

**MAKERERE**



**UNIVERSITY**

**ASSESSING THE INFLUENCE OF MONITORING PRACTICES ON DATA USE IN  
DECISION-MAKING AT PUBLIC HEALTH ORGANIZATIONS; A CASE STUDY OF  
ZAMZAM FOUNDATION, SOMALIA.**

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2020/HD07/19463X  
MPHME**

**A DISSERTATION SUBMITTED TO THE HEALTH POLICY, PLANNING AND  
MANAGEMENT DEPARTMENT IN PARTIAL FULFILLMENT FOR THE  
AWARD OF A DEGREE OF MASTER OF PUBLIC HEALTH  
MONITORING AND EVALUATION**

**NOVEMBER 2023**


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## DECLARATION

I, ABDULLAHI SHEIK NUR ISAK hereby declare that the work presented in this dissertation is my original work and that it has never been submitted to any institution of higher learning for any academic award. The works of others are quoted and appropriate references have been given. I therefore wish to present it to Makerere University in partial fulfillment of the requirement for the award of a Master's Degree of Public Health Monitoring and Evaluation of Makerere University.

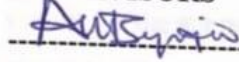
  
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## APPROVAL

We certify that this work entitled “Assessing the influence of monitoring practices on data use in decision-making at Public health organizations; a case study of Zamzam Foundation, Somalia” has been submitted for examination with our approval as the supervisors.

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## **ACKNOWLEDGEMENTS**

In this entire research process, I am very grateful for the following:

To God, for His grace in doing this work, His provision of resources, His supply of courage; for absolutely everything.

To family, friends, loved ones and my dear brother NAJIBULLAH SHEIK NUR, thank you kindly for the support, understanding and words of encouragement from the beginning right until the end of this journey.

For all the lecturers that have taught me for the duration of this program at the School of Public Health: your sacrifice is not in vain.

To my supervisors who have diligently guided me through this entire research process, giving me new perspectives, teaching me, going through my very many drafts without complaint, and ensuring the production of a worthy product: thank you.

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## ACRONYMS AND ABBREVIATIONS

<b>DHIS</b>	:	District Health Information Software
<b>HDREC</b>	:	Higher Degrees Research Ethics Committee
<b>HIS</b>	:	Health Information System.
<b>HMIS</b>	:	Health Management Information System
<b>HMN</b>	:	Health Metrics Network
<b>HSC</b>	:	Health Sector Committee
<b>IDPs</b>	:	Internally Displaced Persons
<b>M&amp;E</b>	:	Monitoring and Evaluation.
<b>MICS</b>	:	Multiple Indicator Cluster Surveys.
<b>MOH</b>	:	Ministry of Health.
<b>NGOs</b>	:	Non-Government Organizations.
<b>OECD</b>	:	Organization for Economic Co-operation and Development.
<b>OIC</b>	:	Organization of Islamic Cooperation
<b>UNICEF</b>	:	United Nations Children’s Fund.
<b>WASH</b>	:	Water, Sanitation and Hygiene
<b>WHO</b>	:	World Health Organization.

## **OPARATIONAL DEFINITIONS**

**Data use:** refers to the use of information for health programs in decision-making, statistical analysis, education, policy formulation, and the development of health care services, among other things.

**Dissemination of data:** is communication of data to encourage data, regular organization meetings to discuss the implication of M&E data for program planning and improvement.

**Evaluation:** is the judgment of project achievements and impacts against the agreed plans, strategies and targets.

**Health Information system:** refers to a system designed to manage healthcare data, for example systems that collect, store and manage a patient's electronic medical record.

**Monitoring:** is the systematic collection and analysis of information as a project progresses to assess progress towards intended outputs/ outcomes.

**Operational decisions:** day-to-day, routine and simple decisions made by junior staff such as regular ordering of supplies.

**Organization decisions:** These are categorized into either strategic, tactical or operational decisions corresponding respectively to top management, mid-level management and junior management/supervisory levels in the organizational hierarchy.

**Routine monitoring data-related practices:** include processes of data collection, processing and dissemination.

**Routine monitoring:** is collecting standardized data from all providers on routine basis with clearly transferred, reporting mechanisms and well-defined managed database.

**Strategic decisions:** Long term and complex decisions usually made by senior management. They include the strategic foundations of an organization including vision, mission, goals and strategies

**Tactical decisions:** medium term, less complex decisions made by midlevel management such as launching a new project or branch.

## **ABSTRACT**

**Introduction:** Monitoring and evaluation is at the center of sound governance arrangements globally, regionally, nationally and locally as well. It is necessary for the achievement of evidence-based decision-making, budget decisions, management, and accountability. However, there is limited focus on routine program monitoring data-related practices and utilization for decision-making among NGOs in Somalia. Zamzam foundation is one of the biggest NGOs that works in the country and implements successful projects, however; public health problems such as lack of access to clean water, malnutrition and food insecurity persist. Zamzam foundation are affected by low data quality, inadequate resources, weak institutional capacity, and lack of baseline survey.

**Objective:** This study was aimed to assess the influence of monitoring practices on data use in decision-making at public health organizations; a case study of Zamzam foundation, Somalia.

**Methods:** A case study design was chosen and qualitative methods of data collection were adopted in order to describe how the organization implemented its programs using a key informant interview guide. The sample size of the study was 14 participants that included M&E managers, M&E staff, project managers, and data managers. After cleaning, the data was analysed manually using thematic analysis.

**Results:** Data related practices are mainly managed by M&E personnel that handle the data monitoring practices. The findings showed that a significant portion of decision makers in the organization such as donors and other stakeholders receive reports based on decision-making evidences such as budget impacts as evidence. The main facilitators of data for decision making include capacity of M&E and data management. Main barriers include ineffective supervision, inadequate funding, and lack enough training for capacity building.

**Conclusion:** Data related practices are mainly understood as a process or series of processes involving data management and information, but training sessions should be conducted to improve the staff's understanding of the concepts of data management and decision-making. M&E capacity and budgetary allocation for the all tasks are a crucial determinant of and affect

program sustainability. Zamzam should plan strategies to engage stakeholders and improve going forward.

## **1.0 CHAPTER ONE: INTRODUCTION AND BACKGROUND**

### **1.1 INTRODUCTION**

Data utilization is the process of using data on a continuous basis to achieve improved organization outcomes like higher productivity and profitability. Data-driven decision making has become an essential component of health practice across all levels, from the top level of the organization to the health workers in the organization. Healthcare stakeholders use the data to gain valuable insights, improve patient outcomes, enhance operational efficiency, and drive evidence-based decision-making. (Abubakaret *al.*, 2019a) Believes that the healthcare organization risks losing patients due to unsatisfactory service and customer experience. Moreover, its team may make wrong decisions if they have inaccurate data or don't trust it. Having inaccurate data are due to lack of monitoring tools, difficulty in defining standard health indicators and short time allocation to M&E as some of the challenges that directly face the project monitoring functions (Kusek, 2010a). Significant human and financial resources have been invested around the world to develop routine health information systems for planning, reporting, community health mobilization, and illness trend analysis (Krishnaratneet *al.*, 2022). Recently, increasing emphasis has been placed on improving evidence-based decision-making through strong governance, openness, and accountability (Masfi and Sukartini, 2022). However, health system administrators in poor countries such as Somalia frequently overlook the importance of routine monitoring data-related practices in tracking the effectiveness of health programs and the broader health system, and they overlook their commonly used portion of the performance evaluation of NGO key health targets(Garcia, De La Vega and Mercado, 2022). As a result, many health-care systems are unable to adequately link evidence to decisions, and their ability to respond to urgent health needs at all levels of the health system is limited. In low- and middle-income nations, health information systems suffer insufficient data collection, processing and dissemination; as a result, routine monitoring data-related practices and utilization for decision making remain very weak(World Health Organization, 2017).Too often, data is left unanalyzed in reports, shelves, cabinets, and databases, rather than being used to better policies and programs(Ferguson PharmD and NetleyPharmD, 2017).Furthermore, monitoring systems fail to deliver relevant, complete timely and accurate data that can lead to disseminate

incomplete reports, ineffective data, consequently; lack of M&E data use and project (World Health Organization, 2017)

According to (Chabikuli *et al.*, 2009a) Lack of using data for planning is related to limit routine monitoring of data. Routine monitoring data-related practices include processes of data collection, processing and dissemination. Dissemination data involves communication of data to encourage data use, regular organization meetings to discuss the implication of M&E data for program planning and improvement. Routine monitoring is very important for health programs because health services needed to be routinely available and accessible to provide timely and appropriate interventions to disseminate data based- evidence (Peersman *et al.*, 2009).

