

**INFORMATION SHARING AMONG HUMANITARIAN  
ORGANIZATIONS IN KENYA**

**BY  
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## **DECLARATION**

This research project is my original work and has not been presented for award of any degree in any other university or institution of higher learning.

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## **DEDICATION**

This research project is dedicated to my family (Purity, Danielle, Crystal and Jesse) for the constant prayers, moral support and encouragement they offered.

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## **ABBREVIATIONS**

BBC - British Broadcasting Corporation

CWDC - Children's Workforce Development Council

FSD–Kenya - Financial Sector Deepening Trust

GoK - Government of Kenya

HIC - Humanitarian Information Centre

IASC - Inter-Agency Standing Committee

IAWG - Inter Agency Working Group

ICT - Information Communication Technology

IOs - International Organizations

IT - Information Technology

KMO - Kaiser-Meyer-Olkin Measure of Sampling Adequacy

NGOs - Non-governmental organizations

OCHA - Office for the Coordination of Humanitarian Affairs

UN - United Nations

UNDP - United Nations Development Programme

USA - United States of America

V&TCs - Volunteer and technical communities

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## ABSTRACT

This study aims at examining the extent of information sharing and establishing factors affecting information sharing among humanitarian organizations in Kenya. This is necessitated by growing importance of shared information and the need for knowledge in it. This is a descriptive survey study conducted on a target population of 64 major humanitarian organizations in Kenya and based in Nairobi. A closed-ended online survey questionnaire was administered to the full census of listed organizations, out of which 34 responses were received. Data captured include, demographics, extent of information sharing and the factors affecting information sharing among humanitarian organizations in Kenya. Data analysis was done using descriptive statistics to summarize the data. Factor analysis was done to for each of the variables using indicators. A factor analysis was applied to determine the relative importance of each of the factor with respect to information sharing. The study determined that majority of the organisations do have an information governance policy and guidelines in place and that most organizations have a defined data or information sharing strategy, with majority of them often or always using electronic mail, website / online portal and meetings as a means of information dissemination. The study also determined that the most organizations often used spreadsheets, word document and static format (pdf, image) and that they have ICT tools in place manage data sharing. The findings also indicate that the sharing of information was to a great extent happening between donors, UN agencies, International and local NGOs, Government and Clusters / Sectors working groups; with most of the primary data sources being field data collection, or regular updates from collaborating partner organization or networks and from the coordination meetings. Sharing of information to a greater extent occurs mostly upon request. The study determined that factors affecting information sharing among humanitarian organizations in Kenya can be grouped into 5 factors; Factor 1 (information governance, policy and guidance factors and collaboration and partnerships factors); Factor 2 (information sharing systems factors and data standards & format factors); Factor 3 (communication and dissemination factors); Factor 4 (information sensitivity factors) and Factor 5 (cultural factors). It is recommended that organizations should ensure that appropriate information governance, policy and guidelines are developed to provide a framework to bring together all of the requirements, standards and best practice that apply to the handling of information. Organizations are also recommended to collaborate and partner with established networks or groups to promote organizational information sharing and that there is need for organizations to ensure that Information and data accessible to them is easily available to other humanitarian actors through establishing well-defined communication strategy and dissemination methods and data or information sharing strategies.

# CHAPTER ONE: INTRODUCTION

## 1.1: Background Information

Information sharing is defined as the exchange of information between parties that allows one party to access information collected or maintained by another party (Calo, Cenci, Fillottrani and Estevez, 2012). According to Jessica and Leslie (2009), information sharing is a central process through which team members collectively utilize their available informational resources. Davenport and Prusak (1997), defined information sharing as the voluntary act of making information available to others. Information sharing includes providing information, confirming the information has been received and confirming that the information is jointly understood (Sonnenwald, 2006).

Information is needed for decision making. Quality and the completeness of information is key as it influences both the decision making and coordinating functions during humanitarian relief operations, resulting in better performance by organizations. According to Jessica and Leslie (2009), superior solutions to complex decision tasks require partners to effectively integrate unique, relevant, and often diverse informational sets. Hence the increasing interest in information sharing.

Inter-organizational information sharing is an important factor for both public sector managers and leadership as well (Bajaj and Ram (2007); Nasire (2000); Rochelau (2006); Pardo et al (2008)). While private firms share their information to maximize profits, public sector organizations aim to generate public goods and public value. The capability to share information across boundaries is one of the basic goals of information management and efforts to share information have been made in various fields.

What is shared in the act of information sharing is acquired information, and that makes sense (Pilerot 2011), also described as “information-as-thing”, that is raw data and documents that can be regarded as informative. Information is one of the most important organizational resources, the one sure source of lasting competitive advantage (Nonaka and Takeuchi, 1995). Internal information, such as operational procedures, special skills, and technical know-how, makes the most valuable asset for organizations (Spender, 1996). Research findings by Dawes, 1996; Landsbergen and Wolken, 2001, show that

information integration and information exchange requires better capacity to share information through organizational boundaries.

Information sharing offers benefits and these differ from one organization to another. According to Calo *et al.*, (2012), the benefits obtained through the initiatives of information integration or information sharing are classified as follows; technical benefits that relates to data processing and information management; Organizational benefits which are related to solutions of wide-organization problems or the improvement of the organization capabilities and; Political or environmental benefits that deal with the enhanced public image or public value created by information-sharing projects.

Among humanitarian organizations the sharing of information helps build a fuller picture of crisis and enables cohesion among entities and a coherent approach to humanitarian response programming. Meier, (2011) indicates that when disaster strikes, access to information is just as important as access to food and water. In business environment, information sharing among organizations, as well as between the organization and its customers, suppliers, and alliance partners, plays a critical role in improving the quality of customer service, reducing production cycles, increasing the cooperation among different department units, and consolidating the relationships with alliance partners. Cate and Staten, (2000), indicates that information sharing is essential to, identify and meet individual needs, increase efficiency and lower prices, enhance customer convenience, inform customers of new opportunities, expand access to services and products.

Comparative study of private and public sector organizations by McAdam and Reid (2000);Fowler and Pryke, (2003); Gorry, (2008), reported that knowledge management was more developed as a management philosophy in the public sector and also showed that public sector relied heavily on people-based approaches, and was particularly strong on knowledge sharing across the organization.

Talja (2004), noted that in order to develop a more in-depth understanding of the contextual factors affecting information sharing, it is useful to distinguish between the different goals, purposes, and tasks accomplished by information sharing practices in different contexts.

## **1.2: Humanitarian Organizations in Kenya**

Humanitarian organizations comprise the Non-governmental organizations (NGOs), International Organizations (IOs), the Red Cross/Red Crescent movement and United Nations (UN) agencies, all of which have a commitment to humanitarian principles and are, engaged in humanitarian response activities. At global level, the Inter-Agency Standing Committee (IASC), a unique inter-agency forum was created to facilitate coordination, policy development and decision-making involving the key UN and non-UN humanitarian partners. The IASC plays a key role in preventing gaps and duplications in humanitarian response, and has real-time evaluations and feedback mechanisms to improve the quality of assistance. Recognizing the importance of information sharing, IASC has developed a number of guidelines and tools and for use at country level by humanitarian organizations in order to promote practices that enhance sharing of information.

In Kenya, the NGOs, IOs, Red Cross/Red Crescent movement and UN comprise the humanitarian country team under strategic leadership of UNDP resident coordinator and do undertake humanitarian action in-country and are committed to participate in coordination arrangements during humanitarian operations. These organizations have a shared responsibility in enhancing the effectiveness of humanitarian action, as no single humanitarian agency can cover all humanitarian needs; therefore the organizations have established limited linkages and collaboration to facilitate working relationships between them.

The Government of Kenya (GoK) takes the lead in all humanitarian coordination and response operations and the government is supported by the humanitarian organizations, through sector / cluster coordination mechanisms that are organized along the lines of agency specific mandates. These coordination mechanisms usually enhance information exchange; they help avoid widespread duplication of efforts and ensure resources are used in the most efficient manner during humanitarian response (Paul, Duncalf, Greenhalgh, Marroni, Mohammed and Maina, 2012).

Humanitarian organizations working in Kenya recognize that there is an on-going need to identify and facilitate access to relevant information and data for evidence based decision support. As such several humanitarian based information users groups have been established for coordination purposes, including Inter Agency Working Group

(IAWG) on Information Management and Technology, Information Management Working group and Kenya Geospatial users group. Priorities for these working groups have been to focus on identification and endorsement of global standards, provision of a platform to exchange information and best practices, building partnerships to support cross organization data exploration, exchange and analysis.

At a several humanitarian coordination meetings participants from humanitarian organizations have had discussions on a number of aspects, including the need to improve the response time; the need for improved information or data sharing; and the need to improve distribution mechanisms, indicating the growing importance of shared information and also highlighting the existence of information gaps and the need to address the challenges that impede information sharing in Kenya. The information requirements by humanitarian organizations for response planning varies with the type and phase of disaster but basically, at the outset of disaster, information requirements may include such information as number of people affected and their life saving needs, most vulnerable populations, location, scale and nature of the disaster, and information on responders and their activities. According to Maiers, Reynolds and Haselkorn, 2005, an assessment on NGOs in Kenya and Ethiopia showed that there is a general reluctance of organizations to share information, especially information that is considered proprietary or of significant value to organizations.

