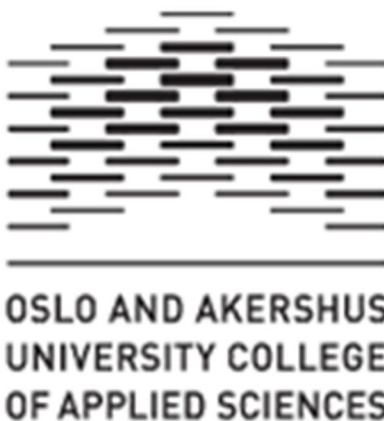# MASTER'S THESIS

Public Health Nutrition

May 2018

Developing a monitoring and evaluation system for a child nutrition program in Nepal: a qualitative study

Jørgen Torgerstuen Johnsen

Faculty of Health Sciences
Department of Nursing and Health Promotion

OsloMet – Oslo Metropolitan University

Acknowledgements

Summary

Background: It is estimated that 45 percent of deaths among children under five years of age is caused by undernutrition. Several organizations are trying to help the governments in reducing undernutrition. However, to achieve the organizations desired goals, and secure future funding, they need a monitoring and evaluation system (M&E) to show their program's effectiveness. Many new organizations do not have a proper M&E system in place.

Objectives: The overall aim was to develop a monitoring and evaluation system for a non-governmental organization (NGO) working to improve child nutrition and health in Nepal, and to explore how it was experienced by the employees and volunteers of the NGO.

Methods: Qualitative data was collected using two methods: Interviews with the organization's staff and volunteers, and observations from the meetings and discussions during the development phase of the M&E system.

Results: The organization's goal is to reduce undernutrition among children through increased nutritional knowledge, attitude, and practice among the mothers. This is to be achieved through providing information, group discussions, and lectures about nutrition and hygienic practices. The researcher developed an M&E system for their mother's group program. The staff and volunteers had positive experiences towards the M&E system, however, they felt that the training period was too short.

Conclusion: It is important to understand the organization's goals and implementation of the theory of change when developing an M&E system. Furthermore, one should include the staff and volunteers in the decision making of the developing and designing phases of the M&E system. Including the staff and volunteers can make it more plausible to succeed in implementing the system. Further studies are needed to study the mechanisms of the designing and development process of an M&E systems, and to explore the staff and volunteer's experiences.

Contents

List of figures

List of Tables

Appendix

Abbreviations

DHS – Demographic Health Survey

FAO – Food and Agricultural Organization

IFPRI – International Food Policy Research Institute

KAP – Knowledge, Attitude, and Practice

Logframe – Logical Framework

LMIC – Low and Middle-Income Countries

M&E – Monitoring and Evaluation

NCD – Non-Communicable Diseases

NGO – None-Governmental Organization

NSD – Norwegian Center for Research Data

OECD – Organization for Economic Cooperation and Development

SD – Standard Deviation

SDG – Sustainable Development Goals

SMART – Specific, Measurable, Achievable, Relevant, Time-related

UN – United Nation

UNICEF – United Nation Children's Fund

WHO – World Health Organization

WFP – World Food Program

1.0 Introduction

Nutrition is the bedrock of human health and development, and it has its influence from the earliest phases of fetal life to old age (ACC/SCN, 2000). Nutrition shapes and influences survival, physical and mental development, economic productivity for the household and the country, and overall healthy living (World Health Organization [WHO], 2000b). However, as of now, there are over 155 million stunted children (chronic malnourished) under the age of five, and over 52 million children that are wasted (acute malnourished) under the age of five (Development Initiatives, 2017). Stunting is impaired growth of the child, which results from malnutrition over a longer period of time. It has adverse cognitive and physical development consequences for the child in early life, and the consequences can be lifelong (Black et al., 2013; Victora et al., 2008). Wasting is the result of acute malnutrition and is defined as low weight for height. A child that is wasted, will have a higher risk of infection and death (Black et al., 2013; Victora et al., 2008). In addition, malnutrition, in all its form, has a negative correlation with a country's economic growth (Heltberg, 2009).

In 2016, the United Nations (UN) adopted 17 Sustainable Developments Goals (SDG), where goal two is: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture." The goal has eight targets and target number two of the goal is: "By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons." (United Nation, n.d). To combat malnutrition, governments across the world committed themselves to eradicate hunger and prevent all forms of malnutrition worldwide by endorsing the SDG goal number 2, Zero Hunger. In addition, in April 2016, the United General Assembly proclaimed, UN Decade of Action on Nutrition (2016 – 2025). Thereby, nutrition was set out as one of the UN's main focuses (WHO, 2018a).

Some countries are lagging behind in reaching the agreed targets on stunting and wasting by 2025. The global progress to reduce stunting among children under five is not advancing fast enough to meet the set targets. In addition, the reduction of childhood wasting is also lagging behind (International Food Policy Research Institute [IFRPI], 2016). Increased effort is necessary in order to reach these goals and targets (IFPRI, 2016). Moreover, some regions of

the world are worse off than others. Studies have shown that South Asia is home to two out of five children globally who are stunted and more than half of the children who are wasted (Development Initiatives, 2017; UNICEF, 2017).

Several non-governmental organizations (NGO) work to reduce malnutrition and are helping governments in reaching their goals, either in cooperation with the governments or at their own initiative (Helen Keller, n.d; Save the Children, n.d; USAID, n.d). The organizations often rely on funding from donors to be sustained. However, to know that their money is well invested, donors increasingly require that organizations have a monitoring and evaluation (M&E) system and a logical framework (logframe) (Bakewell & Garbutt, 2005; Levinson et al., 1999).

Many NGOs develop their programs based on the theory of change. Theory of change describes an intervention or a project/program's logic. It takes as point of departure the long-term goals, then tracks the process backwards to identify the means to best achieve the goals (Taplin & Clark, 2012). Nevertheless, many organizations are based on few personal initiatives and a wish to bring about change. Many of these lack, or do not have resources to develop an M&E system and/or logframe which the donors requests. Moreover, many NGO decision makers find it hard to keep track of the different theories and systems regarding M&E and logframe (Mueller-Hirth, 2012).

This study has been carried out in Nepal in cooperation with an NGO that is working to prevent child undernutrition. The organization has been anonymized to protect the study sample's anonymity. The organization is officially registered in Nepal and operates in a community one hour outside of Kathmandu, with a steering board from a country in Europe. It is a small organization which has operated for a few years. The organization's goal is to improve health and nutritional status among Nepalese children. Their aim is also to contribute to the rural community by implementing programs such as health clinics, home visits, outreach camps, and mother's groups. The organization did not have an M&E system for their programs and asked for help to develop it. The researcher assisted the organization over a period of nine weeks in the development and implementation of an M&E and logframe system for their mother's group program.

In this study, the researcher first presents undernutrition and its consequences, the theory of change, and the M&E system. Secondly, the methods which were applied to develop the M&E system and to explore the participant's experiences using the system will be presented. Thirdly, the researcher presents the findings from the interviews and observations from the process and the participant's experience of an M&E system. Finally, the researcher discusses the methods and findings, and presents a conclusion.

1.1 The study's overall aim and objectives

The overall aim was to develop a monitoring and evaluation system for an NGO working to improve child nutrition and health in Nepal, and to explore how it was experienced by the employees and volunteers of the NGO. This was operationalized through three objectives.

The objectives of the study are:

1. *To describe the organization's theory of change, how the mother's group program operates, and the staff's view on a monitoring and evaluation system*
2. *To develop a monitoring and evaluation system that fits the mother's group program and benefits the NGO, as well as a logical framework*
3. *Explore the staff and volunteer's experiences with using the monitoring and evaluation system*

2.0 Theoretical background

The main themes of this study are twofold: it focuses on nutrition in early childhood, as well as on monitoring and evaluation (M&E) systems for non-governmental organizations (NGO) working to improve children's nutritional status. The background chapter establishes the context and theory for the thesis. The first part of the chapter explains the context of the study, the second part focuses on undernutrition and its health consequences, the third part describes the nutrition through the lifecycle and causes of undernutrition, the fourth part define the theory of change and logical framework (logframe), and lastly, this chapter explains the theories about M&E systems.

2.1 Context

Nepal is a country in the South Asia region, which is experiencing high rates of stunting, wasting, and underweight. In addition to this, Nepal is experiencing high rates of vitamin and mineral deficiencies (Development Initiatives, 2017; Ministry of Health, 2017). Further, only 66 % of the mothers exclusively breastfeed their children during the first six months (Ministry of Health, 2017). Breastfeeding is an important factor for the prevention of malnutrition during the child's first years of life (WHO, 2017a). Additionally, one in four of Nepalese citizens live below the poverty line[1] (Asian Development Bank, 2017).

However, trends from the Nepal Demographic and Health Surveys (DHS) between 2011 and 2016 show a decline in the percentages of stunted, wasted, and underweight children. There was a reduction from 41 percent stunted and 11 percent wasted children in 2012, to 36 percent stunted and 10 percent wasted children, respectively, in 2016 (Ministry of Health, 2011, 2017). Nevertheless, Nepal is a long way from reaching the Sustainable Development Goal (SDG) target in reducing stunting and wasting among children under five years of age, by 2025 (Development Initiatives, 2017; Ministry of Health, 2017; WHO, 2014).

Nepal has gone through a ten year long civil war that ended in 2006 and has since experienced political instability (Human Rights Watch, 2016). On top of that, in April 2015 Nepal

---

[1] Poverty line is the estimated minimum level of income needed to secure the necessities of life. People living under $1.90 per day are typically defined under the poverty line (World Bank, n.d).

experienced one of the larges earthquakes in over 80 years (BBC, 2015). These contexts makes policy-making and policy-implementation to fight undernutrition even harder. Nevertheless, many organizations, together with the Nepali government, are providing assistance to combat undernutrition.

Nepal have committed itself to combat child undernutrition and are prioritizing nutrition interventions to curb its undernutrition issues (Headey & Hoddinott, 2015; UNICEF, 2010). The success in reduction of undernutrition that Nepal has experienced from 1990 is credited to four key drivers: health services, sanitation, education, and wealth (Cunningham, Headey, Singh, Karmacharya, & Rana, 2017). However, improvements in child feeding and care practices are limited. Moreover, gaps exists in implementation, enforcement, and monitoring of nutritional programs (Cunningham, Headey, et al., 2017). Nonetheless, several programs have been implemented to fight undernutrition. One of the programs are the Suaahara program (Cunningham, Singh, et al., 2017). The focus on combating undernutrition remains one of Nepal's priorities (Scaling up Nutrition, 2017).

2.2 Undernutrition

Malnutrition, is a term that covers all specters of nutritional status. It includes obesity, undernutrition, and micronutrient-related malnutrition (WHO, 2017b). However, obesity and micronutrient-related malnutrition will not be covered in this thesis. The term "undernutrition" will be used throughout this study when discussing the topic.

Undernutrition accounts for 45 percent of all child deaths, and is related to low socio-economic status. It is also negatively related to countries potential capacity building by reducing the nation's future workforce and intellectual development (Black et al., 2013; Liu et al., 2012; Poel, Hosseinpoor, Speybroeck, Ourti, & Vega, 2008; WHO, 2018b). Undernutrition can be divided into four groups: stunting (chronic undernutrition), wasting (acute undernourished), underweight (low weight-for-age), and essential vitamin/mineral deficiencies (WHO, 2017a, 2017b). This study gives a short presentation of stunting, wasting, and underweight.

2.2.1 Indicators for stunting, wasting, and underweight

In 2006, World Health Organization (WHO) released an international child growth standard which provides benchmarks to compare nutritional status of children between 0-5 years old within and across countries and regions (WHO, 2006). It was meant as a technical tool for governments, UN agencies and organizations to assess the nutritional status of children. It acts as key nutrition indicators for a country's profile of nutritional status, and can help governments and organizations to formulate health policies, intervention planning, and monitor and evaluate their impact (WHO, 2006). WHO Child Growth Standards collected and assessed data from children between 0-5 years old all over the world, and found that healthy children have the same growth pattern regardless of ethnicity, nationality, and socio-economic status. One can calculate the child's nutritional status against the growth reference by measuring the weight and length/height of the child. The percentiles in Figure 1 represents over- or underdevelopment of boy's growth between 0-2 years against the norm, which is the 50th percentile. There are different graphs for gender and age groups (WHO, 2006). The Standard Deviation (SD) calculated represents the percentiles described in Figure 1. Whereas -3 SD represent the below 3rd percentile, -2 represents between 15th- and 3rd percentile, -1 SD represent between 50th- and 15th percentile. The child growth standards of stunted (length/height-for-age), wasted (weight-for-length/height), and underweight (weight-for-age) have an international consensus to be used as standard tools for the measurement of child undernutrition.
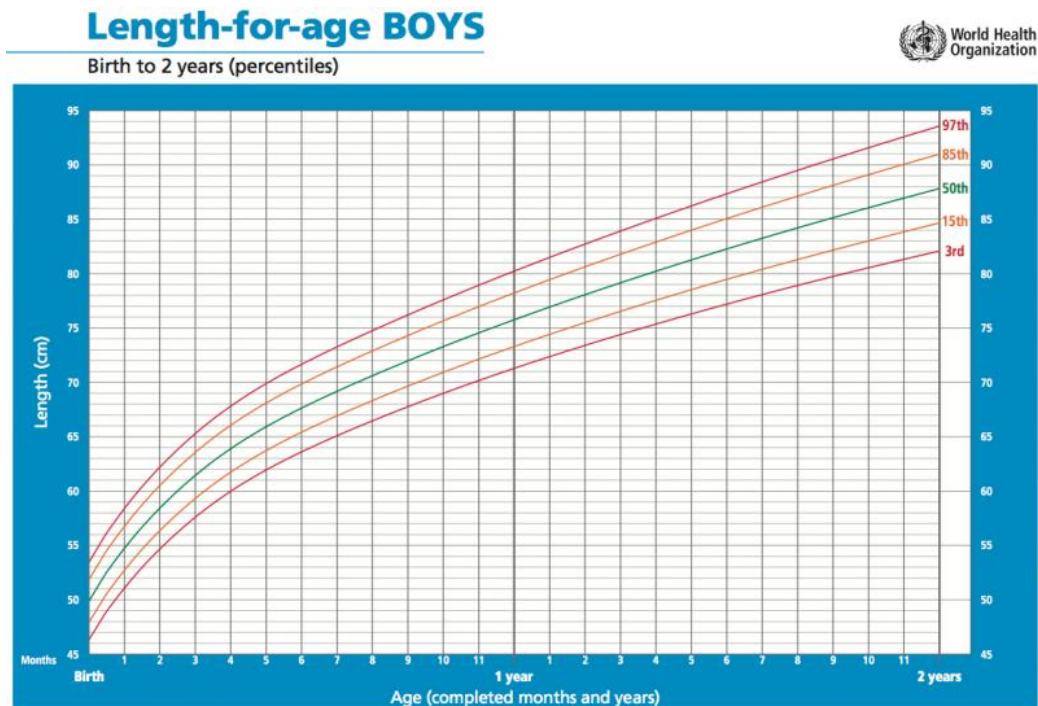
Figure 1. Graph of postnatal growth in length-for-age for boys 0-2 years old. Adapted from WHO, (2006).

2.2.2 Stunting

The direct causes of child stunting may be a lack of nutritious food over a longer period of time and/or frequently infections in early childhood, such as diarrhea (Black et al., 2013; WHO, 2014). The risk of stunting is higher if this accrue during the 1,000 days period of the child, which will be discussed in section 2.3. A child is defined by WHO as stunted if its height/length-for-age is below -2 SD and severely stunted if it is below -3 SD (WHO, 2006). If a child who is stunted reach beyond the age of two years old, the negative effect of stunting is irreversible (ACC/SCN, 2000; Black et al., 2013).

Stunting can have a number of consequences, both short-term and long-term. The short-term consequences are impaired immune system and reduced growth. The long-term consequences are poor cognitive and educational development, increased mortality risk, increased health risk, and increased risk of obesity and non-communicable diseases (NCD) later in life. Girls who are stunted have a higher risk of complications during childbirth, because of a underdeveloped body and that the pelvis may be too small for giving birth (Black et al.,

2013). Moreover, stunting has an immense impact on the country's economy (Heltberg, 2009).

At the World Health Assembly in 2014 WHO set a goal to reduce the number of stunted children under five years of age with 40 percent, by 2025 (WHO, 2014). In 2016, the global rates of stunting was at 155 million children under the age of five (Development Initiatives, 2017). There is still a long way to go to reach the set target.

2.2.3 Wasting

Wasting is an acute form of undernutrition that can be caused by an extremely low energy intake triggered by a disease or a combination of the two. Wasting is a serious condition with an increased risk for mortality and disease (Black et al., 2013). Wasting is often caused by conflict within or between countries, drought or extreme situations with food shortage. The causes can also be diseases such as diarrhea and other infections (Black et al., 2013; WHO, 2017a). WHO defines a child as wasted if its weight-for-height is below -2 SD and severe wasted if it is below -3 SD (WHO, 2006).

The global prevalence of wasting was 52 million in 2016, which represents 7.7 percent of children under five years of age (Development Initiatives, 2017). The UN has set a goal to reduce and maintain childhood wasting at less than 5 percent by 2025 (WHO, 2014).

2.2.4 Underweight

Underweight increase the risk of death among children under the age of five years. Underlying causes and risk factors are diseases such as diarrhea, malaria, measles, and pneumonia (Caulfield, de Onis, Blössner, & Black, 2004; Pelletier, Frongillo, & Habicht, 1993). According to WHO, a child with weight-for-age at -2 SD and -3 SD classified as underweight and severe underweight, respectively (WHO, 2006). Underweight measurement has long been the main measurement conducted in nutritional programs and monitoring of malnutrition. However, a child who is underweight may be stunted, wasted, or both (WHO, 2017a). Underweight as an indicator is often regarded as an outdated measurement tool and will not be discussed further in this study.

2.3 Nutrition throughout the life cycle

Undernutrition can affect all age groups and across a person's entire life span. It has its impact from conception throughout the fetal period and has a severe impact in early infancy (Figure 2) (ACC/SCN, 2000). As mentioned above, it influences the growth, development, morbidity, and mortality of the child. Its implications are intrauterine brain damage, growth failure, reduced physical and mental capacity, neural tube defects, stillbirth, anemia, blindness, and increased risk of infection and death (WHO, 2006). In addition to this, the child has an increased risk for developing diet-related NCDs later in life (WHO, 2000b).
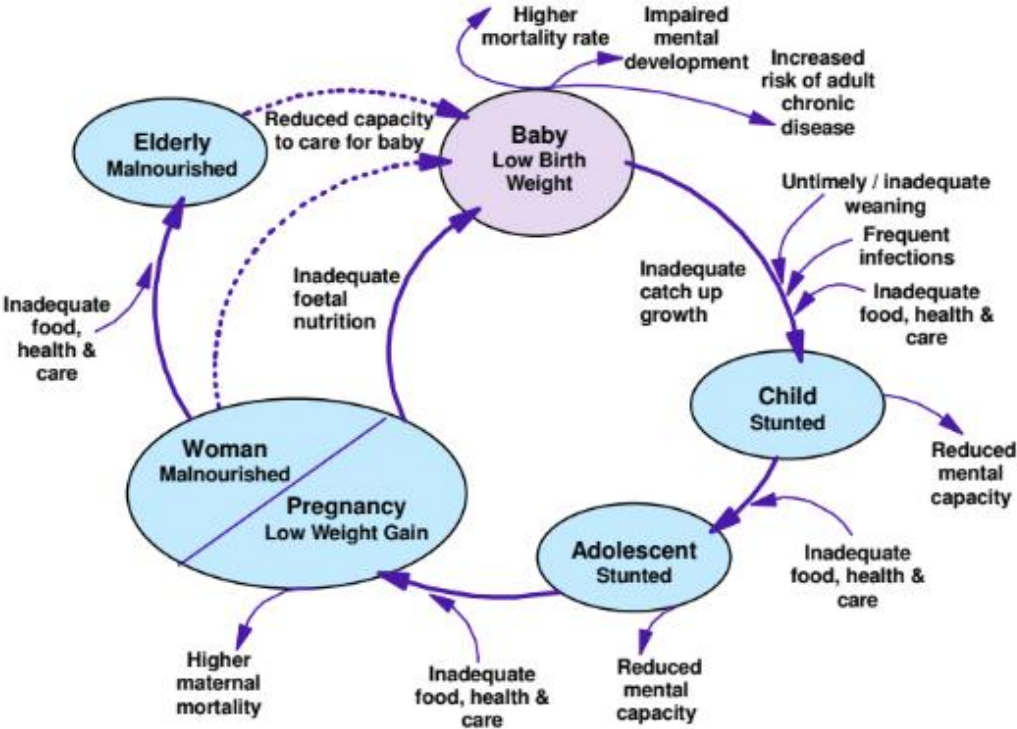
Figure 2. Nutrition throughout the life cycle. Adapted from ACC/SCN (2000).

Among the groups that are most vulnerable to undernutrition are infants, children and women, especially pregnant and lactating women. Their vulnerability come from their physiologically higher nutrient requirements. Infants are particularly vulnerable for developing undernutrition as they need sufficient nutrients for rapid growth and more energy per kilo bodyweight than adults, but simultaneously have limited stomach capacity (WHO, 2000b). The window of opportunity, or the 1,000 days, is from the moment of conception until a child reaches two

9

years of age (Save the Children, 2012; USAID, 2017). This timeframe is the best opportunity to develop a foundation for good health and development. The consequences are lifelong and/or life threatening for the child if nutritional needs are not met during these 1,000 days. It is more difficult to reverse these effects after the child has passed two years of age and some of the functional deficits may be permanent (Save the Children, 2012; WHO, 2000b). Figure 2 gives an overview of the effects undernutrition can have throughout the life cycle and how it can affect the next generation. It includes the complications that can occur during the important 1,000 days.

Figure 2 shows that undernourished female children can impact the next generation of children as well. It increases the risk of giving birth to small and underweight children, thus, the complications will continue in generations and make it even harder to solve (Lartey, 2008; Senbanjo, Olayiwola, Afolabi, & Senbanjo, 2013; WHO, 2000b). An important factor for preventing undernutrition is breastfeeding. The Lancet breastfeeding series papers looked into mechanisms and effects of breastfeeding throughout the life time, and concluded that it plays an important role in nutrition throughout the life cycle (Rollins et al., 2016; Victora et al., 2016).

2.3.1 Breastfeeding

Breastfeeding is strongly linked to optimal child nutrition (WHO, 2017a). Thus, breast milk is an important source of energy for a child. It contains all the important nutritional elements needed for growth and is an important source of nutrients even after the infant starts to consume other foods (UNICEF et al., 2010). WHO recommends to exclusively breastfeed the child from birth to six months old and to continue breastfeeding with complimentary feeding to two years of age or beyond (WHO, 2017a). Complimentary feeding will be discussed in the next section.

In addition to providing nutrients breast milk contains antibodies that stimulates the child's immune system. Next to ensuring optimal growth, development, and nutritional status, studies shows that exclusive breastfeeding protects against infectious diseases, such as diarrhea (Kramer & Kakuma, 2012; UNICEF et al., 2010; WHO, 2017a). Moreover, breastfed children have reduced risk of gastrointestinal infections (Kramer & Kakuma, 2012).

Breast milk is easier to digest for the baby and it nourishes the baby more efficiently than other food sources (UNICEF et al., 2010). Nevertheless, breastfeeding rates in the world are low. Only 40 percent of infants between 0-5 months were exclusively breastfed in 2016 (Development Initiatives, 2017). The substitutes used are often animal milk and cereals (UNICEF et al., 2010). However, such practices and substances can increase the risk for the child to get infectious diseases. This is often caused by contaminated water and/or unclean bottles (UNICEF et al., 2010). Moreover, the substitutes do not contain antibodies and that may increase the risk of disease even higher.

It is estimated that if the infants were exclusively breastfed for six months and continued breastfeeding practices until two years or above, the deaths of at least 820,000 children under five years of age could be avoided annually (Victora et al., 2016). Increasing breastfeeding rates, especially exclusive breastfeeding, may improve the health, development, and nutritional status for millions of children worldwide. In addition, breastfeeding benefits the mother. It helps the mother gain her pre-pregnancy weight, and reduces the mother's risk of developing breast and ovarian cancer (Kramer & Kakuma, 2012; Victora et al., 2016). It is estimated that over 20,000 deaths from breast cancer annually could be prevented by practicing breastfeeding (Kramer & Kakuma, 2012). Also, breastfeeding strengthens the bond between mother and child (UNICEF et al., 2010).

Not only is the child at a higher risk of developing health issues in early life. Studies have shown that children fed with substitutes for breast milk are at a higher risk of developing obesity and NCDs later in life (UNICEF et al., 2010). In addition, not breastfeeding is associated with lower intelligence and economic losses for the household in low- and middle income countries (LMIC) (Rollins et al., 2016). However, after six month the breast milk must be supplemented for an optimal nutritional and development growth through proper complementary feeding practices (WHO, n.d-a).

2.3.2 Complementary feeding

Complementary feeding refers to the transition from exclusively breastfeeding to giving the infant family foods (WHO, n.d-a). It is recommended that from six months of age infants should receive safe and nutritionally adequate foods, in addition to continued breastfeeding for up to two years of age and beyond (WHO & UNICEF, 2003). This is because after first

six months, breast milk alone no longer cover the infant's nutritional needs (WHO, 2000a). Moreover, the 6-24 months of age is crucial for the long-term health of the child (Michaelsen, Grummer-Strawn, & Bégin, 2017).

Dewey, in cooperation with Pan American Health Organization (2003), released a set of guiding principles for complementary feeding of the breastfed child to address the nutritional needs of children who are breastfed after six months of age. It recommends that the child's diet is diverse and with a minimum meal frequency in addition to breast milk. The amount of nutrients that should be provided from complementary foods varies and depends on the age of the child and how much breast milk the infant consumes. In addition, it is recommended to introduce semi-solid foods when transitioning from breastfeeding to complimentary feeding (WHO, 2000a, 2003). Furthermore, the stomach of the child is fairly small, it cannot store large amounts of food, as mentioned earlier. Appropriate frequency of feeding is important to ensure sufficient dietary intake for adequate growth and development. The recommended meal frequency per day for breastfed children is two meals for children between 6-8 months, and three or more per day for children between 9-23 months (WHO, 2008). Globally only 52 percent of children between 6-23 months are meeting the minimum meal frequency and less than 29 percentages are meeting the minimum dietary diversity (White, Bégin, Kumapley, Murray, & Krasevec, 2017).

During this crucial transition from exclusive breastfeeding to complementary feeding, undernutrition may start in many infants. Inadequate breastfeeding and complementary feeding practices are among the contributing factors to the high global prevalence of undernutrition in children under five years of age (Krasevec, An, Kumapley, Bégin, & Frongillo, 2017; Na, Aguayo, Arimond, & Stewart, 2017; WHO, n.d-a). Studies have shown that increased knowledge about complementary feeding practices has the potential to decrease the rates of stunting (Lassi, Das, Zahid, Imdad, & Bhutta, 2013). In addition, it has been estimated that about 100,000 deaths caused by undernutrition in children under the age of five could be saved each year if proper complementary feeding was practiced (Bhutta et al., 2013).

2.3.3 Causes of undernutrition

The UNICEF conceptual framework (Figure 3) describes the multifactorial determinates for undernutrition within three different levels. It identifies and describes the immediate causes which affect individuals, the underlying causes related to families or groups of people, and the basic causes of issues within the community and the nation. Each factor influences the other (Kristina & Jessica, 2014; UNICEF, 1990). The causes of undernutrition results from highly complex, multiple, and interactive problems (UNICEF, 2015). If human and environmental resources, economic systems, and political and ideological systems are not properly in place or poorly managed, these can be basic causes for undernutrition. The UNICEF conceptual model (Figure 3) is often used to help plan effective actions to improve nutrition by serving as a guide in assessing and analyzing the causes of nutritional issues. Thereby one can implement the most effective actions necessary (UNICEF, 1990, 2015).

The immediate causes of child undernutrition are inadequate dietary intake and diseases (Figure 3). Inadequate dietary intake and disease are interlinked with each other. A child is at increased risk of developing diseases when being undernourished, and several infectious disease increase the risk of developing nutritional deficiencies and undernutrition (Kristina & Jessica, 2014; UNICEF, 1990). Diarrhea, malaria, and acute respiratory tract infections are the diseases that affect and are killing most children. These diseases are some of the main contributors to undernutrition (Black et al., 2013). The complications of maternal and child undernutrition were discussed earlier.

