phase*, several barriers against collaboration were identified, as questioned in **RQ1**. English was not a native language for any of the participants which created obstacles in communication. This is a challenge within international collaboration also stated by Hill (2012). The pronunciation and the accent of the majority of the Hospital Management were initially difficult for us to follow. Further, Hill (2012) emphasizes that routines and structures that work in one culture may not work in another which we experienced during the signing of the MoU and Project Plan. The way of handling formalities seemed unfamiliar for the Hospital Management. Also, in the interview with the *Project Coordinator*, he claims that working with these documents might be "our" way to work and not "theirs". This occurrence can be related to the theory by Hill (2012) that states that ethnocentrism is a considerable risk within an international collaboration.

Our action, in this case, indicated no attempt from our side to adapt to the new cultural situation.

Communication about former implementations at Kolandoto Hospital took place during the first official meeting. The Hospital Management was well aware of the successful implementations at Kolandoto and we experienced high expectations for our contribution at Mkula Hospital. However, there was no general discussion about the Project Plan and all communication were mainly between the *Medical Officer* and the *Project Coordinator* of HHPG. This could entail both advantages and disadvantages. First of all, this indicates our organizational structure with the *Project Coordinator* as the main contact person and the differentiation of the HHPG and the students. On the other hand, the process of establishing a relation between us and the Hospital Management was time-consuming and this could be one of the reasons. The occurred communication in this meeting might be due to an uncertainty from all parties in this new situation and setup.

At the meeting, HHPG suggested that Mkula Hospital could contribute to a small share of the investment cost in order to promote dedication to the project. This encourages responsibility from both sides which can make the recipient less dependent according to Bjerningen (2013) and is linked to **RQ3**. The Hospital Management wanted to discuss this internally, thereby the *Medical Officer* postponed the signing of the MoU for one day. In the interview with the *Project Coordinator*, he interpreted the postponing as thoughtfulness and caring for the project.

5.2 Evaluation Phase

During the *Evaluation Phase*, several important aspects for deciding suitable water supply were evaluated. Firstly, the information about the current system was collected and relevant suppliers and contractors were contacted. Later on, the possible solutions were assessed and meetings with other relevant actors were held.

5.2.1 Collecting Information

In order to find an appropriate solution for increasing the water supply, the first step was to gather information about the current system needed to be gathered. The key person regarding knowledge of the infrastructure at the hospital was the *Hospital Engineer*. Therefore, his presence was crucial when collecting the information. To overcome the language obstacle, we were always accompanied by the *Health Secretary* who helped with interpretation. We perceived that it was complicating the process, firstly to match their schedules and secondly the risk that relevant information could be loosed during the interpretation. This shows how the language barrier can develop additional challenges for collaboration, connected to **RQ1**.

To highlight the difficulties we experienced with communication, a specific occasion is described. At the beginning of the process to determine appropriate pump, one of the most crucial information we needed was to know the correct depth of the borehole. The *Hospital Engineer* ensured that the depth was 75 meters, but the latest pump report showed a depth of 36 meters. Due to this uncertainty, we wanted to measure the depth on site and this was scheduled the upcoming day. Although, we did not clearly explain the importance of correct depth at this stage.

When arriving at the hospital to measure the borehole, the *Hospital Engineer* and *Health Secretary* told that they overlooked the latest report and ensured that 36 meters were the correct depth. Consequently, no new test was performed and we decided to trust their statement. However, this discussion recurred a week later when the *Hospital Engineer* once again claimed 75 meters. At this point, we had no time for uncertainty and were very skeptical to their knowledge due to the not consistent information. Therefore, we demanded a test. This time we expressed clearly and with authority our purpose with the measure. This led to a less friendly environment for a few days, perhaps due to our demonstrated lack of trust for their local expertise.

When measuring the borehole, we noted that the task was very time consuming and labour demanding, which we had no knowledge about before. The result indicated a depth of 45 meters which emphasizes the importance of the measurement since none of the formerly stated depths were correct.

As described by Hill (2012) a considerable barrier within international collaboration is ethnocentrism, which we partly identify in this situation and relate to **RQ1**. Maybe due the confirmation of our perception of possessing the technical knowledge, the consultation with them became neglected. We took the command and demanded a measure without a deeper reflection for other views. With this in mind, an underestimation of their local experiences took place and might resulted in a distorted balance of power from their view.

Suggested by Hemmati et al. (2002), dialogue can facilitate the integration of expertise, needs and concerns in a group of people with diverse backgrounds, which can be related to the stated example. From our point of view, the dialogue was not utilized but could have promoted common understanding at an earlier stage. A more focused dialogue could have raised our awareness for the demanding process of measuring the depth and promoted the Hospital Management's understanding of the importance for the correct depth. In line with **RQ2**, the collaboration could have been improved by an enhanced dialogue.

5.2.2 Introducing Local Actors

During the Evaluation Phase, we contacted an established corporation, the *Pump Supplier*, in Tanzania to get proposals and quotes for different pump solutions. A

benefit of this process was that our contact person at the corporation had been involved with the project in Kolandoto before and was thereby well familiar with Engineers Without Borders. We perceived the communication with the *Pump Supplier* easy to manage, probably also as the contact person talked English fluently. Accordingly, no specific barriers were identified related to **RQ1**.

In contradiction to the collaboration with the *Pump Supplier*, other collaborations were more complicated. The contact with an important equipment installer, referred as the *Equipment Installer* was managed by the *Medical Officer*, completely without our involvement. The intention for us was to be a part of every step of the process, but we perceived that the *Medical Officer* wanted to have the responsibility of this contact. It also came to our knowledge that the *Equipment Installer* had visited the hospital without our knowledge. The *Medical Officer's* behavior towards us felt distant and we experienced that we were underestimated by him. We expressed our ambition to be involved in the progress but at this stage, but we received no explanation of why we were excluded. A reason could be that the *Medical Officer* did not perceive it important for us to participate, but the underlying motivations from both parties were not communicated.

After four weeks of challenging communication and difficulties for the *Medical Officer* to get in contact with the *Equipment Installer*, a quotation was received. Due to the unexpectedly high price and our insecurity towards the company, we decided not to hire them. This was the most time-consuming process throughout the project and was the main reason for the delay in relation to the intended schedule.

Due to our non-shared contact with the *Equipment Installer*, hence no dialogue took place. According to FAO (2018), one purpose with the MSPs approach is to reduce waste of time by grow stronger relationships and having shared power. Along with this statement, this was not achieved in this situation and the collaboration was in our opinion more complicated than we expected, also connected to **RQ2**. We had no knowledge about why the *Equipment Installer* took such time or if they had certain requirements.

In the interview with *Medical Officer*, we expressed our dissatisfaction with us being excluded and he explained that it could have been challenging for us if we had the contact with the *Equipment Installer*. He expressed that the company might perceived us having a lot of money as being part of a Western organization. This prejudice possibly counteracted the collaboration, connected to **RQ1**. Our insufficient participation costed us a lot of time and limited our insight into the process.

Another barrier we experienced with all involved local actors, also stated in *International Business* as a relatively known cultural difference, is different perceptions of time. This was also confirmed in one interview where the *Health Secretary* expressed:

"Actually you tried a lot to adjust to the environment, especially on time. In Africa sometimes time's a bit, we are not so hectic, not so hectic schedule, not a lot of pressure and things like that"

- Health Secretary

The *Health Secretary* meant that we adjusted to their time perception, and in Africa, they do not focus on time efficiency and strict schedules.

We made a significant effort of adjusting to the local time perception and got accustomed to daily delayed meetings. Parts of the Hospital Management did also adapt some extent to our time perception, but the adaption did not affect the overall time issue. Almost no tasks were accomplished according to schedule and after some time we felt significant pressure due to our limited time on site. Even though it was not explicitly expressed from the hospital or the external donors, we perceived expectations to accomplish an increased water supply within the given time frame. This resulted in us communicating with more authority as the project proceeded, which was counteracting an involving collaboration with dialogue in focus. This could be linked to the question stated in **RQ2**.

5.2.3 Assessment of Solutions

The exchange and involvement of the Hospital Management decreased unintentionally when assessing the collected information. The evaluation of the engineering aspects of the current borehole and the water distribution system was primarily performed by us together with the HHPG. Without an expressed need for exclusively our technical expertise, we interpreted that it was implied for us to perform this work as we together with the HHPG as we possessed engineering competence. However, with no consultation from the Hospital Management regarding local experiences and techniques our approach was to some extent resembling the theory stated by Odén (2006). Odén (2006) highlighted that the issue of making decisions by foreign specialists without considering the local expertise was present already in 1950's and 1960's.

Our approach during the assessment can be associated to all three research questions. In this process, we partly identify the collaboration barrier ethnocentrism which is connected to **RQ1**. Furthermore, responding to **RQ2** with limited inclusiveness we did not enhance the collaboration. This is further connected to **RQ3** as we believe that the unintentionally neglected dialogue led to impaired ownership for the hospital as they received limited knowledge of the technical background for the decision-making.

5.2.4 Meeting with Local and Regional Authorities

The meetings held with the local and regional authorities gave us a comprehensive overview of the current situation in the area. By sharing information, local

ownership could be enhanced and the project more adapted to the context (FAO, 2018). During the meetings, the authorities confirmed that the Mkula Hospital project was relevant and declared that no interfering with other efforts prevailed. These meetings encouraged dialogue, connected to **RQ2**, which further promoted common understanding. In turn, this facilitated our ability to adapt the project to the local context, which is related to **RQ3**.