Several benefits accrue to humanitarian organizations from information sharing; through information sharing organizations are able to know about one another's activities and this facilitates strategic planning and enhances multi-agency efficiency and humanitarian program delivery. Beal, Cohen, Burke, and McLendon (2003), indicated that overtly sharing information with teammates promotes positive climactic states (e.g., trust, cohesion), which ought to improve team socio-emotional outcomes and, in turn team task performance. Thus in humanitarian emergencies information sharing promotes cooperation and partnership among UN, international organizations, NGOs, local and national actors. Studies by Bharosa et al. (2009), found that relief workers are often more concerned with receiving information from others than with providing information to others who may benefit. However incentives for sharing information, understanding each other's work-processes and the usability of information systems have shown positive effects on information sharing and coordination.

### **1.3: Statement of the Problem**

To gain competitive advantages in the knowledge-based economy, it is important for an organization to have adequate information available. This calls for sharing of both data and information systems across the organisation as it brings about maximum effectiveness (Lederer and Sethi, 1999). Likewise it brings about significant change in the company's performance by fundamentally changing the way it does business (Ang and Teo, 1997).

Among humanitarian organizations, inter-organizational and cross-organizational information sharing is a vital component of program planning and organizational success (Maiers, Reynolds and Haselkorn, 2005). However, depending on context a number of issues make it difficult for humanitarian organizations to effectively share information across the organizations. As such to increase the ability to manage information sharing within and across the organization is one of the major challenges facing contemporary organizations (Davenport and Prusak, 1998; Pollard, 2005; Alavi and Leidner 2001).

Research by Mosoti and Masheka, (2010) on knowledge management practices in use by Nairobi-Kenya based non-profit and profit organizations show that whereas 93 per cent of respondents were agreeable to reasons for using knowledge management practices, including, to improve the capture and use of knowledge from sources outside an organization and improve sharing or transfer of knowledge, the results show that only 17 per cent of the organizations made attempts to measure the effectiveness of organizations knowledge management practices against 83 per cent who do not and that 65 per cent of these organizations experience resistance in implementing knowledge management practices in the first place.

Meier (2011) noted the launch of Ushahidi map in 2008, a simple web-based platform for collection of crisis information as being a milestone as it enabled Kenyans to share reports of human rights violations during the post-election unrest. Davel, Serakwane and Kimondo, (2012), state that the financial sector in Kenya in 2010 through the Central Bank of Kenya, Kenya Bankers Association, and Financial Sector Deepening Trust (FSD–Kenya) while recognizing the importance of information sharing, introduced a credit referencing tool that could facilitate information sharing mechanisms among banks, which has seen over 43 major banks participate. Hence the need to examine what is the current extent of information sharing among humanitarian organizations in Kenya.

Bharosa, Lee and Janssen (2009); Riege (2005), indicates that the inadequacy in information sharing among humanitarian organizations arises out of a set of obstacles and challenges at the individual, organizational and technological levels. Past studies on those set of factors that affect information sharing in public sector was found to vary in different contexts, (Liebowitz and Chen 2003; Syed-Ikhsan and Rowland 2004; McAdam and Reid 2000 and Gorry 2008). In Kenya, an IASC Horn of Africa Realtime Evaluation of 2011 drought, indicated that information management tools lacked dynamic information sharing functions (Paul *et al.*, 2012), this had impacted on effectiveness of humanitarian response. Therefore this study also aims to establishing the extent of information sharing and factors affecting information sharing among humanitarian organizations in Kenya context.

#### **1.4: Objective of the Study**

The Objective of this study will be to

- a) Determine the extent of information sharing within humanitarian organizations in Kenya
- b) Establish the factors that affect information sharing among humanitarian organizations in Kenya

#### **1.5: Value of the Study**

The study will build a knowledge base of factors affecting information sharing specific to Kenya relief operations context, this information will be useful to academic institutions, research organizations, disaster prone communities and humanitarian community.

The findings will be valuable to humanitarian organizations as they will provide knowledge and understanding on the extent of information sharing and factors affecting information sharing. Thus humanitarian organizations can develop information sharing strategies that encourage and promote practices that seem to be affecting information sharing.

It will also help information managers in humanitarian organizations to deepen the understanding of the realities and conditions of collaboration between humanitarian partners and to identify specific factors that are positively or negatively impacting on free flow of humanitarian information among the entities. The information that the study will gather can also be utilized by future researchers and scholars who wish to do studies in the same area or on specific elements related to information sharing. It is this light that the research also aims at filling an existing academic gap.

## CHAPTER TWO: LITERATURE REVIEW

### 2.1: Introduction

Information sharing is the process of exchanging data or information among various computer networks and users, of separate organizations. Omar, Ramayah, Lo, Sang and Siron, (2010) indicated that information sharing relates to activities of distributing useful information among people, systems or organizational unit in an open environment. Information sharing should address the following issues; 'what to share', 'whom to share', 'how to share', and 'when to share' of which if properly addressed would minimize sharing cost, information deficiency or overload and improve supply chain responsiveness (Sun and Yen, 2005). According to Davenport and Hall (2002), information sharing is an important component of information behaviour. It is an essential activity in all collaborative work, and helps to bind groups and communities together.

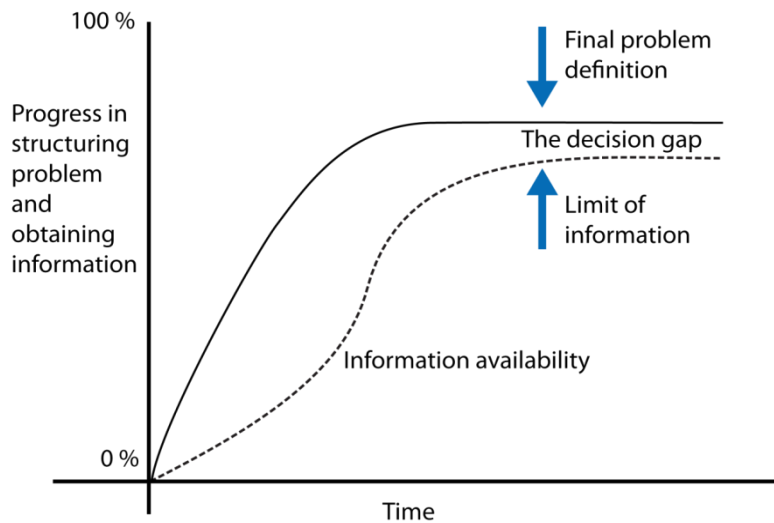
With the upcoming era of knowledge economy, knowledge and information management has become crucial to success in most organizations. Among other resources, information is of paramount importance for organizations to maintain their competitive advantages (Bruton *et al.*, 2007). The ability to generate, transfer, and store information within organization determines the organization's abilities of market development and strategic resources allocation. The organizational efficiency directly relates to the information generated and possessed by the organization members. Those organizations that can generate and effectively manage their own unique information tend to have more enduring and less imitable competitive advantages (Barnet, 1991; Grant, 1991; Lank, 1997).

Timely and accurate information is central to supporting effective preparedness and response to natural disasters and complex emergencies. As decision-making relies upon the availability of information within a certain time frame, managers have to appreciate that on a number of occasions there will be a shortfall in that information (As illustrated by Curry, Flett and Hollingsworth (2006), in the diagram Decision gap in figure 1).

Most often than not, such information will be incomplete either because it is not available or too costly to obtain within the desired time frame. Knowledge of likely factors that could affect information flow in specific contexts would help information

managers to be design information sharing strategies prior to relief efforts. This helps fill identified gaps that remains, which could be filled by the skill of the decision-maker (Curry, Flett and Hollingsworth, 2006).

**Figure 1: The Decision Gap**



*“The decision gap”, cf. Curry, Adrienne/ Flett, Peter/ Hollingsworth, Ivan (2006): Managing Information and Systems. The Business Perspective. Routledge: New York: 82.*

Kate Chapman (2011) , of Humanitarian OpenStreetMap Team, notes that in a disaster cycle the reality is that everyone has a piece of information, everyone has a piece of that picture. The more that people are able to share information data across ecosystems, and the more information that people have to utilize, then the disaster response becomes more effective. However, past studies in various contexts have also found evidence of poor information sharing and coordination in inter-agency disaster response situations (Dawes et al. 2004; Helsloot 2005; Junglas and Ives 2007; Pan et al., 2005). Improving the way information is shared is therefore a necessary.

### **2.1.1: Forms of Information Sharing**

There are various forms of information sharing. Pilerot and Limberg (2010), noted that information is shared through various modes, including the use of electronic media such as; ICT systems to either receive or send electronic data either as e-mails or document retrieval; through telephone calls; face-to-face conversations, and through printed media.

Pilerot and Limberg, (2010), indicate that whereas the activity of information sharing has been approached principally from a technological angle, they quoted Orlikowski (1996) and Kling et al., (2005) showing that it had been assumed that if a system is implemented people will act in accordance with it and its expectations. However, Pilerot *et al.*, 2010 emphasizes that information sharing must be understood as a situated and collective practice that needs to be approached from a social as well as a technical angle. A research by Pilerot *et al.*, 2010, found that information-sharing activities are intrinsically intertwined with other information practices such as information seeking and use. Although some considerable research on information and knowledge sharing has been done much of this work has been conducted in the context of large commercial companies, (Fowler and Pryke, 2003; Riege, 2005). Further, Batty (1992), noted that it is likely that ideas about information sharing will be different in different contexts which depend in turn upon differences in resources, cultures, social structures and economic dependences.

## **2.2: Factors Affecting Information Sharing**

The level of information sharing across agencies can be attributed to a number of factors, including; organizational and individual cultures; information governance, policies and guidance in place, existing collaboration and partnerships, information sensitivity, information communication and dissemination strategies, information systems in use, data standards and formats.