Routine health information usage is low in Africa (Tadesse Boltena *et al.*, 2022), with 42% in Tanzania, 59% in Kenya (Tekalignet *et al.*, 2022), 58% in Liberia, and 65% of South African health professionals (Eshetu, 2018). In developed country, health data are used to improve health, care, services through research and planning. In Somalia, health consumes 11.3% of only of spending on data for planning, management and evaluating the performance of the health system

## **1.2 BACKGROUND**

Somalia is one of the world's most enduring humanitarian crises causing enormous damage to health and development. After a prolonged civil war, the health of the Somali people suffered tremendously because conflict caused the destruction of health infrastructure, resulting in poor access to essential health services, exposing an already vulnerable population to high disease burden and malnutrition. In 2015, Somalia had a total population of 13.76 million with a life expectancy of 49 and 61 years for males and females, respectively, as well as a staggering maternal mortality ratio of 850 deaths per 100 000 live births, Somalia's health system ranks as one of the world's weakest (UNICEF, 2016). There were an estimated 846 health facilities in Somalia including 7 referral hospitals, 27 district hospitals, 248 maternal and child health clinics and 544 health posts. However, most of these healthcare facilities are poorly staffed and inadequately distributed (Elkheir N, Sharma A, Cherian M *et al.*, 2015). Although the government assures an adequate health services, the funds of the government are insufficient to deliver services across the country. To complement government services, NGOs which are majorly donor funded, have programs to ensure access to vital services such as health, education, clean water and food security, peace-building and effective governance, agriculture and

sustainable socio-economic services (MINISTRY OF HEALTH AND HUMAN SERVICES, 2018) According to the WHO Somalia annual report 2019, 65% of these services are implemented by NGOs, while the government implements 35% of these services. According to these statistics, WHO and the government of Somalia proposed to these NGOs to pursue and continue funding and providing services (Directorate of National Statistics, Federal Government of Somalia , 2020).However, one of the major NGOs is going to close which has implications to the continuity of services, and one of the explanatory reasons that has been fronted is inadequate monitoring and evaluation systems to track resources, implementations, and reporting results. In 2019, the Ministry of Health of Somalia's assessment noted that the data related issues to make effective decisions persist although NGOs try to reduce them through monitoring resources and implementation of interventions to show the ability to keep in business.

### **1.2.1 Zamzam Foundation**

The Zamzam Foundation commenced to work in Mogadishu, Somalia in 1992 as a non-governmental, not-for-profit humanitarian and development charity soon after the collapse of the Central Government of Somalia which coincided with a severe drought that affected millions of Somalis. Since then, it has grown to become the largest national humanitarian and development organization in Somalia with almost three decades of experience providing relief and socio-economic support services to those most affected by the joint forces of conflict, war and recurrent climatic shocks. Zamzam aims to improve the lives of vulnerable people affected by human and natural disasters and other threats to their well-being. Zamzam implements programs across the country focusing on nine thematic areas; WASH, Food Security, Health and Nutrition, Economic Development, Social Services, Sustainable livelihood, Peace building and Governance, Education, Women and Girls Empowerment. Their programs are focused on serving children, adolescent boys and girls, women, persons with special needs, and other marginalized groups and internally displaced persons (IDPs). The sectors they work in are humanitarian relief, health care, education, orphan and childcare, economic development and sustainable livelihood, water and sanitation as well as peace-building and governance. Zamzam foundation is a member of various international humanitarian consortiums and networks and has consultative status with the Organization of Islamic Cooperation (OIC)'s Office for the Coordination of Humanitarian Action. Zamzam has more 500 staffs across Somali regions,



including 63 in the head office, with senior management team, core program staffs, technical specialists in various sectors, MEAL specialists, finance, HR and supply chain core staffs, regional managers, field staff, Health facilities medical staffs and community workers. In addition to paid staff, Zamzam attracts many volunteers and a cohort of apprentices and interns who go on to become either Zamzam staffs or community leaders in diverse areas of society.

In Zamzam, its organizational structure consists of Board of Trustees, External Auditor, Chairman, Secretary General, Director General, Deputy Director General (M&E, External relations and communications, Finance, HR and Amin), Assistant Director for Programs, Assistant Director for Education and Social development (Zamzam Foundation report, 2019).

Zamzam struggles to address persisting public health problems such as high mortality rate of young children, lack of access to clean water, malnutrition and food insecurity, WASH and Health & Nutrition programs. The M&E system at Zamzam almost focuses on providing the stakeholders with information on the extent to which the project is meeting its objectives. In addition, Zamzam focuses on building transparency and accountability on the use of the project resources. Moreover, decision making and future project planning are being implemented which is improved when guided by lessons learned from project experience (WHO, 2020). Additionally, M&E system is being considered and among different regional levels as an excellent tool to improve organization and government performance, due to its decision-making guidance functions. However, one shortcoming of the M&E system is that there are no set standards for measuring its quality, because Zamzam experiences low data quality, incomplete reporting, inadequate resources, weak institutional capacity, lack of baseline surveys, and lack of data dissemination and use (Ministry of health and Human services Federal Government of Somalia , 2021).

This study was carried out in Zamzam Foundation, because it is one of the biggest NGOs that provides 50% services in the country. Zamzam programs are disaggregated within districts and regions across the country. In this study, a case study research design was used to assess a challenge that could be affecting programs, organizations and government. Specifically, the study assessed how monitoring data related practices influence the use -of data for decision making at Zamzam Foundation.

## **2.0 CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter reviews literature from different scholars and researchers who have studied assessing the influence of monitoring practices on data use in decision-making in different organizations. The chapter aimed at understanding views of other researchers assessing gaps in their studies upon which this study was built.

### **2.2 Models of decision-making**

According to relevant literature of how and why data-related practices inform organizational decisions, rational model can be used to demonstrate concepts and understanding of decision making among organizations.

#### **2.2.1 Rational model of organizational decision-making**

Making good decisions consistently involves choosing options that have the best chance of leading to intended outcomes (Beccia *et al.*, 2022). While using your intuition may help, applying a rational decision-making model can be more effective. The rational model of decision-making uses logical steps to select the best possible solution and improve the ability to choose between alternatives at work. It involves analyzing multiple alternatives and using credible data or facts to choose among options (Lee, 2004). Rational decision-making is a precise and clear process that many different people use when they have time to research solutions and discuss possible outcomes. It is used to maximize the benefits and minimize the costs of decisions by being objective.

It is argued that the following are the steps to use the rational decision-making model at work :(

- 1) Identifying the problem and issue and understanding why making a decision is important.
- 2) Determine relevant information related to your goal or challenge.
- 3) Ranking decision criteria based on factors that are more important to decision-making. To complete this stage, analytical and critical thinking skills are typically needed.
- 4) Creating a list of options and ordering them.
- 5) Taking enough time to evaluate options and how they can affect the success is important to choose the best option and finalize the decision (Bergert, 2007)

## **2.3 Monitoring practices (data collection, processing and dissemination)**

Routine Program monitoring is defined as the periodic supervision of activities and interventions in progress to ensure they are on course and on-schedule in meeting the desired results, objectives and performance targets (Guenther *et al.*, 2014a). According to (Chabikuli *et al.*, 2009b) routine program monitoring generally means “to be aware of the state of a system, to observe a situation for any changes which may occur over time, using a monitor or measuring device of some sort.”

### **2.3.1 Data collection**

It is a crucial process of organizational basic support system that gives valuable information on the continuous operations of the organization and on relevant program issues for the management, particularly the program development officers to make accurate and timely decisions (Roberton *et al.*, 2016). Normally, program managers, and M&E officers do carry out data collection activities as part of their overall work and from time to time evaluate their operations. Such reports make the basis for further review and research into specific areas by the M&E section and personnel. By synthesizing and collecting information, the M&E section is expected to come up with analysis and conclusions for use in planning and quality decision-making by the organization and institution (Carlier *et al.*, 2012a). In monitoring and evaluating programs, data collection is used to collect health improvement, social and behavior change programs data to understand whether an intervention or activity is having its intended impact (Guenther *et al.*, 2014b).

A solid Health Information System (HIS) is an essential component of every health-care system and health improvement program. Its role is to support evidence-based decision-making at all levels of the health pyramid, particularly at the time of collection, rather than just routinely collecting health service data and dutifully conveying it to higher levels (Chabikuliet *et al.*, 2009). The fundamental rationale is population health improvement, and it was specifically created to aid in the management and planning of health programs and care delivery. Data are inputs that systems use to generate information. They are basic facts that describe people, places, things, or events that have happened or are about to happen, and they can take numerous forms, such as numbers, words, and symbols. Demographic, health service, and health status data are

the three basic forms of routine data. The data provided is designed to characterize and assist a wide range of health-care operations, including service delivery, disease control, intervention planning and management, and morbidity and service coverage performance trends (World Health Organization, 2000).

According to (Beccia *et al.*, 2022) Routine public health program monitoring is the regular collecting of data on key components of health intervention and their determinants in the population or in samples of the population, with the goal of informing the public health policy process. According to (Obare, Brolan and Hill, 2014) at all levels of the health system, regular health information is critical for operational and strategic decision-making. Health-care investment is contingent on an effective and dependable Health Information Management System (HMIS). With growing investment in disease prevention programs in Tanzania, a solid health information system to assist decision-making at all levels was needed. Improved Health Information Management System (HMIS) is expected to improve evidence-based decision-making and policy-making, resulting in increased accountability and efficacy at all levels of the health system. The Global Summit on Measurement and Accountability for Health has called for action for all countries to have health information flows involving the use of data locally to improve the effectiveness of disease programs in an effort to promote information utilization and evidence-based decision-making (World Bank, 2015).

It should be highlighted that data for public health program monitoring are frequently obtained from existing sources, such as illness registries, health care registries, hospital discharge registries, and administrative sources by effective methods of data collection.

### **2.3.2 Data processing and dissemination.**

Data processing is a huge process which includes validation, classification, sorting, calculation, organization, and transformation of data. Data visualization is the simple example of data processing, where data undergoes a series of conversion operations, such as editing, coding, classifying, tabulating, charting, and diagramming program data (Nyamambi, 2021).

The process of transferring data amongst users is known as data dissemination. Data dissemination in health programs covers the release of generic data as well as data from the

patient's medical record. Advances in information and communication technology have made worldwide dissemination of information and knowledge simple, and data is now available to many consumers as soon as it is created. More crucially, consumers' information needs have gotten more demanding, necessitating high-quality data for the generation of new information or knowledge (Mackay, 2007).