5.3 Procurement Phase

During the *Procurement Phase*, all decision-making together with the Mkula Hospital took place and the essential local actors for the proposed solution entered the project. Further, signings of *Contract Agreements* with the majority of the local actors were performed.

Throughout the whole *Procurement Phase*, the time challenges were still very remarkable among all involved actors, connected to **RQ1**. In order for the planned meetings to take place, we always had to be within a near distance to the office of *Medical Officer* and available at all times.

5.3.1 Decision-Making with Mkula Hospital Management

The results of our assessment were clearly explained and discussed with the Hospital Management, particular with the *Medical Officer*. This was made in line with the statement by Odén (2006), that future suitable maintenance can be planned if the recipient is involved in the decision-making. Sida (2017a) also states that outcomes in the long term are more likely to be successful when promoting involvement. Concerning **RQ3**, by communicating technical and economic aspects of the potential solutions the hospital could be more present in the continuous process, which also increases ownership of the project.

The proposed pump solution included monthly operation costs leading to higher expenses for the hospital. We emphasized the amount through several meetings and insisted that the Hospital Management should carefully evaluate this expense. We made several attempts to get us more informed over the economy. In this way, parts of their monthly costs were presented to us. This is linked to **RQ3** as sharing the responsibility with the recipient in order to reduce aid dependency is underlined by Bjerningen (2013). Although, we had no ability to fully ensure the long-term economic sustainability of the proposed solution as we lacked sufficient insight. This information sharing could have been improved if the dialogue about their economy had taken place already at the beginning of the *Evaluation Phase*.

In the *Initiation Phase* when discussing the Project Plan, the Hospital Management was asked by HHPG to contribute with a small share of the project investment. However, nothing was decided. The motivation for the HHPG was to promote local ownership and dedication, connected to **RQ3**. Due to the increased monthly cost for the hospital to operate the new pump, we together with HHPG

decided to not ask about the investment again. We considered their monthly costs to be enough to feel ownership over the project.

When we involved the Hospital Management further we experienced an improved collaboration linked to **RQ2**. We started to present our thoughts on how to proceed with the project and what elements to consider. Without any formal invitations by the *Medical Officer*, we appeared on his office every day to share information of the progress. Our formal and informal communication with the *Medical Officer* got more relaxed and a more mutual understanding was developed. Hemmati et al. (2002) explain that involving in dialogue entails "*move from hearing to listening*", which is recognizable in this progress. It is also highlighted that dialogue can encourage an inclusive collaboration with consensus-building and commitment to implement a practical solution. At this stage, we perceived that it was easy striving towards a common goal. Both the *Medical Officer* and the *Health Secretary* expressed in their interviews that they had felt a lot of involvement in all decisions regarding the project and impacts on the hospital. Quoting the *Health Secretary* regarding the involvement in the project and the sharing of the investment:

"I think the involvement was very good. Especially on the project itself. And in the decision-making especially we were involved a lot and in every step you are doing and also economic aspects because the project we were informed before that it we will be sharing. Some sorts of sharing in the project and we were planned to do so. [...] We were involved, and economic aspects, decision-making process were very good. We decided together."

- Health Secretary

To clarify, the *Health Secretary* thought that the involvement of all steps and the decision-making in the project were good. Further, he states that they were well informed to participate in sharing the investments regarding increasing the water supply.

5.3.2 Agreeing Terms with the Local Actors

Our established relationship with the Hospital Management allowed us to act in unity when involving the local actors in the project. This was confirmed during the interview with the *Medical Officer* who expressed:

"Yes we have so much involved. We have calculated together. For example that building, we worked together. Also with "Installer A", we worked together. Discussing the prices and everything."

- Medical Officer

The *Medical Officer* states that the Hospital Management have been involved in the processes with the local actors. He further means that he calculated the tender

from the *Contractor* together with them and us. Additionally, the Hospital Management worked together with us when discussing the prices and more from *Installed A*.

Moreover, the *Project Coordinator* stated in the interview that it was important that Mkula Hospital was responsible for all contract signing and payments in order to promote local ownership, associated with **RQ3**. This was mediated by the HHPG and jointly stated in the initiation of the project. Therefore, the *Medical Officer* signed all the contracts with the local actors. Stated in the MoU, the donation should be transferred from HHPG to Mkula Hospital. After receiving the donation, the hospital is fully responsible for finalizing all payments to the respective actor.

In accordance with MSPs, the aim is to involve the relevant actors in the process and together improve the collaboration by building trust, share power and having common advantages (Hemmati et al., 2002). In the process of constructing the pump house, we needed local expertise as our competence was limited in this context. Namely, we lacked knowledge about the advantageous choice of materials, choice of house construction, local ground conditions and foundation methods. Thereby, when meeting the *Contractor* we aimed for an including and dialogue based collaboration to facilitate knowledge sharing, in line with **RQ2**.

The situation when deciding the pump house design is an event where the dialogue promoted a common understanding between us, the *Contractor* and the *Medical Officer*. The first meeting with the *Contractor* was held on the site of the borehole with the *Medical Officer*, the *Hospital Engineer*, the architect student and us present. Together, we inspected the site and discussed solutions for general pump house designs. The windmill was placed straight over the borehole, therefore it felt obvious to us to dismantle it in order not to block the new pump house. Surprisingly, when we communicated this to the *Medical Officer*, he responded that it was impossible. It would be very labour demanding and expensive to dismantle it, with a need of hiring machines from distant cities. Further, the *Medical Officer* expressed the lack of space to store the pieces from the windmill as it was unimaginable to throw the material since they wanted to keep it as a backup solution.

From the beginning, both sides were unaware of the others way of thinking. We did especially not understand them and argued why the windmill should be removed in order to build the most advantageous house over the borehole. It felt like a debate started to take place and the communication was relatively hard. After a brief discussion, we began to understand their view of the situation. With better understanding and insight, we came up with an alternative solution of building a wall enclosing the windmill and with an attached house, see blueprints in Appendix D. After proposing this solution, it was noticeable that the *Medical Officer* was satisfied.

In relation to the literature and **RQ2**, the explained situation can be partly contradictory. The collaboration between us and the *Medical Officer* was promoted by having this discussion. However, Hemmati et al. (2002) propose that sensitivity and open dialogue without arguing should develop common strategies based on combined views. Having a dialogue at an earlier stage, preferably already in the *Evaluation Phase*, could have facilitated the investigation of what to implement at the borehole site instead of starting an unnecessary debate. The earlier dialogue would probably have been more beneficial to clarify the views of both parties. Regardless the undesirable way of our communication, the Hospital Management got large influence over the house design and thereby it might encourage local sustainability. This can be related to **RQ3** and the statement by FAO (2018); sharing local information that leads to common decisions supports local ownership of the project and makes the implementation more likely to become sustainable.

Through formal meetings with the *Contractor* and *Medical Officer*, we agreed on the setup for the house construction and calculated the tender together. When negotiating, we experienced this collaboration as satisfying since all parties were involved and aware of the progress. We also felt like all parties expressed their opinions and were pleased with the decisions. However, prior to the contract signing problems occurred, which are explained further in Section 5.4.

Furthermore, we perceived the collaboration with the *Installer A* and *Installer B* more as we expected and easy to manage. The responsibility for the contact with the *Installer A* was shared between us and the *Medical Officer* which made both parties aware of relevant information and future events concerning the specific installation. We appreciated being more involved in the communication and it facilitated our coordination with the other local actors. With *Installer B* we could not communicate in English, therefore the information sharing and negotiation were managed by the *Medical Officer*. We were still part of the meeting and could mediate our thoughts through the *Medical Officer*. The language barrier with *Installer B*, as concerned in **RQ1**, could nevertheless be overcome through the involvement and collaboration we had with the *Medical Officer*.

Related to **RQ2** and presented in the literature, MSPs are contributing to open up to dialogue which can build stronger partnerships, including trust and shared power Hemmati et al. (2002). Our collaboration approach at this time could thereby be linked to the theory since it felt involving. With clear common goals and stated requirements before we negotiated with the external actors, the signing of the Contract Agreements with both installation companies proceeded effortlessly. By effortlessly we mean that the local actors met our expectations by using our formalities without conflict. We cannot be certain if contracts of this kind are used locally, as we were unfamiliar with the local routines. Therefore, if this was unusual to the local actors, the signing of contracts could have indicate lack of us trusting them.

As mentioned, the collaboration with the *Pump Supplier* was proceeding well in

the *Evaluation Phase* and was continued when agreeing on the final terms. Despite continuous remotely contact, we perceived an impeccable communication. We had numerous questions regarding the installation process and our contact person always responded fast and clear. This facilitated a common understanding of what we wanted and to what extent they could meet it, how and when in the process. The communication can be put in relation to theories of MSPs that are based on participation among stakeholders, where issues and questions are clearly addressed (Hemmati et al., 2002). Further stated by Hemmati et al. (2002), collaboration can be promoted by strengthening the network among stakeholders, linked to **RQ2**.

We decided to purchase the services of the *Pump Supplier* without introducing and signing a Contract Agreement. This was foremost done due to our time constraint at this stage. Furthermore, we felt secure with this setup considering the good reputation of the company and their clear quotes and warranties.