A sustained process of information sharing is dependent on a range of actions by humanitarian actors that promote information exchange among the group and which a recipient organizations should have a role. Partners should see the sharing process as value added service with net benefits that support humanitarian coordination. At all levels of relief efforts, strategies to provide adequate help to the victims of disaster rely on the development and distribution of actionable information. It is essential that partners strengthen their capacity to gather, share, analyse and disseminate such information (Costur, 2005).

According Peel and Rowley (2009), there exist potential barriers and facilitators to information sharing, among them law, ICT, file format and personal networking opportunities and that knowledge sharing, while it involves individual choice, it is

influenced by a complex mix of cultural, technological, organizational, legal and regulatory factors, which are typically unique to specific contexts. Julibert (2008) noted that reciprocity has been seen as an aspect that influences individual willingness to share information and other authors having identified other factors as institutional practices, norms and values and the forging of relations.

Brandon et al., (2006), indicates that the potential barriers to successful multi-agency information sharing, includes lack of agency join-up or conflicts of interest; lack of professional trust; mismatch between the vision and the practice; and anxieties about increased workload and new ways of working. Further studies by Fawcett, Osterhaus, Magnan, Brau and McCarter, (2007) identified four barriers to better information sharing; cost and complexity of implementing advanced systems; systems incompatibility arising out of either lack of industry standards, or failure to use them and this; increases the cost of connectivity, creating the third barrier as different levels of connectivity exist thus collaboration through shared information becomes limited and; Managers failure to understand the willingness dimension of information sharing, as a result, they do not invest in a culture conducive to sharing information.

Further research by Bharosa et al. (2009), indicated that information sharing and coordination is influenced by obstacles located within and between the community, agency and individual levels. All three levels contain institutional and technological elements. The research highlighted the fact that although individuals in organizations responding to disasters are aware of the need for information sharing and coordination, and that they find themselves faced with a number of obstacles, including a lack of incentives at institutional, organizational and individual levels, a lack of understanding with regard to the overall operational dependencies between the various agencies.

### **2.2.1: Organizational Culture**

According to Haviland, Walrath, Prins and McBride (2008), Culture is the framework by which we view the world around us. This learned and shared behavior explains how human beings interact within a community, no matter how large or small. Hill and Jones (2009) define organizational culture as "the specific collection of values and norms that are shared by people and groups in an organization. Organizational culture is defined by Edgar Schein as a system of shared meaning consisting of beliefs, symbols, rituals, myths, and practices that have evolved over time. Organizational culture comprises the

leadership and management styles, decision-making procedures, politics, attitudes and formal and informal communication of the organization (Costur, 2005).

Organizational culture is an essential link in understanding resistance to information sharing (Egli, 2011). Organizational theory suggests that company culture influences how willing its people are to share information (Al-Tameem, 2004; Constant et al., 1994; McKinnon et al., 2003). The humanitarian organizations have different organizational cultures that could act as barriers to information sharing. The ability of an organization to share knowledge and information is based on the cultural temperament of the organization and its pace of change (Achterberg, 2012). The success of information sharing in an organization also depends upon changing the way information is exchanged and the acceptance of new information sharing processes and technology by the people who enact the processes or utilize the technology.

A research by Vuori and Okkonen, (2012) revealed that employees' attitude towards knowledge and knowledge sharing is decisively shaped by the organization culture of the company. If the culture does not support knowledge sharing, it does not matter what channel is used for it. McDermott and O'Dell (2001) also found that sharing knowledge is tightly linked to a pre-existing core value of the organization.

Meyerrose (2008), Director of National Intelligence and Chief Information Officer, Intelligence Community Information Sharing Executive, USA, indicated that an information sharing strategy should focus on developing a "responsibility to provide" culture in order to unlock intelligence data from a fragmented information technology infrastructure spanning multiple intelligence agencies and make it readily discoverable and accessible from the earliest point at which an analyst can add value.

### **2.2.2: Information Governance, Policy and Guidance**

Information governance provides a framework to bring together all of the requirements, standards and best practice that apply to the handling of information (Borrett and Jethwa, 2011). Information sharing policies and procedures established within organizations, provide guidance to data users and data providers on best practice when sharing information between agencies; they detail when data can be shared, the process or channels that should be followed and sources or contacts of further advice and support. Peel and Rowley (2009), noted that information sharing practice in relation to personal

data is not only impacted by the availability of and successful use of information technology tools, and staff attitudes to knowledge and information sharing, but also by the legislative and regulatory framework under which the information sharing takes place.

According to Children's Workforce Development Council (CWDC) (2009), it is good practice to establish an information sharing governance framework so that all staff are clear about the organization's position on information sharing. Information sharing governance framework must always recognize the importance of professional judgement in information sharing at the front-line and should focus on how to improve practice in information sharing within and between agencies.

According to Harvard Humanitarian Initiative, Disaster 2.0 report by the United Nations Foundation and the Vodafone Foundation, 2011, the authors note that “in the 2010 Haiti earthquake response will be remembered as the moment when the level of access to mobile and online communication enabled a kind of collective intelligence to emerge—when thousands of citizens around the world collaborated in volunteer and technical communities (V&TCs) to help make sense of a large scale calamity and give voice to an affected population. The humanitarian system however had no formal protocols for communicating with these volunteer and technical communities (V&TCs).

Despite the good will of field staff, their institutions' policies and procedures were never designed to incorporate data from outside their networks”. This 2010 Haiti quake response clearly reviewed that the rate of investment in humanitarian information management over a complex global network was not keeping in pace with new technological realities.

### **2.2.3: Collaboration and Partnerships**

Collaboration and partnerships with established networks or groups influences organizational information sharing. A lot of information sharing relies on relationships established with partners. Brandon, Howe, Dagley, Salter, and Warren (2006) noted potential barriers to successful multi-agency working as follows; lack of agency join-up or conflicts of interest, lack of professional trust, mismatch between the vision and the practice, and, anxieties about increased workload and new ways of working.

Pilerot and Limberg (2011) stated that informal social networks that evolve around professional issues and more formal workplace meetings serve as information-rich arenas. Thus formation of Interagency working groups based on sectors in the humanitarian sector allows for opportunities for networking, sharing and exchanging information and moving away from the concept of owning knowledge. At the onset of humanitarian crisis every effort is made by different organizations to collect and analyze large volumes of data to determine the critical information needed to target humanitarian aid most efficiently. While doing this, these organizations bring a wide array of perspectives and processes to their field work. Competing or overlapping mandates, operational guidelines, and biases can make it difficult to share information (Hocevar and Roberts, 2006).

Despite all this and other challenges, information sharing does occur. Unfortunately, it tends to be on an ad hoc, unplanned basis and often emerges from personal relationships that are developed on the ground. Pilerot and Limberg (2011), acknowledges that friendship is identified as a highly beneficial base for information sharing. As individuals begin to make contacts, build trust, and identify ways they can share information, new networks emerge. However, these networks are often temporary and situational, with frequent rotation of personnel (CSRS, 2007).

A Humanitarian Response Review by OCHA, (2005) of the global humanitarian system recommended 'cluster approach' as a way of addressing gaps and strengthening the effectiveness of humanitarian response through building partnerships. This review assessed humanitarian response capacities of the UN, NGOs, Red Cross/Red Crescent Movement and other key humanitarian actors, in order to identify and provide recommendations for critical gap areas, Van de Walle and Dugdale, (2012).

Globally the Inter-Agency Standing Committee (IASC), a partnership of UN agencies and International humanitarian organizations, has an Information Management working group that provides leadership and promotes information sharing initiatives by defining minimum standards of tools and services, OCHA (2010). In Feb 2003, IASC endorsed establishment of a common service known as Humanitarian Information Centre (HIC) to support the humanitarian community in the systematic and standardized collection, processing and dissemination of information with the aim of improving coordination, situational understanding and decision making. This was after a series of HIC concept

were tried out in several large scale emergencies among them Kosovo, Afghanistan, occupied Palestinian territory, Iraq and Liberia between 1999 and 2003. A well-functioning HIC reflects on the state of information sharing and management in a specific response.

Through collaboration and partnerships organizations are able to focus their resources on the areas of greatest need and without having to reinvent the wheel. Collaboration and partnerships creates opportunities for networking, sharing and exchanging information and allows shift in concept of owning knowledge. This contributes to improvement in applying standard procedures and protocols and development of collective institutionalized processes.

Other than due to mutual dependence, especially where a reporting obligation exists due to funding partnership, challenges of ensuring information providers see the added value or incentive of sharing information requires a lot of effort, which was also observed in Kenya context. Some of the primary data collectors felt they were being asked too much information by those collecting secondary information as they advocated for information sharing. Ensuring that organizations develop and maintain strong relations with client organizations in the humanitarian community is perhaps the most critical element in determining the success of information sharing and also represents the principle of reciprocity on which information exchange largely rests (Maarten, 2010).

The Journal of Contingencies and Crisis Management published an article on “Information Sharing during Crisis Management in Hierarchical vs. Network Teams” (Maarten, 2010). The study examined the differences between hierarchical and network teams in emergency management. The results showed that network teams were overall faster and more accurate in difficult scenarios than hierarchical teams. Network teams also shared more knowledge in the difficult scenarios, compared with the easier scenarios. The advantage of being able to share information that is inherent in network teams is thus contingent upon the type of situation encountered in a crisis response. In relatively complex environments or crisis, on the other hand, network teams arrive at correct decisions more frequently than hierarchical teams. This may very likely be due to a better exchange of knowledge in network teams. Advent of new technologies such as the social networks has created networked intelligence and mass collaboration which if leveraged on by humanitarian organizations to could improve or support collaboration.