According to Rural Health Information (2022), after the distribution purpose and audience are established, there are several ways to communicate the created material. Regular and continuing communication with program partners and community people within the service area can help with message distribution. Common methods of dissemination include publishing program or policy briefs, publishing project findings in national journals and statewide publications, presenting at national conferences and meetings of professional associations. Disseminating information on an organization's website, discussing project activities on the local radio, publishing information in the local newspaper, issuing a press release, and hosting health promotion events at health fairs and school functions among others are also used to disseminate data.

According to (Hardlife & Zhou, 2013), data processing and dissemination are critical components of a well-functioning health care program for planning and evaluating the progress of disease intervention programs. Health Management Information Systems (HMIS) have been built in several low- and middle-income nations to improve regular health facility-based data management. The HMIS is supposed to quantify the quantity of disease morbidity and death in populations, track changes over time, and detect and so permit timely reaction to any anomalous trends. In general, data use in all healthcare systems is poor in many Sub-Saharan African nations (Kihuba et al, 2014, Mucee et al, 2016 & Muhindo et al, 2016). According to the available research, despite some remarkable accomplishments, the influence of HMIS on decision-making processes in African health systems remains limited [Muhindo et al, 2016]. Several impediments have been identified that are preventing the Health Management Information Systems (HMIS) from reaching its full potential in Africa. Institutional, technological, human, and logistical capacity are recognized variables that permit or obstruct the successful adoption and utilization of Health Management Information Systems (HMIS) data (Endriyas, 2019). It has been reported that though the Health Management Information Systems

(HMIS) offers opportunities to inform health decision-making at all levels of the health systems, its true utility is realized only when it enables for the translation of produced data into meaningful information and knowledge for action.

Monitoring and evaluation (M&E) are at the center of sound governance arrangements globally, regionally, nationally and locally as well. They are necessary for the achievement of evidence-based policymaking, budget decisions, management, and accountability. However, there is limited focus on processing and dissemination of M&E data. Leonard et al. (2021) investigated data use and factors impacting the performance of Tanzania's health management information system at the district and primary health care institution levels. This cross-sectional study in Tanzania included 115 health care facilities from 11 districts. A semi-structured questionnaire was delivered to health workers at the facility and district levels, and data were collected and documented using an observational checklist. To extract crucial information, a thematic content analysis approach was employed to synthesise and triangulate the responses and observations. 93 healthcare facility employees and 13 district authorities were questioned. Approximately two-thirds (60%) of facility respondents acknowledged using HMIS data, whereas only five out of 13 district respondents (38.5%) reported consistently examining HMIS data. The HMIS data were mainly used for comparing performance in terms of services coverage (53%), monitoring of disease trends over time (50%), and providing evidence for community health education and promotion programs (55%). The majority (41.4%) of the facility's personnel had not received any training on data management related to Health Management Information Systems (HMIS) during the past 12 months prior to the survey. Less than half (42%) of the health facilities had received supervisory visits from the district office 3 months before this assessment. Nine district respondents (69.2%) reported systematically receiving feedback on the quality of their reports monthly and quarterly from higher authorities. Patient load was described to affect staff performance on data collection and management frequently. It was concluded that inadequate data processing and poor dissemination data practices were common in most districts and health facilities in Tanzania. Inadequate human and financial resources, lack of incentives and supervision, and lack of standard operating procedures on data management were the significant challenges affecting the HMIS performance in Tanzania (Leonard et al, 2021)

## **2.4. Decision making processes and structures in organizational settings**

In this section, decision making process and structure were described.

### **2.4.1 Decision-making process**

What do we know about decision-making? Decision-making is part of everyone's life and all of us have to make decisions every moment. Right from choosing what to wear to what to eat to where we live and work and extending to whom we marry, decisions are an integral part of our lives(Shapira, 2002). Organizational decision making is the process by which one or more organizational units make a decision on behalf of the organization(Shahid, Rappon and Berta, 2019).In an organizational context, it is worthwhile to note that decision making needs the right kind of information, the complete information and the ability to synthesize and make sense of the information(Abubakaret *al.*, 2019a).When consulting the literature about decision-making, one will quickly notice how often this action is taken as a process(Gigerenzer and Gaissmaier, 2011). Decision making process in organizational settings is “the process of making choices, especially important choices”(Abdi, 2020)). This definition is correct, but not accurate enough. It is less detailed as it is not coming out from a specialized and organizational business-oriented literature. According to Abdi's 2020 definition for decision making in order to help the program stakeholders decision-making is the process of making choices by identifying a decision, gathering program information, and assessing alternative solutions. This part of definition may describe the steps leading to making a decision. In organizational management, a lot of time is wasted thinking about decisions to make. However, it cannot be taken abruptly, so choices have to be made according to a certain process(LeBoeuf and Shafir, 2005). Decision-making is one of the most important aspects of the business, but the process of arriving at a decision must be precise, so that it will yield the best results. To ensure that decision-making is uniform throughout your organization, you should implement a process that everyone can follow.

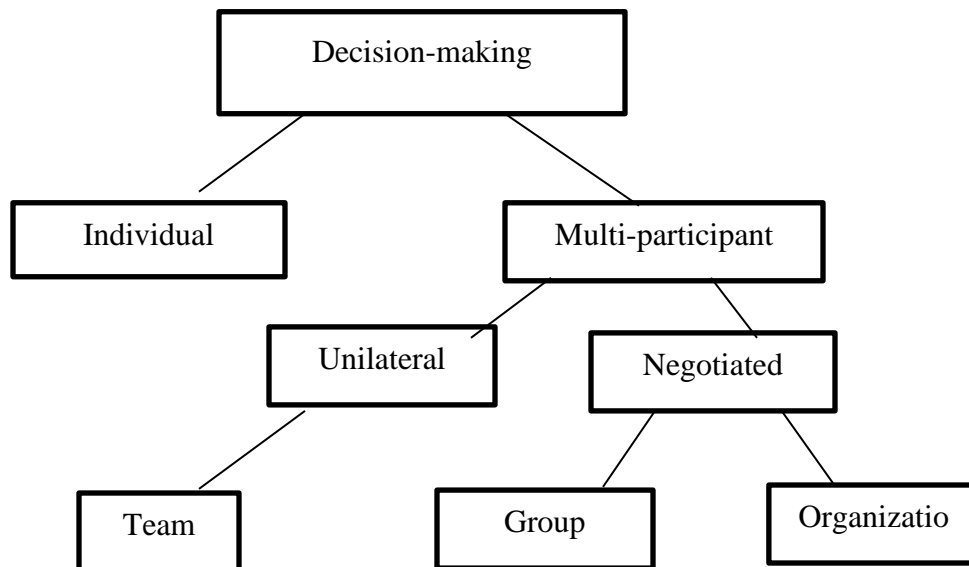
- 1) Define the problem to understand the decision you have to make
- 2) Collect relevant information and data
- 3) Identify all potential alternatives and use of constructs if needed
- 4) Weigh the impact of each decision and try to picture out their outcome
- 5) Choose among the alternatives, the one that seems to be the best for you
- 6) Take action
- 7) Review and evaluate the impact of your decision.

Decision-making process in organizational settings is done by professionals to improve, make an organization more efficient, or make it better than it previously was (Juneja and Grover, 2013).

## 2.4 2 Decision making structure

Structured decision making is an organized approach to identifying and evaluating creative options and making choices in complex decision situations. (Gregory *et al.*, 2012) define structured decision making as ‘the collaborative and facilitated application of multiple objective decision-making and group-deliberation methods. It is designed to deliver insight to decision makers about how well their program objectives may be satisfied by potential alternative courses of action. It is a very general approach to decision support, which can conceivably be applied to any environmental decision problem at any scale and any level of social and institutional complexity(Gregory, Ngo and Miller, 2020).

(Binder *et al.*, 2018) argued that the most useful decision-making structure and more efficient approach to the decision-making process which should lead to clear lines of reporting and accountability, a reduction in time taken to reach business-critical decisions, and higher quality outcomes is the structure that was developed in 2009 by Dartmouth University. The structure shows the importance of stakeholder participation to reach consensus decisions.



*Figure 1: Decision-making structure developed by Dartmouth University*



According to W.H.O standards, Group decision-making structure is thought to lead to better; more accurate decisions and ideas that have both theoretical and empirical support. Different individuals may have different ideas through which they interpret information and options. Combining those interpretations through discussion, followed by consensus forming or voting, effectively allows a group to base its decisions on a set of concerns, information and judgments that is much larger than would be available to an individual decision making (Hendiani, Mahmoudi and Liao, 2020).

## **2.5 Types of organizational decisions**

The act of decision-making appears in our work, as a fact of our life(Luoma, 2016). Decision making implies the choices which are made in respect of the issues such as wages, processes, activities of markets, voting for a party and betting in which a discipline like politics, psychology, system analysis work and especially economy(Caponecchia, Branch and Murray, 2020). It is believed that decision-making is also one of the important and crucial part in the organization operations. Beginning from the planning up to the control process in all organization functions, decision-making are used certainly(Gregory *et al.*, 2012). The organizational planning is an act of decision-making and therefore, the act of decision-making composes the basis of management. The activities of decision-making, which are the indicator of the achievement of the manager, solving the problems occurred, the hit rate of decisions which the manager has made, indicate the organizational achievement. Staying undecided or making incoherent decisions could result in organizational failure (Hendiani, Mahmoudi and Liao, 2020).However, decisions that are unique and important require conscious thinking, information gathering, and careful consideration of alternatives. To complement that, decision making can also be classified into three categories based on the level at which they occur. Strategic decisions set the course of organization. Tactical decisions are decisions about how things will be done. Finally, operational decisions are decisions that employees make each day to run the organization(Gregory *et al.*, 2012).