The causes for inadequate dietary intake and disease can be find in the underlying causes: household food insecurity, inadequate care and feeding practices, and unhealthy household environment and inadequate health services (Figure 3). These causes are found at the community and household level and can by itself or combine create nutritional issues. Household food insecurity is the inadequate availability of, access to, and/or utilization of a diverse diet (Kristina & Jessica, 2014; UNICEF, 1990). Food and agriculture organization (FAO) define food security as "[It] exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. Household food security is the application of this concept to the family level, with individuals within households as the focus of concern" (Food and Agriculture Organizaiton [FAO], 2003). The food security of a household

is vulnerable for food shocks, meaning low food production, failed harvest, and price fluctuations of goods.
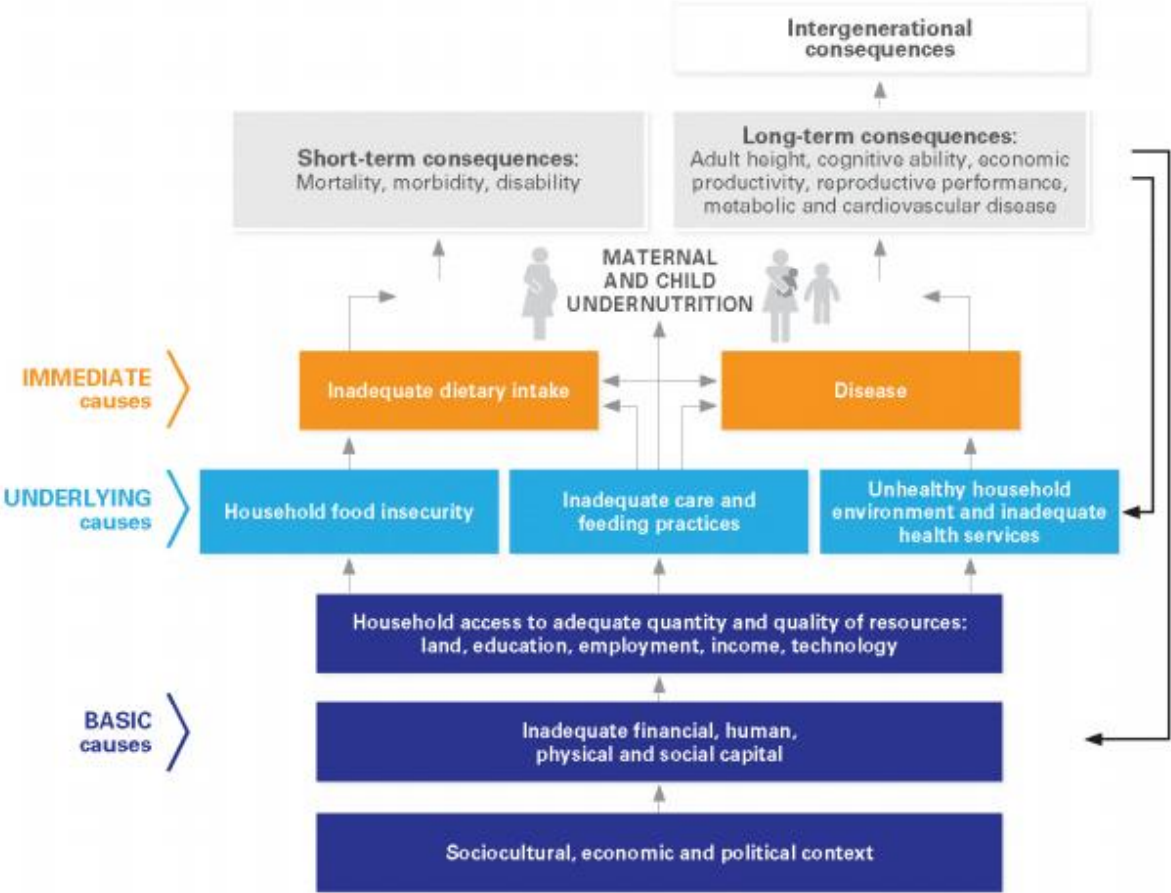
Figure 3. UNICEF conceptual framework of child undernutrition. Adapted from UNICEF, (1990). Appearance change from UNICEF's approach to scaling up nutrition, UNICEF (2015).

Inadequate care and feeding practices implies that children's nutritional and health needs are not met. The health care facilities are not capable to fulfill the child's need for physical and mental care. Moreover, care also implies failure in psychosocial stimuli during feeding practices, training in proper feeding practices by health personnel, and failure to help when the child is sick (UNICEF 2015; WHO, 1990). Knowledge, economic resources, good mental health and support from the society for the families are vital factors for being able to provide good care and feeding practices (Majamanda, Maureen, Munkhondia, & Carrier, 2014). Unhealthy household environment refers to sanitary and hygienic conditions. This is directly linked to the spreading and controlling of infectious diseases in a household, which in turn are linked to undernutrition among children, as discussed earlier (Kristina & Jessica, 2014;

UNICEF, 1990, 2015). Inadequate health services imply a lack of health services and facilities required to fight child diseases, vaccination, and treatment of infections, such as pneumonia, malaria, and diarrhea (UNICEF, 1990).

Figure 3 explains that the basic causes for undernutrition are found at the national and international level (Kristina & Jessica, 2014; UNICEF, 1990, 2015). The factors at play are often caused from social, economic, and political contexts. They are deeply interrelated and affect each other. When the poor nutritional status is rooted in the basic causes, the government is often characterized as a weak state who lack the ability or politically will for good governance, transparency and accountability. This often makes it hard to implement necessary politically initiatives that deliverer proper services to its citizens (Kristina & Jessica, 2014; UNICEF, 2015). However, several nutritional programs that combat undernutrition exists, run either by government or NGOs. Nutritional programs will be discussed in the next section.

2.3.4 Nutritional programs

Nutritional programs are often divided into nutrition-specific interventions and nutrition-sensitive interventions (UNICEF, n.d). When implementing a nutritional program it is important to understand which intervention would serve most effectively. Nutrition-specific interventions address immediate and some underlying causes of undernutrition. Nutrition-sensitive interventions are interventions of sectors that impact the underlying level of causes and that incorporate nutrition objectives. Nutrition-sensitive interventions can serve as platforms for nutrition-specific interventions (UNICEF, n.d). The latter often focuses on food security at maternal, household and community level, and addresses the underlying causes of undernutrition (Figure 3). The former, often focuses on supplementation, feeding practices, and access to food (UNICEF, n.d). This study focuses on nutrition-specific interventions with a nutrition educational approach to improving breastfeeding and complimentary feeding practices.

Bhutta and coworkers (2013) studied which nutrition-specific interventions were most effective and at what cost. Their analysis suggested that total of deaths in children younger than five years can be reduced by 15 percent if populations gain access to evidence-based nutrition interventions at 90 percent coverage (Bhutta et al., 2013). Some of the nutrition-

specific interventions modeled in Bhutta and coworker's (2013) study were promotion of breastfeeding and appropriate complementary feeding. Their findings suggested that educational or counselling interventions could increase exclusive breastfeeding the first months. The benefits of exclusive breastfeeding was discussed earlier. Furthermore, Bhutta and coworkers (2013) assed the effect of nutrition education regarding complimentary feeding and found a significant increase in height for age in food secure and food insecure populations. Benefits of proper complimentary feeding practices was discussed earlier.

When implementing a nutrition educational program one first have to assess how it best can impact the population. Majamanda and coworkers (2014) examined the best available evidence on the effectiveness of community-based nutrition educational programs. They concluded that community-based nutrition education improved the nutritional status among children under five years old in low- and middle-income countries (LMIC) (Majamanda et al., 2014). However, non-health interventions play a major role in improving the nutritional status, thus, the nutritional programs requires multi-sectorial approaches (UNICEF, n.d). Actions should also focus on the different causes of undernutrition to reach sustainable change. Organizations that wish to implement nutrition interventions listed above should implement M&E systems to measure the intervention's effect. To create an M&E system the organizations or decision makers have to establish their goals, objectives, and how they intend to achieve it. This is often done through a theory of change model. Theory of change is discussed in the next section.

2.4 Theory of change

A theory of change describes the intervention or project/program's logic. It takes, as point of departure, the long-term goals then track the process backward to identify the means to best achieve the impact. A theory of change identifies changes and tracks them graphically in causal pathways of outcomes. The outcomes have a logical relationship to each other (Taplin & Clark, 2012). The activities and outputs are the core of the intervention and the theory of change maps the outcomes pathway to explain what the stakeholders think is needed to be done to achieve the intended change. Thereby, theory of change provides a model to test hypotheses and assumptions about what actions will bring about the best targeted outcomes

and impacts, and is a part of the process for developing logframes and M&E systems (Taplin & Clark, 2012; Taplin, Clark, Collins, & Colby, 2013).

The methods of theory of change keep the processes of implementation and evaluation transparent, this help everyone involved to know what is happening and why. It makes every outcome clearly defined and one can link the outcomes with indicators to show a success of the intervention (Taplin & Clark, 2012). This makes theory of change both the process and product. It is the process of working out a theory in which the organization and decision makers want to bring about a change. The product is the document on how and why the change occurred or how the goals were reached (Taplin et al., 2013). Taplin and coworkers (2013) further describe theory of change as a conventional planning turned on its head. It pushes organizations and decision makers to explore their goals or desired impacts. In other words, the organizations and decision makers need to define a goal, then track the goal backward in time to understand where the changes need to occur (Taplin & Clark, 2012; Taplin et al., 2013).

NGOs and government sectors that wish to promote behavior change will usually base their programs on the theory of change, even if they might not be aware of the theory of change definition and practices (Taplin & Clark, 2012; Taplin et al., 2013). For example, an organization that wishes to improve maternal and child's nutritional status may plan to do so by informing mothers about the benefits of breastfeeding, good nutrition, and the risk of a poor diet. The organization's underlying theory of change would be that the nutrition information will lead to increased nutritional knowledge among the mothers and eventually lead to behavior change. This may lead to improved infant and child feeding practices, which again may lead to improved nutritional status. However, the general idea behind the theory of change for an organization is often hard to explain to outsiders and donors, and often requires to be described through a logframe (Bakewell & Garbutt, 2005; Bauman & Nutbeam, 2014).

2.4.1 Logical framework approach and structure

Logframe was developed in the United States for USAID in the early 1970s to assist with project design and assessment (Jensen, 2013). Logframe summarizes and create a sense of structure and logic to a program and its purpose, and in the later years it has been adopted and adapted for use by many organizations (Bauman & Nutbeam, 2014; Jensen, 2013). Jensen

(2013) describes logframe as *"(…) is a project design methodology that provides a systematic structure for identifying, planning and managing projects."* (Jensen, 2013, p2).

The logframe is often presented with a matrix of four by four or more (Bakewell & Garbutt, 2005). The content and structure in the matrix differs from who is using it and for what purpose. It can be a vertically presented or a horizontally presentation of the organization logic (Figure 4 & 5). In the vertical version, the logic is described as the inputs which is necessary to create the activities, which in the next turn delivers the outputs, and the outputs contribute to the outcomes. Finally, the outcomes should bring about the impacts/goals of the program (Figure 4). On the other hand, the horizontal logic presents the logic as how the progress against each objective can be assessed and which external factors may affect the end goal (Figure 5) (Bakewell & Garbutt, 2005). Thus, the logframe is a graphic representation of the link between the program's elements, and the assumptions of its success and failure (Bauman & Nutbeam, 2014). Logframe has five essential components that help outsiders and potential investors to understand the project objective and end goal. Some logframe models prefer to use process as one of the components (Bauman & Nutbeam, 2014; Jensen, 2013). The five essential components in this study are: inputs, activities, outputs, outcomes, and impact, as shown in Figure 4.

Inputs are the materials, goods, and actions necessary to carry out the programs activities. It can include items and/or personnel, equipment, and supplies needed for the program's implementation. Monitoring the inputs can describe the programs procurement, delivery, types of resources needed, and at what cost (Levinson et al., 1999). It serves as information on what the funding has been invested in and what are required to fulfill the programs goals. Monitoring will be further discussed in the next section.

Outputs refers to the delivery of the programs goods and services to the targeted population. The outputs represent the primary programs activities. It give important information on how many of the targeted population the program has reached, the utilization of the inputs, and if properly monitored can assure that the program is going in the right direction for its purpose. However, outputs cannot answer if the targeted population understood the lectures or if the intervention had an effect (Levinson et al., 1999).

Agency:		Program Name:		Program Goal:	
INPUTS OR RESOURCES	**ACTIVITIES**	**OUTPUTS**	**SHORT-TERM OUTCOMES**	**INTERMEDIATE OUTCOMES**	**LONG-TERM OUTCOMES**
Resources available to the program that allow and support provision of technical assistance, including money, staff, volunteers, clients, materials or equipment	The technical assistance methods carried out by staff	The product delivered or unit of technical assistance provided, usually described numerically, such as number of organizations served or number of hours of service	The first changes that occur for individuals, families, organizations, or the community as a result of the program	The subsequent benefit for people during or after their involvement in the program	The eventual impact on individuals, families, organizations, or the community for which the program is accountable

Figure 4. Logical Framework vertical format. Adapted from National Resource Center (2010)

Narrative summary	Objectively verifiable indicators	Means of verification	Assumptions
Goal – the overall aim to which the project is expected to contribute	Measures (direct or indirect) to show the project's contribution to the goal	Sources of information and methods used to show fulfillment of goal	Important events, conditions or decisions beyond the project's control necessary for maintaining the progress towards the goal
Outcomes (or objectives) – the new situation which the projects is aiming to bring about	Measures (direct or indirect) to show what progress is being made towards reaching the objectives	Sources of information and methods used to show progress against objectives	Important events, conditions or decisions beyond the project's control, which are necessary if achieving the objectives is going to contribute towards the overall goal
Outputs – the results which should be within the control of the project management	Measures (direct or indirect) to show if project outputs are being delivered	Sources of information and methods used to show delivery of outputs	Important events, conditions or decisions beyond the project's control, which are necessary if producing the outputs is going to help achieve the objectives
Activities – the things which have to be done by the project to produce the outputs	Measures (direct or indirect) to show if project outputs are being delivered	Sources of information and methods used to show that activities have been completed	Important events, conditions or decisions beyond the project's control, which are necessary if completing activities will produce the required outputs
Inputs	Resources – type and level of resources needed for the project Finance – overall budget Time – Planned start and end date		

Figure 5. Logical Framework horizontal format. Adapted from Mikkelsen (1995), Cited in Bakewell & Garbutt (2005).

Outcomes measurers the intermediate effects resulting directly from the program's output. The outcomes indicators may be necessary to achieve the program's desired impact. Often in nutrition programs outcome will take the form of increased nutritional knowledge and behavioral change, which in turn can contribute to improved nutritional status (Levinson et al., 1999). Examples of outcome indicators can be the percentage of mothers with increased nutritional knowledge, numbers of dewormed children, and percentage of mothers with change in hand hygienic practices.

Impact, on the other hand, is the more meaningful changes in the target population. It describes the long-term effects or end results of the program. The impact is generally the primarily objective of the program and is what the funders may be most interested in achieving (Levinson et al., 1999). The indicators usually used to measure the impacts are often health status or other conditions the program intend to change (Frankel & Gage, 2016). In this case it can be reduced percentage of stunted children in a community. They help the decision makers to assess whether the program made an impact on the targeted population in a negative or positive way, and whether it was cost effective (Frankel & Gage, 2016; Levinson et al., 1999). Impact together with outcome are the main influencer in the decision making for the future funding and implementations of the program.

Together with a logframe, a theory of change can help guiding the organization with planning their M&E system to reach their set goals (Taplin & Clark, 2012; Taplin et al., 2013). As a support to the M&E system, it makes it possible to test and gain evidence of the program's success or failure to achieve the desired goal.

2.5 Monitoring and evaluation

M&E is a linked process which strives to document and measure a program's progress against its theory of change (Taplin et al., 2013). Monitoring is the systematic approach of supervising the data collections, activities, and outputs to help an organization to track if the organization's programs are running as intended to achieve the desired results. Monitoring is often referred to as "process evaluation" (Levinson et al., 1999; OECD, 2002). This study uses the term monitoring when discussing the topic. On the other hand, evaluation is an assessment of the relevance, efficacy or efficiency of the organization's program in reaching

the desired goal (OCDE, 2002). When both systems combined are implemented one can determine the results and lessons learned about a program (Frankel & Gage, 2016). This section will explain the terms and theories regarding M&E systems.

However, the scope of theories in M&E is wide and depend on what the organizations or governments wants to monitor and later evaluate. For further information please see (Bauman & Nutbeam, 2014; Frankel & Gage, 2016; Grun, 2006; Levinson et al., 1999; OECD, 2002, 2010a, 2010b; Operations Evaluation Department, 2004; Organisation for Economic & Development, 2013; Publishing, 2016; UNDP, 2011). This study draws mainly on M&E theories from Frankel & Gage (2016), Levinson and coworkers (1999), Nutbeam & Bauman (2014), and use terminology from Organization for Economic Cooperation and Development (OECD) (2002).

2.5.1 Monitoring

Monitoring is a systematic approach to track the process and activities of an organization's program. It is highly recommended as a tool to assess the program's activities on what works, how it works, and whether it does not work to reach set goals. It can be done internally or externally (Bauman & Nutbeam, 2014; Frankel & Gage, 2016; Levinson et al., 1999). In other words, monitoring is the routine measurement of the indicators for the program's objective and tracking the activities on a regular basis over the program's period. A monitoring system helps the organization's managers to see if the program's daily functions, if activities are being implemented accordingly and within the budget limits, and if there should be any changes to the program (Gage, Ali, & Suzuki, 2005; Levinson et al., 1999). Monitoring system helps the organization to monitor the inputs, activities, and outputs in the logframe (Figure 4 & 5). It should be implemented and used after a program has begun. Frequently and continuously monitoring is essential for best possible assessment of a program. Monitoring can employ quantitative and/or qualitative methods depending on the programs design, focus, and purpose (Bauman & Nutbeam, 2014; Frankel & Gage, 2016).

2.5.2 Evaluation

While monitoring is the process of tracking a program's activities, evaluation is the data collected to answer if the desired goals were achieved. Hence, evaluation is the systematic and objective assessment of an on-going or completed program (OECD, 2002). It aims to determine whether the program fulfills/-ed its objectives/goals and assess its effectiveness (Levinson et al., 1999; OECD, 2002).

Evaluation is vital for understanding the achievements or the lack of achievements in a program (Bauman & Nutbeam, 2014). Therefore, evaluation is an important tool for an organization or government programs to provide evidence-based information on how effective their interventions are, what their impact may have been, and whether the intervention in the program is responsible for the results (Frankel & Gage, 2016; Levinson et al., 1999). The organization may, for example, get more funding in the future, show the government their process, implement the program elsewhere, and show the volunteers and staff that their efforts pays off (Bauman & Nutbeam, 2014; Frankel & Gage, 2016; Levinson et al., 1999). Also, evaluation can reveal findings that are negative which could improve the program. However, some organizations may fear that negative results can make it harder to get funds in the future or contribute to loss of existing funds (Levinson et al., 1999).

Evaluation can serve as a systematic assessment tool for a program. It can be done with a midterm evaluation and/or an impact evaluation. An evaluation need not always to be complicated and a costly endeavor. Nevertheless, an evaluation requires a baseline and/or a control group to compare the intervention with to determine to which extent the program has reached its target population and its goals (Bauman & Nutbeam, 2014; Levinson et al., 1999).

Furthermore, there are different types of evaluation: Formative evaluation addresses how to best use available resources and is done before the program begins. Impact evaluation is broader and assesses the overall or net effects. It assesses the impact, intended or unintended, of the program as a whole. Evaluating the program's process investigates the process of delivering the program and may detect where the fault for failure lies. Lastly, economic evaluation addresses questions of efficiency by measuring the desired or undesired impact in terms of their economic cost and values. The organization and decision makers need to assess

and plan which type of evaluation would benefit their program's objectives and end goals (Bauman & Nutbeam, 2014; Frankel & Gage, 2016).

2.5.3 Developing a monitoring and evaluation system

To summarize, monitoring follows the day-to-day process of the program while evaluation can use a research model to assess to what extent the program's objectives are achieved. Although M&E are two distinct processes they are most effective when viewed as linked activities. Together, an M&E system can provide information to help decision makers choose an appropriate course of action and decide upon continuing, expanding, and replicating the intervention in their program or whether to reallocate the resources elsewhere (Levinson et al., 1999).

Figure 6 shows the steps relating to planning and designing a program. The decision makers need to have an overview of the prevalence of the problem, health impact of the problem, and what intervention could potentially solve the health problem (Bauman & Nutbeam, 2014). Thus, the first stage of the program focuses on the end goal and evaluation of the outcomes through a thorough and logical analysis that can link the intervention to the impact. When designing an M&E system, the NGO and/or decision makers should establish the main problem they want to solve. It is in the first stage of Figure 6 the theory of change comes in play. Theory of change was discussed earlier.

The second stage in Figure 6 is the problem solver stage. It seeks out solutions to the problem at hand and are the essence of a program's plan. It specifies what is needed to achieve change, the timing, and sequencing of interventions in order to attain the best possible impact (Bauman & Nutbeam, 2014). Furthermore, the development of the program's strategies should be linked clearly and logically to the program's goal, which is identified in the first stage. It is here a logframe through the theory of change is developed to define what the program's intention, how to bring it about, explaining the processes, and the objective of the program (Bauman & Nutbeam, 2014). Theory of change and logframe were mentioned earlier.

The third stage in Figure 6 focuses on the inputs, such as staff, materials, and financing of a program. It also focuses on the need to build capacity in the organization. Thus, the program can be introduced, sustained, and generate support for a successful implementation. In other words, stage three in Figure 6 seeks to create an optimal condition for the program's success. The focus lies on a resource assessment of the financial needs, availability of human resources, and analysis of how to generate the resources. This stage decides whether the program can be implemented within the available resources or if the program need to reform its goals and strategy (Bauman & Nutbeam, 2014).
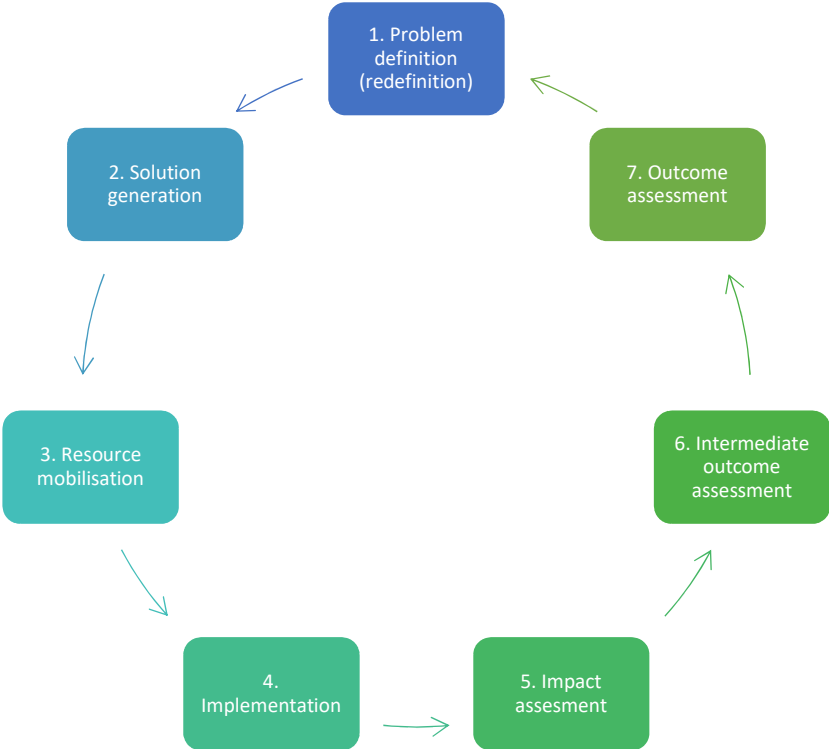
Figure 6. Health promotion planning and evaluation cycle. Adapted from Bauman & Nutbeam (2014).

The fourth stage, on the other hand, is the implementation of the program (Figure 6). It may involve one or several strategies to achieve the program's goal. The implementation is emerging from the initial analysis of the problem and seek to bring about a change. Health promotion interventions, for example, often focuses on implementing educational and political actions to bring about a change in knowledge, attitude, and behavior. This is done through education, social mobilization, and advocacy. This stage focuses om ensuring that the program is implemented as intended (Bauman & Nutbeam, 2014).

The fifth, sixth, and seventh stages in Figure 6 is interlinked with evaluation (Bauman & Nutbeam, 2014). Evaluation was discussed earlier. It is important to notice that the impact has different effects and over different periods of time (Figure 6).

For an M&E system to work, the organization and/or decision makers would need to agree upon the indicators to measures the program's objectives and goals (Frankel & Gage, 2016). The targets should be S.M.A.R.T (Specific, Measurable, Achievable, Relevant, and Time-related): Specific, means that the target is a specific area for improvement. Measurable, a means for quantify or measure the progress of the program. Achievable/Assignable, helps to clearly specify who will do it and how. Relevant/Realistic, assesses whether the set goals can realistically be achieved. Lastly, Time-related, implies that a program should specify when the results or impact can be reached. It was Doran (1981) who first introduced the S.M.A.R.T method. Its purpose is to develop an effective management tool for organizations to reach its desired goal. The S.M.A.R.T method helps the organization with designing proper indicators and measurement tools in the development phase of the M&E systems. (Bowles, Cunningham, De La Rosa & Picano, 2007; Hessel, Cortese & De Croon, 2011; Hofman & Hofman, 2011; Lawlor & Hornyak, 2012, Cited in Bjerke & Renger, 2017). It is widely used within the M&E literature and among the mainstream methods for developing indicators for organizations to measure the program's objectives and impact (Chen, 2015; Gudda, 2011; Isell, 2014; Knowlton & Philips, 2013; Mathison, 2005; Patton, 2011; Sharma & Petosa, 2012; Smith, 2010, Cited in Bjerke & Renger, 2017).

2.5.4 Program failure

If the program fails in achieving its objectives and/or impact M&E will help the decision makers find out the cause of its failure (Bauman & Nutbeam, 2014; Stame, 2010). Suchman and Weiss are among the leading authors regarding M&E and theories concerning program failure (Stame, 2010). However, these authors use different definitions when discussing the topic. Suchman described program failure as "the inability of the program to influence the "casual" variable while theory failure means the inability of the theory linking the causal variable to the desired objective" (Suchman 1969: 16, Cited in Stame, 2010). Weiss, on the other hand, describes it as "program failure is a failure to achieve proximate goals; theory failure occurs when the achievement of proximate goals does not lead to final desired outcomes" (Weiss 1972: 38, Cited in Stame, 2010). In addition, in 1995, Lipsey and

coworkers added a third failure theory: method failure (Lipsey et al., 1995, Cited in Stame, 2010). This study uses the definitions: program theory failure, implementation failure, and method failure (Figure 7).
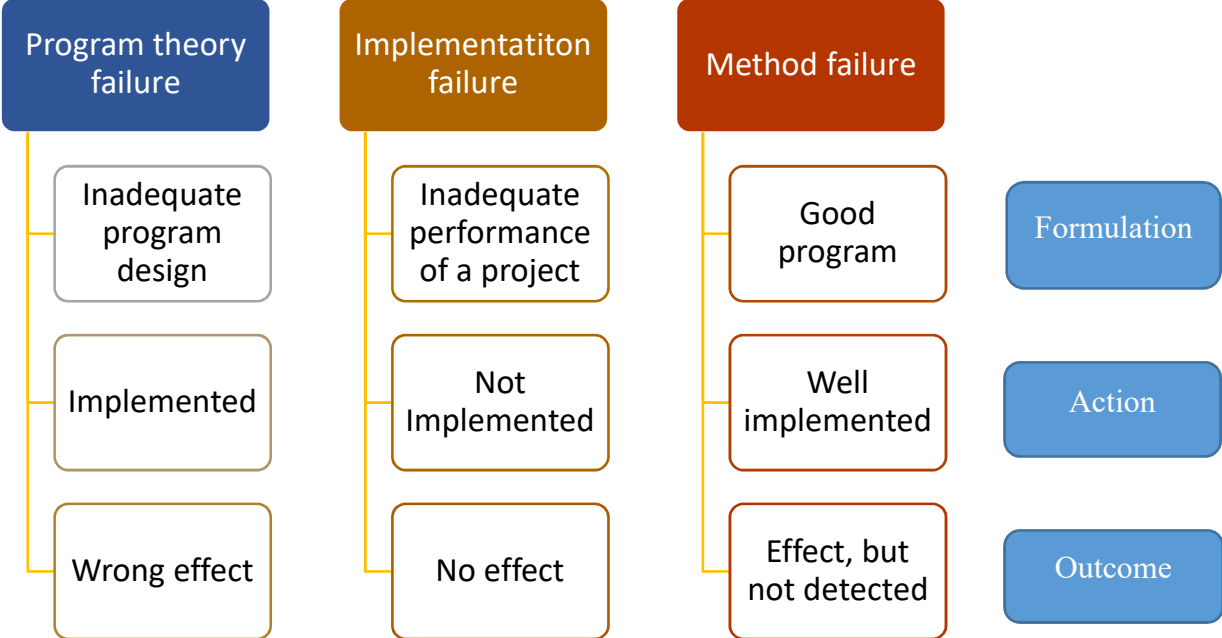
Figure 7. Program theory failure, implementation failure, and method failure. Adapted from Green & Lewis (1986)

Program theory failure describes the underlying theories that a program will produce. It is here the theory of change often is implied (Figure 7). Theory of change was discussed earlier. Program theory assumes that the action in program will produce the outcome and/or impact. However, this is not always the case. Sometimes the underlying theory do not work in the real world, or it can produce the wrong desired effect. The indicators chosen to measure the outcomes and impact may be wrong to show the real effect of the project (Stame, 2010). In addition, program theory failure can often occur when a program with a good track record is implemented without being adapted to the given situation or culturally accepted setting (Stame, 2010).