#### **2.2.4: Information Sensitivity**

The ease in which information technology allows for sharing of information indiscriminately, with minimal checks and balances could be worrisome to some of the information providers. Not all information that is useful to humanitarian agencies can be made generally available. Some organizations will produce analytical reports that they do not distribute widely due to their sensitivity. As such high priority is placed on information that is secured with a high degree of confidentiality, integrity, and availability.

Data Protections and Confidentiality cannot prevent organizations from sharing and exchanging information with other agencies especially if this information is critical to delivery of assistance to individual or group, (Astron, 2003).

#### **2.2.5: Communication and Dissemination**

Communication is key to the success of disaster mitigation, preparedness, response and recovery. Accurate information disseminated to the general public and humanitarian organizations speeds up recovery. Access to communications technology has changed how people communicate before and during humanitarian disaster, with significant implications for emergency response. UN Foundation and Vodafone Foundation (2011), in a report *The Harvard Humanitarian Initiative Disaster 2.0*; indicates that after each major disaster of the modern era, humanitarian organizations have reaffirmed a critical lesson: good communication is essential to effective coordination. As a result, many institutions have made significant investments in information and communication technologies.

The growth in the use of communications technology in the developing world throws up a number of challenges and opportunities for humanitarian agencies. One key challenge for humanitarian agencies – already well behind the curve – will be not just to catch up, but to stay ahead of developments. BBC Media Action (2012), in a policy briefing, still left in the dark? How people in emergencies use communications to survive and how humanitarian agencies can help; stressed the importance of seeing communication as a two way process, focused on the urgent provision of information and the active enabling of people to communicate. The paper also highlights that there has been some progress on communication within aid agencies but it remains limited, as shown by recent studies of disaster responses and the needs of affected communities.

Dissemination puts information products into the hands of policy-makers and planners at various levels (OCHA, 2006). Part of this step involves making sure that information is formatted in a way which helps decision-makers understand the information and find it easily. Effective information dissemination entails an understanding of the information needs of the users, of the appropriate format for conveying it and of the mechanisms by which it can be shared with the end users. The dissemination of information necessarily depends on the needs, available tools or technology, resources available, and objectives of the sharing information as well as the organization obligations especially to donors or the need to provide feedback to information sources. The emergence of media such as the internet, e-mail, blogs, text messaging, cell phone and social media have improved the ability to disseminate information. The constraints to dissemination relate to technical, logistical and organizational issues.

To ensure right products are developed and shared effectively information manager should always have a communications and information management dissemination strategy in place. Information for humanitarian response should be made widely available as much as possible through all available online and offline distribution channels.

Bostrom (1989) argued that effective knowledge sharing depends on the mutual understanding and respect of team members. Tan (1994) further applied this mutual understanding to the interactions between systems analysts and their clients in the process of systems design of information system, where the mutual understanding necessitates knowledge sharing in order to have effective communication. Hendriks (1999) contended that knowledge sharing is a process of communication. He argued that knowledge is not like a commodity that can be passed around freely, it is tied to a knowing subject. To learn something from someone else, i.e. to share knowledge, an act of reconstruction is needed. It takes knowledge to acquire knowledge and, therefore, to share knowledge. Knowledge sharing presumes a relation between at least two parties, one that possesses knowledge and the other that acquires knowledge, and as a result, effective communication becomes essential in the process of knowledge sharing. Botkin (1999) believed knowledge sharing is the core of network management model where to share knowledge is to communicate and in order to communicate, two parties must connect. As a result, knowledge sharing is the connection and communication among network members. Other research further shows that organization should create a

conducive environment for knowledge sharing because knowledge sharing is different from information sharing in that knowledge sharing requires more than just communicating the information to the other party; knowledge sharing includes helping the other party understand the contents of the information communicated and learn from the information so as to reconstruct the information into his or her own knowledge and to develop new capabilities (Eriksson and Dickson, 2000; Senge, 1997).

### **2.2.6: Information Sharing Systems**

Information technology plays an enabling role in sharing of actionable information among various organizations in relief efforts (Bush and Das, 2005). According to Amin and Goldstein (2008), Information management systems are a critical element of effective response capacity. Information technology and the information attributes it produces thus represent a crucial dimension of the sharing and coordination of information, Bharosa, Lee and Janssen (2009).

Information technology is essential to improving information-sharing and decision-making for responders, Graves (2004), as it has already drastically reshaped the way organizations interact with each other, (Lee and Whang, 2000). Good IT systems have been found to be essential in “connecting up multi-agency working and information sharing” (Brandon et al., 2006).

High levels of integration and use of technology are likely to result in high levels of information sharing. IT can be used to make sure that everyone receives the relevant information at the right time (Bharosa et al. (2009). Information Communication and technology emerges as a component of effective and sustainable delivery of humanitarian relief, but ICT remains relatively under- utilized across contexts. The convergence of technological revolution, social revolution and the rise of the digital generation have created new opportunities that promote information sharing.

While many organizations may have some information sharing mechanisms in place, most are often local, personalized, and ad hoc. As a consequence, it can be difficult for other partners to have knowledge or even access information from such corporate systems. To address these problems there have been global efforts to develop and identify information sharing tools, and models that are simple, flexible, and scalable, and agreeable upon by many actors, where data input is required from other wider

humanitarian community. Developing effective systems that enable the information to be shared and analyzed to target resources is fundamental to building better response capacity.

The use of free open source software / IT systems, like Sahana System, have been known to address common problems in information coordination that arise during a disaster. Examples include the use of Sahana system developed in Sri Lanka, which was deployed in Pakistan after earthquake in 2005 and in Philippines in 2006 after mudslide disaster to help track and coordinate the disaster relief efforts of organizations.

The new concept of crowd sourcing during humanitarian emergency has contributed to bridging of digital gap and brought about new opportunities that contribute to information sharing during humanitarian response. Access to mobile technologies enables humanitarian organizations that deploy some available low cost technologies to gather and relay information on real-time basis through mass collaboration via social media or volunteer technical community.

While the tools that are available and used by organizations to process information may have improved markedly from previous disasters, the capacity of personnel to harness those tools may also be lower than one might expect. Failure to provide adequate resources such as capital for provision information management systems could be related to the absence or lack of these systems in organizations. Lack of systems and processes that store or accumulate data in centralized structures means lack of access to baseline data sets such as health and nutritional statistics or population statistics, which leads to duplication of data collection activities which wastes time and resources.

While technology may not generally be a hurdle to information sharing, as Web-based applications, bandwidth capacity, and standardization of technology make data movement more efficient, differences in rules, media, and standards may still present barriers, (Barenstein et al., 2010). The success in implementation of Information sharing technology introduces a structured process by which to capture and use information, and this influences on the cost of sharing information, security, language concerns, connectivity and mobility of system. However, Telford et al (2006), confirmed that there continues to be significance reluctance within humanitarian organizations to embrace modern information management.

### **2.2.7: Data Standards and Format**

Information and data should be made accessible to all humanitarian actors by applying easy-to-use appropriate and standardized formats. Data standards create a common language to enable sharing of data between organizations. Standards allow data to move within and between organizations and help manage large amounts of data more effectively. Berg 1997; Edwards 2004; Porter 1995, state that standards are a set of instructions that specifies how something will be done and they play an important role in the transfer of knowledge from one location to another. A lack of standards, particularly for data collection, storage, and management has been continually identified as a major impediment to the sharing and reuse of data, Zimmerman (2008). Organizations should therefore develop common data definitions, standards, and assessment forms to improve information sharing and usability. Irregular use of standardized tools among organizations results in data and information formats that are not consistent, and this has implications on the ability to share information.

Initiatives to standardize information sharing have been explored including the use of protocols such as extensible mark-up language, simple object access protocol and web services description language. Others include Spatial Data Infrastructure (SDI) which is a coordinated series of agreements on technology standards, institutional arrangements, and policies that enable the discovery and use of geospatial information by users and for purposes other than those it was created for, Kuhn (2005).

Ad hoc data management practices may be a practice in many organizations due to lack of commonly accepted tools and standards, and also due to common chaos caused by staff duty-cycles / turnovers in time of crisis. The development of good data model that is both comprehensive and scalable could unleash the power of information system tools for humanitarian data managers, and facilitate the collection and sharing of information between agencies that share similar goals.