### **2.5.1 Strategic decisions:**

Long term and complex decisions usually made by senior management(LeBoeuf and Shafir, 2005). They include the strategic foundations of an organization including vision, mission, goals

and strategies. New and continuing environmental demands and competitive forces require healthcare organizations to be increasingly careful in thinking about their strategies (Nutt, 2000). According to WHO, strategic decision making is used in competitive organizations and is intended to give an organization competitive advantage by transitioning its scope and the way the organization runs its activities and identifying the best way to achieve goals and objectives (WHO, 2020).

### **2.5.2 Tactical decisions:**

Health managers in secondary healthcare require certain types of information to make timely evidence-based decisions. Tactical decision making focuses on medium range, and many of these decisions are concerned with the timely and efficient procurement, allocation, and distribution of resources (such as funds, supplies, volunteers) through a supply chain(Shapira, 2002). Decisions in tactical management address short- and medium-range plans, schedules, and budgets. They also specify policies, procedures, and business objectives for the subunits of an organization(Luoma, 2016). Furthermore, resource allocation and the assessing of the performance of organizational subunits, including departments, divisions, process teams, project teams, and other workgroups, are aspects of tactical decision making. For example, tactical decision making in a preoperative unit might include decisions on hiring more staff to extend hours, expanding the operating room capacity, purchasing capital equipment, increasing block time to a surgical group, and building a freestanding facility(Abubakaret al., 2019b). Middle managers mainly make tactical decisions, and these managers use information from various sources to make their decisions.

### **2.5.3 Operational decisions:**

Operational decisions express daily made at the frontline, by lower-level employees and junior staff but are at the core of the business. They are mostly processes, procedures and guides set up by the company to help employees. It is said that the operational decision influences day-to-day activities and only has a short-term impact on an organization. (Schwenk, n.d). Scheduling employees or equipment use, what products to purchase from suppliers, executing a billing calculation for a patient, and determining how much inventory to keep are some of the examples of operational decisions. Operational objectives are under continuous revision in today's organizations(Abubakaret al., 2019b). The management attempts to achieve the strategic goals

through operational objectives and constraints, but the responses to these objectives and constraints are often complex. Thus, it is the key duty of the management to continuously assess the performance with respect to strategic objectives and to tune the operational objectives accordingly. In conjunction with tuning objectives, the management often chooses to tune the operational organization as well, which means regrouping operational tasks into new job responsibilities and reallocating personnel to job positions. Hence the environment of operational decision making is highly dynamic and any system support must be able to quickly adapt to changes in goals, objectives and organizations(Gigerenzer and Gaissmaier, 2011).

## **2.6 Factors influencing the use of M&E data for decision making**

Decision-making occurs at all levels of a project and among all of a program's stakeholders. Because of this, stakeholders need information differently to be able to make informed decisions. It is important to engage stakeholders in discussions from the beginning of your program to fully understand all the decisions they make and what information they will need to make those decisions. For that reason, regular monitoring practices (data collection, processing and dissemination) facilitates use of data for effective decisions(Rehle et al., 2004). Effective supervision can help to identify areas for data management in order to achieve better results. By consistently tracking progress through collecting, analyzing and disseminating data on time against defined objectives and implementing corrective actions when needed, an organization can ensure that it is maximizing their benefits (Stecker et al., 2008). In addition, regularly checking data processing and staff performance for data management as well as accountability allow organizations to make corrections as needed in order to keep projects on track and use data for decision making. Complete and valid data provide decision makers with detailed insights into how well their organization is performing. By analyzing and disseminating data over time, strengths and weaknesses in the organization are identified, tracking progress against objectives and ensuring that resources are used efficiently. Ultimately, this may help the managers to create better strategies and decisions to maximize the benefits of their organization, as well as identify areas for improvement (Zonta et al., 2014).

Existing M&E capacity and data quality stated as factors that influence the use of monitoring and evaluation data for decision making. The M&E data cannot function without skilled people who effectively implement the monitoring and evaluation tasks for which they are responsible(Carlier *et al.*, 2012b). Therefore, having the knowledge and skills needed and the

capacity of people involved in the monitoring and evaluation tasks, undertaking human capacity assessments and addressing human M&E capacity gaps are the heart of the M&E system in the organization (Micah and Luketero, 2017). Additionally, M&E capacity building should focus not only on the technical aspects of M&E, but also address skills in leadership, financial management, supervision, facilitation communication and advocacy. Availability of a manpower that is skillful in M&E data-related practices is crucial for performance and sustainability of M&E System(Kusek, 2010b). On the other hand, Most projects are faced with data quality challenges making it extremely difficult to take decisions on project implementation (Shankaranarayanan and Cai, 2006). (Kabonga, 2018)discussed that the quality M&E data should offer comprehensive and relevant information that will support utilization of data to decision-making.

While monitoring and evaluation is concerned with the continuous gathering of project information on activities regarding process and the utilization of project resources; materials, human and financial, the quality of the data on the project must be sufficient, complete, reliable, accurate, valid and acceptable (Mapitsa and Khumalo, 2018). Data collected should serve the purposes for which it was gathered. The quality of project data cannot be overemphasized for resource planning and interventions to prevent re-work therefore its importance quality of monitoring and evaluation data to decision making (Olay-Romero *et al.*, 2020). (Mulandi , 2017) argued that the quality of the M&E data is significant for the use data to decision making such as program review, developing proposals and accountability to stakeholders in non-governmental organizations in Kenya (Mulandi and Kisaka, 2017). In achieving data quality, therefore requires automation of the M&E process and the utilization of information technology systems. Capacity development is also important to influence the quality of data collected.

### **2.6. 1 Other Factors (beyond monitoring practices) that influence use of M&E data in decision-making.**

In order to develop a comprehensive view of the decision-making process, the main influencing factors are categorized into two broad factors: macro political issues and resources. These represent the forces that influence the decision-making environment around program planning beyond data monitoring practices.

## **Macro political issues**

This category falls under those issues that (Walt and Gilson , 2010) would refer to as “Context and Process”. These are the larger, systemic factors that may affect every piece of the decision-making puzzle. Here macro political factors have been grouped into five sub-categories: policy environment, organizational behavior, decision-making power, local capacity and communications (Janssen et al., 2017). Policy environment, the social, economic and political context that surrounds decisions made by government administrators is one fraught with challenges. Policy and program decisions have to be made, usually with limited time, in an environment with multiple viewpoints on any given issue and with multiple actors whose support may be necessary for success (Shen and Cooley, 2008). This environment and the power that different actors wield can have a significant impact on how data are used for programmatic decisions and whether some information is weighed more than others.

## **Resources**

The second category of factors that influences surveillance data utilization is resources. The availability of resources is a continual source of concern in the public health field, in particular when investing in prevention. It is widely acknowledged that there is a constant insufficiency of resources to meet the goals and objectives of almost all of the public health policies and programs that have been shown to be effective, or cost effective worldwide (Sitkin and Weingart, 1995). Nevertheless, it is important to identify resources as both a separate and distinct influence on the decision-making process as well as an indirect channel for organizational and/or political leadership to communicate their commitment to a program. It should be expected that resource constraints can have serious, deleterious effects on the effectiveness of community health prevention programming (Sutton and D’Aunno, 1989). Resource constraints affect programs not only in the implementation stage by limiting the activities that are possible, but also in the planning stage by restricting the financial, human, technological and material resources that can be directed towards initiating new programs or improving existing ones (Sutton and D’Aunno, 1989).

## **2.7 Conclusion and Gaps in the literature**

(Abubakaret *al.*, 2019b) noted that an effective M&E system has yet to reach acceptable level of operation. This level depends on developed technical skills among the M&E specialists. Training

and experience are fundamental factors in the production of M&E results. Routine monitoring is another important factor in the production of M&E results, however; in this literature, it is not clearly identified that the importance of organizational culture and structure for routine monitoring data-related practices to inform effective decisions (Callistus, 2021). Therefore, NGOs need to be educated on M&E systems in order to identify information needed, stakeholders, and the cost involved. There is also a need to set up a national association of stakeholders and a database for M&E reports to aid and access in the development of technical skills among the M&E specialists. It is needed to develop appropriate tools, such as M&E plan, indicators, and logical framework; hence resulting to standard monitoring and evaluation system that meet the stakeholder's needs.

### **3.0 CHAPTER THREE: STATEMENT OF THE PROBLEM, JUSTIFICATION AND CONCEPTUAL FRAMEWORK**

#### **3.1 Statement of the problem**

A routine health monitoring system is critical to all NGOs' focused on health-related issues for making operational, tactical, and strategic decisions. It is critical to disseminate and use information effectively at all levels of the health programs through effective data analysis, interpretation, and usage. However, Zamzam Foundation, a health NGO, that provides the majority of health services into the Somalia (Zamzam Foundation report, 2019) experiences difficulties in coming up with workable decisions of leveraging routine monitoring data to intensively address public health problems (lack of access to clean water, sanitation and malnutrition) in Somalia. These concerns have been attributed to M&E-related issues surrounding data quality, lack of baseline surveys, incomplete reports, poor data quality (incompleteness and incorrectness), inadequate resources for routine monitoring, and improper ways to disseminate and use data (Ministry of health and Human services Federal Government of Somalia , 2021). The organization reportedly just provides routine health data without proper utilization and feedback.