5.4 Construction Phase

During the *Construction Phase*, we encountered complex difficulties with the *Contractor*. When agreeing on the terms, our ambition was to first discuss and get tenders of different alternatives of house construction and then determine appropriate solution and sign a Contract Agreement. This due to the choice of house alternative was dependent on the cost of each option.

We thought we communicated this clearly and further asked the *Contractor* when they could start. They told that they were able to start the upcoming day. After discussing and not yet chosen a solution or signing a contract, still waiting for external tenders, we found the house construction fully initiated the next day. As we still waited for the tenders from *Installer A* and *Installer B*, we were forced to pause the construction. The *Contractor* responded accommodating to the pause and we made a verbal agreement to only pay for the labour during that day and the material brought to the site.

When the process was restarted, the Contract Agreement was signed and a thorough exchange of important details had taken place. We questioned their commencement of the construction without us making a final decision, and the *Contractor* responded that they had understood our question "When could you start?" as an indicative to start immediately. The cause of this misunderstanding is difficult to determine but may be due to cultural barriers, questioned in **RQ1**. Difficulties regarding language, time and culture were all noted connected, but how and to what extent it affected the process are uncertain.

Furthermore, several failures caused by the *Contractor* were detected during the construction. One was easy corrected without any discussion. Due to another problem, they wanted to reduce their costs by making changes undesired by us. After these complications, we were further stressed and responded with authority.

After these problems, the relationship had evolved negatively and the communication went from dialogue to debate. The new features of our collaboration contradict the aim of MSPs and is relevant to the questioning in **RQ2**.

When additional problems occurred we experienced the *Contractor* having even more difficulty in solving the issues. We believe this was due to the growing tension visible in the collaboration. Hill (2012) states that organizations who are not prepared for the practices of another culture are likely to fail, and this could be the issue in our collaboration with the *Contractor*. Hofstede and Hofstede (2004) emphasize that the outcome of the project can be heavily affected by the extent of understanding of different cultural behaviours. Therefore, further stated by Hill (2012), an adaption of the foreign culture might facilitate collaboration. We had difficulties of understanding how this relationship should have been handled or been improved after the negative evolving. No efforts were made by us to change our way to communicate or work in order to decrease the tension. If we had clarified the issues to the *Contractor*, or at least to the *Medical Officer*, our collaboration could possibly have been improved.

In the middle of the house construction process, the *Contractor* introduced a new issue. They explained that the current house construction could not handle heavy rainfall and suggested to build a wall in front of the house to stop the flow of water. We were very skeptical of this solution and communicated our skepticism to them. However, the Hospital Management confirmed the rain issue, and thereby we decided to handle the problem but with a cheaper solution. It felt important for us to ensure long term sustainability for the house as far as possible. In order for us to feel more secure, we made an additional attachment of requirements to the contract for them to follow.

The project was performed adjusted to our working methods without communicating them or being familiar with local practices. When agreeing on the terms, we expected the Hospital Management and the *Contractor* to contribute with relevant local expertise. Although, we never asked them specifically about what local conditions to consider at the site. Furthermore, they possibly thought we possessed that competence as we did not ask for the Hospital Management's expertise in the *Evaluation Phase*. Relating to **RQ2**, our lack of communicating our limited knowledge about how to perform a construction procurement locally might be the cause of the disadvantageous collaboration.

5.5 Handover Phase

Since the project was in full operation and would continue after our departure from Mkula, it was essential for us to ensure that the Hospital Management was fully involved in the development of the project. Through several occasions of involvement, we were able to clearly review important documents together with

the *Medical Officer*. The documents contained information about all the local actor and their responsibilities, their own requirements and deadlines for payments. Together with the Hospital Management, we developed a time plan and chose responsible persons for the contact with the local actors and managing of the remaining steps, associated with **RQ2**. Reviewing all components of the project and developing a time plan together promoted full control of the project for the Hospital Management, which can be related to **RQ3**. Reviewing the documents is a way to communicate important milestones and share reflections. Although, as the *Project Coordinator* stated in the interview, this approach might not be adapted to the context and mainly to reassure us that our responsibilities are submitted.

It was beneficial that Mkula Hospital had been involved throughout the project and thereby built own relationships with all the local actors. The ambition was to finalize the pump installation before our departure, but due to the unforeseen dimension of the project, this could not be achieved. However, the *Project Coordinator* highlighted that the Hospital Management's full responsibility over the project and its completion did possibly promote their ownership.

After our departure, the correspondence was only through occasional mail conversations between the HHPG and *Medical Officer*. Naturally, the communication and collaboration become restricted due to the physical distance. It was further restricted by the unstable internet connection at Mkula Hospital and limited local access to modern technology such as computers and smart phones. These can also be recognized as collaborative barriers linked to **RQ1**.

5.6 The Outcome of the Project

The successful result of implementing a new water pump, despite our absence in the finalization of the project, indicates that the assembly of all actors worked to a sufficient extent. Although, the information we received from the *EWB Representative* informed us that some final details of the pump house construction were unsolved. However, the continued collaboration between the Hospital Management and local actors after our departure is not considered in this study.

6

Discussion

The highlighted results and analysis from our experiences in relation to the research questions and theories are further discussed within this chapter. The discussion is based on how the process could have developed if we had been aware of the collaborative issues when being on site. It is discussed how applying parts from the MSPs approach could have affected the collaborations during the Mkula Hospital project. Furthermore, the methodological choices are discussed.

6.1 Overcome Barriers by Implementing MSPs

In our study, we identified several barriers in terms of collaboration. There are occasions where an involvement already in the beginning of the process could have facilitated a better sharing of knowledge among us and the local actors. The theory of MSPs could have enhanced the collaboration with more information sharing and understanding of ambitions and motivations of the other parties.

6.1.1 Two-sided Dependency

The collaboration between us and the Hospital Management involves dependency from both directions. The Hospital Management is dependent on us as we have a large influence on the donations. This is likely to affect how they act and how they express themselves to us. For example, when having the interviews with the members of the Hospital Management, we did not receive any negative feedback even though it was requested. In order to focus on the right needs and adapt the implementations to the local context, we are dependent on criticism. The environment between us and the Hospital Management must be open and outspoken and different opinions and experiences must be communicated. This could also enhance the process of the project, with the opportunity to adapt the working procedures more to the desires of the Hospital Management.

Our ambitions were to make the hospital feel involved and have ownership over the project, but the unbalanced distribution of power is complicated to overcome. A specific solution on how to overcome this relationship structure is difficult, but the MSPs approach emphasizes several aspects that could have been useful. In order for us to gain more knowledge of the local context, a more present dialogue with the Hospital Management could have been beneficial. For instance, a workshop with the Hospital Management could have been performed at the beginning of the

Evaluation Phase, asking for their expertise, thoughts and what aspects to consider.

Further, instead of only asking the *Hospital Engineer* for information we could have involved him and the other key persons in an open dialogue about local ways to approach the water issue. By doing so, we could have received relevant information outside of our original ideas. Further, more involvement could have facilitated our understanding of the local context in all phases throughout the project, knowing where to focus or not. Increased knowledge sharing could make the distribution of power feel more equal and thereby might facilitate them giving us feedback. Another positive effect of involving them in the *Evaluation Phase* could increased their dedication to the project.

6.1.2 Language and Perception of Time

Two barriers frequently identified in this project are the different perceptions of time and the diverse languages of the participants. Using a professional interpreter during all meetings could be a way to overcome language barriers. This could facilitate information sharing and avoid situations caused by misunderstandings. An interpreter could in addition to translating also identify and explain the intentions of the different parties. The differences were difficult to identify and understand without external assistance, since we were not familiar with the context. The purpose of the Mkula Hospital project was to have a key contact person, the *Health Secretary*, during our time on site. However, while supporting us he still had to comply with the demands of his job at the hospital which led to insufficient support and mediation.

Our time on site in Mkula was very limited and we perceived pressure to accomplish the project during the time frame. We felt a responsibility to succeed with the project mainly due to expectations from the hospital but also from our donors. Our time pressure accompanied with the different local perception of time led to expressing ourselves with authority. This counteracted collaboration and thus impaired the project process, especially with the *Contractor*.

The barrier of different time perception is challenging to overcome. However, if we had more time on site or the extent of the project was smaller, we might have been more accommodating. In addition, we could have adapted more to the local routines. A way to facilitate our understanding of the local context and time barrier could have been to implement MSPs during the *Initiation Phase*. By doing so, the barrier of time perception could have been easier for us to communicate to the Hospital Management. By presenting and discussing our different cultural routines, the Hospital Management would have been able to get better insight into our understanding of time limits. As such, this would hopefully have resulted in them being more willing to compromise.

6.1.3 Ethnocentrism and Expectations

A significant obstacle regarding collaboration, both stated in the literature review and analysis, is the presence of ethnocentrism. Several identified barriers to collaboration could be connected to this, such as creating relationships with the hospital staff, addressing the different time perceptions and usage of formalities. As we were unfamiliar with the local context and possessed limited knowledge about the culture, we perceived many new changes negatively. During the integration with the local actors, we perceived the collaboration with the *Pump Supplier* as satisfying and with the *Contractor* as less favorable. It can be discussed if we perceived the collaboration more satisfying when it met our expectations and the routines we are used to. We found the *Pump Supplier* easier to collaborate with, probably since they had former experiences working with EWB, had similar working routines and possessed good knowledge of English. With the *Contractor* we experienced the opposite, possibly as they had less experience of foreign collaborations and did not possess a knowledge of English at that high of a level.