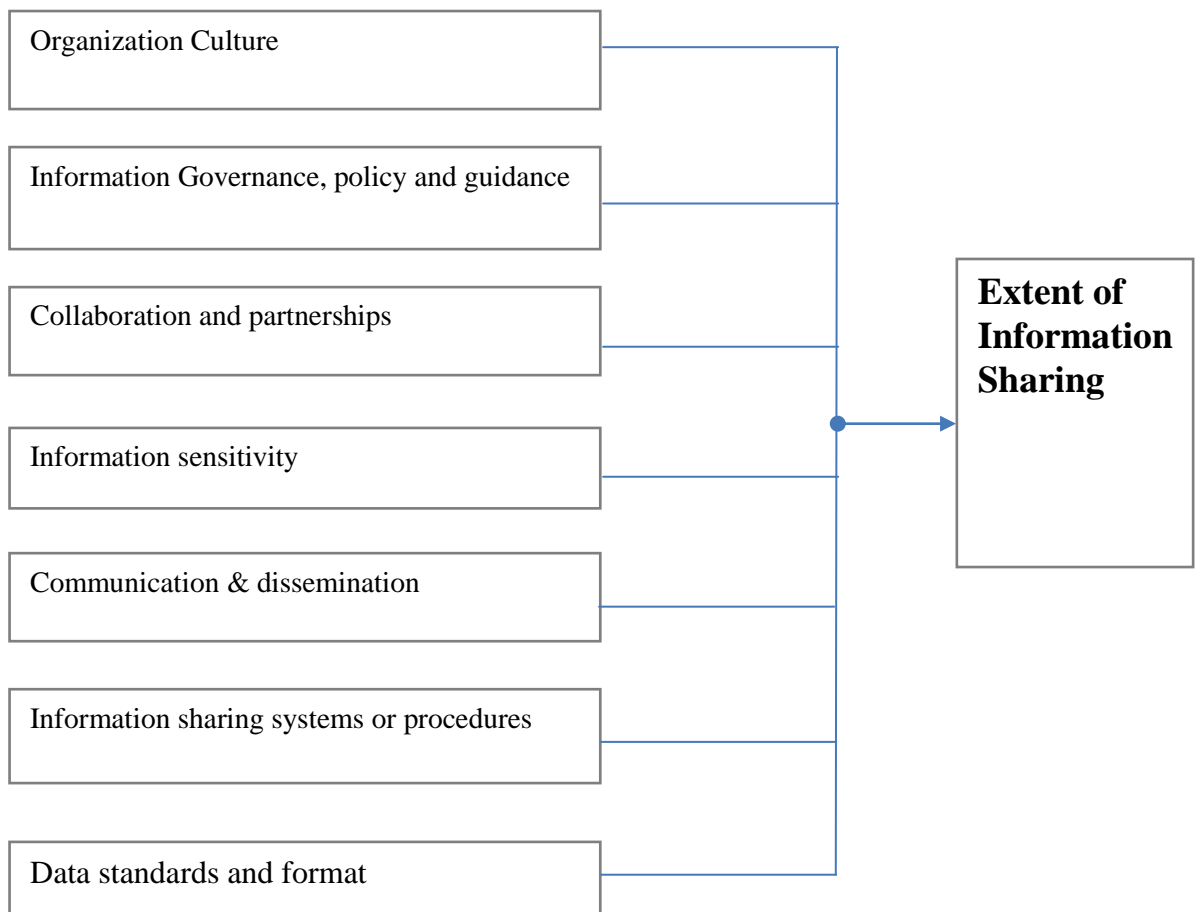
### **2.3: Summary of Key Issues and Conceptual Framework**

The fact that there may be other factors influencing Information sharing, this context has identified only seven main factors that determine information sharing that necessitates its conceptualization. According to Gil-Garcia et al. (2007) and Richardson and Asthana (2006), information sharing is influenced by various social and organizational factors,

including policy and legal context, governance structure, organizational leadership, professional culture, clear project goals, stakeholders' expectations and management style.

**Figure 2: Conceptual Frame work**

The conceptual framework explores the various factors influencing information sharing in Humanitarian context



*Source author (2012)*

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1: Introduction**

This chapter presents information pertaining to research methodology adopted in the study to collect data on factors affecting information sharing among humanitarian organizations in Kenya. It consists of the research design, target population, sampling technique, data collection instruments and data analysis techniques.

### **3.2: Research Design**

The research used descriptive survey design. According to Mugenda and Mugenda (2008) descriptive survey is most applicable for analysing investigative scenario as it seeks to provide answers to the current subject being studied, by determining and reporting the way things are.

### **3.3: Population of Study**

The population of study include humanitarian organizations undertaking humanitarian activities in Kenya based in Nairobi. These include UN and IOs / NGO agencies undertaking humanitarian operations in Kenya as of 2012. These organizations are based in Nairobi and are 64 in number (refer to Appendix 2).

### **3.4: Sampling and Sampling Technique**

The entire population of the organizations listed will be studied. This is the target population of 64 organizations, this aims at improving the degree of accuracy and also considering that the population of study is not very large, the study of the population can be managed, within the given time and since the questionnaire will also be administered online. However, according to Mugenda and Mugenda (2008), 30% of the target population could still be representative.

### **3.5: Data Collection Instruments and Method**

Primary data collection was done through a survey questionnaire. The questionnaire was divided into three sections. Section A was to capture demographics, Section B would capture the extent of information sharing within humanitarian organizations in Kenya while Section C was to cover the factors affecting information sharing among humanitarian organizations in Kenya. These variables in section C were operationalized

through indicators. All questions were closed-ended. The questionnaire was administered by online questionnaire hence developed using online Google docs form. See attached on Appendix1. The target respondents were the information Management / ICT managers in these humanitarian organizations.

### **3.6: Data Analysis**

Data was collected, cleaned, organized and subjected to various analyses. The analysis of data was done as follows, Section A (demographics), means, frequencies and percentages were calculated; Section B (extent of information sharing), means, frequencies and percentages were calculated; Section C (factors affecting information sharing), a factor analysis was done and means, frequencies and percentages were calculated. To aid and speed up data analysis process, Statistical Package for the Social Sciences (SPSS) was used to generate the main statistics including mean and standard deviations with aid of factor analysis.

## CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

### 4.1: Introduction

The data required for the study was obtained from a survey questionnaire sent to humanitarian organizations undertaking humanitarian activities in Kenya and are based in Nairobi. These include UN, IOs and NGOs involved in humanitarian operations in Kenya as of 2012. Sixty four (64) organizations based in Nairobi were identified. The number of respondents was 34 out of 64 representing 53% response rate. The data obtained was analyzed and the findings are presented in relation to each section in the questionnaire.

### 4.2: Demographics

In this section, respondents' individual and organizational characteristics are analyzed. Respondents were asked to indicate their type of organization, gender, age, educational profile, professional background, experience and number of employees in their organization.

#### 4.2.1: Type of Organization

Table 4.2.1 shows the different organization respondents. Those from UN agencies were the largest with 44.1% of the study respondents while 38.2% were from International NGO's, 8.8% from Local NGO's and 5.9% being from Red Cross / Red Crescent. Those from donors' organizations comprised of 2.9% of the respondents.

**Table 4.2.1: Type of Organisation**

Type of organization	Frequency	Percentage
UN Agency	15	44.1
Local NGO	3	8.8
International NGO	13	38.2
Red Cross / Red Crescent	2	5.9
Donor	1	2.9
<b>Total</b>	<b>34</b>	<b>100.0</b>

**Source: Survey Data (2013)**

#### 4.2.2: Gender of Respondent

Table 4.2.2, 44.1% of the study respondents were males while 55.9% were females. This distribution shows that most of the respondents responsible for organizations information sharing are female. However, the central focus of this study is not affected by any known gender related factors.

**Table 4.2.2: Gender of Respondent**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	15	44.1
Female	19	55.9
<b>Total</b>	<b>34</b>	<b>100</b>

**Source: Survey Data (2013)**

#### 4.2.3: Age of Respondents

Table 4.2.3 presents the age distribution of study respondents. As evidenced, majority of respondents (55.9%) are aged between 31 and 40 years of age while 17.6% are between 20- 30 years of age and 26.5% are between 41-50 years. Ages 31 to 40 are known to be the most productive periods for most employed persons; these are the ages when most employees rise to positions of responsibility as they have appropriate experience and knowledge of their work.

**Table 4.2.3: Age of Respondents**

<b>Age</b>	<b>Frequency</b>	<b>Percentage</b>
20-30 years	6	17.6
31-40 years	20	58.8
41-50 years	8	23.5
Above 50 years	0	0
<b>Total</b>	<b>34</b>	<b>100</b>

**Source: Survey Data (2013)**

#### 4.2.4: Educational Profiles

Table 4.2.4 presents the educational profiles of study respondents. As seen, majority of respondents (67.6%) are post graduate while University graduates are represented by 29.4% and 3% hold College Diploma. Majority of information managers in humanitarian organizations that have participated in information sharing study have attained a university level of education. For our study, a higher level of education i.e. graduate-level and above implies that the respondents are experts and have a good understanding

of the contents of the questionnaire and the concept being discussed and are able to adequately respond to the questionnaire as required.

**Table 4.2.4: Education Profile of Respondents**

<b>Level of education</b>	<b>Frequency</b>	<b>Percentage</b>
Post Graduate	23	67.6
University Graduate	10	29.4
College Diploma	1	3
Secondary	0	0
<b>Total</b>	<b>34</b>	<b>100</b>

**Source: Survey Data (2013)**

#### **4.2.5: Experience of Respondents**

Table 4.2.5 presents the tabular distribution of study respondents' by years of work experience. As evidenced, majority of respondents (50%) have over 10 years of work experience while 35.3% have between 5-10 years and 14.7% have between 1-5 years. There is no one who has less than one year experience. Majority of information managers in the organizations that were studied had long years of work experience, a confirmation that they are well informed about their organizations and have very good understanding of the organizations information sharing characteristics.

**Table 4.2.5: Experience of Respondents**

<b>Years of work experience</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 1 year	0	0
Between 1-5 years	5	14.7
5-10 Years	12	35.3
Over 10 years	17	50
<b>Total</b>	<b>34</b>	<b>100</b>

**Source: Survey Data (2013)**

#### **4.2.6: Number of Employees**

Table 4.2.6 presents the profile of number of employees' of the organizations under study. A majority of respondents (70.6%) indicated that their organizations have above 50 employees, 17.6% have 11 – 20 employees, 5.9% have 21 – 30 employees, while 2.9% represented those with 31 – 40 employees and below 10 employees respectively. This indicates that most of the organizations under study have well established humanitarian operations.