Routine monitoring practices are important to inform organizational decisions. In Somalia, health care providers and managers at lower levels of the health care system have a limited knowledge of the benefits of routine information in their decision making (Directorate of National Statistics, Federal Government of Somalia , 2020) Findings from Africa also indicate that routine health information utilization remains low (TadesseBoltenaet *al.*, 2022) at 42% in Tanzania, 59% in Kenya, 58% in Liberia, and 65% in South Africa (Eshetu, 2018). The situation is far worse in Somalia where just 11.3% of health stakeholders reported to use routine information for planning, management of health commodities, detecting outbreaks, and monitoring the performance of the health system (Nir, 2017). Likewise, there are no set standards for measuring its quality of information generate from routine monitoring systems (Directorate of National Statistics, Federal Government of Somalia , 2020).

There is insufficient evidence to clearly explain the influence of routine monitoring practices on data use to inform decisions in Zamzam Foundation. Limited use of performance evidence may

be detrimental to the quality of decisions made by Zamzam regarding their strategic, tactical and operational interventions in Somalia. The study therefore investigated this gap to help the organization to understand their problems related to the generation, processing, dissemination and use of routine monitoring data and inform corrective actions.

### **3.2 Justification of the of study**

The study is expected To offer evidence and information about routine monitoring data-related practices and use for M&E strengthening in health programs.

The study showed how routine monitoring data-related practices can be used as a powerful management tool in providing evidence-based health improvement.

Although this study looked at routine monitoring data-related practices in health programs within Zamzam foundation, it is also relevant in other NGOs and government where M&E systems are to be implemented.

Organizations and government may use the study findings to provide a clear understanding of how the collected, processed and disseminated data inform organizational decisions.

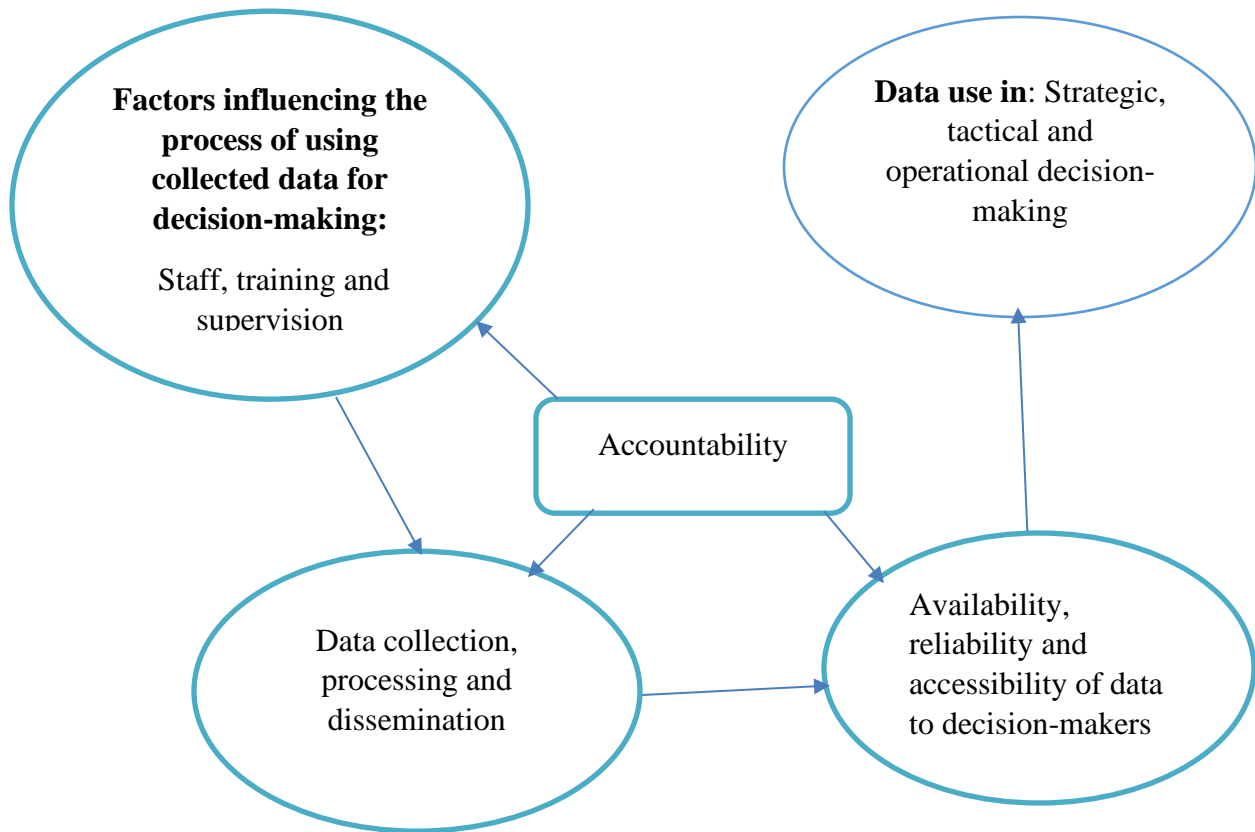
The study may also benefit researchers and M&E practitioners who may use its findings as a reference and to enrich M&E literature.



### 3.3 Conceptual framework

Independent variable

Dependent variable



Source: Adopted from (Hailey, 2014) and modified based on organizational decision-making.

#### Narrative

The conceptual framework above shows the factors that influence the process of using collected data for decision making are staff, training and supervision. As data grows more complex and voluminous, it becomes increasingly important for staffs to manage and process data effectively (Lai, 2013). That is why it should be considered training the staffs in data management. Trained personnel practice monitoring data throughout collecting, processing and dissemination data appropriately to use data for decision making. Without a skilled data management team, an organization can find itself with low-quality data that effect strategic planning, business operations and reporting, as well as to inform decision making. Data processing and management are normally supervised by a professional staff members who provide the incumbent with regular

guidance and support in terms of validity, completeness and timeliness of data. So that at the end, program managers are able to deliver decision-makers effective data to use organizational decision-making.

The framework is derived from the (Hailey, 2014)'s conceptual framework which highlights data, data use, and data collection process, as the three dimensions of data quality and need to be assessed for overall data quality to identify how data quality assessment is essential for research and practice in public health. However; the researcher modified the framework to identify how the collected data are practiced and assessed to use organizational decision-making.

## **4.0 CHAPTER FOUR: RESEARCH QUESTIONS AND OBJECTIVES**

### **4.1 Research questions**

1) How are the monitoring practices (data collection, processing and dissemination) implemented for selected programs at Zamzam foundation?

1) What are the decision-making processes and structures at Zamzam foundation?

3) How do monitoring practices influence data use in decision-making at Zamzam foundation?

### **4.2 General Objectives**

The General objective of the study was:

To assess the influence of monitoring practices on M&E data use in decision-making at Zamzam Foundation (health NGO) in Somalia.

### **4.3 Specific Objectives**

Specific objectives of the study were

1: To assess how monitoring practices (data collection, processing and dissemination) are implemented for selected programs at Zamzam foundation.

2: To determine the various decision-making processes and structures at Zamzam foundation.

3: To find out how monitoring practices (data collection, processing and dissemination) influence data use in decision-making at Zamzam foundation.

## **5.0 CHAPTER FIVE: METHODOLOGY**

### **5.1. Study area**

This study was conducted in ZAMZAM foundation, a Non-Governmental Organization (NGO) in Somalia. The NGO was founded in 1992 to help the most vulnerable people affected by recurrent human conflicts and natural disasters. ZAMZAM foundation is located in Mogadishu, Somalia. The NGO is involved in activities such as opening wells, providing food aid, performing surgical camps and constructing health facilities. They are working to improve the lives and dignity of the Somali through provision of water, health, education and emergency relief.

### **5.2 Study design**

A case study design is a qualitative design that is used to capture the complexity of a situation, including temporal changes, as well as explore the contextual conditions of the situation (Yin, 2014) . However; the researcher used a case study design to find out the problem in depth and gain the knowledge needed to not only understand the complexity of the situation, but also to feel comfortable using it and learn more about what has worked well, what has not, and what you might want to change in the future.

### **5.3 Study population**

The population in this study constituted the project staffs from WASH and Nutrition programs undertaken by Zamzam Foundation organization. However; the target populations were monitoring and evaluation managers, monitoring and evaluation officers, program managers and data managers.

### **5.4 Sample size**

Sample size determination in qualitative research involves ensuring theoretical saturation where the researcher continues with data collection until clear patterns emerge and subsequent groups produce only similar information (Krueger, 1994). With this study involving a component of qualitative data to assess the influence of monitoring practices on data use in decision-making at

Zamzam Foundation, the respondents were interviewed and continued interviewing until saturation was attained.

## **5.5 Sampling procedure**

In qualitative data, WASH, and Nutrition programs in this study were purposively selected due to feasibility of M&E data to inform decisions because they take the biggest budget in the organization. The program managers, M&E managers, M&E officers and data managers were purposively selected for the study to provide respondents to the key informant's interview protocol. The identified respondents are deemed to have knowledge on the routine monitoring and M&E data related practices of their respective program and thus would give evidence-based information. Data collection was based on WASH and Nutrition Programs.

## **5.6 Data collection methods**

Qualitative method was applied to collect primary data.

### **5.6.1 Qualitative data collection tool**

Key informant interviews are qualitative in-depth interviews with people who know what is going on in the community (Marshall, 1996). In this study, key informant interview guide was conducted after obtaining official organizational consent and individual written consent. The guide was prepared based on the study objectives as described in Annex 1 for participants who had specified roles in the implementation of WASH and Nutrition programs, and included questions on the kind of information different participants required to do well, their understanding of data management practices, their role at the different stages of data collection, processing and dissemination, as well how the data are used for decision making. Their opinions on the practice data in Zamzam were interrogated. Key informants interview included; the program managers, M&E data managers, program managers, and as well as M&E Officers for their role in collection and leading the utilization of M&E data.