When collaborating with local actors, mutual understanding of each others' cultures can be beneficial in order to succeed with the objectives of the project. By a dialogue approach, different habits, routines, expectations, ambitions and responsibilities within the project can be introduced and further develop to common strategies and goals. Gathering all involved actors in a meeting before installations and construction could have facilitated a clearer collaboration with stated responsibilities between all parties.

6.1.4 Impact of our Gender, Age and Role as Students

Several weeks into the project, our relationship with the *Medical Officer* developed and was strengthened. This made it easier to communicate and work together. However, we did perceive skepticism in the first weeks of the project. There are various factors that could explain this. This situation and the project was unfamiliar to the *Medical Officer* and additional staff of the hospital. However, since Hofstede and Hofstede (2004) state that it is common with foreigners being skeptical towards new cultures and that prejudices are common, it is relevant to discuss if this was also the other way around. The question can be raised if the skepticism from the *Medical Officer* was due to us being female, our relatively young age or our role as students. The impact of these aspects is unknown, therefore it is difficult to create a strategy to overcome them.

6.2 Involvement to Promote Local Ownership

Our ambition was to reduce the risk of future aid dependency for Mkula Hospital in our project. To prevent this, shared responsibilities between the donor and

recipient are emphasized in the theory and further analyzed. The Hospital Management was involved to a large extent throughout the project and thereby accessed extensive information about the development of the project. Possibly as a result of this, they finalized the project without our participation but could have received more knowledge regarding the technical background. Furthermore, if we had promoted an even more involving collaboration in the project we could have gained more information of the local conditions and thereby done more appropriate priorities within the project. Due to the outcome, the main purpose of the project was accomplished. Although, if the solution is customized to a sufficient extent will only be evident after a longer period of time.

6.3 Challenges to Implement MSPs

Further involvement in the majority of the phases in the Mkula Hospital project is suggested. This can, however, be difficult to implement in some situations. Mkula Hospital has very limited resources and relatively few employees. Thereby, the members of the Hospital Management occupy several roles simultaneously and their dedicated time for the project can sometimes be limited.

Furthermore, it would have been advantageous to gather all local actors together in a meeting to establish common goals. However, we consider this proposal difficult to implement in practice due to our challenges of even achieving a meeting with one actor according to schedule.

The need for implementing an involving approach seems to depend on the actor, which is also worth considering. From the analysis, the need for involvement appears to be most essential in the collaboration with the Hospital Management. Further, it also appears to be important in the collaborations with the *Equipment Installer*, *Installer A* and *Contractor*. Thereby, the approach might be more important to implement in the collaboration with actors having more power and larger influence in the project.

6.4 Consideration of the Methodology

The results are highly affected by the use of an inductive approach of performing the literature review after the case study. Before the case study, we aimed to find approaches to make aid projects of this kind more effective. Yet on site, we experienced that the lack of understanding among the different parties was a more remarkable issue. Therefore, we searched for approaches to enhance common understanding and found the theory of involving actors through the MSPs approach. If the literature review had been performed before the case study, other theories than the MSPs approach would probably have been used and other results obtained.

To increase the validity of the study and thereby the quality, three sources of evidence were used. The most extensive source was participant observations, which includes us both thoroughly participating in the project and studying the issues. This can be seen as one of the study's advantages as we had extensive insight into the contemporary events. On the other hand, it must be kept in mind that this entails that the analysis is heavily based on our own experiences and reflections. The attempt was to give an impartial view, but completely unbiased analyses are difficult to obtain.

Another source of evidence in the study was interviews. The interviews with members of the Hospital Management were made before finding the MSPs theory and the interview with the *Project coordinator* of HHPG was performed after. In order to increase the validity of the study, additional interviews after finding the theories could have been initiated, both interviews with more members of the HHPG and additional with the Hospital Management. This could present their opinions and views of the MSPs approach and dialogue. Due to the poor internet connection and access to devices as smart phones and computers, interviews were difficult to perform remotely. Additionally, interviews with more members of HHPG were not performed due to time constraints of the study.

During both the interviews and the participant observations, a professional interpreter could have been used to increase the validity of the study. An interpreter could have reduced the always present language barrier during the case study and thereby facilitated the understanding of other occurring phenomena.

Another effort to increase the quality of the research was to limit the study and to only focus on the Mkula Hospital Project. However, due to the limited scope of only studying one case, it is difficult to distinguish to what extent the findings are influenced by the individuals who participated in the project.

7

Conclusions

The main conclusion of this study is that the three research questions are associated with one another. The barriers identified in the Mkula Hospital project, requested in **RQ1**, can partly be overcome and promote collaboration through the involving approach inspired by MSPs. This is described in the literature review, which answers **RQ2**. In turn, a more consistent involvement of the Hospital Management throughout the project process could be a way to promote local ownership for Mkula Hospital, linked to **RQ3**.

RQ1: What barriers can be identified in terms of collaboration between us and the parties on site within the Mkula Hospital project?

Throughout this study, several barriers in terms of collaboration between us and the local parties within the Mkula Hospital project have been identified, answering **RQ1**. Two expected but still challenging barriers were language and perception of time. Time is difficult to overcome, but in order to facilitate communication, it could be beneficial to use a full-time interpreter. We also identified ethnocentrism as a significant barrier to the collaboration in the project. It is difficult to change one's own cultural behavior and responding to new situations that are unexpected. When things went according to our expectations, we perceived it successful.

RQ2: According to the literature, how can we promote collaboration in the Mkula Hospital project?

It is important to be aware of the cultural differences and trying to adapt more to the local context. An involving approach inspired by MSPs can contribute to sharing different experiences, motivations and expectations in an earlier stage, responding to **RQ2**. This can facilitate to overcome barriers, and with present dialogue, diverse views can be developed to common strategies and goals. Several situations where an open dialogue took place resulted in promoted collaboration. Thereby, a conclusion is that further dialogue could be useful in the project.

RQ3: What aspects of the project need to be strengthened to promote local ownership for Mkula Hospital?

An involving approach can promote local ownership, since solutions can be more adapted to the local context. When involving the recipient throughout the whole process, the implementations can be further maintained locally and thereby be sustainable. A general conclusion is that an improved dialogue is important in many aspects to promote local ownership for Mkula Hospital, answering on **RQ3**. Although, local ownership can also be achieved without a dialogue.

8

Recommendations

Recommendations for future similar small-scale aid projects are presented in this chapter. Further, recommendations are proposed for future studies.

8.1 Recommendations for Future Projects

The recommendations for future similar small-scale aid projects, primarily projects initiated by the HHPG, are:

- It is important for the aid worker to understand the local context and its constraints. We also recommend to prepare as far as possible for new cultural occurrences.
- Employ a professional interpreter throughout the time on site to facilitate the communication and overcome the language barrier.
- Initiate the project with a simple workshop for mapping the experiences of technical solutions and former involvement of aid work among the involved.
- Actively involve the local opinions and views on how solutions and approaches can be performed in the context. Recommended to be done early in the process and be aware that we do not access all competence.
- During a project, it is important to continuously reflect on how the collaboration in a project develops and be aware of the different perceptions of involved actors.

8.2 Recommendations for Future Studies

These are the suggestions for future research:

- For future studies, it would be interesting to see if a dialogue-based collaboration can work in this context, and use the theory of Multi-Stakeholder processes in action.
- Another suggestion is to apply the theory of Multi-Stakeholder processes to other types of construction projects including cross-cultural collaborations.

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A

Appendix - Interview Questions

A.1 Hospital Management

A.1.1 Medical Officer

- Has Mkula Hospital or the village of Mkula been involved in any other aid projects before?
- What was your previous attitude towards aid work?
- What was the motivation for the hospital to be a part of the Healthy Hospitals Project?
- Did you have any personal motivation?
- How was the information from the Project Group before the project?
- Has the contact and communication before been enough?
- Were you well informed about the time frame of the project? How did the hospital management prepare?
- How do you experience our (Nanette and Angelica) role in the project? What do you think it should be? How do you experience our way to work?
- What do you think about the communication? During the project, has it been easy for you to understand us and our motivations?
- What could have been done differently in the project from both sides?
- Do you feel that you have been involved in all parts?
- Have you felt involved in the decision-making? Would you like to have had more influence?
- Have you felt involvement in economic aspects?
- When we leave, what do you think about future challenges?
- What do you expect for a phase 2? After phase 2?
- How long do you think this collaboration should continue?
- Are you interested in a phase two?
- What do you think could be the advantages and disadvantages of us being involved with the different parties such as the pump supplier and contractors?
- Do you have something to add, something that surprised you about us or the way we work?

A.1.2 Health Secretary

- Has Mkula Hospital or the village of Mkula been involved in any other aid projects before?
- What was your previous attitude towards aid work?