**Table 4.2.6: Number of Employees**

<b>No. of employees</b>	<b>Frequency</b>	<b>Percentage</b>
10 employees and below	1	2.9
11 to 20 employees	6	17.6
21 to 30 employees	2	5.9
31 to 40 employees	1	2.9
Above 50 employees	24	70.6
<b>Total</b>	<b>34</b>	<b>100</b>

**Source: Survey Data (2013)**

#### **4.2.7: Information Governance, Policy and Guidance and Collaboration and Partnerships**

**Table 4.2.7: Information Governance, Policy and Guidance and Collaboration and Partnerships**

<b>Information governance, policy and guidance and Collaboration and Partnerships</b>	<b>Mean</b>	<b>Standard deviation</b>
Does the organization have Information governance policy in place	1.177	.387
Does the organization have any agreements with other organizations or partners to facilitate access or use of information that they holding in their custody	1.323	.475

The study sought to get the views of the respondents on the statements on information governance, policy and guidance, collaboration and partnerships. As shown on table 4.2.7, it was determined that the majority respondents indicated that there is an information governance policy in place and of which a mean of 1.177 was obtained. A mean of 1.323 was obtained with respondents acknowledging that their organizations do have agreements with other organizations or partners to facilitate access or use of information.

#### 4.2.8: Communication and Dissemination

**Table 4.2.8: Communication and Dissemination**

<b>Communication and dissemination</b>	<b>Mean</b>	<b>Standard deviation</b>
Electronic mail	4.765	.496
Website / Online portal	4.353	.981
Meetings	4.206	.770
Social Media	3.618	1.371
Print Media	3.441	1.133

It was determined from the study that majority respondents often use electronic mail in communication and dissemination where a mean of 4.765 was obtained. Also the respondents indicated that they often use website / online portal and meetings where both had a mean of 4.353 and 4.206 respectively. The respondents also indicate that they sometimes use social media and print media with a mean of 3.618 and 3.441 respectively.

#### 4.2.9: Data Standards and Format

**Table 4.2.9.1: Data Standard and Format used for Data Storage**

<b>Formats used for data storage</b>	<b>Mean</b>	<b>Standard deviation</b>
Database (access, SQL etc)	3.882	1.175
Table (Excel, csv, dbf etc)	4.559	.746
Word format (doc, txt etc)	4.529	.825
Geospatial (shp, DXF, KML, GPS points etc)	3.059	1.369
Web data service (wms, wfs, xml, etc)	3.265	1.421
Static format (PDF, image)	4.500	.707

The study sought to determine the respondents' responses on the issues pertaining to data standards and formats used for data storage. It was determined that sometimes database management system is used for data storage with a mean of 3.8824. The most often used data standard and format were the spreadsheets, word document and static format (pdf, image) where a mean of 4.559, 4.529 and 4.500 were obtained respectively. On use of geospatial format and web data service, the respondents indicated that they are also sometimes used for data storage, with a mean of 3.059 and 3.265 obtained respectively.

**Table 4.2.9.2: Information Sharing Strategy**

<b>Information sharing strategy</b>	<b>Mean</b>	<b>Standard deviation</b>
Any data or information sharing strategy in place at the organization	1.735	.898

The study sought to determine the respondents' responses on the issues pertaining to whether organizations have a defined information sharing strategy. It was determined that most of the organizations agree that they had an information sharing strategy in place where a mean of 1.735 was obtained.

**Table 4.2.9.3: Existence of ICT tools**

<b>Existence of ICT tools</b>	<b>Mean</b>	<b>Standard deviation</b>
Existence of ICT tools to manage data sharing in the organizations	1.294	.463

The study sought to determine the respondents' responses on the issues pertaining to whether organizations have ICT tools. It was determined that most of the organisation agreed that they had some ICT tools in place and a mean of 1.294 was obtained.

### **4.3: Extent of Information Sharing**

#### **4.3.1: To what Extent Organization Shares the Following Information with Other Organizations**

**Table 4.3.1: Extent of Information Sharing**

<b>Extent of Information sharing</b>	<b>Mean</b>	<b>Standard deviation</b>
Data available	3.735	.994
Policy guidelines	3.471	.961
ICT tools in use	3.147	1.105

The study sought to determine the respondents' responses on the issues pertaining to the extent of information sharing. It was determined that only to a moderate extent was data available, policy guidelines and ICT tools used shared in the organizations that responded. This was given by the means as follows 3.735, 3.471 and 3.147 respectively.

#### 4.3.2: Extent of Use of Various Data Sources for Humanitarian Response Planning

**Table 4.3.2: Extent of Use of Various Data Sources for Humanitarian Response Planning**

<b>Extent of use of data for humanitarian response planning</b>	<b>Mean</b>	<b>Standard deviation</b>
Field data collection	4.235	1.075
Updates from collaborating partner organization or networks (e.g. clusters)	4.353	.646
Information shared through coordination meetings	4.294	.871
Subscribed mailing lists	3.735	1.053
Media	3.441	1.050
Online Web portal	3.824	1.193
Research findings	3.794	1.122

The study sought to determine the respondents' responses on the issues pertaining extent of use of various data sources for humanitarian response planning. It was determined that to a greater extent, they use data from regular updates from collaborating partner organization or networks, coordination meetings and field data collection which had means of 4.353, 4.294 and 4.235 respectively. They also indicated that they use data to a moderate extent from subscribed mailing lists, Media; online Web portal and research findings which obtained means of 3.735, 3.441, 3.824 and 3.794 respectively.

#### 4.3.3: Extent to which Organizations Share Information with the Other Organization Types.

**Table 4.3.3.1: Extent of Information Sharing between Organization Types**

<b>Extent of information sharing between organization types</b>	<b>Mean</b>	<b>Standard deviation</b>
UN Agencies	3.941	1.153
International NGOs	4.059	.952
Local NGOs	3.824	.797
Donors	4.353	.774
Government	4.147	.857
Media	3.324	1.093
Clusters / Sector (working group)	4.088	1.055

The study sought to determine the respondents' responses on the issue of extent to which their organization share information with other categories of organizations. It was determined that the sharing of information was to greater extent with Donors, Government, Clusters / Sectors and International NGOs where the means were obtained as 4.353, 4.147, 4.088 and 4.059

respectively. To a moderate extent sharing of information was with UN Agencies, Local NGOs and Media with means obtained as 3.941, 3.824 and 3.324 respectively.

**Table 4.3.3.2: Steps taken by Organization during Emergency Crisis to Share Data**

<b>Steps taken by organization to share data during emergency crisis</b>	<b>Mean</b>	<b>Standard deviation</b>
During emergency crisis does the organization take all necessary steps to share information collected with other humanitarian partners	1.118	.327

From the responses on the issue as to whether the organization takes necessary steps during emergency crisis to share information. It was determined that most of the organisation respondents agreed that they take all necessary steps during emergency crisis to share information and a mean of 1.118 was obtained.

#### **4.3.4: Extent to which Information is Shared in Organizations via Following Methods**

**Table 4.3.4: Extent to which Information is Shared in Organizations via Following Methods**

<b>Extent information in your organization is shared via the following</b>	<b>Mean</b>	<b>Standard deviation</b>
Upon request	4.088	.712
Regular scheduled update	3.882	1.066
Irregular /Ad hoc updates	3.412	1.019
Other	2.882	1.409

Respondents indicated that the organizations share information to a greater extent upon request, which a mean of 4.088 was obtained and to moderate extent via regular scheduled update and irregular /Ad hoc updates with a mean of 3.882 and 3.412 obtained respectively. To a little extent is information shared by other methods, where a mean of 2.882 was obtained.

#### **4.4: Factors Affecting Information Sharing**

The second objective was to establish the factors that affect information sharing among humanitarian organizations in Kenya. From literature among the seven (7) factors identified, 23 factor components or variables that constitute the seven factors were identified and used to assess respondents' views, as to what extent they affect the organizations ability to share information. A Likert scale with; 1=No extent, 2=Little

extent, 3=Moderate extent, 4=Great extent, 5=Very great extent were used to analyze the responses.

In order to reduce and classify the above factors into meaningfully functional categories, factor analysis of the factors deemed important for success of information sharing was done. Preliminary analysis was first conducted to determine whether factor analysis is appropriate. Factor analysis has been used because of the concern of decomposing the information content in a set of variables into information about an inherent set of latent components/factors. This assisted in reducing a number of variables into fewer factors which are of similar characteristics. The analysis was carried out and the results have been presented in terms of: Descriptive Statistics, KMO and Bartlett’s Test, Scree Plot, Total Variance Explained /Eigen values, Initial Component Matrix and Rotated Component Matrix (Varimax).

#### 4.4.1 Factors Affecting Information Sharing Analysis

The highest mean scores were, variable (Information sensitivity with a mean of 3.931), variable (Information governance, policy and guidance with a mean of 3.647) variable (Communication and Dissemination with a mean of 3.563), variable (Collaboration and partnerships with a mean of 3.471). The lowest mean score were variables (Data standards & format, Cultural factors and Information sharing systems with means of 3.299, 3.259 and 3.437 respectively). These were very important variables in analysing and evaluate the information sharing among humanitarian organizations in Kenya. A lower standard deviation for Information sensitivity factors (.868) and Cultural factors (.973) indicate that the respondents had a closely related opinion on these factors.

**Table 4.4.1: Factors Affecting Information Sharing Analysis**

	Mean	Std. Deviation
Cultural factors	3.299	.973
Information governance, policy and guidance	3.647	1.101
Communication and Dissemination	3.563	1.069
Collaboration and partnerships	3.471	1.018
Information sensitivity	3.931	.868
Information sharing systems	3.437	1.162
Data standards & format	3.259	1.265

#### 4.4.2 KMO and Bartlett's Test

In order to use factor analysis for further analysis, it was important to test the significance of the technique. This was done by the use of P value (the smallest level at which null hypothesis can be rejected).