Implementation refers to when a program is put to use by the people who work with the organization. It is when the program takes hold and the theory if change is implemented (Stame, 2011). In Figure 7, implementation failure refers to the failure to give sufficient attention to the resources needed in the mobilization phase of the program (Bauman & Nutbeam, 2014; Stame, 2010). Failure in funding and attention to the program's needs are a

common reason for implementation failure (Bauman & Nutbeam, 2014). However, implementation is an emerging process and it is difficult to assess every problem that can occur. In addition, things may change during the implementation phase. It is important to learn from both failure and success in implementations of programs (Stame, 2010).

As Figure 7 states, method failure focuses on the statistical failure of the program or concern itself with not being able to show that a program worked. It focuses on the methodological methods implemented and whether the study sample is large enough to show an effect, in addition to its internal and external validity. Most of the interventions in programs depend on showing the difference between baselines, control groups, or before and after an intervention (Stame, 2010). However, there are two correct and two wrong conclusion that can be drawn from method failure. The two correct conclusions are either that the intervention in the program has an effect and thus the null hypothesis is rejected, or that it did not show an effect and the null hypothesis is accepted, in other words the intervention do or do not work. The two wrong conclusions are either that the intervention in the program is rejected when it is likely to be working. This is referred to as a false positive or type 1 error. Or that it had no real effect and is falsely accepted. This is referred to as a false negative or type 2 error. The consequences can be that a good program can lose it funds and be shut down or a program with false positive results, thus has no real effect, can still be funded (Stame, 2010).

It is important to focus on these failure theories when implementing a program's theory of change and M&E system. Understanding each theory may help in developing a good and sound program for the decision makers intended use, and for future funding. If the programs are to be implemented elsewhere it is important to understand what works and how it works to successfully implement. Furthermore, without an M&E one cannot completely understand why a program succeeded or failed.

3.0 Methods

The purpose of this chapter is to describe the methods used to gather the study's objectives, and to set out the researcher's position in this study. The researcher wanted to develop a monitoring and evaluation (M&E) system for the organization's mother's group program, and to understand the informant's views, thoughts, and experiences on the system. Qualitative methods are often preferred when studying personal subjects and experiences. Preferred qualitative methods are interviews, focus groups, and observation (Thagaard, 2013).

The method used for the first objective was key-person interviews with the staff of the organization. For the second objective, the researcher needed to develop an M&E system and design a logical framework (logframe) fit for their program and resources. The method selected was observation. Lastly, for the third objective the researcher used key-person interviews to achieve a deeper knowledge about the organization's staff and volunteer's experience using the M&E system (Table 1).

3.1 Context and study sample

The study was conducted over a period of nine weeks in a small town one hour outside of Kathmandu, Nepal, from early September to the beginning of November 2017. The researcher conducted in total ten key-person interviews. In addition, observation was practiced during lectures, meetings, and discussion of the development and designing of the M&E system, and the logframe.

The study sample consisted of staff and volunteers who worked for the organization in Nepal. The staff and the volunteers gave key-person interviews. In total three staff and four volunteers from the organization in Nepal participated in the interviews. Only the staff participated in the first round of interviews. All of the staff and volunteers participated in the second round of interviews. An independent interpreter was hired for the key-person interviews with the volunteers. During the observation both the staff and volunteers were included.

3.2 Data collections

With qualitative interviews the researcher can ask open questions. This gave the interviewee a chance to reflect and gather thoughts about any given subject, whereas observation could give the researcher a chance to observe the given subject and make notes on the given topic for later interpretation (Thagaard, 2013).

3.2.1 Key-person interview

Two semi-structural interview guides were developed and pilot tested on a fellow student before conducting the interviews. The main topics of the interview guide used for the first objective was: the staff's thoughts on the mother's group program and what they thought could be improved upon, what they thought of the registration process currently being done at the mother's group, and their expectations of a M&E system for their mother's group program (Appendix A). The main topics of the interview guide used for the third objective was: the staff and volunteer's thoughts on the new registration system, their experience with using the questionnaires, their experience with the length and weight program for the mother's group, and their thoughts on the M&E system (Appendix B). However, the researcher was not bound to the interview guides and was free to ask different question as the interview progressed. The guides were rather used as a manual for the researcher to keep the flow of questions during the interview and stick to the theme of the study.

Both rounds of interviews took place at the interviewee workplace and at the organization's clinic. The researcher was the main interviewer and an interpreter was used during the interviews with the volunteers for objective 3. The interviews lasted from 25 to 40 minutes. The researcher used the recording application in the Huawei mobile phone, EVA-L09 model, during the interviews. Staff and volunteers were informed about the audio-recording, the procedures used to secure their anonymity and were given a letter of consent to sign (Appendix C). The letter of consent was translated to Nepali (Appendix D).

Six out of the ten interviews were performed in English, whereas the last four were conducted with an interpreter. The interpreter was given information about the program and a walk-

through of the interview guide (Appendix B). The role of a good interpreter, professional behavior, courtesy, and discretion during the interviews was discussed beforehand.

3.2.2 Observation

Observations was conducted during the working hours of the staff and volunteers at the organization's clinic. The mother's group program was scheduled twice a week, whereas the researcher had a participatory observation role. In-between the mother's group program the researcher had a participatory observation role in the organization's daily activities and task required by the organization. The researcher held lections, discussions and meetings with the staff and volunteers about how an M&E system operated and ideas on how to develop it. The designing of the logframe was done in sessions and meetings with the staff and volunteers. A participatory observation role was chosen to allow the researcher to be a part of the organization and learn through shared experiences. The staff and volunteers were informed about the researcher's role. During the development and design of the M&E system, and logframe the researcher used literature and guidebooks from Gage and coworkers (2005), Bauman and Nutbeam (2014), National Resource Center (2010), and FAO (2014). In addition, the researcher had access to the work and planning documents of the organization.

The researcher had written down field notes from the experiences from the lectures, meetings, and discussion in a notebook (Appendix F). Notes were written down as soon as possible and later transcribed it for analyzing and interpretations. The researcher reread the transcript and presented the important findings with a systematic approach of the development and designing phases from the meetings and discussion. The field notes were inspired by a reflective information notetaking. Reflective notes express the thoughts, ideas, questions, and concerns the researcher had during the observation (Thagaard, 2013). The field notes in this study were used to help the researcher in describing the process and results of developing the M&E system and designing the logframe.

3.3 The researcher's position

The purpose of this section is to explain the researcher's epistemological and methodological position. This section describes the philosophy and the principles the researchers follow to

answer the study aim and objectives. For clarifications, the definitions in this thesis are as follows: epistemology is "the study of nature of knowledge and justification" (Schwandt, 2001, p. 71. Cited in Carter & Little, 2007) and methodology is *"the study, the description, the explanation, and justification of methods, and not the methods themselves"* (Kaplan, 1964, p. 18. Cited In Carter & Little, 2007). In short, epistemology can be thought of as justification of knowledge and methodology provides justification for the methods of a study (Carter & Little, 2007).

Epistemology influences methodology and methodologies justify methods. Hence, clarification on the researcher's position may justify the findings (Carter & Little, 2007). Since the researcher considers reality to be socially constructed and aims to produce subjective findings, the researchers favor the process of inductive reasoning. This means that the researchers would be guided by an open-ended research question or objectives rather than a series of hypotheses. Thus, the researcher used the data to generate explanations instead of predications about the experience of the informants (Swift & Tischler, 2010).

A qualitative approach to research is concerned with subjective assessment of attitudes, opinions, and behavior (Kothari, 2004. p. 5). Therefore, a descriptive approach was chosen to describe how the organization operates, the organization's theory of change, and what were the staff's goals and opinions of an M&E system, for the first objective. Same approach was chosen to describe the development of the M&E system and design of the logframe, for the second objective. A phenomenological approach was chosen to explore the staff and volunteer's experiences using the M&E system, for the third objective.

A more in-depth presentation of philosophical epistemology and methodology is beyond the scope of this study. For any further information on these topics please refer to: (Carter & Little, 2007; Kaplan, 1964; Kitcher, 2002; Kothari, 2004; Mauthner & Doucet, 2003; Schwandt, 2001; Swift & Tischler, 2010).

3.3.2 The descriptive approach

As mentioned previously, the first and second objectives in this study had a qualitative descriptive approach in gathering and analyzing the data. A qualitative description methods is a useful method for focusing on the professionals views of a phenomena (Neergaard, Olesen,

Andersen, & Sondergaard, 2009). When reporting the findings in a qualitative description approach the researcher describes the informant's own experiences in his or her own language. Thereby, the researcher analyze the findings with a rich straight description of an experience. In this way, the researcher stays closer to the data (Neergaard et al., 2009).

3.3.3 The phenomenological approach

As stated earlier, the third objective in this study had a phenomenological inspiration in gathering and analyzing the data. Phenomenology strives to find answers of people's perception of a phenomenon and it can be used as an approach for the researcher to gain an understanding of a given situation or experience (Fade, 2004; Flood, 2010; Starks & Brown Trinidad, 2007). As an overall methodological approach, the researcher wanted to learn about the staff and volunteer's experience, feelings, thoughts, and attitude when working with an M&E system for the mother's group program.

3.4 Data analysis

The process of analyzing qualitative data is not just one part of the process, but rather an ongoing process that flows from the beginning of the study to the end. When analyzing interviews the researcher was supposed to interpret the material while at the same time stay as true to the objective as possible (Thagaard, 2013). This means that the researcher had to put any pre-judgment and feelings aside and bring forth the findings in a theoretical context.

3.4.1 Data analysis from the first objective interviews

The first objective aimed at understanding the goals and resources of the organization, the organization's theory of change, and what the staff and the organization expected of an M&E system and how they could implement it in their activities. As mentioned earlier, analysis of the interviews followed a descriptive approach. Hence, emotions and feelings were not considered in this part. The interviews were transcribed and analyzed during the stay in Nepal. It was divided into three parts, with different thematically focus: 1) Mother's group program, 2) Registration, 3) Monitoring and evaluation. After transcribing, the most essential parts of interviews were compressed to one text for analyzing and interpretation. In addition,

statements and sentences of interest were quoted. The researcher used phrasings such as: all of, most of, some of, and one of, to describe what the study sample said. The phrasing was chosen to protect the study sample's identity. An example of the summary from the interviews used to analyze the data is attached (Appendix E).

3.4.2 Data analysis from the observations

To describe the findings from the second objective, the researcher used the field notes that were taken during the observations of the process of developing the M&E and designing the logframe. As mentioned in section 3.2.2. The field notes were later analyzed and presented with the most important findings. Analyzing the written field notes from the M&E system development process and designing the logframe was done during the stay and after returning home to Norway. The same descriptive analysis method as mentioned above was used. The field notes were thematically divided into two: 1) Developing the monitoring and evaluation system, 2) Designing the logical framework. In addition, the M&E system and the logframe are described in Tables 2/3/4/5. An example of the field notes is attached (Appendix F)

3.4.3 Data analysis from the third objective interviews

The findings for the third objective were transcribed with emotion, pause words, thinking breaks, and repetitions. The researcher used a phenomenological approach when analyzing the data. The transcript was reread and cleaned for static data and rewritten again. This made it possible to develop codes for compressing the data and making the analyzing easier. Thus, the researcher could create a story that captured the important elements in the staff and volunteers experiences (Starks & Trinidad, 2007). The codes were not pre-determined, rather the codes were based on the data material whereas the specific statements were categorized into clusters under a main theme that represent the phenomenon of interest. This process is referred to as open coding (Thagaard, 2013). The interviews was analyzed after returning home from Nepal. The researcher did not have contact with the interpreter during the analyzing process.
The material was sorted thematically into four categories: 1) Registration process, 2) Weight and Length, 3) Questionnaire for the mother's group, 4) Monitoring and evaluation. For each of these categories a table was made and relevant findings from each interview were grouped under the different codes. An example of the coding is attached (Appendix G). Statements or

sentences of interest were quoted. The same method of phrasing and presenting of quotes as mentioned in 3.4.1 was used to protect the study sample's identity.

3.5 Ethical considerations

This study was considered and approved by the Norwegian Center for Research Data (NSD) (Appendix H). The researcher maintained the confidentiality of records in line with the requirements from NSD. The staff and volunteers were informed that the participation in the study was voluntary and they had the opportunity to resign from the study at any given time. The staff and volunteers were given a letter of consent to sign in advance of the interviews (Appendix C). The letter was translated to Nepali (Appendix D). Confidentiality and anonymity were secured by not revealing name and other information that could reveal the identity in the transcribed interviews or the identity of the organization. Both the audio-records and raw transcribed data were stored in a password-protected cloud storages system. Only the researcher had access to the audio-recordings.

Table 1. The study's methods and objectives.

Methods	*Objectives*		
	To describe the organization's theory of change, how the mother's group program operates, and the staff view on a monitoring and evaluation system	*To develop a monitoring and evaluation system that fits the mother's group program and benefits the NGO, as well as a logical framework*	*Explore the staff's and volunteer's experiences with using the monitoring and evaluation system*
Study Sample	n = 3	-	n = 7
Methodology	Descriptive	Descriptive	Phenomenology
Key-person interview	X		X
Observation		X	

4.0 Findings

Due to the nature of the study the findings are divided in three parts relating to the objectives: The first part describes the organization and staff's ideas, goals, and the theory of change for the mother's group program, the second part describes the observations from developing the monitoring and evaluation (M&E) system and the logical framework (logframe), and the third part describes the staff's and volunteer's experiences of following the M&E system. The findings result from the methods described in Table 1.

4.1 Descriptions of the staff's ideas, theory of change, and goals with the mother's group program

To make sense of how the non-governmental organization (NGO) operated, their goals, the theory of change, and how the mother's group program performed, the researcher needed to understand the staff's views, operations, the organization resources, and future plans for the program. This was achieved through interviews described in the methods chapter. The next section will describe the findings divided into different themes related to the mother's group program and the staff's interpretation of the organization's program.

The first of the three objectives will be described in this part of the findings: *1. To describe the organization's theory of change, how the mother's group program operates, and the staff's view on a monitoring and evaluation system*

4.1.1 Understanding the organization's theory of change

The organization wanted to educate mothers about nutrition. This was achieved through lectures and group discussion about nutrition. They target mothers with children under two years of age in their mother's group program. In addition to the 1,000 golden days theory this targeted group was chosen because their children older than two years usually went to school, kindergarten, playgroup or other activities. Nevertheless, the staff said older siblings often attended the mother's group. Some of the staff expressed that it could be noisy when there were a lot of mothers who brought their older children to the mother's group. However, all of the staff indicated that it was important for them that the mothers were allowed to bring the

siblings to the group, even though they were not a part of the program's goal. The staff believed it was important to let the mother spend time and play with their children in a different setting than at home. One of the staff said:

"It's very important that the mothers can spend time with the children. That's why we do not prohibit the mother in taking the older sibling along. Mothers are mostly busy in home and few mothers give time for their own kids."

The staff stated that the topics discussed in the lectures at the mother's group were mainly about breastfeeding, nutrition, and hygiene. Additionally, it included family planning, dentistry, and common diseases. The staff held group discussions in-between and after lectures. The staff mentioned that the rotation of the topics was planned to be regular and the staff tried to repeat the topics monthly if there was no major change in the mothers who were participating in the mother's group. One of the staff believed that the topics were good for the mothers because the mothers were usually educated, but lacked the knowledge about nutrition and hygiene.

Some of the staff implied that food taboos may hinder the children in getting specific types of nutritious food and the mothers were not eating specific types of foods when the mothers breastfed. For example, one of the staff explained that the mothers would not eat fruits during the first six months of breastfeeding. Children would not eat bananas because the mothers thought that the banana gave children cold and made them cough. Therefore, the staff wanted to focus on proper nutrition in their lectures. One of the staff said:

"They [mothers] *do not know what food is good for themselves or for their kids and there are lots of food taboos. Usually they* [mothers] *have lots of problem about nutrition of children."*

However, one of the staff emphasized that it was difficult for them to get the mother's general point of view of the program. All of the staff implied that the organization needed to verify how much the mothers were receiving from what the staff taught at the mother's group. The staff mentioned that they were not testing their level of knowledge. If times allows, the staff wanted to verify whether the mothers had received information from the lectures or not. One of the staff mentioned their wish of improvement:

"Feedback from the mothers seems that they are satisfied with the topics. However, we wish to improve it more."

The staff felt that the mother's group program was doing well. It was held twice a week at Wednesday and Sunday from 3 PM to 6 PM. All of the staff were glad that the mothers were showing their interest in the program and they felt that the mother's participation was good. In addition, the staff wanted to include more new mothers in their program. However, many mothers, particularly mothers from poor socio-economic background, stopped attending after their first visit. None of the staff were certain of the reasons why the mothers stopped coming to the mother's group. They believed that the organization needed a better system that could capture the mothers who stopped attending and to store their contact information. One of the staff stated:

"Unfortunately, many mothers don't come after first visit. Mothers from carpet factory and others with poor economic background are hesitating to come and/or don't have the time to come. They also don't feel a part of the mother's group, they think themselves as different than the others."

One issue that was mentioned by the staff was that the timeframe for the mother's group may not fit the time schedule of the mothers who stopped attending. However, some of the staff believed that with more funding and larger staff they could do the program more often, instead of twice a week. The staff pointed out that this could help the organization in keeping the mothers who felt they were not a part of the program or had not the time during the usual time schedule of the program. One of the staff expressed that the organization could create specific days for the different cast[2] and/or socio-economic backgrounds. All of the staff wanted to include the mothers from different backgrounds to the group. One of the staff described one of the issues:

"Sometimes it's difficult for them [mothers] *to come. The original time* [of the mother's group] *is 3 PM to 6 PM. However, the mothers are usually busy around 3-4 PM with preparing food, snacks, and getting children home from school or other activities."*

---

[2] Caste systems is a traditional system of social stratification. It defines social classes by a number of hierarchical endogamous groups. Some casts may be discriminated from social settings (Whaling, 2010. p73-75).

4.1.2 Understanding the organization's registration process

The staff mentioned that the organization registered the participating mothers in paper form and the registration papers were in scrapbooks, later one of the staff will write in the numbers in an Excel sheet for reporting. They explained that some of the staff and volunteers wrote down the mother's and child's names, date of birth, contact number, and attendance. However, all of the staff said that it was a long process and that it was difficult to compare the data to assess attendance of each mother, and follow up on the child's height and weight. The staff further said that the measurement of height and weight was done once a month by either one of the staff or one of the volunteers. The volunteers would conduct the measuring and calculating the nutritional status using a WHO sheet. The WHO sheet had pre-calculations of the nutritional status per weight and height, and age of the children between 0-2 years old. One of the staff mentioned that the organization had tried to include a computer system in their registration process and were improving, but had not yet reached that far in developing a computer-based registration system. One of the staff expressed:

"We [The NGO] *seek help on improving the registration process."*

All of the staff emphasized that the system needed to be much faster and easier than the scrapbook system. In addition, they needed a better overview of the nutritional status among the children, especially keeping track of the child's height and weight. The staff wanted a system that could be made into a monthly report on how many mothers were coming, how frequently the mothers were attending the program, and how many mothers who only joined once. In addition, they wanted to have an overview of how mothers who attended each topic and the program's schedule. One of the staff believed that it would help them in sending data faster to the headquarter in Europe. Moreover, it would provide information to donors about their work.

Some of the staff said they were comfortable with using Excel, but expressed that the staff and volunteers needed guidance in developing a system fit for their organization. All of the staff mentioned that the staff and volunteers needed to have a lecture and training on how to use the new system. However, the staff said they were not used to complicated formulas in Excel and suggested that they needed an easy step-by-step training on how to use it and its technicality. In addition, a guided manual would be required. The staff wanted a manual for

when the staff or volunteers were unsure about Excel features so that they could look it up and consult with the manual. They requested the manual to be short and with examples. A guide manual had to be in English and Nepali. However, developing a manual was time consuming and the staff would need to go through the system beforehand. Therefore, the staff agreed that developing the guide should not be a part of the thesis but would be carried out during the course of the thesis. One of the staff explained:

"It [The manual] *would be best for the staff and especially the volunteers. Not too dense manual, it wouldn't be effective. They want more of a flowchart with crucial information in Nepali."*

4.1.3 Understanding the staff's view of a monitoring and evaluation system

Most of the staff expressed that an M&E system would be helpful for the organization and for the donors. They believed that an M&E system would be useful for their fundraisers and everyone at the organization. All of the staff knew they could use the results to improve upon their own program and that it helped them in guiding the program topics to achieve the organization's goals. One of the staff said:

"[…] I think we really need [a monitoring and evaluation system]*, especially when we are integrating our work. I think it's very crucial."*

Another staff mentioned:

"Monitoring and evaluation is actually a lacking part in our day-to-day work, we don't give information on that [...]"

The staff suggested they needed lectures about M&E systems. Moreover, the lectures should be conducted with some days of learning in a class setting. In addition, one of the staff mentioned that the lectures should include how the staff and volunteers should conduct the system and why it would be useful for the organization. Some of the staff said that the staff and volunteers could practice by themselves but they needed supervising at the beginning. However, the staff expressed they would not need a present supervision and this could be achieved from corresponding with headquarter in Europe and/or the researcher.

Some of the staff mentioned that the staff and volunteers were comfortable with using questionnaires in both paper format and in electronic format on a tablet. From the staff's experience the mothers were comfortable with being set aside for interviewing and answering questionnaires. However, one of the staff expressed that most of the mothers had a poor economic status and that the usage of electronic tablets was a concern. It might seem like the organization was rich and used the mothers for its own accord. It could have created a mistrust between the mothers and the organization. Nonetheless, the rest of the staff said that usage of electronic devices at the clinic would not be of any problem. One of the staff stated:

"I think that in mother's group, when they are in clinic, they feel more comfortable, we can do in tablet also, […] but at home sometimes the condition may be different."

The staff visualized the collection of data to be in both paper and electronic forms, but one of the staff requested it to be just on paper to start with. The staff mentioned that the organization already had an electronic questionnaire system for their home visit program, and the staff were familiar with how it was stored and used for analyses. The electronic form needed more time to be electronically programmed and tested. The staff suggested they would put the already answered paper form questionnaires into electronic form at a later stage. It made the storing of data easier and would save them office space, which was one of the staff's concerns. Furthermore, all of the staff were positive to adopt a new questionnaire to their electronic system and they were willing to do the analyzing of the data collected from the questionnaire.

4.2 Development of the monitoring and evaluation system

The researcher worked with the staff and volunteers to develop the M&E system and a logframe that could fit the organization's mother's group program. This was achieved through participatory observation method in meetings, lectures, and discussions as described in the methods chapter. The findings are divided in to sections. The first section describes the researcher's findings from the observation during the developing phase of the M&E system. The last section describes the observation from the design process of the logframe for the organization's mother's group program. It ends with a description of the M&E in a logframe explaining the organization's goals and how to achieve it, and how to measure each indicator described in the logframe (Tables 2/3/4/5).

The researcher developed the M&E system and logframe using the ideas, thoughts and wishes from what the researcher learned during the interviews analyzed to answer objective 1, which was stated earlier. The researcher also based the development of the system on the organization's work and plans documents, as well as on literature about the subject from Gage and coworkers (2005), Bauman and Nutbeam (2014), National Resource Center (2010), and the FAO (2014).

The second of the three objectives will be described in this part of the findings: *2. To develop a monitoring and evaluation system that fits the mother's group program and benefits the NGO, as well as a logical framework*

4.2.1 Developing the monitoring and evaluation system

The researcher noticed that the organization had set one of their key goals for their program to reduce the percentage of children with malnutrition after three years. Moreover, the organization hoped to achieve this with increasing the mother's knowledge, attitude, and practice (KAP). However, as of then, the organization could not quantify total effect of increased knowledge among participants in the mother's group program. The researcher observed that they would require a baseline survey with a large study sample of participants in their program to reach these goals. To this date, the organization lacks the numbers to measure an effect of their program and had yet to conduct a baseline survey to assess the data

of the intervention with. Therefore, it would be difficult to document to what extent their goal to reduce the percentage of children with malnutrition after three years had been met.

The researcher found that the measuring of KAP could be done over a period of time by interviewing newly joined mothers in the mother's group (FAO, 2014). The researcher noticed that the mothers could answer the questionnaire when joining the mother's group, and three and six months after the first session. Thereby, the organization could create a baseline to compare KAP over a period of time.

Questionnaires with KAP-related questions towards nutrition and hygiene was developed, translated, pre-tested and put to use with the staff and volunteers (Appendix I & J). The questionnaire was developed using the FAO guidelines for assessing nutrition-related KAP (FAO, 2014). Questions of priority and usages for the given situation were selected. The data collected in this M&E system was divided in three sessions, with two separate questionnaires. The first questionnaire was longer and had additional questions about the mother's background, while the second questionnaire consisted only of the KAP questions (Appendix I & J). In this way, the organization could show donors their effect of the mother's group linked up to the theory of change by showing the percentage of mothers with an increase or decrease of KAP. In addition, the researcher realized that a letter of consent needed to be drafted and put to use (Appendix K). The letter of consent had to be translated to Nepali (Appendix L). The researcher found this tool could benefit the organization by giving ethical training for its staff and volunteers for when they wanted to conduct further research in the future.

The researcher observed that to achieve the organization's goal and collect information on how many mothers participated in their mother's group program, they would require a more sophisticated registration system. To achieve this an updated version of their old scrapbook registration system was developed in Excel (Appendix N). The researcher found that through the new registration system the organization and its staff could have an overview of how many mothers participated in their program at a given time and how often each mother utilized the program. The researcher learned that this was vital information for the headquarter in Europe and for its donors. In this way, they could show the donors how many mothers they had reached with their program. In addition, the staff could identify mothers who dropped out and check reasons for quitting, thereby, improving upon the issues and reach out to more mothers in the community.

The new registration system was built into four Excel sheets: an overview of the topics, an overview of participants, an overview of who of the mothers had done the interviews with the questionnaire, and an overview of the children's nutritional status (Appendix M, N, O & P). With these Excel sheets the staff filled in the topics for each day and who were in charge of the given topic. The numbers of mothers for each day were automatically counted through Excel formulas from the mother's participating Excel sheet (Appendix M). The sheets had a unique number for each mother (Appendix M, N, O & P). Each day the attending mothers were registered with the number 1. The Excel sheet would automatically calculate the number of mothers each day and how often each mother attended each topic (Appendix N).