- What was the motivation for the hospital to be a part of the Healthy Hospitals Project?
- Did you have any personal motivation?
- Have you or the hospital staff obtained new knowledge during this project?
- What was the information about the project before our arrival?
- Were you well informed about the time frame of the project? How did the hospital management prepare?
- How do you experience our (Nanette and Angelica) role in the project? What do you think it should be? How do you experience our way to work?
- What do you think about the communication? During the project, has it been easy for you to understand us and our motivations?
- What could have been done differently in the project from both sides?
- Have you adjusted your way to work when collaborating with us, if so - how? Do you feel that we have adjusted?
- Do you feel that you have been involved in all parts?
- Have you felt involved in the decision-making? Would you like to have had more influence?
- Have you felt involvement in economic aspects?
- When we leave, what do you think about future challenges?
- What do you expect for a phase 2? After phase 2?
- How long do you think this collaboration should continue?
- What do you think could be the advantages and disadvantages of us being involved with the different parties such as the pump supplier and contractors?
- Do you have something to add, something that surprised you about us or the way we work?

A.2 Project Coordinator of Healthy Hospitals Project Group

- What gained experiences from earlier phases within the Kolandoto Hospital project were useful for this project?
- In what ways do you think the Healthy Hospitals Project Group promotes local ownership?
- How does the Healthy Hospitals Project Group look at the extent of the Mkula Hospital project in terms of aid dependency?
- What could be the advantages and disadvantages of being a small executive project group with responsibilities towards NGOs, such as Engineers and Architects Without Borders?
- Who are the internal actors and donors, and what power do you perceive they possess within the project?
- How and to what extent has the communication between the internal actor proceeded?
- What was the purpose of the MoU and was it fulfilled? Should the content be decided together with the Hospital Management or was it just an opportunity for them to read it through and sign?

- Do you perceive that we have encountered difficulties regarding the collaboration with the Mkula Hospital Management? If so, what difficulties?
- Did you experience cultural differences which hampered the collaboration with the Mkula Hospital Management? If so, what differences and how did they affect the collaboration?
- Have you experienced differences of working with Mkula Hospital and Kolandoto Hospital? If so, can you give any example?
- How did the communication between the Healthy Hospital Project Group and Mkula Hospital Management continue after us leaving Mkula?
- According to you, how should the work in future phases be developed in order to improve the collaboration?
- Do you think that the Mkula Hospital Management could have been more involved in the calculations and evaluation during the first two weeks of the project?

B

Appendix - Memorandum of Understanding (MoU)

Memorandum of Understanding

Between

Mkula Hospital (MKH)

and

Architects Without Borders (ASF), Engineers Without Borders (EWB)

This Memorandum of Understanding (MOU) sets for the terms and understanding between MKH and ASF and EWB for Healthy Hospital Phase 1 Mkula.

Background

The collaboration between the Swedish partners started in 2014 with Healthy Hospital phase 1 together with Kolandoto hospital that aimed to survey for water and electricity needs. That collaboration grew during 2015 and 2016 with an implementation of some of the recommendations. Phase 1 of Healthy Hospital Mkula will replicate phase 1 of Healthy Hospital Kolandoto, but with the new partner MKH. The importance of a clear working agreement where ownership is clearly with MKH is of utmost importance. MKH is the initiator and the partner that has created the framework for the other partners to work within through the approved project plan Healthy Hospital Phase 1.

Purpose

This MOU will clarify responsibilities of the different partners in the collaboration with the aims and goals stated in the Healthy Hospitals Phase 1 project plan.

Further this MoU aims to clarify the decision making structure within the collaboration.

Decision making structure

MKH has full ownership of the project and final decision-making power in all project related questions. To facilitate an effective cooperation the MoU consider that through the approved project plan Healthy Hospital Phase 1 Mkula, EWB and ASF has received a mandate to work and execute the activities within that framework bearing in mind continues updates to MKH.

When a question arises that falls outside of the project plan EWB and ASF will discuss and make either a recommendation or more than one proposal for MKH to take a decision on.

Reporting

All listed partners are responsible for evaluation of effectiveness and adherence to the agreement throughout the project period. Evaluation of each activity will happen after finalization of the activity by responsible partner. Input of overall cooperation will be gathered by the Healthy hospital project group and finalized in the final evaluation of phase two due 20181231.

Duration

This MOU is at-will and may be modified by mutual consent of authorized officials from (listed partners). This MOU shall become effective upon signature by the authorized officials from the (listed partners) and will remain in effect until modified or terminated by any one of the partners by mutual consent. In the absence of mutual agreement by the authorized officials from (listed partners) this MOU shall end on (20181231).

Contact Information

Partner name: Mkula Hospital

Partner representative: [REDACTED]

Position: Medical Officer in Charge

Telephone: [REDACTED]

E-mail: [REDACTED]

Partner name: Engineers Without Borders

Partner representative: [REDACTED]

Position: Project coordinator

Partner name: Architects Without Borders

Partner representative: [REDACTED]

Position: Architectural design

Date:

(Partner signature)

([REDACTED] , Mkula Hospital, Medical Officer in Charge)

Date:

(Partner signature)

([REDACTED] , Architects Without Borders)

Date:

(Partner signature)

([REDACTED] , Engineers Without Borders)

C

Appendix - Project Plan

Healthy Hospitals

2017.016 Mkula Hospital

Phase 1

Version 1

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INTRODUCTION

Background

Healthy hospitals is a project which started in 2015 when the infrastructure at Kolandoto Hospital in the Shinyanga region, Tanzania, was studied. The project in Kolandoto was divided into three different phases. In the first phase, the entire infrastructure at the hospital was examined. Also, a new groundwater pump was installed in order to improve the current water supply. During the second phase, a solar powered back-up system was installed due to regular power cuts which could have severe implications. In addition, a new water treatment process, was installed for the new groundwater pump.

In the third phase, an evaluation was conducted, where project members and hospital staff were interviewed regarding the implementation of the Healthy hospitals project.

In 2017, Mkula hospital made an enquiry regarding assistance with infrastructural issues. A first study visit was made during the third phase in Kolandoto, where an initial contact with Mkula management was established. In late 2017, a second study visit was conducted and a more thorough overview of the infrastructure, and its deficiencies was made.

Current state

The current electrical distribution system has deficiencies which needs to be addressed. The Mkula hospital are on a weekly basis experiencing power outages. The outages could possibly lead to harm to both property and people. Mkula hospital has theatres which are unprotected today from outages. The current water supply is currently not operating on electricity but will have to in a future with a more sophisticated water pump.

The water supply is facing several difficulties which are complicating the water distribution. The water pump is situated 2 km from the consuming areas. The pipeline is under dimensioned for the water demand. The water pump itself is operating with by a windmill which is not a reliable source of power for a crucial installment as a water pump. Therefor an electrical connection to the water pump is preferable.

Purpose

The purpose of the project at Mkula hospital is to investigate and evaluate the infrastructure and the buildings. The investigation will be documented in a Survey Report, where recommendations for future improvements will be state. The report will be used in a possible second phase of the project.

The purpose of the project is also to improve the current water supply, using received funds from different foundations. The layout of the technical installation will be decided during the first phase of the Mkula project. However, the project will aim to maximize the possible water outtake from the current borehole as soon as possible.

The purpose of the project is to create an architectural master plan together with the hospital with long term goals of the hospital taken into consideration. The idea is to locate the most acute needs and tend to them first, this located buildings might be developed in a possible second phase of the project. The idea is also that the master plan can be used for many years to come, as the hospital grows in a steady pace.

Lastly, the purpose is to while working with the master plan and Survey Report find small projects, so called low hanging fruits, to work with on site to help the hospital in an direct way to give safe care.

PROJECT

Guidelines

The Healthy Hospitals Mkula Project is carried out according to some elementary guidelines in order to be a successful and sustainable aid project. To achieve this, the project should:

- Aim to reduce long term aid dependency.
- Focus on the recipients main and most relevant issues and challenges.
- Pursue recipient involvement and ownership at all stages of the project.

Aid dependency is a problem following all aid work. The Healthy Hospital Mkula Project should therefore **aim to reduce long term aid dependency** by implementing economical and social sustainable solutions and systems. Implemented solutions should not result in unnecessary costs or maintenance which the hospital cannot bear.

To **pursue recipient involvement and ownership at all stages of the project**, the Mkula hospital management or relevant hospital staff should be involved in the project from its beginning to the end. The chosen aims, goals and priorities should be decided by the hospital management and architectural and engineering group together. However, the hospital management will have final say in all major decisions in the project and the architectural and engineering group should only offer its professional advice. Future responsibility for implemented solutions, systems, buildings and so on lies with the Mkula Hospital management.

Focus on recipients main and most relevant issues and challenges means that the Healthy Hospital project priorities should be done with the aim to increase the hospital's possibility to, now and in the future, provide better and safer healthcare to more people. When possible, the

project should also be performed so that it is beneficial to the hospital staff, hospital students and the surrounding community in the short and long term. This also includes sourcing local materials and using local building techniques.

Method and structure

The Healthy Hospitals Mkula project consists of the “action group” and the Mkula hospital management board. The action group includes:

- Management (experienced architects and engineers)
- Students (architectural and engineering students)

Most work will be done by the students in the action group, with guidance from the action group’s management. The work will be done within the framework set by this project plan. Decisions or actions taken that does not comply with this project plan has to first be sanctioned by the whole Healthy Hospitals Mkula project group.