**However**, in addition to using key informants interview guide for data collection, Zamzam documents were reviewed to understand processes of decision-making at Zamzam foundation.

In document review, Zamzam documents were manually reviewed. The researcher has gone through the documents to find out the relevant information that identify how Zamzam decisions are processed before they make decisions for existing problems in the community. The reviewed documents include reports from Zamzam and minutes. These are some documents were reviewed. <https://zamzamsom.org/wp-content/uploads/2020/04/ZamZam-2019-Report-copy.pdf>.

<https://zamzamsom.org/wp-content/uploads/2020/04/ZamZam-Company-Profile-copy.pdf>

After data collection, the data was manually analyzed using thematic approach.

## **5.7 Data management and analysis**

### **5.7.1 Data management**

After data collection, Digital recordings from audio recorders and field notes written during data collection were transcribed verbatim on a daily basis using Microsoft word 2010 with recordings and transcripts being stored securely on a password-protected computer.

### **5.7.2 Data analysis**

The thematic analysis approach was conducted for qualitative data guided by the constructs from the research questions and objectives. Qualitative data from the tape-recorded and field notes in-depth interviews were transcribed. Due to the predominantly qualitative nature of the data collected via interviews, a thematic analysis was carried out along the major themes of the study as represented in the objectives within each stage. Pre-determined codes for the data were defined in a codebook, and the transcribed data was manually categorized according to the codes. Emergent themes arising from this categorization were deduced.

Comparisons were made between data from the WASH and Nutrition programs. This helped the researcher to purposefully generate an understanding of how the programme staff understands how routine monitoring-data practices inform decision making within ZAMZAM foundation.

**Table 1: Summary of the objectives and the corresponding research approaches**

<b>Objectives</b>	<b>Research Approach</b>	<b>Method of data collection</b>	<b>Data Sources</b>	<b>Analysis plan</b>
To explore how monitoring practices (data collection, processing and dissemination) are implemented for selected programs at Zamzam foundation	Qualitative	Key informants' interview	Primary data from Zamzam staff.	Thematic and cross comparative analysis.
To explore the various decision-making processes and structures at Zamzam foundation.	Qualitative	Key informants' interview and document review	Primary data from Zamzam Foundation staff	Thematic and cross comparative analysis.
To examine how and why monitoring practices (data collection, processing and dissemination) influence data use in decision-making at Zamzam foundation	Qualitative	Key informants' interview	Primary data from Zamzam Foundation staff	Thematic and cross comparative analysis.

The researcher used different methods for data collection (KII and document review) at the same programs to ensure triangulation and validity of data.

### **5.8 Quality assurance in qualitative research**

In this study, two research assistants who had prior experience in qualitative data were recruited and trained regarding the data collection techniques to permit uniformity and also maintain consistency alongside minimization of interview bias. Transcription was done professionally by the researcher as well as the interpretation of the transcribed qualitative data. A pre-test was

undertaken among 2 health organizations from the country where the data practices are also being implemented. The feedback guided refining alongside removing ambiguous questions to ensure the validity of the tools.

### **5.9 Ethical consideration**

Ethical approval to conduct the study was obtained from Makerere University, School of Public Health Higher Degrees Research and Ethics Committee (HDREC). Administrative authorization to access the data was requested for from ZAMZAM foundation organization director and program manager. Participants signed informed consent forms prior to their engagement for the study. Participants were informed of their right to withdraw or not to answer questions without restrictions as well as their roles, risks and benefits involved in the study. Confidentiality in the study was maintained by the use of questionnaire numbers and no names of respondents on these questionnaires and all responses from the participant interviewed will be kept with confidentiality.

### **5.10 Study Limitations**

This study was affected by the following:

Although Zamzam implements several programs, WASH and Nutrition programs were purposively selected, so that the study was based on WASH and Nutrition programs, therefore, the findings cannot be generalized to all programs in the organization, In addition, the participants of this study were purposively selected, the findings may be affected by the characteristics of the informants.

Time consuming: The researcher was expecting to collect the data for a few days because of limited resource (money), however, the informants were not available at the sometime.

The subjective nature of qualitative studies may cause importance to be focused on some issues more than others. Also, some participants may put more emphasis on certain issues due to the nature of interview i.e. the direction of an interview is usually based on the responses that the participants provide. This way, some issues may be emphasized more than others. To minimize this, as some opinions as possible were included as findings in the results section to incorporate these deferent views.



## CHAPTER SIX: RESULTS

The study assessed the influence of monitoring practices on data use in decision-making in public health organizations in Zamzam foundation, Somalia. This chapter highlights the presentation, analysis and interpretation of the study findings. The presentation is done according to the study objectives.

### 6.1 Description of demographic attributes of study respondents

The study included stakeholders serving within the M&E systems for the two selected programs for WASH and nutrition as summarized in table 2 below.

**Table 2: Demographic Information of the Respondents**

a. Sex	8 males and 6 females
b. Age	27 to 45
c. Number of participants	Two (2) M&E managers, two (2) program managers, six (6) M&E officers, and five (4) data managers.
d. Role	Strategic direction of the organization such as coordinating, organizing, assisting and implementing program intervention.
e. Years at the organization	2-7 years
f. Years of professional experience	3-9 years

### 6.2 Description the implementation of monitoring practices (data collection, processing and dissemination processes) for the selected programs

#### a. Data collection practices

The Informants pointed out that the M&E department is responsible for data collection in both nutrition and WASH programs. They plan the process of data collection, they train M&E teams for data collection practices based on program indicators. For both programs, the M&E Unit was responsible for data collection. However, the frequency of data collection varied between the two programs. For WASH, data was collected monthly using ODK, while for Nutrition program, data

was collected daily and weekly using registers of Ministry of Health. The theme below is from the respondents:

*“HMIS team, M&E staff and health workers who were trained by the M&E department for data collection and any person who is assigned to collect data in the organization for example: CHW, Outreaches, and supervisors. They plan how to collect and process data, WASH program data are collected using ODK monthly and annually while nutrition data are collected daily and weekly using registers of Ministry of Health collection to improve community health; determine the cause of problems and request for funds.”*

The theme below also indicated that the collected data are used to make decisions such as accountability, proposal planning, budget allocation and program sustainability, and in terms of ensuring data quality, respondents indicated that each facility has its own supervisor who checks the completeness and validity of data.

*“It is actually used collected data to generate reports and make decisions such as accountability and planning budget proposals. Once you come to our facility, you can see supervisors (islaxisaabtan saxib) check the completeness and validity of data during data collection processes.”*

#### **b. Data processing practices**

Data managers especially data engineers, HIMS and M&E teams who were trained in data processing are responsible for the practice, they process the collected data and prepare for dissemination. The respondents also pointed out the process of data processing before dissemination. Excel sheets and SPSS are tools for data processing at Zamzam programs. The themes below are suggestions:

*“What we know is that the data processing is usually performed by a team of scientists and data engineers, HIMS and M&E teams. They filter, record, store, process data and prepare for analysis and interpretation before they report”*

Another one said

*“In data processing tools, the stakeholders prefer to use Excel sheets for the nutrition program, but SPSS is another tool for the WASH program because these tools are easy to use and stakeholders are interested in them.”(Participant- ZS08).*

### **c. Data dissemination practices**

In data dissemination practices, the findings indicated that the data visualization, communication and HIMS teams are responsible for data dissemination. The data are shared with the target audiences such as donors and other stakeholders who have direct involvement in the program implementation. As long as data managers don't set specific processes for data management, there is no rule that based on the needs of the audiences for data dissemination. In addition, the organization has not yet set rules and standards to fulfill data management obligations as the respondents stated.

In addition, power point presentations or word document are used for data dissemination while findings are shared on social media to engage the stakeholders as showed the themes below.

*Routine health facility data are collected, processed and reported on regular basis through the HIS. We have data visualization, evaluation and communication teams who share data with decision-makers. Findings are also disseminated to the different stakeholders, for example MOH, donors, community leaders and program managers for improvement of community health services, however; it is mandatory to share the findings with donors because they give us budgets.”*

This respondent stated that:

*“There is no rules and steps that based on the needs of the audiences for data dissemination at Zamzam. We just disseminate data. PowerPoint and Word documents are used to present the findings in front of the audiences for further information. Communication teams share data via emails, websites and radio at the end of every project. This way, we engage our stakeholders because we communicate how the program intervention has been implemented the whole year and its achievements.”(Participant ZS-02)*

### 6.3 Description of decision-making processes and structures in the organization

The participants were asked to describe the key decision-making aspects such as key decisions, decision makers, decision-making bodies, evidence needed and its frequency, how the current monitoring system provides evidence, what facilitates and constrains the use of monitoring data for respective decisions.

According to their jobs, the respondents described the key decisions making aspects using the table three for both programs.

Subsequent Tables3 and 4 are about how decisions are processed and structured in WASH program at Zamzam

*Table 3: Decision making processes in both programs*

<b>Key decisions</b>	<b>How current monitoring system provides evidence</b>	<b>What facilitates use of monitoring data for respective decisions</b>	<b>What constrains use of monitoring data for respective decisions</b>
<i>Accountability</i>	<i>Regular training for monitoring data practices.</i>	<i>Supportive supervision.</i>	<i>Ineffective supervision</i>
<i>Proposal development</i>	<i>Complete data based on evidence</i>	<i>Complete report-based evidence</i>	<i>Incomplete report “Khibrad yari (lack of experience for data management)” Participant ZS-10</i>

### 6.3.1 Verification of decision-making processes

In addition to using key informants' interview for data collection, documents were reviewed as a medium for verification of decision-making processes in the organization. . The theme below shows that the stakeholders try to clearly define the existing problems that are needed to be solved and look for solutions before the implantation.