One of the staff had the task of filling out the overview of the interviews conducted with the KAP questionnaires. The Excel sheet can serve as an overview for the organization on who of the mothers had answered the questionnaire and when the mothers had or should have answered. In addition, dates for when the volunteers should conduct the next interview with the mothers (Appendix O). The staff would use the unique numbers the mother was given earlier. The last Excel sheet was intended to track the mother's children's nutritional status from the program's weight and height measurement. The researcher observed that the staff or one of the volunteers would enter the data calculated through the WHO growth chart, from the weight and height sessions. All of the nutritional statuses were entered in the Excel system (Appendix P). The volunteers did not calculate the Z-score for stunting and wasting, rather they used WHO's pre-calculated nutritional status score chart to determine if the child where stunted or wasted. This sheet relies on the information about the child's height/length and weight to assess the nutritional status. This chart gave the organization a fast and easy overview of who were undernourished, and if the children were improving from attending the program and the counseling (Appendix P). The staff would refer the mother to a hospital if a child was severely stunted or wasted.

The researcher found that the data collected from weight and height sessions could not be used as a baseline to compare the organization's goal to reduce undernutrition. The organization could not gather enough data to see an effect and were lacking a control group to measure against. Furthermore, the data collected from the WHO's pre-calculated nutritional status score chart would not be precise enough data to measure the goal, as it did not provide the Z-scores. However, one of the staff was planning to implement the WHO Anthro software which is a more precise tool to measure the weight and height and it stores the Z-score data

(WHO, n.d-c). The organization would have to agree on how they should conduct the control group survey and set a timeframe. This should be discussed with the headquarters. The organization could keep continue the measuring of the weight and length sessions to map the nutritional status among the children participating in the mother's group program. The sessions could be good training for the staff and volunteers. The tool could be used to intervene if the child had any form for undernutrition or were in any danger of developing undernutrition. Also, to follow up on the children's nutritional status in the mother's group program.

4.2.2 Designing the logical framework

The researcher noticed that the staff consisted of two doctors and one coordinator. The volunteers consisted of three nurses, three former mother's group participants, and one volunteer with field experience. In addition, university students, either from Nepal or abroad would participate from time to time. All of the staff and volunteers operated at the organization's clinic. All of the information observed together could serve as an input for the mother's group program's logframe (Table 2). However, the worktime varied from the day to day activities. Therefore, a more detailed input was difficult to achieve.

As mentioned earlier, the organization had different topics at the lectures for their mother's group program. The lectures consisted of topics in nutrition, hygiene, disease prevention, and child health. The mother's group was held twice a week, on Wednesday and Sunday. The sessions lasted from 3 pm to 6 pm and the lectures were held from 5 pm to 6 pm. The mothers were encouraged to play with their children and socialize from 3 pm to 5 pm. In addition to the topics, the organization had a weight and height measurement program of the participating mother's children held each month. As mentioned above, the staff and one of the volunteers conducted the measurement and calculated the children's nutritional status with a WHO growth chart.

The outputs which were found to fit the mother's group program were: the number of mother's group topics held, the number of each session of health topics, the number of children whose weight and height were registered, and the number of mothers that were attending the mother's group program. The researcher observed that the system for gathering this data were already in place in scrapbooks. However, the data were not systematically

registered and it was hard to keep track of the output numbers for each month. With the new Excel sheet developed through this study (Appendix M) made it easier with the registration process and maintain an overview of the output numbers (Table 2).

The indicators in Table 2 for the short-term, intermediate and long-term outcomes were chosen from the observations mentioned in the section above. However, the researcher noticed that the organization required a more detailed document on how to measure each outcome indicator. Thus, a more detailed document was drafted to inform the staff and volunteers on how to measure each outcome indicator, the methods on how the data was collected, when the data would be collected, who would collect the data, what they would do, how the collected data would be monitored, and who would do the analyzing of the data (described in Tables 3/4/5). The different task relating to each indicator was discussed with the staff and volunteers over the designing period.

Table 2. Logical framework for NGO's mother's group program. Adapted from National Research Center (2010)

Agency: The NGO name (removed for protecting the study samples identity)		Program Name: Mother's group		Program Goal: Improving child health	
Inputs	**Activities**	**Outputs**	**Short-Term outcomes**	**Intermediate outcomes**	**Impact**
-Staff (consisting of two doctors and one coordinator) -Volunteers (three nurses and former mother's group participants who live in the community, one volunteer with field experience, and university students, from Nepal or abroad) -Clinic in the community.	-Mother's group with different lectures in hygiene, nutrition, and child health and disease prevention. -The mother's group is held twice a week at the clinic. From 3 pm to 6 pm. -Weight and height measurement program once a month.	-Number of mother's group topics held. -Number of each session of health topics. -Number of mothers that are attending the mother's group program. -Number of children whose weight and height were registered.	-Increased knowledge and awareness about nutrition and child health among the mothers in the program.* -Increased knowledge about exclusive breastfeeding, for the first six month among the mothers in the program.* -Increased knowledge about complimentary feeding practices among the mothers in the program.*	-Behavior change in nutrition and child health among mothers in the program.* -Behavior change in hygiene practices among the mothers in the program.* -Behavior change in breastfeeding practices among mothers in the program.*	-Decrease stunting rates in children participating in the program.* -Decrease wasting rates in children participating in the program.* -Decrease underweight rates in children participating in the program.* -No rise in overweight and obesity in children participating in the program.*
Assumption and Risk to be considered: No major change in food security // increase in mothers who participate in the program // challenges at home with breastfeeding practices and infant feeding practices caused either by mother in law or the father // lack in resources to attend mother's group or not allowed access to attend by family member // situations that require the mothers to move away from the community.					

*Compared to survey conducted by organization's mother's group program.

Table 3. Description of the short-term outcomes. Adapted from National Research Center (2010)

Short-term outcome							
Outcome	**Indicator**	**Data collection method**	**When will the data be collected**	**Who will collect the data?**	**What will they do**	**How will the data collected be monitored**	**Who will analyses the data**
Increased knowledge and awareness about nutrition and child health, among the mothers in the program.	Percentage of mothers with correct knowledge and awareness answers.*	KAP questionnaire.**	The time of joining the group and three and six months later.	Project worker.***	Conduct interviews with the mother with the KAP questionnaire.**	By the coordinator and board members. By supervising that the data collection goes as planned.	Staff.
Increased knowledge about exclusive breastfeeding, for the first six month, among the mothers in the program.	Percentage of mothers with correct answers about exclusively breastfeeding.*	KAP questionnaire.**	The time of joining the group and three and six months later.	Project worker.***	Conduct interviews with the mother with the KAP questionnaire.**	By the coordinator and board members By supervising that the data collection goes as planned.	Staff.
Increased knowledge about complimentary feeding practices, among the mothers in the program.	Percentage of mothers with correct knowledge and awareness answers.*	KAP questionnaire.**	The time of joining the group and three and six months later.	Project worker.***	Conduct interviews with the mother with the KAP questionnaire.**	By the coordinator and board members. By supervising that the data collection goes as planned.	Staff.

* Compared to baseline survey conducted by the organization.

** Guidelines for assessing nutrition-related Knowledge, Attitudes and Practices. Food and Agricultural Organization, 2014 (Appendix I & J).

*** Staff and volunteers at the NGO.

Table 4. Description of the intermediate outcome. Adapted from National Research Center (2010)

Intermediate outcome							
Outcome	**Indicator**	**What data collection method**	**When will the data be collected**	**Who will collect the data?**	**What will they do**	**How will the data collected be monitored**	**Who will analyses the data**
Behavior change in nutrition and child health.	Percentage of mothers with correct attitude and practice answers.*	KAP questionnaire.**	The time of joining the group and three and six months later.	Project worker.***	Conduct interviews with the mother with the KAP questionnaire.**	By the coordinator and board members. By supervising that the data collection goes as planned.	Staff.
Behavior change in hygiene practices.	Percentage of mothers with correct attitude and practice answers.*	KAP questionnaire.**	The time of joining the group and three and six months later.	Project worker.***	Conduct interviews with the mother with the KAP questionnaire.**	By the coordinator and board members. By supervising that the data collection goes as planned.	Staff.
Behavior change in breastfeeding practices.	Percentage of mothers with correct attitude and practice answers.*	KAP questionnaire.**	The time of joining the group and three and six months later.	Project worker.***	Conduct interviews with the mother with the KAP questionnaire.**	By the coordinator and board members. By supervising that the data collection goes as planned.	Staff.

* Compared to baseline survey conducted by the organization.

** Guidelines for assessing nutrition-related Knowledge, Attitudes and Practices. Food and Agricultural Organization, 2014 (Appendix I & J).

*** Staff and volunteers at the NGO

Table 5. Description of the long-term outcome. Adapted from National Research Center (2010)

Impact							
Outcome	**Indicator**	**What data collection method**	**When will the data be collected**	**Who will the collect data?**	**What will they do**	**How will the data collected be monitored**	**Who will analyses the data**
Decrease stunting, wasting and underweight rates in children participating in the program.	Percentage of stunted, wasted and underweight children in the program.*	Measuring height and weight of children under two years of age.	Once a month.	Project worker.***	Measure height and weight and compare the score with WHO standard growth chart.**	By the coordinator and board members By supervising that the data collection goes as planned.	Staff.
No increase in overweight and obesity in children participating in the program.	Percentage of overweight and obese children in the program.*	Measuring height and weight of children under two years of age.	Once a month.	Project worker.***	Measure height and weight and compare the score with WHO standard growth chart.**	By the coordinator and board members By supervising that the data collection goes as planned.	Staff.

* Compared to baseline survey conducted by the organization.

**WHO Child Growth Standards: Methods and development (2006).

*** Staff and volunteers at the NGO

4.3 The staff and volunteer's experience with being a part of a monitoring and evaluation system

The researcher needed to gain a deeper understanding of the staff and volunteer's thoughts, feelings, and attitude to comprehend their experience of following the M&E system developed for the organization's mother's group program. This was achieved through interviews and analysis as described in the methods chapter (Table 1). The findings were divided into different themes related to the M&E system where the staff and volunteers described their experiences.

The third and last objective will be described in this part of the findings: *3. Explore the staff and volunteer's experiences with using the monitoring and evaluation system*

4.3.1 The staff and volunteer's experience with the new registration system

Some of the staff and volunteers felt the new Excel registration system made it easier and faster for them to register the mothers, and to keep an overview of the attending mothers. Moreover, all of the staff expected improvements in reporting because of the new registration system. In addition to this, all of the staff and volunteers thought that the new Excel registration system would help them with the registration process, which was time consuming. After all, most of the work for the organization was on a voluntary basis. Thus, time and workload were important factors for them and everything that could be done to improve its efficiency was welcomed. One of the volunteers stated:

"We had to write everything and repeat the same thing and now we don't have to write the same name over and over again and it's calculating automatically. That's also saving time and it makes it easy for us […]."

Most of the staff and volunteers were glad that their work had been made more systematic. The staff felt that the registration system that consisted of four Excel sheets, which had been developed, as described in section 4.2.1, was a good choice for them and was easy to understand (Appendix M, N, O & P). One of the staff thought it was far better than the old system and it was working nicely for them. Some of the staff were concerned that the

researcher would bring a complicated system from Norway, which may be very good, but possibly too complex for the organization and their program. However, most of the staff and volunteers were satisfied with the help in developing the registration system, and had a positive attitude towards it. Moreover, the staff felt they could integrate the registration system into their daily activities without much difficulty. One of the staff stated:

"I was thinking it would be difficult for me to use, but after your training, like two, three times, or more than that I tried. So now it's more comfortable for me."

One volunteer said:

"In the beginning, I had lots of curiosity, would this be hard, but once you teach, the way you teach, I feel the Excel system is very easy."

After using the new registration system for a period of time, most of the staff and volunteers experienced it as a previously overlooked part of their program. All of the staff felt that the system helped them in tracking which of the mothers were attending and who were not. It made it easier for them to attain overview and control. Some of the staff thought that this system could help them in understanding why some of the mothers stopped attending. Thus, they could use this system to contact the mothers who stopped attending to clarify and improve upon the issue. One of the staff said:

"[…] if there are some mothers not present for longer time, maybe we can identify immediately so we can trace who is not coming, whether it's due to their children are already, you know, outside our age group or maybe something illness or something like that. So, we expect some improvement on reporting on how frequently they're coming."

Some of the volunteers felt they lacked the time to practice with the new registration system in Excel. Still, most of them felt if they could try it out more would they be more comfortable in using it. One of the volunteers said:

"I feel that if I can try I can do. So I would like more time, to practice in general."

On the other hand, none of the volunteers were afraid to contact the researcher for clarification if there were any misunderstanding or difficulties:

"If there are anything I wouldn't understand in the future, I'll tell [name of staff] *to ask you* [the researcher]*"*

All of the staff and volunteers thought some parts of the Excel registration system were still confusing. The confusing part were mostly the formulas used in the Excel sheets (Appendix M, N, O & P). All of the staff believed that issues regarding formulas in Excel could easily be solved through communication with the researcher or others with Excel experience.

4.3.2 The staff and volunteer's experience with the new weight and length registration system

All of the staff felt the new weight and length registration system was an important part of the M&E system and that they should be able to maintain it. They believed their job at the organization was to timely identify undernourished children and to give the mothers counseling to improve their child's condition and, in addition, teaching the mothers about nutrition and health.

All of the staff and most of the volunteers thought the new Excel weight and length system (Appendix P) was a systematic and surprisingly easy tool, which gave them an overview of the child's nutritional status. In addition, they felt it was easier to compare the child's weight and length each month. One of the staff experienced that the information was easily found in the Excel sheet (Appendix P) and thought it was a better way to document the data than the older system in scrapbooks. One of the staff said:

"[…] before we used to do it in scrapbooks and we used to write down their weight and height and then every time we had to go through that book to find out whether the child is gaining the good height and weight or not. But now we have everything in Excel, so if we click and then we can find out whether the child is good health or not."

One volunteer said:

"Before we used this Excel system… we had to search for child through the records [scrapbook]*, we had to turn all the pages, it's very bothering, you know, turning all the pages. And sometimes we don't find the right paper* [scrapbook] *and it takes a long time and we have to write in the manuals. It's always a hard time to search the papers* [scrapbook]*, so once we started to do this* [Excel system]*, it's definitely getting very easy and comfortable for us."*

The staff experienced it motivating to be able to compare the children's weight and length over time. Moreover, most of the staff thought that the information gathered with the new system could make the donors and others trust the organization more easily than with just stories, which the organization relied on before. All of the staff felt the system could easily explain the child's situation to the mother, if their child was undernourished or if the child's nutritional status was improving. One of the staff stated:

"When headquarter or others from [the NGO] *will ask me about how many mothers we have done and how many are participating monthly* [participating in the length and weight program] *then I can just, like, enter and I can send the report directly with Excel. For that purpose reporting and everything will be very helpful for me."*

Another of the staff said:

"We can see because from height and weight how baby is and in baseline they are wasting or stunted, or, you know… it's very documented information than just talking, […] they trust easily than just talk."

One volunteer said:

"So if any child get malnourished then we will get a chance to make a plan on how we can treat the child so that's very important and informative for the organization too."

All of the staff and volunteers felt it important to help the mothers. Both the staff and the volunteers thought that the nutritional status of the child was important information for the mother as well as the organization. Further, most of the staff and all of the volunteers believed the mothers wanted the information from them.

4.3.3 The staff and volunteer's experience with the questionnaires for the mother's group program

Most of the volunteers were comfortable with the questionnaires used for their work (Appendix I & J). The staff thought that it would not be too hard for the volunteers to understand why they should use the questionnaires as a part of the M&E system. Both the staff and the volunteers were happy with how the questionnaires was set up and the information it provided the organization with. Moreover, they were glad it was translated into Nepali. They all thought the questionnaires were a helpful tool for them when it came to reporting and documenting how much knowledge the mothers had gained after attending the mother's group program. All of the volunteers experienced that it was easy to ask the questions and to cross out the answers the mothers gave after the period of training and also rephrasing the questions.

Some of the volunteers thought it was important to conduct the questionnaire and felt fine doing the extra work required. The staff and volunteers believed that by documenting their work, it made more sense doing the program and they were curious about the results. All of the staff and most of the volunteers had a clear understanding that the questionnaires would help them in creating a baseline to compare the intervention with and came to the conclusion that it should be implemented in their program activities. All of the staff and volunteers understood that the questionnaires were needed in order to test if the mother's KAP increased or not during the program. However, due to the short time frame of the practice period, the volunteers felt that they needed more time using the questionnaire in their daily activities before they could evaluate it. One volunteer said:

"It's not difficult. The previous time, little difficult, little hard, but today it's not hard […]."

Another volunteer stated:

"In the beginning it was a little bit confusing, now I'm used to it"

All of the staff and volunteers thought the questionnaires and the letter of consent gave them important training for conducting more research in the future. They grasped why it was important to have the mothers sign a letter of consent (Appendix K & L). Not only for the

organization's own benefit but it gave the mothers information about why they were conducting the questionnaires. One of the staff had a concern that the letter of consent could scare the mothers from participating, however, the volunteers experienced that the mothers had a different attitude. The volunteers thought it was good for the mothers and mentioned that it helped the mothers understand why the organization were asking them questions and what the organization was using the information for. Most of the volunteers felt the mothers seem more interested after they had been given a letter of consent to sign. One of the volunteers stated:

"We're telling them about what we're going to do and what we're going to ask them [through the letter of consent]. *It's like, creating more curiosity and it's doubtful too* [if the mothers was not explained why the volunteers were asking the questions] *and it looks like we are forcefully asking them question. You've to answer the question, in that way. It shouldn't be in that way, so the consent letter signing is good, to tell them* [the mothers] *what we are going to ask and giving them information before ask them* [the mothers], *it's good."*

Another volunteer said:

"[…] and sometimes people doesn't understand why we take interviews on this and this, and oooh I don't know what they say, they ask some questions and I don't know what they did. So it's better to tell them what we're going to do and how we're going to work upon that. So it's very important and good to be clear to them."

The volunteers experienced that it could be complicated to get the right answers when interviewing the mothers. The room the mother's group used was small and it was easy to overhear one another. Most of the staff and volunteers were worried that the mothers would not answer honestly or that they would copy the other mother's answers. Therefore, the volunteers felt the need to separate the mothers when conducting the interview. One of the volunteers said:

"And in a group, if you ask one question, everybody copy that answer, you know, they didn't tell their original answer, so that's why it's good to interview them at different times."

One thing the researcher especially noted from the interviews was that most of the volunteers talked about informing the mothers about the right answers. Most of the volunteers felt it was important to teach the mothers if they answered wrong. The volunteers mentioned they taught the mothers after the interview was done. They did not think it was proper to just complete the task and let the mothers be unaware of the correct answers. One of the volunteers said:

"From the questionnaire also once we give the questionnaire, fill out the questionnaire, after that the women get to learn… If they don't know any question they give a wrong answer about that, afterwards we teach them."

4.3.4 The staff and volunteer's thoughts on the monitoring and evaluation system for the mother's group program

Most of the staff and some of the volunteers felt the M&E system would strengthen their activities through evaluating how the mother's group program was preforming and the impact it had on the mothers. All of the staff and volunteers thought it was important that the program was going as planned. Moreover, they saw the need for a systematically documented approach to their program. The staff felt that the M&E system could help them ensure the funding continued in the future and it could help them in utilizing their daily activities. In addition, the staff felt they had more control over the program. One of the staff said:

"At the beginning, actually, we thought we were having some aspect of this process [monitoring and evaluation system]*, but, when you* [the researcher] *started with what is the level on our project, we realized that we actually don't have enough steps. I think it's very timely."*
Another of the staff stated:

"I think that would be important, you know, when we're telling about our project, if someone want to know a little bit more detail, if we want to show these activities, monitoring and evaluation, that would be very helpful, especially we're very much dependent on the funding we're collecting, so the funding agency… whatever we're telling, if we don't have this type of system, they won't believe."

The staff thought the M&E system was useful for them when writing reports and it saved them time when they needed to create and send a report to the headquarter. The staff thought the M&E system was a necessary part of the program, and that it was good for them and the organization to implement it. In addition, the staff believed that the M&E system was very useful for the volunteers. One of the staff said:

"[…] its skill development for our volunteers also, so, this is very helpful."

The volunteers felt the system was improving their paperwork and made it more systematic for them. All of the volunteers had a generally positive attitude towards the monitoring process and felt that it was important for them to have this system set in place. They also thought it was safer and more sustainable than the older system. One of the volunteers stated:

"It's very good for the organization, because it's less consuming our time and it's, like, easy… we don't have to write on paper. So we can directly do on laptop and it's much more easier and saving our time. So that's why it's good."

None of the staff and volunteers believed the M&E system judged them or their work, but it was rather a systematic approach to monitor the organization's program and to document the program's effect. Moreover, they understood that it would be difficult for the organization to evaluate and improve their own program if the organization lacked an M&E system. One of the volunteers said:

"It's needed to guide the organization, so, like, without monitoring and evaluation… even it's very hard to control the child, also, in the same way it also happen to us [the NGO] *too (haha) it's good to have (haha)."*

Some of the staff thought there would not be any issues following the M&E system. However, they felt they needed more time to evaluate it and to practice it. The organization did not have an M&E system previously and the staff were happy that they could be a part of the designing process. One of the staff stated:

"I think we're very happy, in our short time we've assisted ourselves and found our way of monitoring and evaluation. This is our own way."

Furthermore, one of the staff requested it to be developed for their other programs at a later stage:

"[…] if possible, like, I have already explained you [the researcher] *about outreach and home visit program as well. So if you* [the researcher] *can help with that. Expand up to home visit and outreach that would be very helpful."*

The staff added:

"I think that [the monitoring and evaluation system] *it's something* [the organization] *should have."*

All of the staff and volunteers generally had a good attitude towards implementing the M&E system into their program. They felt that it was an alien concept before they had implemented it and believed that it was highly important for a NGOs operation. One of the staff stated.

"Actually, we were missing this part so we're very much happy, yeah, we're happy with this, happy with your [the researcher] *help."*

One of the volunteers said:

"Everything is good and the thing you [the researcher] *teach is very good and we wish you* [the researcher] *can come more frequently to teach more (haha)."*

Another volunteer said:

"It's very good and I personally feel that this should be taught a bit earlier (haha)."

5.0 Discussion

This chapter discusses the methods and the findings from the interviews and observations.

The findings from the development and design of the monitoring and evaluation (M&E) and logical framework (logframe) systems are a result from the study period in Nepal. The M&E and logframe system may change and be improved upon after the researcher left. One should keep this in mind when reading this thesis. In addition, it is important to mention that this study did not include the mothers who participated in the organization's mother's group program. The mother's experiences and views came from the staff and volunteers who had been in contact with them through the program during this study.

The findings from the interviews and observation used in the present study can tell us about the informant's experience and perception about the subject, but it cannot tell us if additional staff or volunteers from different organizations would have the same experience (Thagaard, 2013). Hence, these factors may reduce the generalizability of the present study. However, the findings can serve as indicators and "food for thought" on how to develop an M&E system with a logframe. Moreover, this study can help the reader understand how the staff and volunteers may think and feel about an M&E system and logframe in their day-to-day activities within the organization's programs.

5.1 Discussion of methods and role of the researcher

In this section, the study sample, role of the researcher, methods, the impact an interpreter may have, and the process of transcribing and analyzing will be discussed.

5.1.1 Study sample

Overall, the study sample consisted of three staff members and four volunteers. The study sample size may be too small to provide enough significant information. However, Thagaard (2013) expresses that in qualitative research, the number of informants is not necessarily important for the study's design and intentions, but it is rather what the informants can bring

to the study. Since the method for recruitment was convenience sampling and the participants were chosen because of their involvement with the organization and the mother's group program, the sample size of the study was appropriate for the study's aim. All of the working staff and volunteers at the organization in Nepal participated in the interviews. Thus, the intended number of informants was reached. Nevertheless, there is a risk of systematic bias (Thagaard, 2013). Furthermore, it could have been interesting to interview the mothers participating in the organization's program in order to understand how they see the program and how they benefit from it. However, this would have made the study too large for its intended purpose and too time consuming for the researcher's set deadline. Nonetheless, it could have brought about a broader understanding of how a program with an M&E system is experienced by the participants and if they had any experiences that could bring about any changes to the program, which the staff and volunteers had not considered. This may be a future perspective.

5.1.2 The researcher's impact on the study

The researchers impact on the study is important to consider, especially in qualitative research (Thagaard, 2013). During this study, the researcher was a main contributor to the development and implementation of the M&E system, in addition to the interviews. This can create bias to what the informants may want to share from their thoughts and feelings regarding the M&E system. It is important to notice how the researcher may have influenced the findings, especially for objective 3 in this study, which focuses on the staff and volunteer's thoughts and experiences with using the M&E system. In order to satisfy the researcher the informants may have been overly positive in the interviews to the researcher regarding their experience with the M&E system, thus, falsify their true experience of it. One should also take notice that in the Nepali culture most decisions are made by management with a top down approach, where one should not express their opinion about the management, which may have been the case in this study (World Trade Center, n.d). However, many of the informants had high status and education, thus, there is reason to believe that most of the information gained about their experience is genuine. Also, they had experience with cooperating with other personnel from different countries. In addition, the researcher felt that trust was built between the informants and the researcher during the stay in Nepal. Hence, the true thoughts, ideas, feelings, and experience in the findings may have been shared.

5.1.3 Methods

Interviews as a method

To fulfill objective 1, the researcher chose key-person interviews with staff that were working for the organization and who were involved with the mother's group program, as described in Table 1. The key-person interviews for objective 3 was chosen because the interviewees had key-knowledge about the system and how it worked in the day-to-day activities of the organization (Table 1). Six out of the ten interviews were conducted in English, but for the remaining four interviews the volunteers required an interpreter. The pros and cons with the use of an interpreter is discussed in the next section. Qualitative interviews as a method has positive and negative aspects. It can bring a deeper understanding about a certain subject and include population who lack writing and reading skills, but cannot be generalized to the population. Thus, interview bias is a potential weakness in this study (Kvale, Brinkmann, Anderssen, & Rygge, 2015; Thagaard, 2013). Moreover, the interviews for the question in objective 3 had to be done on the last day before the researcher left Nepal. This might have made the interviews feel hasty and put pressure on the informants and researcher to not waste time, even though the informants had been informed that the time was of no concern. Nevertheless, this was a necessary inconvenience because of the short time-frame to use and learn from the M&E system.

For the interviews relating to objective 1 and 3 the researcher had developed interview guides in English (Appendix A & B). The guides were tested on a fellow student, however, the student had good English skills and could possibly understand it to a greater extent than the informants. Due to a short time-frame and complicated questions that were related to the organization's work and experiences, it was not possible to test the guide on any locals, which might have been favorable. However, the staff possessed good English skills and the interviews with the volunteers needed to be conducted with an interpreter. Thereby, one can argue that the interview guides should suffice. During the interviews the researcher used a recording device, as mentioned in the section 3.2.1. Using audio-recording device will be discussed later.

Observation as a method

To fulfill objective 2, observation was chosen as a methodical option (Table 1). Developing an M&E system and logframe is a method in itself. Therefore, the researcher decided it was best to document the process through field notes during the meetings, lectures, and discussions for the development and designing phases. This enabled the researcher to describe the thoughts, observations, processes, and results on how the M&E system and logframe came to be. The researcher chose a participatory role rather than an inclusive observation role, as the latter could be seen as more of a top-down approach by the staff and the volunteers. Downsides of a top-down approach was discussed earlier. With a participatory role the researcher could be a part of the organization, and the process of development and designing the M&E and logframe. However, observational methods have their flaws. In particular, using a participatory observational role it is likely to develop relations and relationships with the study sample and it can have an impact on the findings (Thagaard, 2013). For instance, if the researcher suddenly starts writing in the field notes during the observation process, this can give a perception that something is wrong or that the informants did something out of the ordinary which may make the informants feel uneasy (Thagaard, 2013). This may make the observation of the phenomenon unnatural.

The use of interpreter

The researcher wanted to include the volunteers in this study. The information from them can give vital knowledge, however, the volunteers had limited English speaking abilities. The volunteers did a lot of the work at the organization and their thoughts, feelings, and experiences are essential for understanding how the M&E system and logframe function in the organization's day-to-day activities. To include the volunteer's experiences and thoughts, the researcher had to use an interpreter for the interviews. However, using an interpreter in studies has its disadvantages as it can limit the information given by the informants and be wrongly translated (Edwards, 1998; Jentsch, 1998; Wallin & Ahlstrom, 2006). Moreover, the interpreter did not have this role as a profession. It can bring about some uncertainties to whether the information gained from the interviews is properly translated as stated by the informants, or shortened the statement and translated as context of what had been said. Even though, as mentioned in the methods chapter, the role of the interpreter was discussed before the interviews and the content of the interview guide was explained.