- The Healthy Hospitals Mkula project group
 - Mkula Hospital Management Board
 - [REDACTED]
 - Action group
 - Management group
 - Engineering: [REDACTED], [REDACTED], [REDACTED]
 - Architecture: [REDACTED]
 - Student group
 - Engineering: Nanette Cronemyr, Angelica Lexell
 - Architecture: [REDACTED]

PARTNERS

African Inland Church Tanzania (AICT)

The AICT is a Faith Based Organisation (FBO) whose goal is to support individuals, families and communities, both physically and spiritually. The organization is working to try to achieve quality health care for all individuals, regardless of economic status. AICT has several medical facilities and also conducts field activities. The organizations headquarter are based in Mwanza, Tanzania.

Involve Aid (IA), formerly known as I Aid Africa (IAA), is a Swedish NGO that has been working with Kolandoto Hospital and in the region since 2008. A small-scale NGO that works with sustainable and health related developments projects through locally identified needs and long term partnerships.

AICT Mkula Hospital is located in the Busega district, in the eastern part of the Mwanza-region in northern Tanzania. The hospital was established in 1986 and has a current bed capacity of 105 beds.

AICT Kolandoto hospital is located in the north-western region of Shinyanga. The hospital has cooperated with IAA since 2008.

Engineers without borders (EWB) is a Swedish NGO and they are a part of a international network which supports development projects based on engineering, often is cooperation with local organizations and their goal is to find technical solutions adapted to and with respect to local capacity, culture and values.

Architects without borders (ASF-Sweden) are a NGO, which is a part of the network ASF-International that works for sustainable and socially equitable architecture. They aim to create better opportunities for people in difficult living situations and disasters as well as solve financial and knowledge based obstacles in the way of a safe, fair and sustainable environment. Their projects are in cooperation with local organizations and seek to involve the community.

DESCRIPTION OF NEEDS AND PROBLEMS

Infrastructure

Water supply

Today, the Mkula hospital has a very low and unstable supply of fresh water. The lack of water leads to obvious difficulties for patients and staff, as well as the village community. Since the water is not only used for eating and drinking purposes, but also personal hygiene and cleaning, the water shortage can also heavily risk the health of patients, staff and others at the hospital.

Hospital laundry

The hospital has a large room for laundry, which due to malfunctioning, old equipment and lack of water is not being used to its full capacity. The lack of efficient laundry is a large burden for the hospital, and complicates the sterilization of patient clothes, bed linen and so on. This increase the risk of disease spreading at the hospital and can have a negative effect on the hospital's health security.

Mortuary

The current hospital mortuary is not big enough to satisfy the hospital's demands and it also lacks refrigeration possibilities. The hospital is therefore in need of an expansion of the mortuary and installation of a refrigerator.

Solid waste management

The hospital incinerates its solid waste in a concrete incinerator at the hospital premises. The incinerator and its roof is however severely damaged which complicates the solid waste management process. Some of the hospital's waste is dangerous, and a malfunctioning solid waste management entails great risks for the waste management staff and for the surroundings.

Structures

There is an old master plan from 1984 when the hospital was built for how to expand the hospital. This masterplan is however outdated. There is a need for a new master plan that corresponds to the hospitals needs, takes the problems stated below and the long term goals of the hospital into consideration.

Operating space

One of the biggest issue with the buildings of the hospital is the lack of operating space. There is only one operating theatre and no operating theatre for emergencies or women in labour who

needs C-sections. They are instead transferred to the general OT for their operation. There is a big need for a new operation theater by the maternity ward.

There is also not enough space for preparation and post-op and the flow of patient and medical staff needs to be considered around the operation theatres. Currently one room in the male ward is used as post-op, which increases the risk of infections. Preparation for surgery is in the different wards. It takes long time to run back and forth.

Emergency building

The hospital used to have a special emergency entrance, which now has closed. However there is a need for emergency health care at the hospital. A casualty unit is considered to provide a place to admit emergency patients. The flow of these patients also need to be defined to not cause dangerous delays in providing patients with help.

Consulting and laboratory

In general the flows of the patients need to be considered and improved. For example, no patients wait at the intended waiting room. More consultation rooms are also needed. Laboratory needs more space to accommodate different procedures and the pharmacy needs more space for storage.

PROJECT GOALS
The overall project narrative is to find a strategic way for Mkula hospital to proceed operating in the healthcare sector in a safe and modest way. As long as setting a future plan for development of the infrastructure surrounding the hospital

Infrastructure

Water supply

The main goal of this project is to increase the current water supply. The project will aim to maximize the possible water outtake from the current borehole as soon as possible. Furthermore, a plan for a water supply that will fully satisfy the expected long term needs shall be made. Additionally, tests of the water quality should be carried out in order to evaluate the water's suitability for drinking purposes and to suggest potential water treatment.

Infrastructural survey

A thorough investigation of the hospital's current infrastructure status should be made. A specification of required tasks for this is presented in the *Survey Report Form*. The investigations results, together with recommendations of how to proceed after this phase of the project should also be given in a *Survey Report*.

The possibility to address the hospital's needs and problems stated above within this project should be evaluated as a part of the work with the Survey Report. This evaluation should be made together with the rest of the project group, and documented in the report.

Buildings

One of the major goals is to make an updated master plan that corresponds to the hospitals needs and takes long term goals of the hospital into consideration to give the Mkula hospital a better base to provide good care to the inhabitants of the Mkula area.

While doing the survey report and master plan, the goal is to pinpoint so called "low hanging fruits", or minor projects where small means can greatly improve the hospitals ability to give safe care. The goal is to carry out a few of these low hanging fruits during the span of phase 1.

TIMEFRAME

MKULA HOSPITAL SURVEY

Spring 2017

- Study visit 1 day
- Finish Pilot study report

Autumn 2017

- Second study visit by management group, 10 days

Spring 2018

- Finish project plan
- Field study by students 8 weeks
 - Conduct a thorough investigation of the current infrastructure
 - Conduct a thorough investigation of the current buildings
 - Conduct workshops with the hospital to find out their needs
 - Present suggestions for future improvements
 - Improve current water supply
 - Possible other improvements, due to available funding time
- Field study by management group, 7-10 days

Summer 2018

- Finish Survey Report

Spring 2019

- Possible second phase

ARCHITECTURAL MASTER PLAN

Spring 2017

- Study visit 1 day
- Finish Pilot study report

Autumn 2017

- Second study visit by management group, 10 days

Spring 2018

- Finish project plan
- Preparation for student, desk studies, good examples
- Field study by student 8-10 weeks
 - Asses the current situation, conduct a thorough investigation of the built environment
 - Conduct workshops with the hospital to find out their needs
 - Create design strategies
 - Make design proposal through an iterative process on site
- Field study by management group, 7-10 days

Summer 2018

- Finish the architectural report

Spring 2019

- Possible second phase

BUDGET

The specified budget below is not yet fully determined and is only as to be seen as a approximation.

PROJECT FUNDING

From	Amount in SEK
Healthy hospital (Kolando phase 3)	██████
Rise	██████
ARQ	██████
Liljewall	██████
In total SEK	182'000
In total TZS (2018-01-16)	48'000'000

RISK ANALYSIS AND MITIGATION

Risk: That we construct buildings or infrastructure not actually needed.

Mitigation: Make sure all suggestions are deeply rooted in the hospital and their actual needs. Be sensitive in dialogue with the hospital and spend time in the hospital to assess what works and what does not work to ask the right questions.

Risk: That we implement systems not actually needed.

Mitigation: Make sure all suggestions are deeply rooted in the hospital and their actual needs. Be sensitive in dialogue with the hospital and spend time in the hospital to assess what works and what does not work to ask the right questions.

Risk: Losing money and possibly breaking the budget because of big changes in local currency.

Mitigation: Be aware when making the budget. Have buffer if possible.

Risk: Not granted building permits or problems with other permissions

Mitigation: Be prepared and informed. Find out early what permissions are needed for the tasks we plan, make sure to apply in good time. Be ready to be flexible in timeline.

Risk: Issues in collaboration with Mkula Hospital officials

Mitigation: Consult the work group and project management team if such issues seems to arise.

Risk: Master students not able to complete the task due to sickness or other personal events

Mitigation: None.

Risk: Master thesis students become short of time to finish the whole project

Mitigation: Be ready to downsize if it happens.

Risk: Changes in master thesis focus

Mitigation: Not to be mitigated, this could rather be an opportunity for the hospital in case something else is more relevant.

D

Appendix - Contract Agreement

Contract Agreement

Pump House at Mkula Hospital

Africa Inland Church Tanzania



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1. Contract Agreement

This agreement made on:

..... / -2018

between AICT Mkula Hospital

(hence known as the Employer) and [REDACTED], [REDACTED], [REDACTED] (hence known as the Contractor).

The Employer gives the Contractor the mission to execute construction of PUMP HOUSE AT MKULA HOSPITAL (hence known as the Construction)

The Employer has accepted the tender by the contractor for the execution and completion of such works and the remedying of any defects therein in the sum of:

[REDACTED] ([REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]) TZS.

The project shall start on / -2018

And the due completion date shall be 10 days after starting date.

This bears witness that the parties have made this Agreement to be executed on the date stated above.

SIGNED ON BEHALF OF THE EMPLOYER:

.....

Clarification of

signature:

SIGNED ON BEHALF OF THE CONTRACTOR:

.....

Clarification of signature:

.....