P-value = 0.000 is less than 0.05 (reject Ho)

**Table 4.4.2: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.572
Bartlett's Test of Sphericity	Approx. Chi-Square	773.458
	Df	253
	Sig.	.000

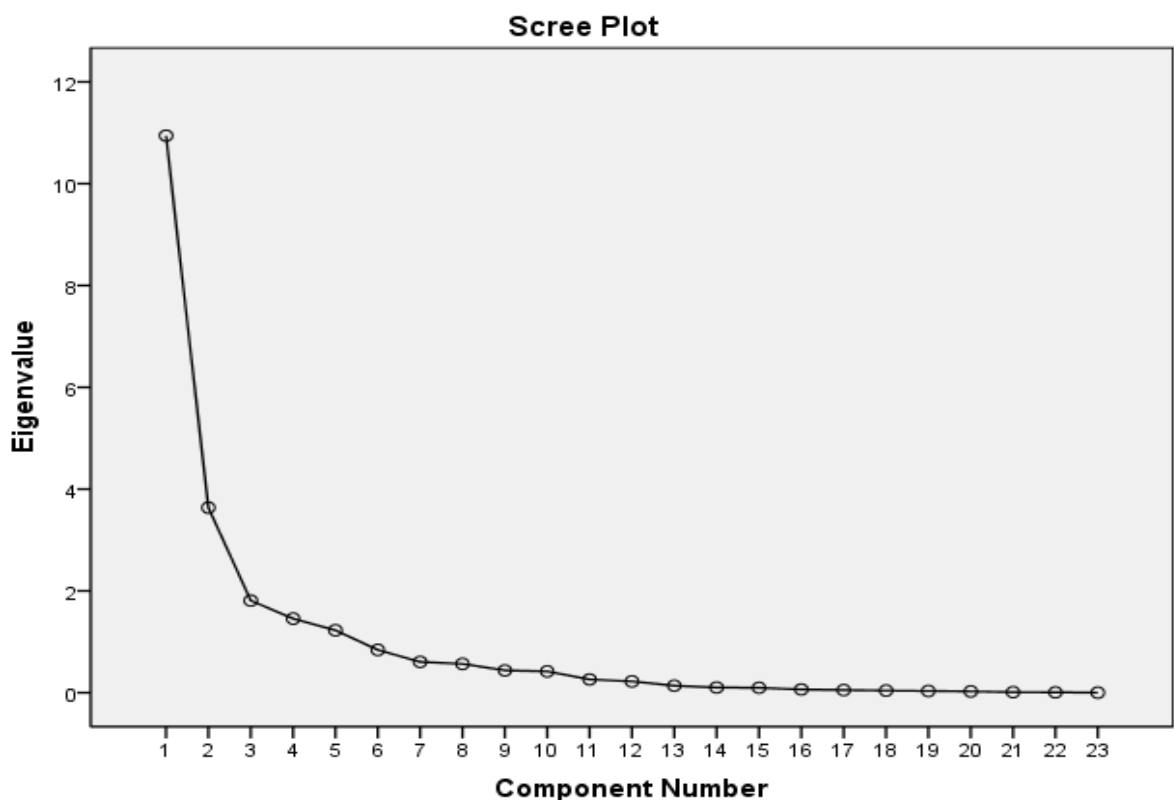
Kaiser-Meyer-Olkin Measure of Sampling Adequacy - This measure varies between 0 and 1, and values closer to 1 are better. A value of .572 is a suggested minimum. This indicates that the sum of the partial correlations is small relative to the sum of the correlations, an indicator of non-diffusion in the pattern of the correlations. In other words, the pattern of the correlations is relatively compact and so factor analysis should yield distinct and reliable factors. This therefore confirms that factor analysis is appropriate for this data. Bartlett's Test of Sphericity, this tests the null hypothesis that the correlation matrix is an identity matrix. An identity matrix is a matrix in which all of the diagonal elements are 1 and all off diagonal elements are 0.

**Table 4.4.3: Correlation Matrix**

Correlation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.000	.743	.369	.243	.365	.257	.401	.270	.403	.194	.359	.558	.269	.097	.091	.182	.090	.374	.349	.451	.297	.604	.597
2	.743	1.000	.519	.231	.321	-.017	.333	.418	.689	.536	.442	.699	.387	-.086	-.187	.059	.346	.414	.453	.395	.413	.525	.568
3	.369	.519	1.000	.636	.773	.537	.699	.728	.681	.574	.831	.413	.654	.350	.126	.401	.528	.300	.279	.483	.292	.466	.475
4	.243	.231	.636	1.000	.845	.652	.795	.678	.452	.471	.646	.460	.740	.233	.042	.137	.441	.463	.373	.357	.430	.470	.429
5	.365	.321	.773	.845	1.000	.703	.873	.777	.587	.361	.763	.371	.643	.547	.324	.465	.584	.309	.230	.465	.301	.538	.564
6	.257	-.017	.537	.652	.703	1.000	.758	.405	.261	.284	.431	.069	.460	.497	.302	.406	.282	.219	.157	.394	.261	.455	.398
7	.401	.333	.699	.795	.873	.758	1.000	.768	.590	.442	.682	.311	.655	.499	.362	.429	.644	.302	.393	.339	.252	.533	.514
8	.270	.418	.728	.678	.777	.405	.768	1.000	.699	.470	.752	.403	.677	.468	.334	.440	.633	.265	.291	.345	.292	.421	.451
9	.403	.689	.681	.452	.587	.261	.590	.699	1.000	.776	.724	.573	.697	.231	.086	.364	.651	.601	.646	.562	.576	.695	.728
10	.194	.536	.574	.471	.361	.284	.442	.470	.776	1.000	.523	.537	.616	-.047	-.156	.060	.438	.649	.714	.476	.550	.502	.475
11	.359	.442	.831	.646	.763	.431	.682	.752	.724	.523	1.000	.481	.758	.383	.286	.482	.585	.501	.522	.495	.324	.507	.535
12	.558	.699	.413	.460	.371	.069	.311	.403	.573	.537	.481	1.000	.458	.057	-.135	.117	.297	.752	.613	.449	.623	.548	.563
13	.269	.387	.654	.740	.643	.460	.655	.677	.697	.616	.758	.458	1.000	.107	-.003	.191	.525	.563	.540	.365	.534	.559	.520
14	.097	-.086	.350	.233	.547	.497	.499	.468	.231	-.047	.383	.057	.107	1.000	.760	.674	.371	-.050	-.023	.198	-.051	.229	.253
15	.091	-.187	.126	.042	.324	.302	.362	.334	.086	-.156	.286	-.135	-.003	.760	1.000	.648	.262	-.116	.086	.042	-.258	.040	.064
16	.182	.059	.401	.137	.465	.406	.429	.440	.364	.060	.482	.117	.191	.674	.648	1.000	.557	.112	.139	.417	.071	.337	.421
17	.090	.346	.528	.441	.584	.282	.644	.633	.651	.438	.585	.297	.525	.371	.262	.557	1.000	.191	.411	.144	.112	.261	.342
18	.374	.414	.300	.463	.309	.219	.302	.265	.601	.649	.501	.752	.563	-.050	-.116	.112	.191	1.000	.792	.633	.818	.706	.643
19	.349	.453	.279	.373	.230	.157	.393	.291	.646	.714	.522	.613	.540	-.023	.086	.139	.411	.792	1.000	.357	.486	.479	.443
20	.451	.395	.483	.357	.465	.394	.339	.345	.562	.476	.495	.449	.365	.198	.042	.417	.144	.633	.357	1.000	.691	.745	.716
21	.297	.413	.292	.430	.301	.261	.252	.292	.576	.550	.324	.623	.534	-.051	-.258	.071	.112	.818	.486	.691	1.000	.784	.706
22	.604	.525	.466	.470	.538	.455	.533	.421	.695	.502	.507	.548	.559	.229	.040	.337	.261	.706	.479	.745	.784	1.000	.967
23	.597	.568	.475	.429	.564	.398	.514	.451	.728	.475	.535	.563	.520	.253	.064	.421	.342	.643	.443	.716	.706	.967	1.000

The Pearson product-moment correlation coefficient (or Pearson correlation coefficient for short) is a measure of the strength of a linear association between two variables and is denoted by  $r$ . Basically, a Pearson product-moment correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient was conducted to examine the relationship between variables,  $r$ , indicates how far away all these data points are to this line of best fit (how well the data points fit this new model/line of best fit). The Pearson correlation coefficient,  $r$ , can take a range of values from +1 to -1. A value of 0 indicates that there is no association between the two variables. As cited in Wong & Hiew (2005) the correlation coefficient value ( $r$ ) range from 0.10 to 0.29 is considered weak, from 0.30 to 0.49 is considered medium and from 0.50 to 1.0 is considered strong. However, according to Field (2005), correlation coefficient should not go beyond 0.8 to avoid multicollinearity. The highest correlation coefficient is (.873) is being indicated between variables within Information governance, policy and guidance factors (i.e. procedures and practice and formal protocols for communicating with external actors). From the table 4.4.3 all the predictor variables were shown to have a positive association between them.

**Figure 3: Scree Plot**



The scree plot graphs the eigenvalue against the indicators of the seven factors of information sharing. The figure shows that five components in the first two factors (Cultural factors and Information governance, policy and guidance factors) are significant and can be considered. From the fifteenth indicator shows that the line is almost flat, meaning the each successive factor is accounting for smaller and smaller amounts of the total variance.