The researcher experienced it hard to keep the natural flow of questions under the interview and felt it difficult to ask follow-up questions. Moreover, the researcher experienced it difficult to communicate directly with the informants. The researcher had no previous experience with using an interpreter and felt that the communication was not only with the informants, but the interpreter as well. This could have led to limited information from the volunteers about their experiences and thoughts. The interpreter was hired as an independent interpreter with no association to the organization, thus, it is unlikely that the interpreter had any intentions of hiding information. In addition, one of the volunteer informants who understood some English often confirmed what the interpreter translated to the researcher with nodding. Nonetheless, some of the experiences and thoughts from the informants may have been lost during the translation.

5.1.5 Transcription and data analysis

Transcription and data analysis of the interviews for objective 1
For the transcription and analysis of the first round of interviews for objective 1, the researcher decided to compress and summarize the text for analysis. The time-frame was too short for the researcher to develop and analysis it with a coding method. However, the interviews were short, small sampled, straight to the point, and thematically divided, which made it easier for the researcher to compromise, summarize, and pull out the essence to the transcription of the text and analyzing (Appendix E). All of the staff spoke English and made it easier for the researcher to transcribe the interviews. Nonetheless, this method has its imperfections. When one does not use a coding approach to analyzing, one can miss out on important information from the text (Thagaard, 2013).

Transcription and data analysis of the observation for objective 2
The researcher experienced some difficulties when writing down the observations. The difficulties were the combinations of holding the meetings, discussions, and lectures, while writing down what was discussed. Sometimes the researcher had to rely on memories and write down the observations after the meetings, discussions, or lectures. The findings summaries the observation made by the researcher. However, not all of the thoughts and statements from the meetings and discussions were written down. Some information to how the M&E and logframe systems came to be may have been lost, thus, it may not fully describe

the process. Also, some of the experience in the meetings, discussions, and lectures may not have been captured.

Transcription and data analysis of the interviews for objective 3

The researcher chose to use codes for analyzing the data from the second round of interviews for the research question in objective 3 (Appendix G). The interviews were transcribed after the return to Norway. To develop the codes the researcher decided to read through the transcripts rather than predetermine the codes. The researcher experienced it as time-consuming, nevertheless, the researcher felt that this coding method gave the most interesting findings. One of the reasons it took time was that the interviews were longer and the informants were asked to share their thoughts and experiences rather than a straight descriptive answer. In addition, four out of the seven interviews were done with an interpreter, as discussed earlier. This made the transcribing process slower and the researcher had to listen over the tapes more times than the interviews with the English-speaking informants. However, the interpreter's English was fluent and was not experienced as hard to understand.

The usages of an audio-recorder

For the interviews used in objective 1 and 3, the researcher used an audio-recorder application as mentioned in the methods chapter. The audio-records where conducted with the informers consents, however, when recording an interview the informants might feel uncomfortable. Knowing that what they say is recorded may confine their authentic thoughts and feelings toward the subject and their true thoughts may have been held back, intentionally or unintentionally. Even though the researcher tried to record discretely the impact that the knowledge of the interview is recorded may have an impact on the informant. However, using recording devices may help the researcher in transcribing the interviews with less errors and to capture the essence of the interviews (Thagaard, 2013). The researcher performed the interviews alone and it would not have been possible to write the answers down at the same time. The audio-records where clean and easy to understand during the transcribing process.

5.2 Discussion of the findings

In this section, the researcher presents a summary of the findings and discuss the main findings from the interviews and observations. Due to lack of relevant and comparable studies the researcher used a reflective approach to the discussion of specific topics.

5.2.1 Summary of the findings

The main findings from objective 1 shows that the organization's goal is to reduce undernutrition among children under two years of age. The organization's theory of change was to achieve this goal through a behavioral change in nutritional knowledge, attitude, and practice (KAP). They held mother's groups twice a week with lectures and group discussion on different topics of nutrition and hygienic practices, and occasionally family planning, dentistry and common diseases. However, the organization lacked a systematical M&E approach to their program. Also, they lacked a systematic approach to registration of the participants and collection of data for evaluation, and relied on scrapbooks for their registration of mothers and their child's nutritional status. Their views towards implementing an M&E system were generally positive.

For objective 2, the researcher developed an M&E system with a logframe, which describes the organization's theory of change. The M&E system included an updated version of their scrapbook registration system in Excel sheets (Appendix M, N, O & P). Furthermore, the researcher developed a KAP questionnaire using the guide from FAO guidelines for assessing nutrition-related KAP (FAO, 2014). This questionnaire serves as a tool to evaluate the mother's group participants KAP from before they start the program, three months-, and six months after they joined the program. The measuring of the children's nutritional status was made more systematic to create an overview that could help the organization with the counseling and to create stories with facts for the donors. However, due to lack of proper baseline data and control group to measure the desired effect of the program in order to reduce undernutrition. The researcher suggested that the organization should discuss about conducting a control group survey and to reconsider their deadline to evaluate their program's impact.

The overall findings of objective 3 suggests that the informants had a generally positive attitude towards the implementation and use of the Excel sheets in the M&E system (Appendix M, N, O & P). Most of the informants expressed that there was some confusion regarding the M&E and Excel sheets before they conducted the training and lectures. However, most of the informants stated that the confusion cleared after the training period. Their experience of the KAP questionnaire and letter of consent were confusing at first, but after a period of time with changes and practice they had a positive attitude towards it. The volunteer's experienced that the letter of consent calmed the mothers before the interview and mothers were more curious about the interview than when the volunteers used oral consent. The staff were interested about the results that the questionnaires would give them. However, most of the staff and volunteers stated that the training period were too short and would like more time to evaluate the M&E and Excel sheets.

5.2.2 Discussion of the findings from the organization's theory of change and operation

> *Objective 1. To describe the organization's theory of change, how the mother's group program operates, and the staff's view on a monitoring and evaluation system*

The organization's theory of change

The organization general theory of change is to educate the mothers about proper nutrition and the danger of poor nutrition, especially for infants and children. The organization wishes to improve the nutritional status among the children through a change in nutritional KAP. They believe that through an improved nutritional KAP the child will gain a better national status. The Suaahara program in Nepal, a large-scale integrated nutrition program which operates with mother's groups among other programs in different districts in Nepal, has some similarities with the work done at this study's organization and their theory of change (Cunningham, Singh, et al., 2017). Cunningham and coworkers (2017) evaluated the program after a five year period to see whether their nutrition-related programs had an effect on nutritional knowledge and practice compared to the districts that did not participate in the Suaahara program. Their study shows that the program had an effect in increased knowledge and improved nutritional practice (Cunningham et al, 2017). Another study from Panjwani and Heidkamp (2017) concluded that nutritional education and complementary feeding

66

interventions had an impact on linear growth of children in low and middle-income countries (LMIC). This effect is further shown in different studies (Hossain et al., 2017; Lassi et al., 2013; Levinson, Barney, Bassett, & Schultink, 2007; Nguyen et al., 2017; F. T. Vaivada, Gaffey, Das, & Bhutta, 2017; T. Vaivada, Gaffey, & Bhutta, 2017).

On the other hand, a study from Bhutta et al. (2008) shows that strategies for breastfeeding promotion had a large effect on survival, but a small effect on stunting. On the contrary, education on complementary feeding increased the height-for-age Z-score (stunting) (Bhutta et al., 2008). However, studies have shown that that nutritional education alone is not enough to fight undernutrition (Bégin & Aguayo, 2017; Dewey, 2016; Dewey & Adu-Afarwuah, 2008). One should be aware that there is no single universal package and nutrition interventions needs a multi-sectorial approach. Nonetheless, the organization program theory may have a potential to generate the organization's desired impact (Figure 7) (Stame, 2010).

Some organizations, charities, and programs start up without a clear plan and M&E systems. This can make it complicated to use an evaluation method properly (Levinson et al., 1999; Mueller-Hirth, 2012). The organization in this study was created on a few people's initiative. The organization has no sophisticated M&E system and should focus on implementing a system before they set a deadline for their desired impact.

The mother's group program

Even though the staff were pleased with the number of participating mothers, they expressed their concerns over the mothers who stopped attending after one or two sessions. One of the reasons mentioned was the time-schedule. The mother's group program starts at 3 PM and ends at 6 PM. However, changing the time-schedule is not an easy task. The organization's workers are mostly volunteers and the staff and volunteers have also employment elsewhere, which needs to be considered when planning the time-schedule. This may be not unique to this organization alone.

As stated in the findings, one of the staff's concern were the mothers who dropped out. There exists a caste[3] system in Nepal and the caste which is considered lower may be, intentionally or unintentionally, excluded by the other participants. Especially, the poor mothers from cast

---

[3] Caste systems is a traditional system of social stratification. It defines social classes by a number of hierarchical endogamous groups. Some casts may be discriminated from social settings (Whaling, 2010. p73-75).

that are considered lower social status are at risk of dropping out from the mother's group program, such as the brick factory workers mentioned (Subedi, 2011). The organization may be in risk of implementation failure by not reaching enough of the targeted mothers, as shown in Figure 7 (Stame, 2010). The organization can benefit from a more sophisticated registration system that can track the mothers who stop attending and investigate the causes. Thereby, they can implement changes needed to include the mothers who are in risk of falling out.

The organization's monitoring process

The organization's staff relied mostly on the use of scrapbooks when they conducted the registration process of the mothers and weighing the children. Later, one of the staff would go over the scrapbooks and write up a report on a simple Excel sheet. This is a fast and easy system, however, a poor systematically approach, harder to report, and information may be easily lost. Nevertheless, one can believe that many organizations rely on scrapbook and leave the computer system approach to the headquarter or other institutes. Thus, this approach may not be unique to this organization. However, a computer registration system could serve the organization, staff, and volunteers better in the long run by making the registrations more systematic. Even though the staff are comfortable with the scrapbook system they should upgrade to a more systematic computer system, in Excel or other software. This tool can help them to keep a better overview of the mothers, as discussed earlier, and the program's topics.

The staff's view of a monitoring and evaluation system

Most of the staff had a general positive attitude towards implementing an M&E system. However, the general experience from other studies is more of an extra work attitude towards M&E systems. Staff may feel that the M&E system is there to watch if they do the work or not, rather than to help them and the organization to optimize their program (Mueller-Hirth, 2012). However, the staff in the researcher's study was eager to learn on how the data for their program evaluation can be collected and visualized some parts of it. They had even discussed who of the staff should do the analyzing. The staff had suggestions to how to solve the transition from paper questionnaires to electronic form in a tablet computer system. Thus, it can be argued the staff in this study's organization are highly motivated to change their system, rather than that the cause of the positive attitude is to please the researcher.

Although the staff had a positive attitude towards implementing the M&E system, they did not have a complete understanding of what it implies. The staff mentioned they would require

lectures and training with the M&E system. On the other hand, the staff had field experience with nutritional research. With the experience they had from fieldwork, questionnaires, and holding lectures about nutrition could make the transition and learning processes much easier. The researcher only need to assist with developing a more systematic M&E system, rather than starting from scratch with basic training on lectures, interviewing, and how to measure height and weight. This may make it more likely that the staff will stick to the new M&E system and saved time implementing it.

5.2.3 Discussion of the findings from development of the monitoring and evaluation system

Objective 2. To develop a monitoring and evaluation system that fits the mother's group program and benefits the NGO, as well as a logical framework

Development of the monitoring system

As mentioned earlier, the organization had a form of monitoring system, however, it did not have a systematic approach and was too time consuming for the staff and volunteers. The decision for using the Excel software was proposed because it is among the most used system in the world. In addition, there are several step by step lectures, videos, and other platforms easily accessible for the staff and the volunteers to learn more about the Excel functions. Moreover, Excel is the software platform that the researcher is familiar with and was used for simple reports by one of the staff. However, the staff had some concerns about the Excel system. At first glance it can seem complicated, nonetheless, some of the staff were operating with Excel at their other line of work. Thus, they had some experience of it, which in turn, could be taught to the others when the researcher left Nepal. If the Excel sheets are too complex it may not be used by the staff and volunteers. The researcher tried to make it as simple as possible (Appendix M, N, O & P).

The organization and/or the researcher should follow-up on the monitoring system after a period of time. If the staff and volunteers were to fall back to the scrapbook system, the registration of data and nutritional status of children may be lost in the data sharing process with donors and headquarter. Scrapbooks are easily destroyed, lost, and not systematic

enough. Therefore, it is important to explain the importance of a computer system approach. The staff and volunteers should have had a longer training period with the computer system than that what was done in this study. The one who assisted with designing a new M&E systems for an organization should keep contact and request updates on how the system is working for them, rather than leave the work behind to fend for itself. This may make it more likely for the monitoring systems to succeed.

Development of the evaluation system

The organization has set as one of their key goal for their program to reduce the percentage of undernourished children under two years of age after three years. Their targeted population are the children attending the mother's group program. However, if they want to achieve this target, they would need a baseline survey with a large number of participants, and a control group, as of this date the organization has neither. As mentioned in section 2.5.4, lack of inadequate data collection and too small study sample could increase the risk of method failure, as shown in Figure 7 (Stame, 2010). Evaluation is complicated and time-consuming, and one cannot measure all of the outcome/impacts at once. Some of the medium- and long-term outcomes/impacts cannot be measured before several years after the program has started. Good evaluation also implies proper planning and setting achievable long-term goals (Karim et al., 2002). A timeframe of three years may be too short to gather enough data to show an effect. Instead, until they have created a control group and a baseline they could focus on the reduction of undernourished children within their program and over a longer period of time. Keep measuring the children each month to follow up on the child's nutritional status. The organization may be too hastily in trying to show an effect of their program and risk a wrong conclusion. The researcher's suggestions to the M&E system and logframe do not have a set timeframe. A new timeframe has to be discussed between the headquarters in Europe and the staff in Nepal, and whether they wish to conduct a control group survey.

The staff and volunteers had previous experience with measuring height and weight of children, either from the organizational work or from their other employments. As stated earlier most of the staff and volunteers had additional jobs next to the organizational work. The staff and volunteers did not require training on how they should conduct the measuring and calculations. The Excel sheet (Appendix P) developed by the researcher may not serve as a tool used in the evaluation of the programs impact. The organization are planning on implementing the WHO Anthro software. It is a tool which calculates the Z-score of each

child thoroughly and are used for surveys (World Health Organization, n.d-c). This tool can help them in creating a baseline, however, the organization would need to have a survey for the control group. This has to be taken up with the headquarter. In the meantime, the organization can have an overview of the children who are undernourished, offer consultation, and show donors, fundraisers, and themselves that the program works by continuing to measure the children each month. Hence, the organization can show donors some of their effect, not only stories. Moreover, if the program produce negative results the organization can change the program to be more effective. The Excel sheet's design (Appendix P), as of now, is more useful for an overview to give counseling and create "good" stories with some hard facts for the donors and fundraisers. Nevertheless, there is a lot of information to be gained from the program as is, which can benefit the organization. KAP can be measured as a medium outcome, which can suggest an improvement of nutritional status among the children after a few years. Moreover, newly mothers who participates in the mother's group program are likely to get more children, as the mean number of children per family in Nepal are 2.29 (Ministry of Health, 2017). The knowledge the mothers gain from the lectures can benefit the future and present sibling as well.

To measure the organization's desired outcome of nutritional behavior change the researcher implemented a KAP questionnaire (Appendix I & J) developed by FAO. FAO developed a KAP questionnaire guideline to help organizations and projects planners to measure nutrition-related knowledge, practice and attitude at a community level (FAO, 2014). It can serve as a tool to conduct surveys and evaluation of nutritional programs and is regarded as a high-quality tool (FAO, 2014; Jalambo, N, Sharif, & Norimah, 2017; Mogre, Dery, & Gaa, 2016). However, it has its flaws. One can only measure the targeted population's KAP, but one cannot be sure of the interventions effect in their day-to-day life. The study sample may know the right answers, but may not implement their improved nutritional practices because of causes like poverty, food insecurity and/or the lack of ability to implement due to restrictions at home/family. Furthermore, there are no indicators for what food groups have been consumed by the study samples which can confirm the benefits of an increased KAP. Moreover, the KAP questionnaire developed by FAO is rather new and thus far not widely tested. Nonetheless, World Food Program's (WFP) report on Nepal's food security and nutrition from 2013 shows that the undernutrition is high even at wealthy household levels (World Food Program, World Bank, AusAID, & UNICEF, 2013). This suggest that there are other factors than income that can contribute to the high undernutrition rates in Nepal. The

KAP questionnaire have the possibility to measure one of these factors at the same time give the organizations clues about their mother's group nutrition lecture's effect.

Designing the logical framework

When designing a logframe, organizations usually hold large meetings including all the decision makers and staff where they come together with a plan, which describes their theory of change (Bakewell & Garbutt, 2005). There is little literature that describes the process from a qualitative perspective and none that the researcher could get a hold of. One can think that the organizations would keep written records from the meetings, however, this is rarely published. In this study the processes, decisions, and results were recorded in field notes and later analyzed by the researcher. However, each M&E systems are different to the organizations theory of change and how the organizations operates. Nonetheless, the findings from this study can give information on the development process of logframe for others who want to develop a logframe systems for their organization. Because of the lack of studies studying the experience of development and designing logframes, the researcher decided to discuss the importance of a logframe approach and the downside of it.

As described in section 2.4.1 and 2.4.2, the logframe can provide a powerful set of tools for a program. Moreover, it can bring about significant benefits to the stakeholders and decision makers by providing a short and convenient summaries of the program's goals and how to assess its performance (Jacobs, Barnett, & Ponsford, 2010). Larger organizations and nations depend on logframes to show their plan of action in the different programs they are running (Jacobs et al., 2010; Jefferds, 2017; Ministry of Health, 2013; UNICEF, 2014). However, a logframe approach is not perfect. Jackson (1997) describes logframe as a tool which is best suited at the end of the program design cycle when the assessing of the needs, views of stakeholders, and all information is collected. If done at an earlier stage, the problem identification stage is likely to be a problem in itself and make it too complex for an organization to develop it. Furthermore, Jacobs and colleagues (2010) points out that the logframe assume that complex social issues can be reduced to one key goal shared by all interest groups. This is often an inadequate way for tackling political issues where interests diverge or conflict (Jacobs et al., 2010). In addition, the logframe approach has been criticized for lacking flexibility (Bakewell & Garbutt, 2005; Crawford & Bryce, 2003; Jackson, 1997; Myrick, 2013). The lack of flexibility makes it harder to change the program if unforeseen situations occur or it has a negative impact. Nevertheless, most donors and NGO managers

find the logframe to be a helpful tool in a way of thinking with a formal way of recoding how the program works. It seems to provide a middle ground for the grass-root workers, management, and donors on how they want to go about the programs and what activities the organization focuses on (Bakewell & Garbutt, 2005).

Modifications to the organization's desired impact

The "no increase in overweight and obesity" target (Table 2) was not originally in the organization's set of goals. However, childhood double burden of malnutrition is increasing in LMIC (Development Initiatives, 2017; Tzioumis & Adair, 2014). In addition, the researcher observed that the nutrition transition was in full effect in the community. Thus, the researcher raised a concern that negative effects could be seen in the future. Even though the percentage of children who are overweight and obese in Nepal is around 1 percent, overweight and obesity in children can create health issues which could overshadow the efforts to reduce undernutrition (Black et al., 2013; Jaacks, Kavle, Perry, & Nyaku, 2017; Ministry of Health, 2017; WHO, n.d-b). In addition, it is a part of the Sustainable Development Goals (SDG) to halt the global rise of overweight and obesity in children (Development Initiatives, 2017, WHO, 2014). Therefore, the researcher suggested that the organization should be aware about what the overweight and obesity challenges possesses, and keep it in mind through monitoring it for the future.

Letter of Consent

The use of a letter of consent was not an originally concern from the organization, since it was satisfied with oral consent and not too concern with publishing their results yet. However, the staff expressed a wish to publish and/or share their results in the future. The research felt it important that the letter of consent was drafted and put to use before the staff decided fully to publish and/or share the results of the mother's group program. The use of this document can be viewed as an important exercise for the staff and volunteers, and help them inform the mothers about their intention with the questionnaires. Furthermore, it is important that the mothers are informed about their rights when being a part of a program and when being asked questions during interviews.

5.2.4 Discussion of findings from the staff and volunteer's experiences with being a part of a monitoring and evaluation system

> *Objective 3. Explore the staff and volunteer's experiences with using the monitoring and evaluation system*

The staff and volunteer's experiences with the new registration system

The findings from the present study shows that the staff and volunteers were glad that the registration system was made more systematic (Appendix M & N). However, Muller-Hirth (2012) had a different experience with South-Africans NGOs. Her study showed that the majority of the people working in a NGO disliked the systematic approach, and felt that it was too strict and controlling and did not fit in their day-to-day changing environment (Mueller-Hirth, 2012). As stated earlier in the present study, one of the organization's informants said that the staff had concerns that some parts of their old registration system would not be a part of the new system the researcher had developed. This could make it less familiar for the team. However, after the training period most of the staff were more comfortable that they were capable in maintaining the system and experienced that some parts of the layout were included from their old registration system. In addition, most of the staff and some of the volunteers felt the Excel registration system was easy to understand and to learn. The staff and volunteers were concerned with what was consuming their time and felt that the new registration system helped them saving time with their work. With this positive attitudes one can believe that the staff and volunteers will use the M&E system in the future.

Even though the findings were positive and the staff and volunteers expressed that the Excel system was a good choice for them, they indicated that they needed more training and that some parts of the Excel sheets was still confusing. These statements may imply that their thoughts and interest in the new registration system are sincere. However, as discussed in section 5.1.2 the researcher may have had an impact in the informant's view on the new registration process. Some of the staff's and volunteer's real thoughts and feelings may have been held back to not criticize the new registration system in front of the researcher.

The staff and volunteer's experiences with the new weight and length registration system

One interesting finding was that the staff and the volunteers felt the weight and length system as very important for them and the organization. They believed that an important part of their job was to timely identify undernourished children and give them counseling, in addition to giving lectures about nutrition and hygienic practices. The staff and volunteers had experience with the WHO weight and length indictors and did not require training in this field (WHO, 2006). The one thing the researcher contributed to was making the registration system of nutritional status more systematic. The researcher felt that during the interviews the informants shared enthusiastically their thoughts on the new Excel weight and length registration system (Appendix P). Moreover, they expressed that it is important for the staff and the volunteers to be able to show the mothers the improvements of the children or the lack of it. Also, they felt that the mothers wanted the information. Having a systematic system can more easily show the information needed rather than look through scrapbooks for names and nutritional status. Their positive attitude towards a new weight and length Excel registration system, which could make it easier for the staff and volunteers to collect, store, and have an overview of the nutritional status of the children may be truthful. However, the practice period was too short and misinformation may have occurred. If the system is not operated as intended the data may be misleading. It is important that the researcher follow up on the day-to-day practice and implementation of the new weight and length registration system.

The staff and volunteer's experiences with the questionnaire for the mother's group program

The questionnaires are an important part of the M&E system, as it collects the information needed to have an evaluation of the program at a later stage. Therefore, it is important that the staff and volunteers understand and follow the questionnaires as intended (Appendix I & J). From the findings one can see that the staff and some of the volunteers understood the questionnaire's purpose. The cooperation of developing the questionnaires may have contributed to a feeling of ownership, rather than a top-down approach of just giving a task to fulfill. Disadvantages with the top-down approach have been discussed. This can make their statement of "experiencing it as easy to ask the questions and cross out the answers" as sincere. Furthermore, translating the questionnaire to Nepali had its benefits when the volunteers were interviewing the mothers. This contributed to a better understanding for the volunteers of what the questions implied and may have had increased the willingness of

conducting the interviews by the volunteers. Hence, the data collection phase of the M&E system may be followed through, reducing the risk of method failure (Figure 7).

As mentioned in the present study, two volunteers said "It's not difficult. The previous time, little difficult, little hard, but today it's not hard" and "In the beginning it was a little bit confusing, now I'm used to it". This statements may indicate that it is more plausible that the volunteers will stick to the part of M&E system which requires to gather the data for evaluation. Nevertheless, the short timeframe of the training period may have affected the staff and volunteer's experiences. Issues that did not occur at that time may affect their judgment and dislike of the questionnaire later. However, it is a good sign that the staff and volunteers were curious about the results these questionnaires (Appendix I & J) can give them. Their curiosity may lead to that the questionnaires is used and will be analyzed at a later stage. In addition, the volunteers even taught the mothers the right answers to the questions after the interviews and had reflected on the interview processes with the mothers. One of the volunteers stated "And in a group, if you ask one question, everybody copy that answer, you know, they didn't tell their original answer, so that's why it's good to interview them at different times". This can be interpreted as a true positive attitude towards the questionnaire and to the M&E system. One can think that their positive attitudes are truthful and not only affected by the research impact on the study, as discussed in section 5.1.2. In addition, their statement shows that the volunteers are eager to help the mothers and can go beyond what is required of them.

Using the letter of consent

As mentioned earlier, the organization relied on oral consent from the mothers when they had previously interviewed them and/or had done small surveys before the new M&E system was developed. If they want to go into research and publish their results they would need a more solid consent approach. The interviews produced interested findings when it comes to the letter of consent and how it was received by the mothers. As described in the findings, the staff and volunteer thought it gave them important training for later research and understood the benefits a letter of consent gave the organization. In addition, the volunteers expressed that the mothers appreciated the letter of consent because it gave them information upfront instead of creating confusion. One can speculate that letter of consent will bring a higher chance of getting mothers to participate in the interviews. The volunteers can easier answer questions regarding to why the mothers should answer the questionnaire during the

interviews. Thus, the letter of consent can create a safer environment for the volunteers and mothers to do the interviews. This finding can suggest that a letter of consent do not only benefit the research, but benefit the study samples as well.

The staff and volunteer's thoughts on the monitoring and evaluation system for the mother's group program

Both the staff and volunteers thought it was important that the program was going as planned and felt that the M&E system would strengthen their activities. They believed that the M&E and logframe systems would help them optimize their program. However, the findings from Muller-Hirth (2012) found a different attitude towards M&E and logframe systems. In her study the majority of the informants had a negative view and felt that the system was something donors and leaders required rather than to help the organization with a systematic approach. The informants in the study descried it as a "necessary evil" and "burdensome" (Muller-Hirth, 2012). One can think that the positive attitude in the present study, which contradicts the findings from Muller-Hirth (2012), can have been an effect of including the staff and volunteers, in addition to, teaching and making them feel a part of the M&E system, rather than making them follow a system that someone forces upon the organization. This is also experienced in Muller-Hirth's (2012) study where the NGOs who had develop the M&E system for its own benefits saw the positive aspects of it. This can further strengthen the positive attitude in this study and indicate that there are favorable approaches to working with the NGOs to develop an M&E system, rather than externally-led approach from large donors.

M&E is a complex system and often hard to understand. One may think it is important that the "expert helper" has to be a part of their organization activities, and has to understand the staff and organization's wishes, goals, and capabilities, rather than forcing a new and complicated system that other big organization may be operating. The findings from the present study showed that the staff and volunteers did not believe that the M&E system was to judge them and their work, as a majority of informers in Muller-Hirth (2012) study indicated. In her study some of the informants believe the M&E system pushed upon them (Muller-Hirth, 2012). The staff in the present study thought it was positive to implement the M&E system and its monitoring requirements and perceived it as a skills development for the volunteers. This can be another indicator that the lectures and involvement approach can pay off, thus, the positive attitude in this study may be genuine. This line of thought is supported in FAO's report on M&E systems for NGOs (FAO, 2012).

Even though the staff would get a bigger workload with implementing the M&E system they did find it useful and that it saved them time when it came to reporting back to donors and the headquarter. These findings are in line with what Muller-Hirth's (2012) informants experienced, as it was described that they did not mind the extra workload. However, the attitude that the M&E system would strengthen their activities in the present study contradicts the findings in Muller-Hirth's (2012) study.