2. Attachments to the Contract

The Scope of Work, which include the specifications and drawing, establishes what the Contractor is to construct and what quality is required.

The Bill of Quantities provided by the Contractor and agreed upon by the Employer specifies amounts and costs calculated by the Contractor for the work to be conducted.

3. Duration of Work

The Employer promises to give the Contractor access to the site starting from the commencement date stated in the contract. If the Employer does not give sufficient access by the commencement date, and the Contractor will be delayed or will suffer additional costs, they may claim for reimbursement of such additional costs.

Completion is reached when the Construction stands according to drawings and specifications, and is approved by the Employer. The Construction is to be handed over to the Employer, being cleaned and cleared of all excess material, equipment and tools used by the Contractor. This cleaning is to be performed by the Contractor before completion is reached.

3.1. Delays

In the case of delays, two cases apply:

- Delays which are the fault of the Contractor, will result in deductions of payment in the event that the Construction is not completed by the due completion date.
- Delays which are not the fault of the Contractor.

The following causes of delay are not the fault of the contractor;

- compliance with the Employer's instructions arising from an ambiguity or discrepancy between documents;
- failure by the Employer to give possession of the site in accordance with the provisions of the contract;
- failure by the Employer to timeously comply with the Contractor's request to provide information required for the execution of the work;
- failure by the Employer to examine the work within a reasonable period after being given notice by the Contractor to do so;
- the ordering of the suspension of the work by the Employer which is unrelated to the proper execution of the contract, for reasons of weather conditions, the safety of the works, or the safety of the public;
- non-compliance with the terms of the contract by the Employer, their agents, employees or other contractors;
- adverse physical conditions which an experienced contractor could not have reasonably foreseen at the time of submitting a tender;
- outbreaks of war, armed hostilities or the imposition of economic sanctions and the contract is not cancelled.

3.2. Extensions of Time

In the case that the Contractor is not at fault for the delay, they may claim for an extension of time. The extension of time may make the due completion date later so that they will not incur deductions of payments. This claim of extension has to be submitted in writing to the Employer no later than 1 day after the cause of delay occurred. The extension of time will be valid when it is agreed upon by both Contractor and Employer.

4. Control and Responsibility

When the Contractor takes over the site, they are responsible for any loss or damage on the site, including materials brought onto site for the work to be done.

The Contractor is responsible for not causing unnecessary disturbances to the routines and functions of Mkula Hospital.

The Employer can order the Contractor to remove and redo any work which has not been properly done according to the specifications, drawings and instructions. If this happens, the Contractor must obey the order, and will receive no additional payment for doing so. If the Contractor does not obey the order, the Employer may employ someone else to do as the Employer has ordered, and the Contractor will be responsible to pay the costs of that other person.

Where any work is to be covered up, the Contractor must notify the Employer to inspect the work before it is covered up. If the Contractor does not notify the Employer before covering up work, the Employer may order the Contractor to open it up again to check that it has been properly done, and the Contractor will not be paid for doing so.

4.1. Alterations

An alteration to the nature or extent of construction work, or the conditions under which they will be carried out may be ordered by the Employer, however it may not be ordered after completion. The order of an alteration must be given in writing. If the alteration results in additional payments to the Contractor, the Employer will value the alteration by using the rates or prices in the Bill of Quantities. If that is not possible, the Employer and the Contractor must agree on the cost of the alteration. If there is no agreement of the price of the alteration, the Employer may hire a Subcontractor to conduct the alteration. In this case, the chapter of Subcontracting, seen below, still applies.

5. Subcontracting

A Contractor subcontracts when they hire someone else, a Subcontractor, to do some of the work that the Contractor are contracted to do for the Employer. The Contractor must get written permission from the Employer to hire a subcontractor. The Contractor do not need permission when;

- they employ or hire labour;
- they buy materials which are required by the contract;
- they buy or hire construction equipment.

The Contractor is still responsible for all of the work required by the contract with the Employer, even if some of it is done by a Subcontractor. This means that if the Employer rejects work done by a subcontractor, then;

- the Contractor must ensure that it is redone properly, by that Subcontractor or someone else and

that;

- the Construction is not completed until the work is redone to the approval of the Employer.

If the Contractor does not reach completion by the due completion date because a subcontractor is late, the Employer will receive deductions of payment.

6. Payment

The Contractor are to receive payment from the Employer of shares of the total amount specified in the Contract. The payment will be performed:

- [REDACTED] TZS at the start day of work.
- [REDACTED] TZS at completion of work, and the amount must be received by the Contractor at latest 28 days after completion.

6.1. Deduction of Payment due to Delays

If a delay past the due completion date is the fault of the Contractor, the payment will be deducted with 1% of the total contracted amount for each day past due completion date. This deduction may not exceed 10%.

6.2. Deduction of Payment due to Lack of Quality

If the work done by the Contractor does not match the drawings and specifications attached to the Contract, the Employer can;

- order the work to be removed and redone or;
- make deductions of payment.

The deduction of payment due to lack of quality in the work will be parallel to the consequences on the completed Construction. This deduction is decided by the Employer, and may not exceed 10 % of the total contracted amount.

7. Cancellation of Contract

A cancellation of contract needs to be handled with the supervision of a neutral, third party. The contract may be cancelled for one of the 3 following reasons:

1) Due to war or emergency in which case the cancellation takes place after agreement between Employer and Contractor.

2) Due to the Contractor's fault in which case the Employer may cancel the contract. The Employer may cancel the contract if the Contractor;

- has abandoned the contract;
- is not working or performing their duties as required by the contract;
- has not commenced work in 3 days after the commencement day;
- has suspended work for a period of 3 days;
- has not removed defective materials or has not redone defective work within 7 days after being told by the Employer to do so;
- has subcontracted part of the work without the Employer's consent.

The Employer gives a written notice to the Contractor that they are cancelling the contract, and 2 days later, the contract will be cancelled. Thereafter:

- The Employer may expel the Contractor from site.
- The Employer may employ other contractors to complete the Construction.
- The Employer may use any material, equipment or temporary work brought onto site by the Contractor to complete the Construction.
- The Employer may sell any material, equipment or temporary work brought onto site by the Contractor.
- The Contractor will not be entitled to receive any further payments from the Employer.
- If the Employer has to pay more to complete the work than it would have cost them if the Contractor had completed the work, then the Contractor must pay the Employer the additional cost.

3) Due to the Employer's fault in which case the Contractor may cancel the contract. The Contractor may cancel the contract if the Employer;

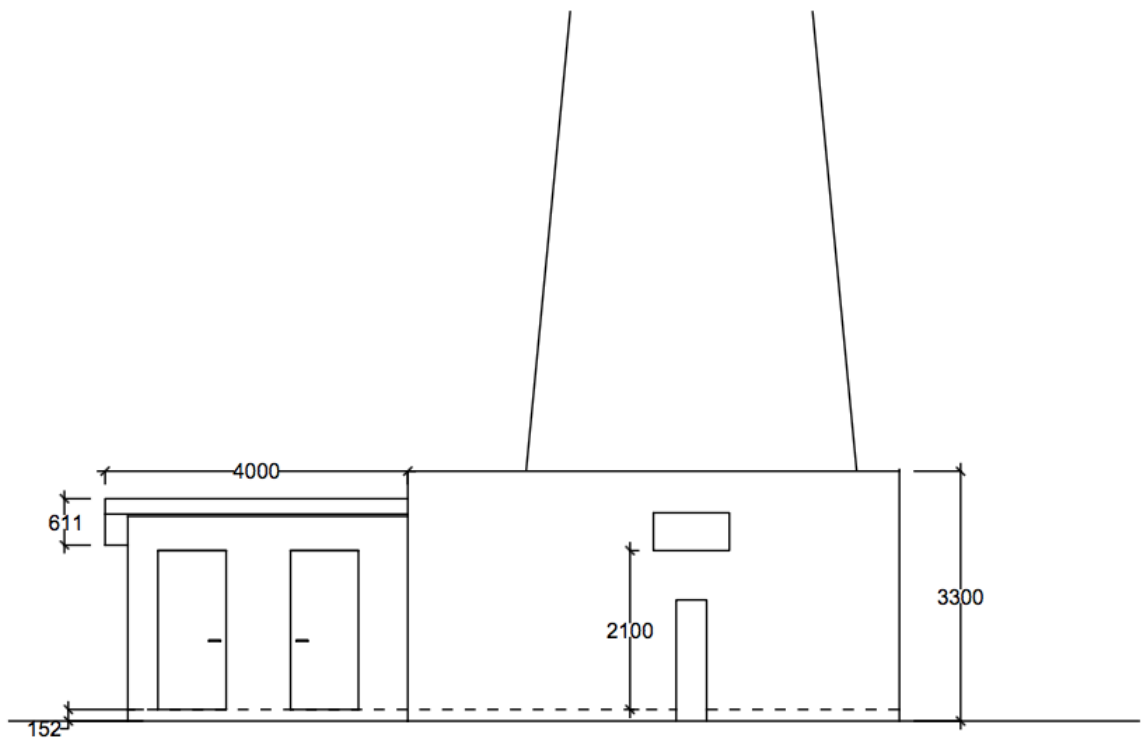
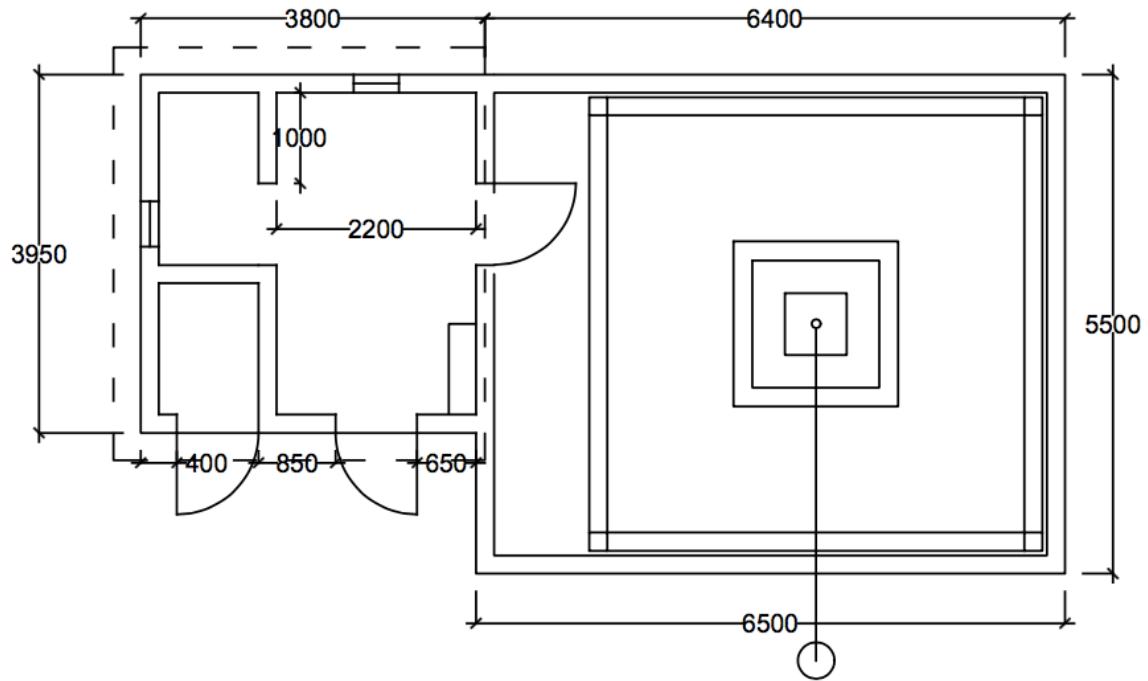
- fails to pay the amount stated in the contract within 28 days after stated date of payment;
- passes the rights and duties of the Contractor to someone else without the permission of the Contractor.