*“They define existing problems, generate solutions and implement the selected actions”.*

**Table 4: Decision making structures in both programs**

<b>Decision makers</b>	<b>Decision making structures/bodies/platforms</b>	<b>Evidence needed</b>	<b>Frequency of evidence needs</b>
<i>Donors</i>	<i>Participatory approaches among donors</i>	<i>Budget impacts and treated patients' report.</i>	<i>At the end of every project.</i>
<i>MOH</i>	<i>Board of evaluation review</i>	<i>Patient data</i>	<i>At the end of every project.</i>
<i>Community leaders</i>	<i>Consensus and participatory approaches</i>	<i>Achieved results</i>	<i>At the end of every project.</i>
<i>Director</i>	<i>Individual-based decisions</i>	<i>Attendance and signature of the employee</i>	<i>Daily, weekly and monthly</i>
<i>Program manager</i>	<i>Participatory structure for decision making</i>	<i>Daily and weekly collected data.</i>	<i>Daily, weekly and monthly</i>

#### **6.4 Influences of monitoring practices and data use during decision making**

The theme below indicated that online systems like Kobo and ODK and collecting data on time enhance the use of data for decisions, while lack of effective supervision may lead to poor data collection, report incompleteness and unreliable data that effects decision-making. On the hand, lack of accountability constrains the use of data for decision-making as the respondents indicated.

*“Kobo collect and ODK are important for our program, we also collect data from the facility and report on time to the data analyst within regular supervision. But ..... Iyaa..... last year the reports were incomplete because we were collecting and reporting data very late and no one called us to ask about it. You don’t see regular supervision during data collection when the former M&E manager left the organization.”*

Data processing steps are followed to be able to disseminate complete and valid data and make effective decisions as the informants pointed out. However; Poor data management and incomplete reports are the barriers for making reliable decisions.

*“Before we process data, it is checked for completeness and validity, and thereafter we clean and sort data in a proper way to analyze and interpret it before dissemination. however; M&E managers sometimes see staffs who share incomplete reports, do you know why? It is limited skills for data management.”*

Disseminated reports must be based on evidence to get another contract as the respondents indicated, however; evidences such as budget impacts are needed for the program. But sometimes incomplete reports are shared due to lack of adequate knowledge for monitoring and evaluation data.

*“Communication teams always share data based on whether the budget is used for the intended activities, do you think budget impacts facilitate the use of data for decision making?, evidences which based on decision making like budget impacts are needed in our program”*

Another one said

*“Donors need to see our patient data as evidence but sometimes we don’t get another contract because the report is unreliable because of poor knowledge of data management”. “Participant ZS-05”*

Influences of other factors (beyond monitoring practices) and data use during decision-making.

The themes below showed that the insecurity and insufficient salaries for the staff are the other factors that influence the organizational decision making.

*There is no regular supervision in distant facilities. Supervisors fear for themselves to go there because of insecurity situation in the country, also our organization needs funds because the staff don’t earn enough money, they are suffering every day. ....kawran!..... inadequate salaries for the staff.”*

## **CHAPTER SEVEN: DISCUSSION**

Monitoring practices are being done in Zamzam under the WASH and nutrition programs. This study sought to assess the influence of monitoring practices on data use in decision-making at Zamzam organization, Somalia. The findings identified how the data is collected, processed and disseminated, how decision-making is structured and processed and influences of monitoring practices and data use during decision making. To discuss this, this chapter provides a summary of the findings, discusses the findings with respect to the objectives of the study to reflect on how monitoring data is practiced, the enablers and barriers to using monitoring data for decision making in comparison to other scholarly information.

### **Monitoring practices**

This study revealed that the monitoring and evaluation department is responsible for monitoring practices in terms of data collection, processing and dissemination to make organizational decisions in Zamzam programs. They plan and implement processes of data collection, processing and dissemination.

Data collection practices using MoH registers, Kobo and ODK to monitor and collect ongoing program data and track performance indicators under process of data collection were pointed out as critical factors in making decisions for the organization. On the frequency of data collection, daily, weekly, monthly and annually collecting data can be used to determine completeness and validity of data. Without such practices, there is a risk to program sustainability in the organization that may not have participated in meeting the targets for a particular program. The role of data collection practices in fostering accountability and decision making have widely been documented by (Becciaet *al.*, 2022), (Robertonet *al.*, 2016). They postulated that health data that are collected under data collection process within M&E plan improve community health and policy making for disease prevention. However, this is contrary to (Carlieret *al.*, 2012a) who indicated that the access to and usability of data in Africa are limited because their early efforts focused on collecting more data not better data. This is due to misaligned of enough budgets and incentives to encourage the production of accurate data.



This study revealed that using appropriate tools for data processing and dissemination followed by filtering, recording, storing, analysing and disseminating data is critical in Zamzam programs. These practices are critical in implementing WASH and nutrition programs since it helps the data managers to ascertain whether the collected data are analyzed properly and prepared for dissemination to provide the desired objectives (Hendiani, Mahmoudi and Liao, 2020). On the other hand, filtering and processing data ensure that the quality of data is assured. Without a plan and appropriate methods of data processing, disseminated reports are incomplete and the usable information are not clear for decision-making. Disseminated reports provide timely updates on progress and plans. Additionally, it enables M&E staff to be paid bonuses based on their level of effort and performance and fosters transparency which is central in WASH and nutrition programs [Muhindo et al, 2016]. In cases where this practice includes ways of stakeholders' satisfaction to disseminate data, it can provide an opportunity for the community to provide their feedback which would improve provider accountability and decision making (Leonard et al, 2021). The findings of the current study are similar to those reported by (Kihuba et al, 2014, Mucee et al, 2016 & Muhindo et al, 2016), in which the authors indicate that the data processing and dissemination practices are critical in preparing data for utilization and improving program effectiveness.

The general implication is that M&E teams have the lead on the monitoring practices and its implementation for data processes during program intervention. This is can help program managers, monitoring and evaluation managers and other organizational decision-makers to receive a quality data and use it to measure the progress, determine the impact of activities, identify issues that need to be addressed and ultimately ensure the success of the projects if M&E teams are trained well equipped data management skills.

### **Decision-making structures and data needs**

Donors, director, program managers, MOH and community leaders were considered decision makers with Zamzam during activities such as funding project, accountability, Proposal development and consultancies. This means that their decisions were based on evidences and decision-making structure that facilitate use of monitoring data for respective decisions.

This study reports that decision makers are met to discuss the different activities and interventions supported by the Zamzam programs. Key decisions such as budget allocation,

proposal development and accountability are important for setting project objectives and expectations and taking corrective action where need be. These decisions are based on evidences that help the different stakeholders report progress on specific indicators and assess how they are faring in achieving the WASH and nutrition set targets(Luoma, 2016). Lack of evidence in reported information makes it difficult to take corrective action. Supportive supervision was also reported to facilitate effective decision-making by checking and training on how data is completed and validated (Caponecchia, Branch and Murray, 2020). However; a number of factors constrain the use of data for decision making. These are ineffective supervision, incomplete reports and unclear information for decision making in Zamzam.

The findings of the study are similar to those reported by(Hendiani, Mahmoudi and Liao, 2020) and (Abubakaret *al.*, 2019b) because they postulated that the decision-making process is a series of steps taken by an individual to determine the best option or course of action to meet their needs. However, the findings are contrary to the observation of (Shapira, 2002) who postulated organizations in developing countries don't follow processes of decision making for emergency decisions, because organizational knowledge, experience, and skills contribute to emergency care personnel's professional capabilities in making organizational decisions. However, there is lack of enough resources in developing countries to closely follow the steps during emergency decisions.

The implication is that the structured decision-making process helps organizational decision-makers identify potential risks, forecast their potential impact on the organizational strategies, find alternatives and determine risk mitigation strategies. It also gives M&E managers a complete understanding of what they are tracking during intervention and assessing at the end of the intervention.

### **Influences of monitoring practices and data use during decision making**

A number of factors were pointed out as enablers and barriers to use of monitoring data in Zamzam decisions. Collecting data on time, using online data collection apps, following data processing steps and disseminating reports based on evidence facilitate the use of data for decisions while ineffective supervision, incomplete reports and poor data management constrain the use of data for decision making.

The study revealed that collecting data on time during program intervention optimizes the quality of work, helps to draw valuable insights, predict trends and make better decisions. In addition, using online apps such as Kobo and ODK is important for Zamzam programs to decrease errors during data collection. The findings are similar to those in studies by (Gregory, Ngo and Miller, 2020). They compared using online applications with traditional data collection tools. Online systems such as ODK constitute a saving because of re-usability of technology and reduced staffing time. Data can be synchronized to the server right after being collected, allowing real time analysis. Additionally, following the steps of data processing positively impacted the use of collected data for decisions because the data are converted into readable formats like graphs, charts and documents which makes them easier to understand (Stecker et al., 2008). Similarly, The study showed that organizational decision making was based on evidence like budget impacts to provide the most effective care that was available with aim of improving patient outcomes (Zonta et al., 2014).

However, ineffective supervision during data collection processing and dissemination for Zamzam programs is one of the main challenges hindering the use of data for decision-making. The study revealed instances of how lack of supervision during data management makes it difficult for such stakeholders to benefit from the programs. Lack of supportive systems is not new in WASH and nutrition programs. Besides, even when effective supervision systems exist, some of them lack enough resources to execute their work (Carlier *et al.*, 2012b). Similarly, poor data management and incomplete reports are barriers for decision making in Zamzam organization. The study showed poor data management exhibited by incomplete and invalid information. While the staff is not educated enough in monitoring and evaluation as well as data management, your data are likely to be poorly used for decision-making. Similar findings were reported in a study conducted by (Carlier *et al.*, 2012b). The M&E data cannot function without skilled people who effectively implement the monitoring and evaluation tasks for which they are responsible.