Both the staff and volunteers felt that the M&E system would help them in securing funds in the future. On the other hand, Muller-Hirth (2012) found a different attitude towards securing funds in South African NGOs. Some of her informants saw M&E systems as only a way to get funding. The study further describes dealing with the larger donors who often requires strict systems in place as difficult and too time consuming process (Muller-Hirth, 2012). This can indicate that organizations which only focuses on the funding aspects of M&E systems may lack the motivations in implementing it for their own programs benefits beyond the economic support.

The volunteers stated that the new monitoring systems (Appendix M, N, O & P) in the M&E system where improving their paperwork and had a good attitude towards it. One of the reasons were that they felt their paperwork were safer and more sustainable than the scrapbook method. This can be interpreted that they have really reflected upon the new system and that they may truly be positive towards it. Moreover, they had reflected over the fact that the training period was too short and stated that they would need more time to evaluate it further. This may be interpreted as a sign of high interest in the system and willingness to implement it.

6.0 Conclusion

The main purpose of this study was to contribute to developing a monitoring and evaluation system, and a logical framework for a non-governmental organization in Nepal working to improve child nutrition. The specific objectives will be presented with conclusion to each of them. Finally, a summary conclusion will be presented, followed by recommendations for future studies.

1. *To describe the organization's theory of change, how the mother's group program operates, and the staff's view on a monitoring and evaluation system*

The organization's overall goal was to reduce undernutrition among children under two years of age in the community where the organization operates. It tries to achieve this based on a theory of change where nutritional and hygienic behavioral change among the participating mothers should be achieved through lectures and group discussions in nutrition and hygienic practices. The organization had an old, unsafe, and non-systematic method of monitoring, which was time-consuming for the staff and the volunteers working for the organization. The organization lacked the overview of attendance and a systematic approach of data collections. In addition, they lacked the data for a proper evaluation. This can make the organization in risk of program implementation failure and program method failure. However, the staff had a positive view towards implementing a monitoring and evaluation system and had visualized an approach. Moreover, the staff and volunteer had field experiences from research, which could make the staff and organization more adaptable to a new monitoring and evaluation system.

2. *To develop a monitoring and evaluation system that fits the mother's group program and benefits the organization, as well as a logical framework*

This study has developed a result-based monitoring and evaluation system for the organization's mother's group program with a logical framework describing the theory of change. The staff and volunteers of the organization will monitor its lectures and its participant's attendance through an Excel registration sheets. Furthermore, the organization's staff and volunteers will monitor the mothers who have answered the knowledge, attitude, and

practice questionnaires, and the weight and height of the mother's children through an Excel registration system. The organization can evaluate its mother's group program through the knowledge, attitude, and practice questionnaires. The questionnaire will be used at the start of the course, and three months and six months after to measure the intermediate outcome effects of the program. The nutritional status of the children will be registered in an Excel sheet to create a temporary overview of the children's nutritional status. This can be used for counseling and creating stories with facts for donors. At a later stage the staff will implement a software system in which they can create a baseline and control groups to measure their desired goal of reduction in undernutrition status among the children participating in the program. However, the staff has to agree with the headquarter about a new timeframe for its impact evaluation and to conduct a control group survey.

3. *Explore the staff and volunteer's experiences with using the monitoring and evaluation system*

This study shows that a generally good attitude towards a monitoring and evaluation system can be achieved through including the staff and volunteers in the decision making, designing, and developing phases of the system. The new Excel registration systems were welcomed and put in use. However, the staff and volunteers expressed that the training period had been too short, and would like a longer time to evaluate the new Excel registration systems, the knowledge, attitude, and practice questionnaires, and the evaluation process. Nevertheless, the staff felt that the monitoring and evaluation system would strengthen their program, and save time when reporting back to headquarter and donors. The volunteers believed that they could help the mothers learn better from what they learned with the questionnaires. Both the staff and volunteers believed that the evaluation from the questionnaire could help them strengthen the organization's mother's group program lectures through an evaluation of what and how much the mothers had learned. The staff thought the monitoring and evaluation system would provide the volunteers with important skill development and help the organization secure future funding.

6.1 Summary conclusion and future perspectives

To develop a monitoring and evaluation system one has to understand the organization's goals, theory of change, its resources, and how it operates. Furthermore, to succeed in implementing the monitoring and evaluation system, one should include the staff and volunteers in the decision making of the developing and designing phases of the system. Further studies are needed to study the mechanisms of the designing and development process of a monitoring and evaluation, and logical framework systems. In addition, studies that examine how to find productive ways of development and implementation of the system are needed. It would be interesting to conduct more studies that explore the organization's employee's thoughts, experiences, and feelings towards implementing and using a monitoring and evaluation systems. Also, it would be interesting examine the participants experiences of the organization's program and the monitoring and evaluation system.

Reference

ACC/SCN. (2000). *Fourth Report on the World Nutrition Situation.* Retrieved from
http://www.ifpri.org/publication/4th-report-world-nutrition-situation

Asian Development Bank. (2017). Poverty in Nepal. Retrieved from
https://www.adb.org/countries/nepal/poverty

Bakewell, O., & Garbutt, A. (2005). *The Use and Abuse if the Logical Framework Approach*.
Retrieved from
http://pdf2.hegoa.efaber.net/entry/content/909/the_use_and_abuse_SIDA.pdf

Bauman, A., & Nutbeam, D. (2014). *Evaluation in a nutshell : a practical guide to the
evaluation of health promotion programs* (2nd ed. ed.). Sydney: McGraw-Hill.

BBC. (2015). Nepal Earthquakes: Devastation in Maps and Images. Retrieved from
http://www.bbc.com/news/world-asia-32479909

Bégin, F., & Aguayo, V. M. (2017). First foods: Why improving young children's diets
matter. *Maternal & Child Nutrition, 13*(s2), n/a-n/a. doi:10.1111/mcn.12528

Bhutta, Z. A., Ahmed, T., Black, R. E., Cousens, S., Dewey, K., Giugliani, E., . . . Shekar, M.
(2008). What works? Interventions for maternal and child undernutrition and survival.
The Lancet, 371(9610), 417-440. doi:10.1016/S0140-6736(07)61693-6

Bhutta, Z. A., Das, J. K., Rizvi, A., Gaffey, M. F., Walker, N., Horton, S., . . . Black, R. E.
(2013). Evidence-based interventions for improvement of maternal and child nutrition:
what can be done and at what cost? *The Lancet, 382*(9890), 452-477.
doi:10.1016/S0140-6736(13)60996-4

Bjerke, M. B., & Renger, R. (2017). Being smart about writing SMART objectives.
Evaluation and Program Planning, 61, 125-127.
doi:10.1016/j.evalprogplan.2016.12.009

Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., . . . Uauy,
R. (2013). Maternal and child undernutrition and overweight in low-income and
middle-income countries. *The Lancet, 382*(9890), 427-451. doi:10.1016/S0140-
6736(13)60937-X

Carter, S. M., & Little, M. (2007). Justifying Knowledge, Justifying Method, Taking Action:
Epistemologies, Methodologies, and Methods in Qualitative Research. *Qualitative
Health Research, 17*(10), 1316-1328. doi:10.1177/1049732307306927

Caulfield, L. E., de Onis, M., Blössner, M., & Black, R. E. (2004). Undernutrition as an
underlying cause of child deaths associated with diarrhea, pneumonia, malaria, and
measles. *The American journal of clinical nutrition, 80*(1), 193-198.

Crawford, P., & Bryce, P. (2003). Project monitoring and evaluation: a method for enhancing
the efficiency and effectiveness of aid project implementation. *International Journal
of Project Management, 21*(5), 363-373. doi:10.1016/S0263-7863(02)00060-1

Cunningham, K., Headey, D., Singh, A., Karmacharya, C., & Rana, P. P. (2017). Maternal
and Child Nutrition in Nepal: Examining drivers of progress from the mid-1990s to
2010s. *Global Food Security, 13*, 30-37. doi:https://doi.org/10.1016/j.gfs.2017.02.001

Cunningham, K., Singh, A., Pandey Rana, P., Brye, L., Alayon, S., Lapping, K., . . . Klemm,
R. D. W. (2017). Suaahara in Nepal: An at-scale, multi-sectoral nutrition program
influences knowledge and practices while enhancing equity. *Maternal & Child
Nutrition, 13*(4), n/a-n/a. doi:10.1111/mcn.12415

Development Initiatives. (2017). *Global Nutrition Report 2017: Nourishing the SDGs*.
Retrieved from https://www.globalnutritionreport.org/files/2017/11/Report_2017.pdf

Dewey, K. G. (2016). Reducing stunting by improving maternal, infant and young child nutrition in regions such as South Asia: evidence, challenges and opportunities. *12*, 27-38. doi:10.1111/mcn.12282

Dewey, K. G., & Adu-Afarwuah, S. (2008). Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries. In (Vol. 4, pp. 24-85). Oxford, UK.

Edwards, R. (1998). A critical examination of the use of interpreters in the qualitative research process. *Journal of Ethnic and Migration Studies, 24*(1), 197-208. doi:10.1080/1369183X.1998.9976626

Fade, S. (2004). Using interpretative phenomenological analysis for public health nutrition and dietetic research: a practical guide. *Proc. Nutr. Soc., 63*(4), 647-653. doi:10.1079/PNS2004398

Flood, A. (2010). Understanding phenomenology. *Nurse Researcher (through 2013), 17*(2), 7-15. doi:10.7748/nr2010.01.17.2.7.c7457

Food and Agriculture Organizaiton. (2003). Trade reforms and food security.

Food and Agriculture Organizaiton. (2012). *Stocktaking of M&E and Management Information Systems: Selected agricultural and rural development projects in South Asia*. Retrieved from http://www.fao.org/3/a-i2883e.pdf

Food and Agriculture Organizaiton. (2014). *Guidelines for Assessing Nutrition-Related Knowledge, Attitudes and Practices*. Retrieved from http://www.fao.org/docrep/019/i3545e/i3545e.pdf

Frankel, N., & Gage, A. (2016). *M&E Fundamentals: A Self-Guided Mini-Course*. Retrieved from https://www.measureevaluation.org/resources/publications/ms-07-20-en

Gage, A., Ali, D., & Suzuki, C. (2005). *A Guide for Monitoring and Evaluating Child Health Programs*. Retrieved from https://www.measureevaluation.org/resources/publications/ms-05-15

Green, L. W., & Lewis, F. M. (1986). *Measurement and Evaluation in Health Education and Health Promotion*. Palo Alto, CA: Mayfield Publishing Company.

Grun, R. E. (2006). *Monitoring and Evaluating Projects: A Step-by-Step Primer on Monitoring, Benchmarking, and Impact Evaluation. HNP discussion paper series*. Retrieved from https://openknowledge.worldbank.org/handle/10986/13640

Headey, D. D., & Hoddinott, J. (2015). Understanding the Rapid Reduction of Undernutrition in Nepal, 2001-2011.(Report). *PLoS ONE, 10*(12). doi:10.1371/journal.pone.0145738

Helen Keller. (n.d). Helen Keller International Retrieved from http://www.hki.org/

Heltberg, R. (2009). Malnutrition, poverty, and economic growth. *Health Economics, 18*(S1), S77-S88. doi:10.1002/hec.1462

Hossain, M., Choudhury, N., Adib Binte Abdullah, K., Mondal, P., Jackson, A. A., Walson, J., & Ahmed, T. (2017). Evidence-based approaches to childhood stunting in low and middle income countries: a systematic review. *Archives of Disease in Childhood, 102*(10), 903. doi:10.1136/archdischild-2016-311050

Human Rights Watch. (2016). Nepal events of 2016. Retrieved from https://www.hrw.org/world-report/2017/country-chapters/nepal

International Food Policy Research Institute. (2016). *Global Nutrition Report 2016: From Promise to Impact: Ending Malnurition by 2030*. Retrieved from http://data.unicef.org/wp-content/uploads/2016/06/130565-1.pdf

Jaacks, L. M., Kavle, J., Perry, A., & Nyaku, A. (2017). Programming maternal and child overweight and obesity in the context of undernutrition: current evidence and key considerations for low- and middle-income countries. *Public Health Nutrition*. doi:10.1017/S1368980016003323

Jackson, W. (1997). Designing Projects and Project Evaluations Using The Logical Framework Approach. *ReserachGate*.

Jacobs, A., Barnett, C., & Ponsford, R. (2010). Three Approaches to Monitoring: Feedback Systems, Participatory Monitoring and Evaluation and Logical Frameworks. *IDS Bulletin, 41*(6), 36-44. doi:10.1111/j.1759-5436.2010.00180.x

Jalambo, M., N, I., Sharif, R., & Norimah, A. (2017). *Knowledge, Attitude and Practices of Iron Deficient and Iron Deficient Anaemic Adolescents in the Gaza Strip, Palestine* (Vol. 9).

Jefferds, M. E. D. (2017). Government information systems to monitor complementary feeding programs for young children. *Maternal & Child Nutrition, 13*(S2), n/a-n/a. doi:10.1111/mcn.12413

Jensen, G. (2013). *The Logical Framework Approach Greta Jensen: How To Guide*. Retrieved from https://www.bond.org.uk/data/files/resources/49/The_logical_framework_approach_How_To_guide_February_2013.pdf

Jentsch, B. (1998). The 'Interpreter Effect': Rendering Interpreters Visible in Cross-Cultural Research and Methodology. *Journal of European Social Policy, 8*(4), 275-289. doi:10.1177/095892879800800401

Kaplan, A. (1964). *The Conduct of Inquiry: Methodology for Behavioral Science*. San Francisco: Chandler.

Karim, R., Coates, J., Desplats, G., Kabir, I., Patwari, Y., Ortolano, S., . . . Levinson, F. J. (2002). *Challenges to the Monitoring and Evaluation of Large Nutrition Programs in Developing Countries: Examples from Bangladesh.* Retrieved from https://pdfs.semanticscholar.org/d82b/2bf975f04ecad760ca0f12a05b6d91e90c49.pdf

Kitcher, P. (2002). Scientific knowledge. In P. K. Moser (Ed.), *The Oxford Handbook of Epistemology* (pp. 385--408): Oxford University Press.

Kothari, C. R. (2004). *Research methodology : methods & techniques*. In.

Kramer, M. S., & Kakuma, R. (2012). Optimal duration of exclusive breastfeeding. *Cochrane Database of Systematic Reviews*(8). doi:10.1002/14651858.CD003517.pub2

Krasevec, J., An, X., Kumapley, R., Bégin, F., & Frongillo, E. A. (2017). Diet quality and risk of stunting among infants and young children in low- and middle-income countries. *Maternal & Child Nutrition, 13*. doi:10.1111/mcn.12430

Kristina, E., & Jessica, E. (2014). Addressing Chronic Malnutrition through Multi-sectoral, Sustainable Approaches: A Review of the Causes and Consequences. *Frontiers in Nutrition, 1*. doi:10.3389/fnut.2014.00013

Kvale, S., Brinkmann, S., Anderssen, T. M., & Rygge, J. (2015). *Det kvalitative forskningsintervju* (3. utg., 2. oppl. ed.). Oslo: Gyldendal akademisk.

Lartey, A. (2008). Maternal and child nutrition in Sub-Saharan Africa: challenges and interventions. *Proc. Nutr. Soc., 67*(1), 105-108. doi:10.1017/S0029665108006083

Lassi, Z. S., Das, J. K., Zahid, G., Imdad, A., & Bhutta, Z. A. (2013). Impact of education and provision of complementary feeding on growth and morbidity in children less than 2 years of age in developing countries: a systematic review. *BMC public health, 13 Suppl 3*, S13. doi:10.1186/1471-2458-13-S3-S13

Levinson, F. J., Barney, J., Bassett, L., & Schultink, W. (2007). Utilization of Positive Deviance Analysis in Evaluating Community-Based Nutrition Programs: An Application to the Dular Program in Bihar, India. *Food and Nutrition Bulletin, 28*(3), 259-265. doi:10.1177/156482650702800301

Levinson, F. J., Rogers, B. L., Hicks, K. M., Schaetzel, T., Troy, L., & Young, C. (1999). Monitoring and Evaluation of Nutrition Programs in Developing Countries. *Nutrition Reviews, 57*(5), 157-164. doi:10.1111/j.1753-4887.1999.tb01797.x

Liu, L., Johnson, H. L., Cousens, S., Perin, J., Scott, S., Lawn, J. E., . . . Black, R. E. (2012). Global, regional, and national causes of child mortality: an updated systematic analysis for 2010 with time trends since 2000. *The Lancet, 379*(9832), 2151-2161. doi:10.1016/S0140-6736(12)60560-1

Majamanda, J., Maureen, D., Munkhondia, T. M., & Carrier, J. (2014). The Effectiveness of Community-Based Nutrition Education on the Nutrition Status of Under-five Children in Developing Countries. A Systematic Review. *Malawi Med. J., 26*(4), 115-118.

Mauthner, N. S., & Doucet, A. (2003). Reflexive Accounts and Accounts of Reflexivity in Qualitative Data Analysis. In (Vol. 37, pp. 413-431).

Michaelsen, K. F., Grummer-Strawn, L., & Bégin, F. (2017). Emerging issues in complementary feeding: Global aspects. *Maternal & Child Nutrition, 13*, n/a-n/a. doi:10.1111/mcn.12444

Ministry of Health. (2011). *Nepal Demographic Health Survey 2011*. Retrieved from https://dhsprogram.com/pubs/pdf/fr257/fr257%5B13april2012%5D.pdf

Ministry of Health. (2013). *National Nutrition Monitoring and Evaluation Framework*. Retrieved from http://www.nutritionhealth.or.ke/wp-content/uploads/Downloads/National-Nutrition-Monitoring-Evaluation-Framework.pdf

Ministry of Health. (2017). *Nepal Demographic and Health Survey 2016*. Retrieved from https://www.dhsprogram.com/pubs/pdf/fr336/fr336.pdf

Mogre, V., Dery, M., & Gaa, P. K. (2016). Knowledge, attitudes and determinants of exclusive breastfeeding practice among Ghanaian rural lactating mothers. *International Breastfeeding Journal, 11*, 12. doi:10.1186/s13006-016-0071-z

Mueller-Hirth, N. (2012). If You Don't Count, You Don't Count: Monitoring and evaluation in South African NGO. *Development and Change, 43:3*, 649-680. doi:https://doi.org/10.1111/j.1467-7660.2012.01776.x

Myrick, D. (2013). A logical framework for monitoring and evaluation: A pragmatic approach to M&E. *Mediterranean Journal of Social Sciences, 4*(14), 423-428. doi:10.5901/mjss.2013.v4n14p423

Na, M., Aguayo, V. M., Arimond, M., & Stewart, C. P. (2017). Risk factors of poor complementary feeding practices in Pakistani children aged 6–23 months: A multilevel analysis of the Demographic and Health Survey 2012–2013. *Maternal & Child Nutrition, 13*(S2). doi:10.1111/mcn.12463

National Resource Center. (2010). *Strengthening Nonprofits: A Capacity Builder's Resource Library: Measuring Outcomes.* Retrieved from http://strengtheningnonprofits.org/resources/guidebooks/measuringoutcomes.pdf

Neergaard, M. A., Olesen, F., Andersen, R. S., & Sondergaard, J. (2009). Qualitative description – the poor cousin of health research? *BMC Medical Research Methodology, 9*, 52-52. doi:10.1186/1471-2288-9-52

Nguyen, P. H., Kim, S. S., Sanghvi, T., Mahmud, Z., Tran, L. M., Shabnam, S., . . . Menon, P. (2017). Integrating Nutrition Interventions into an Existing Maternal, Neonatal, and Child Health Program Increased Maternal Dietary Diversity, Micronutrient Intake, and Exclusive Breastfeeding Practices in Bangladesh: Results of a Cluster-Randomized Program Evaluation. *The Journal of Nutrition, 147*(12), 2326.

OECD. (2002). *Glossary of Key Terms in Evaluation and Results Based Management*. Retrieved from http://www.oecd.org/derec/dacnetwork/35336188.pdf

OECD. (2010a). *Evaluating Development Cooperation: Summary of key norms and standards.* Retrieved from https://www.oecd.org/dac/evaluation/dcdndep/41612905.pdf

OECD. (2010b). *Quality Standards for Development Evaluation*: Paris: OECD Publishing.

Operations Evaluation Department. (2004). *Monitoring and Evaluation: Some Tools, Methods, and Approaches.* Retrieved from https://openknowledge.worldbank.org/handle/10986/23975

Organisation for Economic, C.-o., & Development. (2013). *Evaluating Development Activities : Twelve Lessons from DAC Peer Reviews*. In OECD Development Co-operation Peer Reviews, *Evaluating Development Activities*.

Panjwani, A., & Heidkamp, R. (2017). Complementary Feeding Interventions Have a Small but Significant Impact on Linear and Ponderal Growth of Children in Low- and Middle-Income Countries: A Systematic Review and Meta-Analysis. *The Journal of Nutrition, 147*(11), 2169S. doi:10.3945/jn.116.243857

Pelletier, D., Frongillo, E., & Habicht, J.-P. (1993). Epidemiologic evidence for a potentiating effect of malnutrition on child mortality. *American Journal of Public Health, 83*(8), 1130-1133. doi:10.2105/AJPH.83.8.1130

Poel, V. d. E., Hosseinpoor, A. R., Speybroeck, N., Ourti, v. T. G. M., & Vega, J. (2008). Socioeconomic Inequality in Malnutrition in Developing Countries. (4), 282-9686.

Publishing, O. (2016). *Evaluation Systems in Development Co-operation*. Paris: Paris : OECD Publishing.

Rollins, N. C., Bhandari, N., Hajeebhoy, N., Horton, S., Lutter, C. K., Martines, J. C., . . . Victora, C. G. (2016). Why invest, and what it will take to improve breastfeeding practices? *The Lancet, 387*(10017), 491-504. doi:10.1016/S0140-6736(15)01044-2

Save the Children. (2012). *Nutrition in the First 1,000 Days: State of the World's mothers 2012*. Retrieved from https://www.savethechildren.org/content/dam/usa/reports/advocacy/sowm/sowm-2012.pdf

Save the Children. (n.d). Save the Children. Retrieved from https://www.savethechildren.org/?cid=Paid_Search:Google_Grant:LP_Homepage:Brand:032918

Scaling up Nutrition. (2017). Nepal lunches Mulitsector Nutrition Plan 2. Retrieved from http://scalingupnutrition.org/news/nepal-launches-multisector-nutrition-plan-ii/

Schwandt, T. A. (2001). *Dictionary of Qualitative inquiry* (2 ed.). Thousand Oaks, CA: Sage.

Senbanjo, I. O., Olayiwola, I. O., Afolabi, W. A., & Senbanjo, O. C. (2013). Maternal and child under-nutrition in rural and urban communities of Lagos state, Nigeria: the relationship and risk factors. *BMC research notes, 6*, 286.

). What Doesn't Work? Three Failures, Many Answers. *Evaluation, 16*(4), 371-387. doi:10.1177/1356389010381914

Starks, H., & Brown Trinidad, S. (2007). Choose Your Method: A Comparison of Phenomenology, Discourse Analysis, and Grounded Theory. *Qualitative Health Research, 17*(10), 1372-1380. doi:10.1177/1049732307307031

Subedi, M. (2011). *Caste System: Theories and Practices in Nepal* (Vol. 4).

Swift, J. A., & Tischler, V. (2010). Qualitative research in nutrition and dietetics: getting started. *J Hum Nutr Diet, 23*(6), 559-566. doi:10.1111/j.1365-277X.2010.01116.x

Taplin, D. H., & Clark, H. (2012). *Theory of Change Basic: A Primer on Theory of Change*. Retrieved from http://www.theoryofchange.org/wp-content/uploads/toco_library/pdf/ToCBasics.pdf

Taplin, D. H., Clark, H., Collins, E., & Colby, D. C. (2013). *Theory of Change: Technical Papers A series of Papers to Support Development of Theories of Change Based on Practice in the Field*. Retrieved from http://www.theoryofchange.org/wp-content/uploads/toco_library/pdf/ToC-Tech-Papers.pdf

Thagaard, T. (2013). *Systematikk og innlevelse : en innføring i kvalitativ metode* (4. utg. ed.). Bergen: Fagbokforl.

Tzioumis, E., & Adair, L. S. (2014). Childhood Dual Burden of Under- and Overnutrition in Low- and Middle-inCome Countries: A Critical Review. *Food and Nutrition Bulletin, 35*(2), 230-243. doi:10.1177/156482651403500210

UNDP. (2011). *Handbook on Planning Monitoring and Evaluating for Development Results.* Retrieved from http://web.undp.org/evaluation/guidance.shtml

UNICEF. (1990). Strategy for Improved Nutrition of Children and Women in Developing Countries. New York: United Nations Children's Fund.

UNICEF. (2010). Nepal sets goals to combat child malnutrition. Retrieved from https://www.unicef.org/infobycountry/nepal_53036.html

UNICEF. (2014). *Learning from Nutrition Programme Evaluations: A Thematic Evaluation Synthesis Report.* Retrieved from https://www.unicef.org/evaluation/files/Final_learning_from_nutrition_17_07_2014.pdf

UNICEF. (2015). *UNICEF's Approach to Scaling up Nutrition*. In. Retrieved from https://www.unicef.org/nutrition/files/Unicef_Nutrition_Strategy.pdf

UNICEF. (2017). *Levels and Trends in Child Malnutrition* In. Retrieved from http://data.unicef.org/wp-content/uploads/2017/05/JME-2017-brochure-1.pdf

UNICEF. (n.d). *Multi-sectorial Approaches to Nutrition: Nutrition-specific and nutrition-sensitive interventions to accelerate progress*. Retrieved from https://www.unicef.org/eapro/Brief_Nutrition_Overview.pdf

UNICEF, WHO, UNESCO, UNFPA, UNAIDS, WFP, & The World Bank. (2010). *Facts for Life*. In. Retrieved from https://www.unicef.org/publications/index_53254.html

United Nation. (n.d). Gaol 2: End Hunger, achieve food security and improved nutrition and promote sustainable agriculture. Retrieved from https://www.un.org/sustainabledevelopment/hunger/

USAID. (2017). The 1,000-Day Window of Opportunity: Technical Guidance Brief. Retrieved from https://www.usaid.gov/what-we-do/global-health/nutrition/1000-day-window-opportunity

USAID. (n.d). USAID from the American People. Retrieved from https://www.usaid.gov/

Vaivada, F. T., Gaffey, K. M., Das, A. J., & Bhutta, A. Z. (2017). Evidence-based interventions for improvement of maternal and child nutrition in low-income settings: what's new? *Current Opinion in Clinical Nutrition and Metabolic Care, 20*(3), 204-210. doi:10.1097/MCO.0000000000000365

Vaivada, T., Gaffey, M. F., & Bhutta, Z. A. (2017). Promoting Early Child Development With Interventions in Health and Nutrition: A Systematic Review. *Pediatrics, 140*(2). doi:10.1542/peds.2016-4308

Victora, Adair, L., Fall, C., Hallal, P., Martorell, R., Richter, L., . . . Child Undernutrition Study, G. (2008). Maternal and child undernutrition: consequences for adult health and human capital. *371*(9609), 340-357. doi:10.1016/S0140-6736(07)61692-4

Victora, C. G., Bahl, R., Barros, A. J. D., França, G. V. A., Horton, S., Krasevec, J., . . . Rollins, N. C. (2016). Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *The Lancet, 387*(10017), 475-490.

Wallin, A. M., & Ahlstrom, G. (2006). Cross-cultural interview studies using interpreters: systematic literature review. *J Adv Nurs, 55*(6), 723-735. doi:10.1111/j.1365-2648.2006.03963.x

Whaling, F. (2010). *Understanding Hinduism*. In Understanding faith.