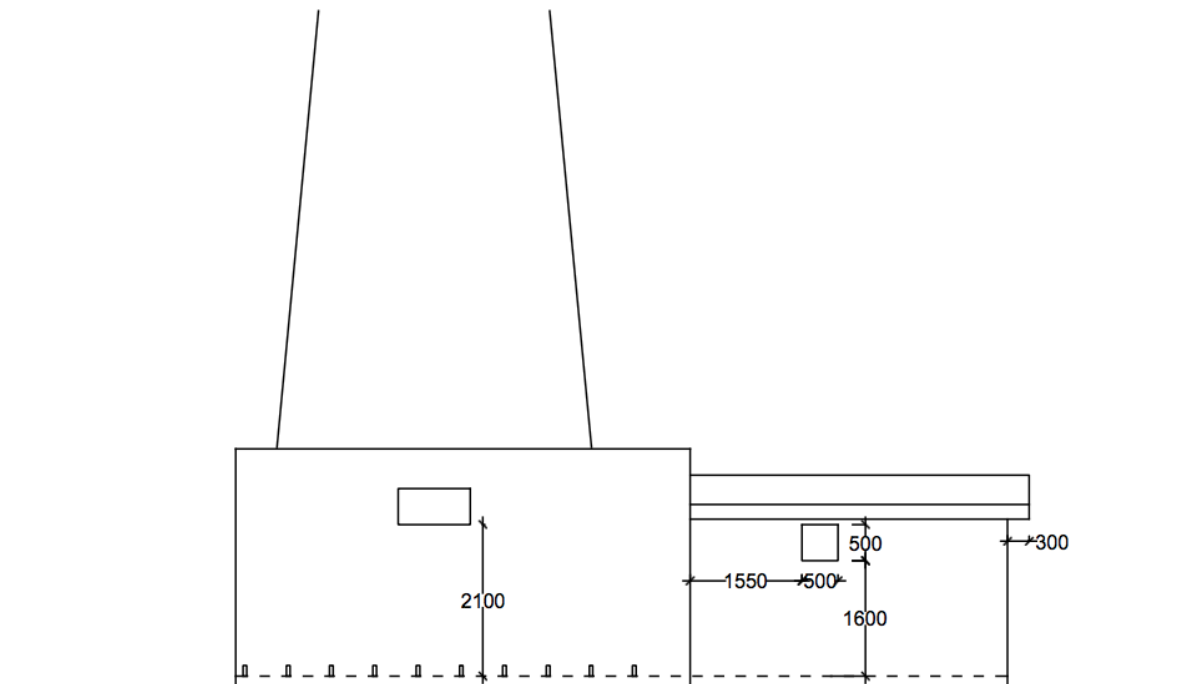
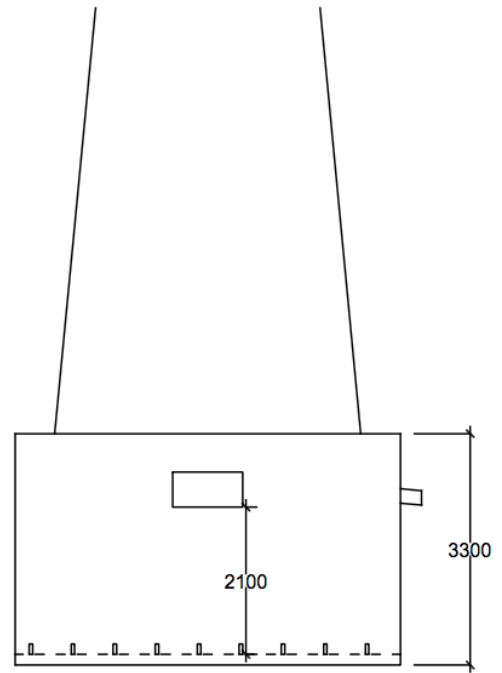
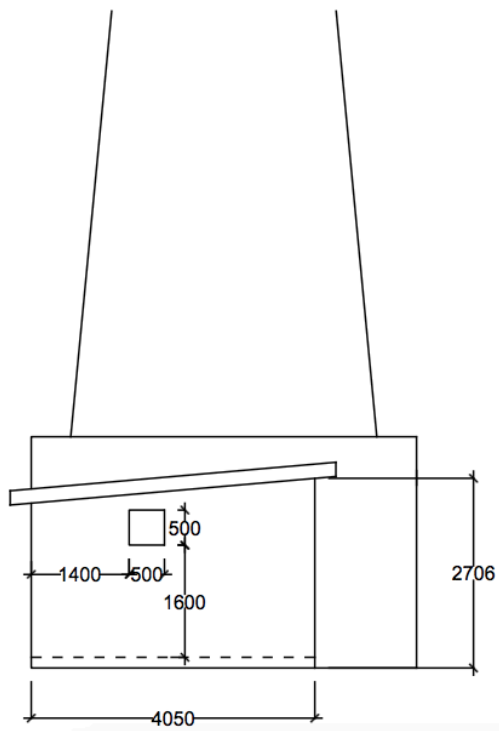
The Contractor gives a notice in writing to the Employer that they have cancelled the contract. Thereafter:

- All unused materials, which have not been paid for by the Employer, and all construction equipment and temporary work brought to site by the Contractor must be removed by the Contractor;
- The Employer must pay the Contractor
 - for all work done and not yet paid for;
 - for all materials or goods which the Contractor has ordered for the work, and of which they have to accept delivery. These materials and goods then become the property of the Employer;
 - for the costs of removing construction equipment and temporary work which are on site at the time of cancellation;
 - for additional costs suffered by the Contractor due to the cancellation.

Attachment 1: Scope of Work

Drawings





Specifications

- Concrete foundation under whole building.
- The concrete foundation around the pump must have inclination towards an opening in the wall to secure rainwater runoff.
- Walls of bricks. Height pump house: 220 cm (inner). Height pump wall: 330 cm (outer). According to drawings.
- In total three doors, see drawings, all of steel with attached ventilation over. The doors must be secured for break-ins.
- In total five windows of steel; two of 50x50 cm at pump house, three of 100x50 cm at pump wall. See on drawing. Windows must be secured for break-ins with bars. Height house windows (lowest point): 160 cm (from inside floor). Height pump wall windows (lowest point): 210 cm (from inside floor). According to drawings.
- Roof over pump house in corrugated steel with inclination towards north. Inclination of 5 degrees.
- The roof over house should have an overlap of at least 20 cm in each direction, except towards the pump.
- Roof over house must be water proof and manage a load of at least 20 kg/m².
- Roof over pump walls in corrugated steel with inclination towards north. Inclination to ensure rain runoff, discussion between Contractor and Employer.
- The pipe from the pump to the water tanks should remain free and not be covered by concrete in order to make the exchange of the pipe and installation of the new pump work.