The study observed that low salaries for the staff and insecurity in the country influence the use of monitoring and evaluation data for decision making beyond data related practices. Individual members of the organization do not attend to office work, health workers do not come to the facilities, and staff work in several different organizations at the same time because of low salary (Sutton and D'Aunno, 1989). In that case, Zamzam programs may not

perform well, because employee performance ultimately affects organizational performance. Similarly, resource constraints affect programs not only in the implementation stage by limiting the activities that are possible, but also in the planning stage by restricting access to the financial resources that can be directed towards initiating new programs or improving existing ones (Sitkin and Weingart, 1995).

On the other hand, the findings revealed that the context of poor security affects continuity of health interventions and the delivery of health care to the distant facilities. This is because insecurity can prevent workers from proper job function, and pose a risk to their health and safety. For that reason, the findings relate to the research of (Janssen et al., 2017) who investigated the policy environment, the social, economic and political context as the deterrents of decision making in organizations, beyond monitoring practices. Therefore, it is acknowledged that the security situation in the country affects the attainment of the objectives and goals of the organization.

## **CHAPTER EIGHT: CONCLUSION AND RECOMMENDATION**

### **8.1 Conclusion**

This research set out to assess the influence of monitoring practices (data collection, processing and dissemination) on data use in decision-making in public health organizations; a case study of Zamzam foundation, Somalia. The conclusions of the study are summarized according to the study objectives below;

Objective one: To assess how monitoring practices are implemented for selected programs at Zamzam foundation:

- ❖ M&E department is responsible for data monitoring practices, they process and manage data effectively through collecting, processing and disseminating data under a team who trained for data processing such as M&E team, data managers and data communication team. This shows that the monitoring practices are mainly understood as a series of processes involving data and information management.

Objective two: To determine the decision-making processes and structures at Zamzam foundation

- ❖ Donors, director, program managers, MOH and community leaders are decision-makers at Zamzam, the main decisions they made were accountability, Proposal development and consultancies. However; during organizational decision making, they do not follow steps of rational theory for decision-making process correctly, some of the steps for decision-making process are missing as checked out from the reviewed documents. This can lead not to having enough information and misidentify the problem.

Objective three: To find out how monitoring practices influence data use in decision-making at Zamzam foundation.

- ❖ The organization experiences ineffective supervision during data collection, lack of accountability and incomplete reports, all of which affect the use of data for decision-making. In addition, M&E practitioners at Zamzam were not trained enough in data management and M&E related activities. They did not get enough training sessions for capacity. These factors influence the use of collected data for organizational decision-

making. Moreover, low salaries and insecurity are the two factors that influence the use of M&E data for decision making beyond data related practices.

## **8.2 Recommendation**

The Zamzam foundation Management team needs to consider the following changes:

- Zamzam managers should prepare a data management strategy that includes processes and standards for monitoring data practices with clearly defined roles, responsibilities and reporting lines to secure data management for the Zamzam organization.
- Zamzam program managers should clearly identify the decisions that are needed to be made and gather relevant information, as well as identify alternatives by generating a list of possible options. They should evaluate the pros and cons of each alternative before they choose and implement the selected actions.
- Zamzam management should engage the donors, government and international NGOs to provide clear and adequate funds for the M&E tasks.
- Training sessions in monitoring and evaluation must be conducted for M&E staffs at Zamzam to improve the staff's understanding of the concepts of data management and gain knowledge.

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**Annex 1: Key Informant Interview Guide**

**Study title:** Assessing the influence of monitoring practices (data collection, processing and dissemination) on data use in decision-making at public health organizations; a case study of Zamzam foundation, Somalia.

**Investigator:** .....

Good morning/afternoon.....and my colleague is..... (Mention his/her names).

We are conducting key informant interviews as part of the study to assess the influence of monitoring practices on data use in decision-making at your organization. Our purpose today is to conduct a key informant interview with you. You have been chosen to participate in this interview as you directly work in the M&E and health program management departments at your organization. Your responses will help us appreciate how and why monitoring practices inform decision making in your organization. Your participation in this Key informant interview is voluntary and if you agree to be interviewed, you will sign a consent form acknowledging your free decision to participate. You are free to leave the key informant interview at any moment. There will be no penalty for declining to participate in the interview. I will provide you with the consent form so that you read it and understand your rights as a participant. This discussion will last no more than 30 minutes.

Modulators names: ..... Note taker’s names: .....

Date..... Venue..... Time of interview: .....

**General Information**

**A. Demographics**

g. Program	
h. Role	
i. Full years in the above role	
j. Years at the organization	
k. Years of professional experience	

**A. Description of data collection practices**

1: Please describe the current data collection practices during monitoring of your program

- a) Who have roles in collection data? Who are actually involved? What are their specific roles?
- b) What data is being collected? How frequently? What key indicators (WASH and Nutrition indicators) are currently tracked and why?
- c) For what use? What’s the rationale for the various data?
- d) What tools do they use to collect monitor data?
- e) How is data quality assured or pursued during data collection?

**Description of data processing practices**

2: How’s the collected data processed?

- a) Who is involved in the process? Individuals or teams or specific Units/departments? What are their specific roles?
- b) What processes do they follow?
- c) What software or tools are used in processing different data?
- d) What considerations guide the processing the data? you can select more than one

Ease of use	
Timeliness	
Stakeholders’ interest	
National policy	
Program specific needs	
Nature of data available	

**B. Description of data dissemination practices**

3: How do you describe the current dissemination approaches for routine monitoring data?

- a) Who is involved in dissemination? What are their specific roles?
- b) Who are the target audiences? How are/were they determined? To whom is sharing monitoring findings mandatory?
- c) How does the nature and needs of the different audiences factored in the dissemination practices?

- d) What are the current efforts to fulfill data sharing obligations?
- e) In what formats are the findings disseminated? How does these formats influence use of evidence in decision-making?
- f) What are current platforms/avenues for sharing findings from M&E data? How are these platforms designed to facilitate decision making in your program?

**C. Decisions making structures and processes**

4: In respect to your job, describe the key decisions making aspects using the table below

Key decisions	Decision making structures/bodies/platforms	Evidence needed	Frequency of evidence needs	How current monitoring system provides evidence	What facilitates use of monitoring data for respective decisions	What constrains use of monitoring data for respective decisions

5: Who are the other 5 main decision makers in your program? List them below.

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_

6. For each of the actors explore the decision-making aspects related to their work in the table below

Decision maker	Key decisions	Decision making structures/bodies/platforms	Frequency of evidence needs	How current monitoring system provides evidence	What facilitates use of monitoring data for respective decisions	What constrains use of monitoring data for respective decisions

**D. Influence of Monitoring related practices on use of monitoring data in decision Making**

**7. Data collection practices and influence on use of monitoring data in decision making:**

- a) In what ways do the data collection practices facilitate use of monitoring data in decision making within the program?
- b) In what ways do the data collection practices constrain use of monitoring data in decision making within the program?
- c) What is currently being done to overcome the challenges related to data collection practices?

**8. Data processing practices and influence on use of monitoring data in decision making**

- a) In what ways do the data processing practices facilitate use of monitoring data in decision making within the program?
- b) In what ways do the data processing practices frustrate the use of monitoring data in decision making within the program?

c) What is currently being done to overcome the challenges related to data processing practices?

**9. Data dissemination practices and influence on use of monitoring data in decision-making.**

a) In what ways do the data dissemination practices facilitate use of monitoring data in decision making within the program?

b) In what ways do the data dissemination practices frustrate use of monitoring data in decision making within the program?

c) What is currently being done to overcome the challenges related to data dissemination practices?

**10. Other influences on use of monitoring data in decision-making.**

a) Comment on any other factors that influence use of monitoring data in decision making within your program beyond data collection, processing and dissemination practices.

b) In what ways do these factors influence the use of routine monitor data in decision-making?

c) In what ways do these factors influence the use of routine monitor data in decision-making?

**THANK YOU**

## **Document review**

Zamzam foundation follows these processes when decisions are made:

1. We identify the problem to understand the decisions we have to make ( )
2. We generate options to collect relevant information ( )
3. We analyze options ( )
4. Then we Select the one that seems to be the best for us ( )
5. We implement decisions and ( )
6. We evaluate options ( )



Annex two: Ethical approval

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**COLLEGE OF HEALTH SCIENCES  
SCHOOL OF PUBLIC HEALTH**

Research and Ethics Committee

30<sup>th</sup> March 2023

To whom it may concern

Dear Sir/Madam,

**RE: PERMISSION TO CONDUCT RESEARCH**

I hereby introduce to you **Mr. Abdullahi Sheik Nur Isak**, a Master Student from Makerere University School of Public Health.

The student is required to conduct research as a requirement for the award of the master's degree. The title of the research study is: **"Assessing the influence of monitoring practices on data use in decision-making at public health organizations; A case study of Zamzam Foundation, Somalia."**

The student presented the research proposal to the Makerere University School of Public Health, Research and Ethics Committee and has been granted approval to go ahead with data collection. Your support in this regard will be highly appreciated.

Yours sincerely,

  
Dr. Joseph Kagaayi  
Chairperson: MakSPH- Research and Ethics Committee



02/05/2023



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## Annex Three: Where Zamzam Foundation working in