White, J. M., Bégin, F., Kumapley, R., Murray, C., & Krasevec, J. (2017). Complementary feeding practices: Current global and regional estimates. *Maternal & Child Nutrition, 13*, n/a-n/a. doi:10.1111/mcn.12505

World Bank. (n.d). What are Poverty Lines? Retrieved from
http://www.worldbank.org/en/news/video/2017/04/14/what-are-poverty-lines

World Food Program, World Bank, AusAID, & UNICEF. (2013). *Nepal Thematic Report on
Food Security and Nutrition 2013*. Retrieved from
http://documents.wfp.org/stellent/groups/public/documents/ena/wfp256518.pdf?_ga=2
.13578615.1176579550.1525350536-700867026.1474566609

World Health Organization. (2000a). *Complementary Feeding: Family Foods for Breastfed
Children*. Retrieved from
http://apps.who.int/iris/bitstream/handle/10665/66389/WHO_NHD_00.1.pdf?sequenc
e=1

World Health Organization. (2000b). *Nutrition for Health and Development: a Global
Agenda for Combating Malnutrition* In. Retrieved from
http://www.who.int/iris/handle/10665/66509

World Health Organization. (2003). *Guiding Principles for Complementary Feeding of the
Breastfed Child*. Retrieved from
http://www.who.int/nutrition/publications/guiding_principles_compfeeding_breastfed.
pdf

World Health Organization. (2006). *WHO Child Growth Standards: Length/Height-for-Age,
Weight-for-age, Weight-for-Length, Weight-for-Height and Body Mass Index-for-Age:
Methods and Development*. Retrieved from
http://www.who.int/childgrowth/standards/Technical_report.pdf?ua=1

World Health Organization. (2008). *Indicators for assessing infant and young child feeding
practices: conclusions of a consensus meeting held 6-8 November 2007 in Washington
D.C: USA*. Retrieved from
https://www.unicef.org/nutrition/files/IYCF_updated_indicators_2008_part_1_definiti
ons.pdf

World Health Organization. (2014). *Global Nutrition Targets 2025: Policy Brief Series*.
Retrieved from
http://apps.who.int/iris/bitstream/handle/10665/149018/WHO_NMH_NHD_14.2_eng.
pdf?sequence=1

World Health Organization. (2017a). Infant and Young Child Feeding. Retrieved from
http://www.who.int/mediacentre/factsheets/fs342/en/

World Health Organization. (2017b). What is Malnutrition? Retrieved from
http://www.who.int/features/qa/malnutrition/en/

World Health Organization. (2018a). FAO/WHO International symposium on sustainable
food system for healthy diets and improved nutrition.

World Health Organization. (2018b). Malnutrition. Retrieved from
http://www.who.int/en/news-room/fact-sheets/detail/malnutrition

World Health Organization. (n.d-a). *Complementary feeding*. Retrieved from
http://www.who.int/nutrition/topics/complementary_feeding/en/

World Health Organization. (n.d-b). Double Burden of Malnutrition. Retrieved from
http://www.who.int/nutrition/double-burden-malnutrition/en/

World Health Organization. (n.d-c). WHO Anthro (version 3.2.2, January 2011) and macros.
Retrieved from http://www.who.int/childgrowth/software/en/

World Health Organization, & UNICEF. (2003). *Global Strategy for Infant and Young Child
feeding* In. Retrieved from
http://apps.who.int/iris/bitstream/handle/10665/42590/9241562218.pdf?sequence=1

World Trade Center. (n.d). *Nepal*. Retrieved from https://mbjprotocol.com/wp-
content/uploads/2012/03/CE-Nepal.pdf

Appendix A. Interview guide number 1

Interview Guide Number 1

Background information (Soft start to get the talking going):

Note: Place of the interview and the date.

1. How long have you been in your profession?
2. How long have you been in ████████████ and how did you end up there?
3. Can you tell me how a "normal day" in the mother's group is like?

Questions related to the Mother's group program

"I'm now going to ask what you think about the mother's program and how you feel what can be approved upon in the program"

1. What are the age of the children who usually attend the mother's group?
2. How do you think the mother's group program is going?
    Can you describe to me why the program is going good / bad
3. How do you think the topics (from the lecture) are relevant to the goal of the program?
    Increase the nutritional, hygienic and diseases knowledge, awareness and attitude
4. What are the things you miss about the mother's program?

Questions related to the registrations of the participating mother's

"I'm now going to ask what you think about the registrations process currently being done at the mother's group program"

1. In what way is the process of registrations of the mother's and the program planning taking up your time?
    How do you think it can be done much faster and easier?
2. In your opinion, what could have been done to improve the registrations process and the followed up of the mother's?
3. Do you feel you are comfortable with using excel?
    Avoid a yes and no answer. Make him/her elaborate (How so? How come?)
    Do you think a guide manual is needed for the excel sheet?
    What do you think the manual should say and how it should be build up to make it easier for the staff and volunteers to use it in the mother's group program

Questions related to Monitoring and Evaluation

"Finally, I would like to ask what you expect of a monitoring and evaluation system that can be linked to the mother's group program"

1. What do you expect of the M&E system?
2. What are your thoughts about having an M&E system for the mother's group program?
   > *in what way will it be good / bad for the organization*
3. Would you say that the staff and volunteers have the time, practice and skills to be a part of a monitoring system?
   > *avoid a yes and no answer. (In what way do you think they do /don't)*
4. If they need practice, how do you think it should be done?
5. What do you think the collection of data should be, so it can be test the programmes effects?
   > *I don't know*: Do you think the organization can manage a large and sophisticated survey?
   > Y: How come / N: Do you think the organization needs to prioritize the data collected to be more efficient and manageable? How come?*
6. What kind of methods are the staff comfortable using to collect data?
   > *Questionnaire, papier questionnaire, digital questionnaire (on tablets), weight and height measuring*
7. In what way do you vision how the data can be collected, stored and analyzed?

Closing

1. Is there anything you would like to add?

Appendix B. Interview guide number 2

Interview Guide number 2

Questions related to the registration process

"I'm now going to ask you a few questions about what you think of the new registration process"

1. How do you feel the new register system is going?

    why is it good / bad?

2. How can you and ▮▮▮▮▮▮▮▮▮ use the information about total mother's and how many times each mother show up?

3. Are you more comfortable now with using excel than before the training?

    No / yes = how so?

4. What are the things you find hard by using the new system?

5. Are there anything you would like to have some more training in using this system?

6. Are there anything you would like to improve / change about the registration process?

Questions related to the questionnaire

"I'm now going to ask you a few questions about the questionnaire you have been using at the mother's group"

1. Can you tell me the purpose of the questionnaire?

2. What do you think about the questionnaire?

    in what way

3. What do you expect to gain from the questionnaire?

4. Are there something you miss from the training with the questionnaire?

5. Are you comfortable with using the questionnaire? Do you think mother's are?

    how so? Why not?

6. Why is it important that the mother's sign the letter of consent?

7. When should they answer the questionnaire and why?

Questions related to Monitoring and Evaluation

"I'm now going to ask you a few questions related to monitoring and evaluation system"

1. What do you expect of the M&E system that we have designed?
2. How do you feel the monitoring process is working for the mother's group?

    why is it going good / bad?

3. What are your thoughts on having this M&E system?
4. What would you like to practice on more?

    examples: questionnaire, excel, routines *how come?*

5. Are there anything you would like to improve / change?
6. Do you think ▮▮▮▮▮▮ should have an M&E system?

    how so?

Questions related to length and weight measurement

"Finally, I would like to ask you about the length and weight program done each month at the mother's group"

1. How do you feel about this system?
2. What do the information in Excel about length and weight of the children tell you?
3. What kind of overview does it give ▮▮▮▮▮▮?
4. In what way can it be useful for you and ▮▮▮▮▮▮?

Closing

1. Is there anything you would like to add?

Appendix C. Letter of consent

Informed consent form to participate in my master thesis about
monitoring and evaluation system for ███████████████ mother's
group

Good morning/afternoon. I'm working on my thesis about developing a monitoring and
evaluation system for ██████████ mother's group program. I'm conducting
interviews among the staff and volunteers about the system I have designed. The interview
will take between 20-30 minutes.

All the information I obtain will remain strictly confidential and your answers and name will
never be revealed. Also, you are not obliged to answer any question you do not want to, and
you may stop the interview at any time.

The objective of my interviews is to evaluate the monitoring and evaluation system I have
designed. This is not to evaluate or criticize you, so please do not feel pressured to give a
specific response and do not feel shy if you do not know the answer to a question. I'm not
expecting you to give a specific answer; I would like you to answer the questions honestly,
telling me about what you know and how you feel. Feel free to answer questions at your own
pace.

Do you agree to participate in this interview?

Yes_____ No_____

Sign_____ Date_____

HØGSKOLEN I OSLO
OG AKERSHUS

Appendix D. Letter of consent in Nepali

███████████ नेपाल को आमा समूह को कार्यक्रम मुल्याकन बारे मास्टर थेसिस सम्बन्धि सुशुचित सहमति फारम

नमस्ते म ████████ आमा समूहको कार्यक्रमको लागि निगरानी र मूल्यांकन प्रणालीको बारेमा मेरो थेसिस मा काम गरि रहेको छु । मैले डिजाइन गरेको प्रणालीको बारेमा कर्मचारी र स्वयंसेवकहरूमा अन्तरबार्ता लिंदै छु। अन्तरबार्ता 20-30 मिनेटको हुनेछ।

मैले प्राप्त गरेको सबै जानकारी गोप्य रहनेछ र तपाईको जवाफहरू र नाम कहिल्यै प्रकट हुँदैन। साथै, तपाई कुनै पनि प्रश्न गर्न चाहनुहुन्न भन्ने जवाफ नदिए पनि हुन्छ, र तपाई कुनै पनि समयमा अन्तरबार्ता रोक्न सक्नुहुन्छ।

मेरो अन्तरबार्ताको उद्देश्य मैले डिजाइन गरेको निगरानी र मूल्यांकन प्रणालीको मूल्यांकन गर्न हो । यो तपाईलाई मूल्याइकन वा आलोचना गर्न होइन, त्यसैले कृपया दबाबको महशुस नगर्नु होस् र यदि तपाई प्रश्नको जवाफ थाहा छैन भने केहि अफ्ठ्यारो महशुस गर्नु पर्दैन । मैले तपाई बाट पुरै ठोस उत्तरको अपेक्षा गरेको छैन तर तपाईले सत्य जानकारी दिनु हुनेछ भने आश लिएको छु । तपाईले अनुकुल समयमा जवाफ दिन सक्नु हुन्छ।

तपाई अन्तरबार्ता यस मा भाग लिन सहमत हुनुहुन्छ?

हो होइन_____

सहि _____ मिति _____

HØGSKOLEN I OSLO OG AKERSHUS

Appendix E. Example on summary transcription and analyzing form the interviews with the staff for objective 1.

Now days they do a lot of registration on papers. Like register books/scrap books, to enter their names. They have a staff/volunteer downstairs that write down the name, when the children are born, contact number and attendance. However, it's a long process and it's difficult to compare and see attendance. They try to include the computer and are improving, but haven't reach that far yet. We seek help on improving the registration process. They want it to be much faster and easier than it's, as it stands now. In addition, they need better overview of nutritional status among the children, especially keeping track of their height and weight. A tracking system will help them with the nutritional consulting and to contact them if it's issues. They think it will help them in sending data to headquarters and donors. Moreover, make it easier for them to have an overview of the attendance and program.

The staff feel they lack a proper system, especially on the computer. They want to know how frequently they come. A system that is easy to share with Chimalaya Charity in Denmark and the doctors. That can be made into monthly reports. How many mothers are coming on a set number of visits and how many mothers only join once.

They are comfortable with using excel, but express that the team need guidance. They need to have a lecture and practice on how to use the new system and are positive that the staff and volunteers will learn and use the new system. However, they are not used to complicated formulas in excel and would need an easy step-by-step practice on how to use it and how it works. In addition with a guided manual so when they are not sure or can't remember they can look it up. The manual need to be short and with examples on how we use it. A guide manual would need to be in English and Nepali, it would be best for the staff and specially the volunteers. Not to dens manual, it wouldn't be effective. They want more of a flowchart with crucial information in Nepali. In addition to a detail manual for the persons who are in charge.

Appendix F. Example from the field notes
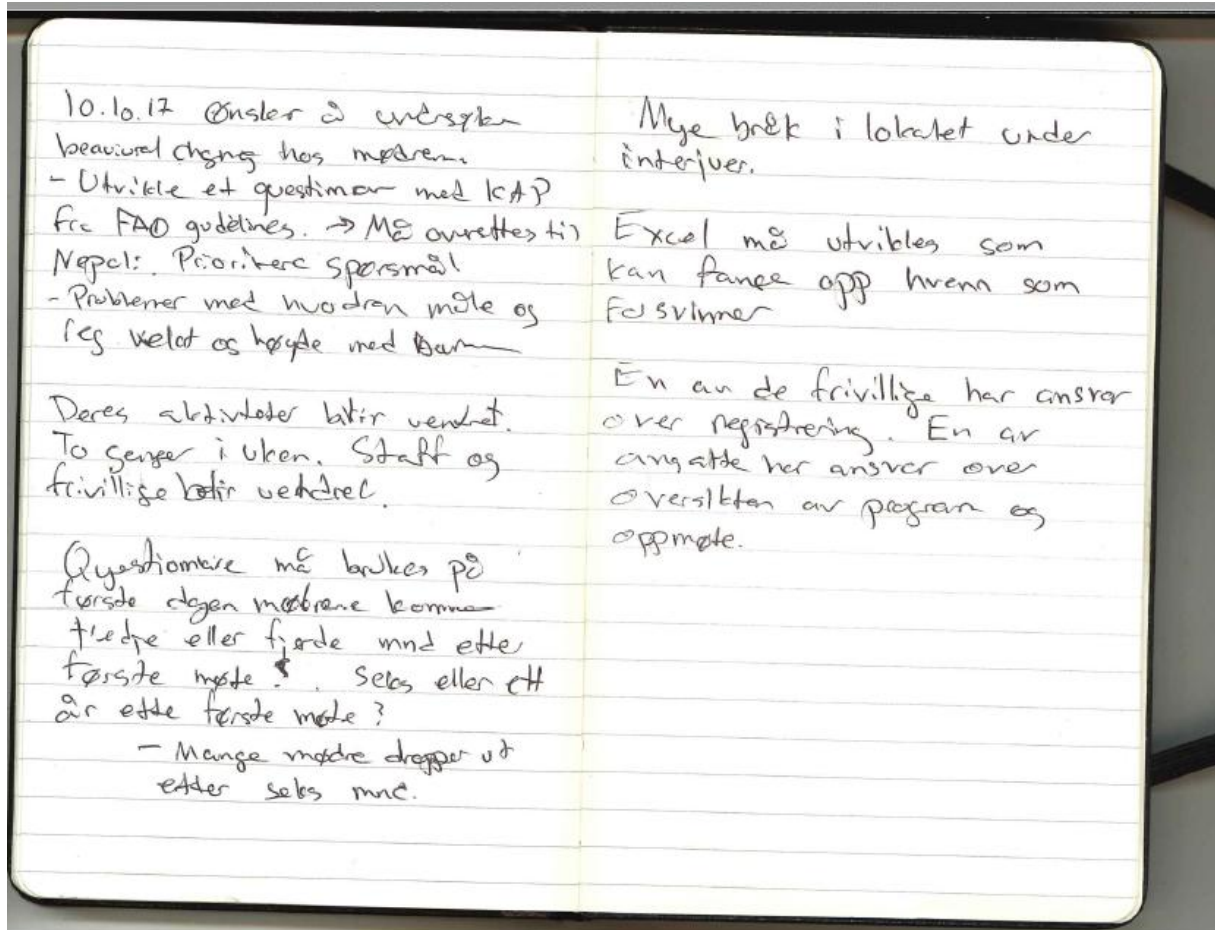
Appendix G. Example of coding for analyzing the interviews with the staff and volunteers for objective 3.

Registration process			
Common words or phrases from key-person interview	Sub category	Main Category	Interpretation
We don't need to count manually // Maybe the new registration system will, you know, make it easier for reporting // We expect some improvement on reporting on how frequently they are coming // improvement // we are working as a demand basis // if report is not required for a few months then we are little bit relaxed // summarize // we don't have many manpower // based on our capacity we can integrated // easy // Reporting // save time // directly show // collect information // evaluate // don't have to turn paper all the time // it became very easy // more systematic //	Work, service, resources, responsibility, difficulty,	Obligation	Before the new system did they count the attendance of mothers manually. They felt it was time consuming and hard to keep track of the mothers. Now, with the new system, do they feel it will make it easier for them to report back to the headquarters. And they expect improvements in reporting because of it. However, they can be a little relaxed if reports are not required over a period of time. They experience the summarizing to be much easier than before. And they think the new system will help them with the workload. They feel they can integrate the system with the manpower they are operating with at the moment. They think that the system is easy to operate and it is important for them to save time. This may be because they have work next to the organization job and most of them are volunteering. They are glad for that their work have been more systematic and do not have to turn the pages in their registration books every time the need to report to headquarters or people who are interested.
it will be positive // I think it was a good initiation // excel sheet you developed I think is a good choice // But we are happy that you didn't bring something from Norway, and you know, very good but maybe too much for us // Good // Very good // comfortable // Helpful for everyone // satisfied with your help // very useful // Happy // if she can try she can do // far better than before // working nicely //	Emotion, motivation, expectation	Attitude	They are very positive to the registration system. And think it was a good initiation do implement it now. They see now that it is a lacking part of the program. They feel that the excel sheet developed was a good choice for them and are easily taught. They expressed a concern that the master student would bring a complicated system from Norway, that may be very good, but maybe too much for them and their program. And they are very satisfied with the help in developing the system. They have a good attitude towards the system and feel comfortable in applying it in their day to day activities. Some of the volunteers did not have the time to practice as much as they wanted, but express that if they can try it out more would they be comfortable with using it. They think it is far better than before and is working nicely.

Appendix H. Ethical approval

Liv Elin Torheim
Postboks 4 St. Olavs plass
0130 OSLO

Vurdering fra NSD Personvernombudet for forskning § 31

Personvernombudet for forskning viser til meldeskjema mottatt 11.03.2018 for prosjektet:

59742	*Developing, implementing and assessing a monitoring and evaluation system for an NGO operating in Nepal*
Behandlingsansvarlig	*Høgskolen i Oslo og Akershus, ved institusjonens øverste leder*
Daglig ansvarlig	*Liv Elin Torheim*
Student	*Jørgen Torgerstuen Johansen*

Vurdering

Etter gjennomgang av opplysningene i meldeskjemaet og øvrig dokumentasjon finner vi at prosjektet er meldepliktig og at personopplysningene som blir samlet inn i dette prosjektet er regulert av personopplysningsloven § 31. På den neste siden er vår vurdering av prosjektopplegget slik det er meldt til oss. Du kan nå gå i gang med å behandle personopplysninger.

Vilkår for vår anbefaling

Vår anbefaling forutsetter at du gjennomfører prosjektet i tråd med:
• opplysningene gitt i meldeskjemaet og øvrig dokumentasjon
• vår prosjektvurdering, se side 2
• eventuell korrespondanse med oss

Vi forutsetter at du ikke innhenter sensitive personopplysninger.

Meld fra hvis du gjør vesentlige endringer i prosjektet

Dersom prosjektet endrer seg, kan det være nødvendig å sende inn endringsmelding. På våre nettsider finner du svar på hvilke endringer du må melde, samt endringsskjema.

Opplysninger om prosjektet blir lagt ut på våre nettsider og i Meldingsarkivet

Vi har lagt ut opplysninger om prosjektet på nettsidene våre. Alle våre institusjoner har også tilgang til egne prosjekter i Meldingsarkivet.

Vi tar kontakt om status for behandling av personopplysninger ved prosjektslutt

Dokumentet er elektronisk produsert og godkjent ved NSDs rutiner for elektronisk godkjenning.

Ved prosjektslutt 07.06.2018 vil vi ta kontakt for å avklare status for behandlingen av personopplysninger.

Se våre nettsider eller ta kontakt dersom du har spørsmål. Vi ønsker lykke til med prosjektet!

Marianne Høgetveit Myhren

Håkon Jørgen Tranvåg

Kontaktperson: Håkon Jørgen Tranvåg tlf: 55 58 20 43 / Hakon.Tranvag@nsd.no

Vedlegg: Prosjektvurdering
Kopi: Jørgen Torgerstuen Johansen, s311347@stud.hioa.no

Personvernombudet for forskning

Prosjektvurdering - Kommentar

Personvernombudet forstår det slik at rekruttering og datainnsamlingen er gjennomført høsten 2017, og at dette ikke ble meldt i tide på grunn av en misforståelse om lydopptak og meldeplikt. Personvernobudet finner dette beklagelig og minner om at meldepliktige prosjekter skal meldes senest 30 dager før oppstart.

For å tilfredsstille kravet om et informert samtykke etter loven, må utvalget informeres om følgende:

- hvilken institusjon som er ansvarlig
- prosjektets formål / problemstilling
- hvilke metoder som skal benyttes for datainnsamling
- hvilke typer opplysninger som samles inn
- at opplysningene behandles konfidensielt og hvem som vil ha tilgang
- at det er frivillig å delta og at man kan trekke seg når som helst uten begrunnelse
- dato for forventet prosjektslutt
- at data anonymiseres ved prosjektslutt
- hvorvidt enkeltpersoner vil kunne gjenkjennes i den ferdige oppgaven
- kontaktopplysninger til forsker, eller student/veileder.

Dersom utvalget ikke fikk all denne informasjonen den gangen intervjuene ble gjennomført, ber vi om at de, dersom det lar seg gjøre, kontaktes i ettertid og får utfyllende informasjon.

Personvernombudet forutsetter at du behandler alle data i tråd med Høgskolen i Oslo og Akershus sine retningslinjer for datahåndtering og informasjonssikkerhet. Vi legger til grunn at skylagring er i tråd med institusjonens retningslinjer.

Prosjektslutt er oppgitt til 07.06.2018. Det fremgår av meldeskjema at du vil anonymisere datamaterialet ved prosjektslutt.
Anonymisering innebærer vanligvis å:
- slette direkte identifiserbare opplysninger som navn, fødselsnummer, koblingsnøkkel
- slette eller omskrive/gruppere indirekte identifiserbare opplysninger som bosted/arbeidssted, alder, kjønn
- slette lydopptak

For en utdypende beskrivelse av anonymisering av personopplysninger, se Datatilsynets veileder:
https://www.datatilsynet.no/globalassets/global/regelverk-skjema/veiledere/anonymisering-veileder-041115.pdf

Appendix I. Knowledge, attitude, and practice questionnaire number 1

Profile of the Child Questionnaire number 1

Mother group child No (MGC): ☐ ☐ ☐ ☐

Remarks:

Staff: _____ Supervisor: _____

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
1	Date of the interview (DD-MM-YY) अन्तरवार्ता मिति (दिन-महिन-वर्ष)	_____
2	Name of the child बच्चाको नाम	
3	Sex: 1=Male 2=Female लिङ्ग : १ = पुरुष २ = महिला	☐
4	Date of Birth Nepali calendar जन्ममिति (नेपालमा) Date of Birth European calendar जन्ममिति (अंग्रेजीमा)	☐☐☐☐☐☐ ☐☐☐☐☐☐
5	Name of Mother आमाको नाम	
6	Age of Mother (Years) आमाको उमेर	☐☐
7	Address ठेगाना	Tole:(टोल) Ward No:(वडा नं.)
8	Contact no. सम्पर्क नं.	
Background history		
9	Have you been a part our home visit program? तपाई हाम्रो घरदेलो (घरमै गएर भेट्ने) कार्यक्रममा सहभागी हुनुभएको छ कि छेन ? (तपाईको घरमै आएर तपाईलाई भेटेको छौं कि छैनौं ?) 1 = Yes (छ) 2 = No (छेन) If YES skip to question 29	☐ If yes, skip to question 29 यदि छ भने प्रश्न नं. २९ मा जानुहोस्
10	Cast: 1=Bramhin 2=Chhetri 3=Newar 4=Gurung 5=Rai 6=Tamang 7=Lama 8=Chaudhari/muslim 9=Dalit/backyard cast 10=Other जात : १=ब्राह्मण २=क्षेत्री ३=नेवार ४=गुरुङ ५=राई ६ = तामाङ ७ = लामा ८ = चौधरी/मुस्लिम ९ = दलित/पीछडिएको १० = अन्य	☐
11	Number of children बच्चाको संख्या	☐☐
12	Type of delivery (1=Normal, 2=Caesarian section, 3=Vacum/forcep) बच्चा जन्मेको तरिका : १सामान्य २ अपरेशन ३ भ्याकुम । फोरसेप	☐

13	Birth weight in grams according to card/Mother's recall (Not applicable=9999) बच्चाको तौल -आमाले सम्झे अनुसार	☐☐☐☐
14	Was (*NAME*) put to the breast within one hour of birth? 1=YES 2=NO 9=Don't know बच्चालाई जन्मेको एक घण्टामा आमाको दुध खुवाइयो ? १.हो २. होइन ३.थाहा छेन	☐

Occupation
1=No work /housewife, 2=Agriculture 3=Carpet worker, 4=Daily wage earner, 5=Self employs, 6=Services 7=Working abroad
१. काम छेन २. कृषि ३. गलेचा बुन्ने ४. दैनिक मजदुरी ५. आफ्नै व्यवसाय ६. जागिरे ७. विदेशमा काम गर्ने

15	Mother's occupation आमाको पेशा	☐
16	Father's occupation बुबाको पेशा	☐

Literacy
1=Illiterate, 2=Primary (up to 5 years), 3=Secondary, (6-10 years) 4=SLC, 5=Intermediate (11-12 years), 6=Bachelors, 7=Masters 8=Above
१. अशिक्षित २. प्राथमिक तह ३. माध्यमिक ४. एस एल सी ५. प्रविण तह ६.स्नातक ७. स्नातकोत्तर

17	Literacy of mother आमाको शिक्षा	☐
18	Literacy of father बुबाको शिक्षा	☐

Family and household

19	Type of family (1=Joint, 2=Nuclear) परिवारको किसिम (संयुक्त । एकल)	☐
20	Number of family members? परिवारको संख्या	☐☐
21	Currently living in house 1=Own, 2=Rent हाल बसिरहेको घर १.आफ्नै २. भाडामा	☐
22	How many rooms does the family use? परिवारले कति कोठा प्रयोग गर्छ	☐
23	Do you own land? 1=YES, 2=NO आफ्नै जग्गा छ १. छ २.छेन	☐
24	Drinking water supply पानीको स्रोत 1=mineral water मिनरल पानी 2=tanker supply ट्याङ्कर बाट 3=Tap water धारा 4=Well इनार 5=Hand pump हाते पम्प 6 = Stone spout दुङ्गे धारा 7 = Other अन्य	☐

Medical history
1=YES 2=NO

25	Is your child immunization according to his/her age? बच्चाको उमेर अनुसार खोप लगाएको छ ?	☐
26	Has the child been hospitalized the past month? गत महिना बच्चालाई अस्पताल भर्ना गरेको थियो ?	☐

102

27	Has your child had diarrhea the past month? गत महिना तपाईंको नच्चालाई भगडापखाला लागेको थियो ?	☐
28	Has your child had ARI the past month? तपाईंको नच्चालाई गत महिना उचाखोकी लागेको थियो ?	☐

Knowledge, awareness and attitude of breastfeeding and feeding practices		
29	Have you breastfed during the last day or at night? (हिन्नो राति नच्चालाई दुध खुवाउनु भएको छ ।) (consuming breast milk in any other way is yes as well)	☐ Yes(छ) ☐ No (छेन) ☐ Don't know(थाहा छेन)
30	What is the first food a newborn baby should receive? भखर जन्मेको नच्चाको पहिलो खाना के हुनु पर्छ ?	☐ Only breast milk(आमाको दुध) ☐ Other(अन्य) ☐ Don't know(थाहा छेन)
31	Have you heard about exclusive breastfeeding? आमाको दुध मात्र खुवाउनु पर्छ भन्ने तपाईंले सुन्नुभएको छ ?	☐ Yes(छ) ☐ No(छेन)
32	What does exclusive breastfeeding mean? आमाको मात्र दुध खुवाउनु पर्छ भन्नाले तपाई के बुभ्नु हुन्छ ?	☐ Exclusive breastfeeding means that the infant get only breastmilk and no other liquids or foods. आमाको दुध नाहेक अरु कुनै पनि भोल तथा खानेकुरा नखुवाउने । ☐ Other(अन्य) ☐ Don't know (थाहा छेन)
33	How long should a baby receive nothing more than breastmilk? नच्चाले आमाको दुध मात्र कति समय सम्म खानु पर्छ ?	☐ From birth to six months(जन्मे देखि ६ महिना सम्म) ☐ Other(अन्य) ☐ Don't know (थाहा छेन)
34	How often should a baby younger than six months be breastfed or fed with breast milk? ६ महिना भन्दा कम उमेरका नच्चाले कति पटक आमाको दुध खुवाउनु पर्छ ?	☐ On demand, whenever the baby wants- नच्चाले चाहे / मागे अनुसार ☐ Other(अन्य) ☐ Don't know(थाहा छेन)

35	How confident do you feel in breastfeeding your child? तपाई आफ्नो नच्चालाई दुध खुवाउन कति निर्धक्क हुन हुन्छ ?	☐ 1. Not confident (निर्धक्क छैन) ☐ 2. Ok / so-so (ठिके) ☐ 3. Confident(निर्धक्क छ)
36	How many times did (name) eat foods that is meals and snacks other than liquids yesterday during the day or at night? तपाईको नच्चालाई हिजो दिन र रातमा गरेर कति पटक खाना वा खाजा खुवाउनु भयो ? (भोल पदार्थ बाहेक)	Number of times _____ .... पटक ☐ Don't know/no answer (थाहा छैन)
37	How long is it recommended that a woman breastfeeds her child? आमाले नच्चालाई कति महिनासम्म दुध खुवाउनु पर्छ ?	☐ Six months or less (६ महिना वा भन्दा) ☐ 6-11 months (६-११ महिना सम्म) ☐ 12-23 months (१२-२३ महिना सम्म) ☐ 24 months and more (Correct response)(२४ महिना वा सो भन्दा (सहि जवाफ) ☐ Other(अन्य) ☐ Don't know(थाहा छैन)
38	At what age should babies start eating foods in addition to breast milk? नच्चाले कुन उमेर देखि आमाको दुध साथै अन्य खाने कुरा खान गर्नुपर्छ ?	☐ At six months (६ महिनामा) ☐ Other (अन्य) ☐ Don't know (थाहा छैन)
39	To feed their child, many mother's give them dal bhat. Please tell me some ways to make dal bhat more nutritious or better for your baby's health. धेरैजसो आमाहरूले नच्चाहरूलाई दालभात खुवाइन्छ । तपाई दालभातलाई अफ्र पौषिलो बनाउन कसरी पकाउनु हुन्छ र के-के राख्नुहुन्छ ? There may be more than one correct answer. एक भन्दा नढि सहि उत्तर हुनु सकिन्छ ।	☐ Meat, poultry, fish, liver/organ, eggs (माछा , मासु, अण्डा, कलेजो) ☐ Legumes, peas, beans, lentils, sunflower seed, peanuts soybeans (केराउ, चना, नचाम, सुर्यमुखी, भटमास) ☐ Carrot, yellow pumpkin, mango, papaya (गाजर, पहेंलो फर्सी, आप, मेवा) ☐ Green leafy vegetables (spinach) (हरियो सातपात) ☐ Energy-rich foods. Oil, butter/ghee (शक्ति दिने खाने कुरा - तेल, घ्यू) ☐ Other (अन्य) ☐ Don't know (थाहा छैन)

40	How confident do you feel in preparing food for your child? नाम्रो नच्चाको खाना बनाउन तपाई कतिको निर्धक्क हुनु हुन्छ ?	☐ 1. Not confident (निर्धक्क छेन) ☐ 2. Ok / so-so (ठिक्कै) ☐ 3. Confident (निर्धक्क छ)
41	How good do you think it is to give different types of food to your children each day? तपाईको विचारमा प्रत्येक दिन नच्चालाई फरकफरक किसिमको खाने कुरा दिनु राम्रो हुन्छ ?	☐ 1. Not good (राम्रो छेन) ☐ 2. You're not sure (मलाई थाहा छेन) ☐ 3. Good (राम्रो)
42	How difficult is it for you to give different types of food to your child each day? नच्चालाई विभिन्न प्रकारको खाना दिन तपाईलाई कति को गाह्रो छ ?	☐ 1. Not difficult (गाह्रो छेन) ☐ 2. So-so (ठिक्कै) ☐ 3. Difficult (गाह्रो छ)
43	How good to you think it is to feed your child several times each day? तपाईको विचारमा नच्चालाई प्रत्येक दिन पटक-पटक (धेरै चोटी) खुवाउनु कतिको राम्रो हुन्छ ?	☐ 1. Not good (राम्रो छेन) ☐ 2. You're not sure (मलाई थाहा छेन) ☐ 3. Good (राम्रो)
44	How difficult is it for you to feed your child several times each day? तपाईको नच्चालाई पटक पटक खुवाउन तपाईलाई कति को गाह्रो हुन्छ ?	☐ 1. Not difficult (गाह्रो छेन) ☐ 2. So-so (ठिक्कै) ☐ 3. Difficult(गाह्रो छ)
45	How good do you think it is to continue breastfeeding beyond six months? तपाईको विचारमा ६ महिना पछि पनि आमाको दुध खुवाई राख्या कति को राम्रो हुन्छ ?	☐ 1. Not good (राम्रो छेन) ☐ 2. You're not sure (मलाई थाहा छेन) ☐ 3. Good (राम्रो)
46	How difficult is it for you to continue breastfeeding beyond six months? नच्चालाई ६ महिना पछि पनि आमाको दुध खुवाई रहन तपाईलाई कतिको गाह्रो छ ?	☐ 1. Not difficult (गाह्रो छेन) ☐ 2. So-so (ठिक्कै) ☐ 3. Difficult (गाह्रो छ)

		Knowledge, awareness and attitude of Personal hygiene
47	Could you please describe step by step how you wash your hands? What do you use when washing your hands, and how do you do it? तपाई आफ्नो हात केले र कसरी सफा गर्नुहुन्छ ?	☐ A. Washes Hands in a bowl of water (sharing with other people) – poor practice एउटै बाटामे धेरै जनाले हात धुने ☐ B. With someone pouring a little clean water from a jug onto one's hands – appropriate practice (सफा जगले थोरै पानी खन्याएर धुने) ☐ C. Under running water – appropriate practice (लिपे धारामा हात धुने) ☐ D. Washes hands with soap or ashes (सानुन वा खरानीले हात धुने) ☐ Other(अन्य) ☐ Don't know / no answer (पाहा छेन)
48	Food poisoning often results from contact with germs from feces. What can you do to avoid sickness from germs from human or animal feces? झाडापखालाको मुख्य कारण फोहरमा भएका किटाणु ने हुन्छ । मसनाट नच्चको लागि के-के गर्नु हुन्छ ? There may be more than one correct answer. एक भन्दा नढि सहि उत्तर हुनु सकिन्छ ।	☐ Wash hands (after going to the toilet and cleaning the baby's bottom) (शोचालय गए पछि र नच्चालाई सफा गरिसकेपछि सानुन पानीले हात धुने) ☐ Remove feces from the home and surroundings (use latrine, teach small children to use a potty and put children's feces in the latrine, and clean up feces from animals) (फोहरलाई घर वरपरबाट हटाउने र नच्चालाई Toilet Pot मा दिशा गर्न सिकाउने) ☐ Other(अन्य) ☐ Don't know(पाहा छेन)
49	There are key moments when you need to wash your hands to prevent germs from reaching food. What are these key moments? फोहर किटाणुबाट नच्च कुन कुन बेला हात धुनुपर्छ ? There may be more than one correct answer. एक भन्दा नढि सहि उत्तर हुनु सकिन्छ ।	☐ After going to the toilet/latrine (शोचालय गएपछि) ☐ After cleaning the baby's bottom/changing a baby's nappy (नच्चाको फोहर सफा गरि सके पछि) ☐ Before preparing/handling food (खाना बनाउन अगाडि) ☐ Before feeding a child/eating (खाना खुवाए पछि) ☐ After handling raw food (काचां खाना छोए पछि) ☐ After handling garbage (फोहर छोए पछि) ☐ Other (अन्य) ☐ Don't know (पाहा छेन)

50	How likely do you think it is that your child will become sick, such as having stomachache or diarrhea, from not washing your hands? तपाईंले हात धोएन भने तपाईंको बच्चालाई पेट दुख्ने अथवा झाडापखाला लाग्न सक्छ कि सक्दैन ?	☐ 1. Not likely (लाग्दैन) ☐ 2. You're not sure (मलाई थाहा छैन) ☐ 3. Likely (लाग्न सक्छ)
51	How serious do you think is diarrhea for a baby's health? झाडापखाला बच्चाको लागि कतिको हानिकारक हुन्छ ?	☐ 1. Not really serious (हानिकारक छैन) ☐ 2. Neutral / unsure (अलिअलि) ☐ 3. Serious (हानिकारक छ)
52	How good do you think it is to wash your hands before preparing food? खाना पकाउन अघि हात धुन्न कतिको जरुरी छ ?	☐ 1. Not good (जरुरी छैन) ☐ 2. You're not sure (मलाई थाहा छैन) ☐ 3. Good (जरुरी छ)
53	How difficult is it for you to wash your hands before preparing food? तपाईंलाई खाना पकाउनु अघि हात धुन कतिको गाह्रो छ ?	☐ 1. Not difficult (गाह्रो छैन) ☐ 2. So-so (ठिके) ☐ 3. Difficult (गाह्रो छ)
54	How confident do you feel in washing your hands properly? राम्रोसंग हातधुन हुन्छ भन्नेमा तपाई कतिको निर्धक्क हुनुहुन्छ ?	☐ 1. Not confident (निर्धक्क छैन) ☐ 2. Ok / so-so (ठिके) ☐ 3. Confident (निर्धक्क छ)

Appendix J. Knowledge, attitude, and practice questionnaire number 2 & 3.

Profile of the Child Questionnaire number 2 & 3

Mother group child No (MGC): ☐ ☐ ☐ ☐

Remarks:

Staff: _____ Supervisor: _____

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
1	Date of the interview (DD-MM-YY) अन्तरवार्ता मिति (दिन-महिन-वर्ष)	_____
2	Name of the child नच्चाको नाम	
	Knowledge, awareness and attitude of breastfeeding and feeding practices	
29	Have you breastfed during the last day or at night? (हिजो राति नच्चालाई दुध खुवाउनु भएको छ ।) (consuming breast milk in any other way is yes as well)	☐ Yes(छ) ☐ No (छेन) ☐ Don't know(थाहा छेन)
30	What is the first food a newborn baby should receive? भर्खर जन्मेको नच्चाको पहिलो खाना के हुनु पर्छ ?	☐ Only breast milk(आमाको दुध) ☐ Other(अन्य) ☐ Don't know(थाहा छेन)
31	Have you heard about exclusive breastfeeding? आमाको दुध मात्र खुवाउनु पर्छ भन्ने तपाईले सुन्नुभएको छ ?	☐ Yes(छ) ☐ No(छेन)
32	What does exclusive breastfeeding mean? आमाको मात्र दुध खुवाउनु पर्छ भन्नाले तपाई के बुझनु हुन्छ ?	☐ Exclusive breastfeeding means that the infant get only breastmilk and no other liquids or foods. आमाको दुध नाहेक अरु कुनै पनि झोल तथा खानेकुरा नखुवाउने । ☐ Other(अन्य) ☐ Don't know (थाहा छेन)
33	How long should a baby receive nothing more than breastmilk? नच्चाले आमाको दुध मात्र कति समय सम्म खानु पर्छ ?	☐ From birth to six months(जन्म देखि ६ महिना सम्म) ☐ Other(अन्य) ☐ Don't know (थाहा छेन)

34	How often should a baby younger than six months be breastfed or fed with breast milk? ६ महिना भन्दा कम उमेरका बच्चाले कति पटक आमाको दुध खुवाउनु पर्छ ?	☐ On demand, whenever the baby wants- बच्चाले चाहे / मागे अनुसार ☐ Other(अन्य) ☐ Don't know(थाहा छेन)
35	How confident do you feel in breastfeeding your child? तपाई आफ्नो बच्चालाई दुध खुवाउन कति निर्धक्क हुनु हुन्छ ?	☐ 1. Not confident (निर्धक्क छेन) ☐ 2. Ok / so-so (ठिके) ☐ 3. Confident(निर्धक्क छ)
36	How many times did (name) eat foods that is meals and snacks other than liquids yesterday during the day or at night? तपाईको बच्चालाई हिजो दिन र रातमा गरेर कति पटक खाना या खाना खुवाउनु भयो ? (झोल पदार्थ नाहेक)	Number of times_____ .... पटक ☐ Don't know/no answer (थाहा छेन)
37	How long is it recommended that a woman breastfeeds her child? आमाले बच्चालाई कति महिनासम्म दुध खुवाउनु पर्छ ?	☐ Six months or less (६ महिना वा घटि) ☐ 6-11 months (६-११ महिना सम्म) ☐ 12-23 months (१२-२३ महिना सम्म) ☐ 24 months and more (Correct response)(२४ महिना वा सो भन्दा (सहि जवाफ) ☐ Other(अन्य) ☐ Don't know(थाहा छेन)
38	At what age should babies start eating foods in addition to breast milk? बच्चाले कुन उमेर देखि आमाको दुध साथै अन्य खाने कुरा खान शुरु गर्नुपर्छ ?	☐ At six months (६ महिनामा) ☐ Other (अन्य) ☐ Don't know (थाहा छेन)

39	To feed their child, many mother's give them dal bhat. Please tell me some ways to make dal bhat more nutritious or better for your baby's health. धेरैजसो आमाहरूले बच्चाहरूलाई दालभात खुवाइन्छ । तपाई दालभातलाई अभ पोषिलो बनाउन कसरी पकाउनु हुन्छ र के-के राख्नुहुन्छ ? There may be more than one correct answer. एक भन्दा बढि सहि उत्तर हुन सकिन्छ ।	☐ Meat, poultry, fish, liver/organ, eggs (माछा , मासु, अण्डा, कलेजो) ☐ Legumes, peas, beans, lentils, sunflower seed, peanuts soybeans (केराउ, चना, बदाम, सुर्यमुखी, भटमास) ☐ Carrot, yellow pumpkin, mango, papaya (गाजर, पहेंलो फर्सी, आप, मेवा) ☐ Green leafy vegetables (spinach) (हरियो सातपात) ☐ Energy-rich foods. Oil, butter/ghee (शक्ति दिने खाने कुरा - तेल, घ्यू) ☐ Other (अन्य) ☐ Don't know (थाहा छैन)
40	How confident do you feel in preparing food for your child? आफ्नो बच्चाको खाना बनाउन तपाई कतिको निर्धक्क हुनु हुन्छ ?	☐ 1. Not confident (निर्धक्क छैन) ☐ 2. Ok / so-so (ठिकै) ☐ 3. Confident (निर्धक्क छ)
41	How good do you think it is to give different types of food to your children each day? तपाईको विचारमा प्रत्येक दिन बच्चालाई फरकफरक किसिमको खाने कुरा दिनु राम्रो हुन्छ ?	☐ 1. Not good (राम्रो छैन) ☐ 2. You're not sure (मलाई थाहा छैन) ☐ 3. Good (राम्रो)
42	How difficult is it for you to give different types of food to your child each day? बच्चालाई विभिन्न प्रकारको खाना दिन तपाईलाई कति को गाह्रो छ ?	☐ 1. Not difficult (गाह्रो छैन) ☐ 2. So-so (ठिकै) ☐ 3. Difficult (गाह्रो छ)
43	How good to you think it is to feed your child several times each day? तपाईको विचारमा बच्चालाई प्रत्येक दिन पटक-पटक (धेरै चोटी) खुवाउनु कतिको राम्रो हुन्छ ?	☐ 1. Not good (राम्रो छैन) ☐ 2. You're not sure (मलाई थाहा छैन) ☐ 3. Good (राम्रो)
44	How difficult is it for you to feed your child several times each day? तपाईको बच्चालाई पटक पटक खुवाउनु तपाईलाई कति को गाह्रो हुन्छ ?	☐ 1. Not difficult (गाह्रो छैन) ☐ 2. So-so (ठिकै) ☐ 3. Difficult (गाह्रो छ)

45	How good do you think it is to continue breastfeeding beyond six months? तपाईको विचारमा ६ महिना पछि पनि आमाको दुध खुवाई राख्दा कति को राम्रो हुन्छ ?	☐ 1. Not good (राम्रो छैन) ☐ 2. You're not sure (मलाई थाहा छैन) ☐ 3. Good (राम्रो)
46	How difficult is it for you to continue breastfeeding beyond six months? बच्चालाई ६ महिना पछि पनि आमाको दुध खुवाई रहन तपाईलाई कतिको गाह्रो छ ?	☐ 1. Not difficult (गाह्रो छैन) ☐ 2. So-so (ठिकै) ☐ 3. Difficult (गाह्रो छ)

Knowledge, awareness and attitude of Personal hygiene		
47	Could you please describe step by step how you wash your hands? What do you use when washing your hands, and how do you do it? तपाई आफ्नो हात केले र कसरी सफा गर्नेहुन्छ ?	☐ A. Washes Hands in a bowl of water (sharing with other people) – poor practice एउटै बाटाने धेरै जनाले हात धुने ☐ B. With someone pouring a little clean water from a jug onto one's hands – appropriate practice (सफा जगले धारे पानी खन्याएर धुने) ☐ C. Under running water – appropriate practice (सिधै धारामा हात धुने) ☐ D. Washes hands with soap or ashes (सानुन वा खरानीले हात धुने) ☐ Other(अन्य) ☐ Don't know / no answer (थाहा छैन)
48	Food poisoning often results from contact with germs from feces. What can you do to avoid sickness from germs from human or animal feces? भाडापखालाको मुख्य कारण फोहरमा भएका किटाणु ने हुन्छ । यसबाट बच्नको लागि के-के गर्नु हुन्छ ? There may be more than one correct answer. एक भन्दा नढि सहि उत्तर हुनु सकिन्छ ।	☐ Wash hands (after going to the toilet and cleaning the baby's bottom) (शौचालम गए पछि र बच्चालाई सफा गरिसकेपछि सानुन पानीले हात धुने) ☐ Remove feces from the home and surroundings (use latrine, teach small children to use a potty and put children's feces in the latrine, and clean up feces from animals) (फोहरलाई घर वरपरबाट हटाउने र बच्चालाई Toilet Pot मा दिशा गर्न सिकाउने) ☐ Other(अन्य) ☐ Don't know(थाहा छैन)

49	There are key moments when you need to wash your hands to prevent germs from reaching food. What are these key moments? फोहर किटाणुबाट बच्न कुन कुन बेला हात धुनुपर्छ ? There may be more than one correct answer. एक भन्दा नदि सहि उत्तर हुनु सकिन्छ ।	☐ After going to the toilet/latrine (शोचालय गएपछि) ☐ After cleaning the baby's bottom/changing a baby's nappy (बच्चाको फोहर सफा गरि सके पछि) ☐ Before preparing/handling food (खाना बनाउन अगाडि) ☐ Before feeding a child/eating (खाना खुबाए पछि) ☐ After handling raw food (काचॉ खाना छोए पछि) ☐ After handling garbage (फोहर छोए पछि) ☐ Other (अन्य) ☐ Don't know (पाहा छेन)
50	How likely do you think it is that your child will become sick, such as having stomachache or diarrhea, from not washing your hands? तपाईले हात धोएन भने तपाईको बच्चालाई पेट दुख्ने अथवा फाडापखाला लाग्न सक्छ कि सक्दैन ?	☐ 1. Not likely (लाग्दैन) ☐ 2. You're not sure (मलाई पाहा छेन) ☐ 3. Likely (लाग्न सक्छ)
51	How serious do you think is diarrhea for a baby's health? फाडापखाला बच्चाको लागि कतिको हानिकारक हुन्छ ?	☐ 1. Not really serious (हानिकारक छेन) ☐ 2. Neutral / unsure (अलिअलि) ☐ 3. Serious (हानिकारक छ)
52	How good do you think it is to wash your hands before preparing food? खाना पकाउन अघि हात धुन्न कतिको जरुरी छ ?	☐ 1. Not good (जरुरी छेन) ☐ 2. You're not sure (मलाई पाहा छेन) ☐ 3. Good (जरुरी छ)
53	How difficult is it for you to wash your hands before preparing food? तपाईलाई खाना पकाउनु अघि हात धुन कतिको गाह्रो छ ?	☐ 1. Not difficult (गाह्रो छेन) ☐ 2. So-so (ठिके) ☐ 3. Difficult (गाह्रो छ)

54	How confident do you feel in washing your hands properly? राम्रोसंग हातधुन हुन्छ भन्नेमा तपाई कतिको निर्धक्क हुनुहुन्छ ?	☐ 1. Not confident (निर्धक्क छेन) ☐ 2. Ok / so-so (ठिके) ☐ 3. Confident (निर्धक्क छ)

112

Appendix K. Letter of consent for the organization

Informed consent form to participate in the ▮▮▮▮▮▮
knowledge, attitude and practice survey among mother's in their
mother's group program.

Good morning/afternoon, Mrs *(NAME OF THE MOTHER)*. We in ▮▮▮▮▮ are
working on a project concerned with nutrition and education in which you could participate.
We wish to increase the nutritional and hygienic knowledge, attitude and practice among the
mother's in our mother's group program. We are conducting a survey among new participants
to know more about their knowledge, attitudes and practices to do with nutrition. The
interview will take about 20-25 minutes. We wish to ask you again three and six months after
the first interview. The later interviews will take about 10-15 minutes.
All the information we obtain will remain strictly confidential and your answers and name
will never be revealed. Also, you are not obliged to answer any question you do not want to,
and you may stop the interview at any time.

The objective of this study is to evaluate the effectiveness of an intervention. This is not to
evaluate or criticize you, so please do not feel pressured to give a specific response and do not
feel shy if you do not know the answer to a question. I am not expecting you to give a specific
answer; I would like you to answer the questions honestly, telling me about what you know
and how you feel. Feel free to answer questions at your own pace.

Do you agree to participate in this survey?

YES _____ NO _____

Sign_____ Date_____

Do you have any question before we start?

▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Appendix L. Letter of consent in Nepali for the organization

<div align="center">

सर्वेक्षणमा भाग लिने
सूचना सहमती फारम

</div>

हामी ▮▮▮▮▮▮▮▮ आमा समूह कार्यक्रम संचालन गर्दै आएका छौ । यस कार्यक्रम मार्फत पोषण, स्वास्थ्य शिक्षा सम्बन्धी विषयमा छलफल गर्छौं ।

- यस कार्यक्रम मार्फत हामी यहाँ आउनुहुने नयाँ आमाहरुलाई एक अन्तरवार्ता लिने गर्दछौं ।
- पहिलो पटकको कुराकानीमा लगभग २०-२५ मिनेट समय लाग्नेछ र त्यसको ३ महिनापछि दोस्रो पटक अन्तरवार्ता लिन्छौं, त्यसपछि फेरी ३ महिनापछि तेस्रो तथा अन्तिम अन्तरवार्ता लिन्छौं जसको लागि १० मिनेट समय लाग्नेछ ।
- हामीले प्राप्त गरेको सबै जानकारी गोप्य रहनेछ । तपाईंको जवाफ र नाम बाहिर आउने छैन । साथै तपाई कुनै पनि प्रश्न गर्न चाहनुहुन्न भने जवाफ नदिन पनि सक्नु हुनेछ र कुनै पनि समयमा अन्तरवार्ता रोक्न सक्नुहुनेछ ।
- यस अध्ययनको उद्देश्य हाम्रो कार्यक्रमको प्रभावकारिताको मूल्यांकन गर्ने हो । यो तपाईको मूल्यांकन वा आलोचना गर्ने होइन । त्यसैले कृपया प्रतिक्रिया दिन कुनै पनि दबाव महशुस नगर्नुहोस् । आफूलाई थाहा भएको कुरा अप्ठेरो नमानी हामीलाई भन्नुहोस् ।

के तपाईं यो अन्तरवार्तामा सहभागी हुन चाहनुहुन्छ ?

चाहन्छु .... चाहन्न ....

नाम : ....

हस्ताक्षर : ....

मिति : ....

यो अन्तरवार्ता शुरु गर्नुअधि तपाईंलाई केही सोध्नु छ ?

Appendix M. Example of overview of the mother's group program

	Date	Day	Program	Responsible	Total no. Of mother's	Remarks
6	Date	Day	Program	Responsible	Total no. Of mother's	Remarks
39	October					
40	01.10.2017	Sunday	Dashain Holiday		0	Holiday
41	04.10.2017	Wednesday	Discussion	Name of staff and/or volunteer	0	Holiday
42	08.10.2017	Sunday	Height and weight	Name of staff and/or volunteer	7	
43	11.10.2017	Wednesday	Entertainment day	Name of staff and/or volunteer	12	
44	15.10.2017	Sunday	Nutrition, complimentary feeding practices	Name of staff and/or volunteer	11	
45	18.10.2017	Wednesday	Entertainment day	Name of staff and/or volunteer	6	
46	22.10.2017	Sunday	Discussion about Thiar	Name of staff and/or volunteer	4	After Thiar
47	25.10.2017	Wednesday	Entertainment day	Name of staff and/or volunteer	13	
48	29.10.2017	Sunday	Hand hygiene and Feeding sick children	Name of staff and/or volunteer	15	
49				Monthly Average shown	68	
50	November					
51	01.11.2017	Wednesday	Entertainment day - Form practice with mothers	Name of staff and/or volunteer	6	
52	05.11.2017	Sunday	Interview with mothers	Name of staff and/or volunteer	15	
53	08.11.2017	Wednesday	Weight/length	Name of staff and/or volunteer	9	
54	12.11.2017	Sunday	Discussion about weight and length	Name of staff and/or volunteer	7	
55	15.11.2017	Wednesday	Fever Discussion	Name of staff and/or volunteer	7	
56	19.11.2017	Sunday	Immunization	Name of staff and/or volunteer	6	
57	22.11.2017	Wednesday	Mothers Participation	Name of staff and/or volunteer	5	
58	26.11.2017	Sunday	Balance Diet	Name of staff and/or volunteer	5	
59	29.11.2017	Wednesday	Balance Diet continue discussion	Name of staff and/or volunteer	5	
60				Monthly Average shown	65	

Appendix N. Example of overview of the mother's attendance

							October 2017				
3											
4						Total Nr Of mother's	4	9	13	12	10
6	S.N	Mother's Name	Child Name	DOB	Contact	Average Attendance	04.10.2017	08.10.2017	11.10.2017	15.10.2017	18.10.2017
34	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	21					
35	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	1		1			
36	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	1					
37	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	26			1	1	
38	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	2					
39	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	2	1				
40	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	1					1
41	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	12					
42	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	14		1	1	1	
43	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	1					
44	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	3					
45	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	5	1				1
46	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	3					
47	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	8					
48	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	8		1			
49	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	3					1
50	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	1					
51	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	2	1				
52	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	4				1	
53	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	1					1
54	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	2	1	1			
55	The mothers and child unique nr	Name of Mother	Name of child	Date of birth	Phone nr	2			1		

Appendix O. Example of overview of the mothers answering the knowledge, attitude, and practice questionnaires

	S.N	First time (DATE)	Three Months after first			Six months after first		
			Second time (DATE)	Avarage Attendance	X = completed	Third time (DATE)	Avarage attendance	X = Completed
6	Overview of mother's answering the questionnaire							
12	The mothers and child unique nr	18.01.2018	12.04.2018	10	X	05.07.2018	24	X
13	The mothers and child unique nr	18.01.2018	12.04.2018	8	X	05.07.2018	16	X
14	The mothers and child unique nr	22.01.2018	16.04.2018	7	X	09.07.2018	22	X
15	The mothers and child unique nr	25.01.2018	19.04.2018					
16	The mothers and child unique nr	25.01.2018	19.04.2018	4	X	12.07.2018		
17	The mothers and child unique nr	25.01.2018	19.04.2018	14	X	12.07.2018	17	X
18	The mothers and child unique nr	02.02.2018	27.04.2018					
19	The mothers and child unique nr	02.02.2018	27.04.2018	6	X	21.07.2018	12	X
20	The mothers and child unique nr	05.05.2018	28.04.2018	10	X	24.07.2018	18	X
21	The mothers and child unique nr	05.05.2018	28.04.2018	11	X	24.07.2018	22	X

Appendix P. Example of overview of the children's nutritional status

	S.N	Mother's Name	Child Name	DOB	Concatct	Weight For age SD	Length For Age SD	Weight For length SD	Weight For age SD	Lenght For Age SD	Weight For length SD
22	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr	-1					
23	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
24	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
25	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr	0	0	0			
26	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
27	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
28	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
29	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
30	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
31	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr	-1	-1	-1			
32	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
33	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
34	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr	-2	-2	-1	-1	-1	-1
35	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
36	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
37	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr	0	0	1	0	0	0
38	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr	-1	-1	0			
39	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
40	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr						
41	Mother and child unique nr	Name Of the mother	Name of the child	Date of Birth	Phone nr	-1	1	-2			