**Table 4.4.4: Communalities**

	Initial	Extraction	Mean	Std dev.
Organizational leadership & Management	1.000	.838	3.303	1.334
Employees' attitudes towards knowledge and knowledge sharing	1.000	.961	3.147	1.158
Established practice of information sharing within and between agencies	1.000	.784	3.735	1.053
Policy guidelines	1.000	.888	3.688	1.203
Procedures and practice	1.000	.925	3.750	1.136
Legislative and regulatory framework	1.000	.813	3.406	1.188
Formal protocols for communicating with external actors	1.000	.870	3.758	1.119
Communication strategy	1.000	.795	3.667	1.190
Dissemination methods	1.000	.873	3.438	1.294
Access to mobile and online ICT tools	1.000	.777	3.273	1.420
Partnerships & Networks	1.000	.791	3.697	1.262
Interpersonal relationships	1.000	.696	3.273	1.180
Obligation and agreements	1.000	.800	3.636	1.194
Information content	1.000	.810	3.938	1.190
Confidentiality	1.000	.809	4.000	1.164
Information source	1.000	.826	3.781	1.039
Relevance	1.000	.761	3.875	1.040
Website	1.000	.906	3.727	1.281
Email	1.000	.774	3.727	1.398
Social media	1.000	.741	3.152	1.302
Shared ICT tools	1.000	.864	3.303	1.287
Standardized ICT tools	1.000	.907	3.219	1.289
Common data standards	1.000	.860	3.364	1.270

Extraction Method: Principal Component Analysis.

The finding on communalities on each variable's variance that can be explained by the factors. With principal factor axis factoring, the initial values on the diagonal of the correlation matrix are determined by the squared multiple correlation of the variable with the other variables. Extraction column indicate the proportion of each variable's variance that can be explained by the retained factors. Variables with high values are well represented in the common factor space, while variables with low values are not well represented. In this case, we don't have any particularly low values since all values are above 0.696 indicating a positive correlation. Table 4.4.4 presents the communalities results which test the proportion of each variable's variance that can be explained by the retained factors, that is, the proportion of variance that each item has in common with other factors.

**Table 4.4.5: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.944	47.583	47.583	10.944	47.583	47.583	5.542	24.097	24.097
2	3.636	15.809	63.392	3.636	15.809	63.392	4.447	19.335	43.431
3	1.809	7.867	71.259	1.809	7.867	71.259	3.534	15.364	58.795
4	1.456	6.329	77.587	1.456	6.329	77.587	3.092	13.442	72.237
5	1.226	5.331	82.918	1.226	5.331	82.918	2.457	10.681	82.918
6	.841	3.657	86.576						
7	.606	2.634	89.209						
8	.567	2.464	91.673						
9	.439	1.908	93.580						
10	.419	1.821	95.401						
11	.262	1.138	96.539						
12	.223	.967	97.506						
13	.138	.601	98.108						
14	.102	.444	98.552						
15	.096	.418	98.970						
16	.065	.283	99.253						
17	.051	.223	99.476						
18	.042	.181	99.657						
19	.034	.150	99.807						
20	.026	.113	99.920						
21	.011	.046	99.966						
22	.007	.028	99.994						
23	.001	.006	100.000						

Extraction Method: Principal Component Analysis.

Eigenvalues are the variances of the factors. Because we conducted our factor analysis on the correlation matrix, the variables are standardized, which means that each variable has a variance of 1, and the total variance is equal to the number of variables used in the analysis, in this case, 23. Factor one explains 10.944% of total variance. It is clear that the first few explain relatively large amounts of variance as opposed to subsequent ones. Factors with eigenvalues greater than one were then extracted, leaving us with only 5 factors which were considered significant.

With the Total column containing the eigenvalues. The first factor accounts for the most variance (and hence has the highest eigenvalue), and the next factor will account for as much of the left over variance as it can, and so on as shown in table 4.4.5. Hence, each successive factor will account for less and less variance. Cumulative column contains the cumulative percentage of variance accounted for by the current and all preceding factors. For example, the third row shows a value of 82.918. This means that the first five factors together account for 82.918% of the total variance.

Extraction Sums of Squared Loadings indicate the number of rows in this panel of the table correspond to the number of factors retained. The values in this panel of the table are calculated in the same way as the values in the left panel, except that here the values are based on the common variance. The values in this panel of the table will always be lower than the values in the left panel of the table, because they are based on the common variance, which is always smaller than the total variance.

Rotation Sums of Squared Loadings - The values in this panel of the table represent the distribution of the variance after the Varimax rotation. Varimax rotation tries to maximize the variance of each of the factors, so the total amount of variance accounted for is redistributed over the five extracted factors.

**Table 4.4.6: Rotated Component Matrix<sup>a</sup>**

	Component				
	1	2	3	4	5
Policy guidelines	<b>.880</b>	.267	.189	-.077	-.018
Procedures and practice	<b>.860</b>	.202	.103	.310	.197
Formal protocols for communicating with external actors	<b>.829</b>	.155	.197	.307	.162
Legislative and regulatory framework	<b>.748</b>	.349	-.189	.281	-.134
Established practice of information sharing within and between agencies	<b>.734</b>	.108	.293	.156	.352
Communication strategy	<b>.699</b>	.026	.392	.301	.249
Obligation and agreements	<b>.678</b>	.296	.495	-.073	.055
Partnerships & Networks	<b>.617</b>	.198	.483	.287	.236
Shared ICT tools	.170	<b>.850</b>	.270	-.184	.071
Standardized ICT tools	.307	<b>.813</b>	.137	.143	.337
Website	.114	<b>.788</b>	.509	-.108	.052
Social media	.211	<b>.776</b>	.090	.190	.224
Common data standards	.279	<b>.734</b>	.171	.213	.411
Email	.071	.432	<b>.760</b>	.019	.071
Access to mobile and online ICT tools	.331	.370	<b>.703</b>	-.165	.089
Dissemination methods	.367	.364	<b>.665</b>	.171	.367
Relevance	.439	-.125	<b>.621</b>	.389	.123
Confidentiality	.098	-.093	-.005	<b>.887</b>	-.071
Information source	.170	.169	.135	<b>.862</b>	.080
Information content	.331	.038	-.078	<b>.832</b>	-.010
Employees' attitudes towards knowledge and knowledge sharing	.138	.204	.396	-.135	<b>.851</b>
Organizational leadership & Management	.159	.372	-.056	.082	<b>.815</b>
Interpersonal relationships	.149	.464	.473	-.101	.474

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

The rotated component matrix is to transform the complicated matrix (initial matrix into simpler one). The purpose of rotation is to achieve a simple structure i.e. we would like each factor to have non zero loading for only some of the variable so that we can easily interpret the factors. A factor loading of 0.5 has been used to determine the variable belonging to each factor. Except for interpersonal relationships all the other factors belong to one of the 5 sets of factors extracted.

**Table 4.4.7: Isolation of Factors**

<b>Factor components</b>	<b>Factors Affecting Information Sharing</b>
<b>Factor 1:</b> Information governance, policy and guidance factors; Collaboration and partnerships.	Policy guidelines
	Procedures and practice
	Formal protocols for communicating with external actors
	Legislative and regulatory framework
	Established practice of information sharing within and between agencies
	Communication strategy
	Obligation and agreements
	Partnerships & Networks
<b>Factor 2:</b> Information sharing systems; Data standards & format	Shared ICT tools
	Standardized ICT tools
	Website
	Social media
	Common data standards
<b>Factor 3:</b> Communication and dissemination	Email
	Access to mobile and online ICT tools
	Dissemination methods
	Relevance
<b>Factor 4:</b> Information sensitivity	Confidentiality
	Information source
	Information content
<b>Factor 5:</b> Cultural factors	Employees' attitudes towards knowledge and knowledge sharing
	Organizational leadership & Management

Factor isolation involves isolating factor components and grouping them based on extracted factor loadings. This is based on their correlation with each other, resulting in 5 group factors, with most of the factor indicators considered by organizations as essential practices and ranked in factor 1 to 3, with factor 1 having the most number of factors.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1: Summary of Findings**

The number of respondents was 34 out of 64 representing 53% response rate. The data obtained was analyzed and the findings are presented in relation to each section in the questionnaire.

The following attributes were determined by the study in respect to individual respondents and organization characteristics; Majority of respondents were from UN agencies (44.1%) and International NGOs (38.1%); 70.6% of these organizations had above 50 employees; 55.9% of the respondents were female; and 58.8% of the respondents were of age 31 – 40 years; 67.6 % of the respondents had attained a post graduate education; and 50% had over 10 years work experience.

The study sought to get the views of the respondents on the statements on information governance, policy and guidance, collaboration and partnerships. It was determined that majority of the organisations do have an information governance policy and guidelines in place and also do have agreements with other organizations or partners that facilitate access or use of information. In regard to communication and dissemination, it was determined from the study that majority of organizations often or always use electronic mail, website / online portal and meetings as a means of information dissemination. The study also determined that most of the organizations have a defined data or information sharing strategy.

As pertains to data a standards and format, the study sought to determine the commonly supported data standard and formats for data storage. It was determined that the most organizations often used spreadsheets, word document and static format (pdf, image) and sometimes a database management system in data capture and storage. The study also determined that most organizations have ICT tools in place to manage data sharing.

The study also sought to get views on the extent of information sharing and the following was determined; that the sharing of information was to a great extent happening between donors, UN agencies, International and local NGOs, Government and Clusters / Sectors working groups; that to a greater extent organizations primary data sources are mostly field data collection, regular updates from collaborating partner organization or networks and the coordination meetings; that most organizations share information to a greater extent upon request and only to a moderate extent via regular scheduled updates; that only to a moderate extent were the organizations sharing data, policy guidelines and ICT tools used; and that most organizations take all necessary steps to share information during emergency crisis.

The study further sought views to establish the factors affecting information sharing. Factor analysis extracted factors and grouped them in order of importance as the most likely factor that would affect the organizations ability to share information. As shown on Table 4.4.7, the study determined that factors affecting information sharing among humanitarian organizations in Kenya can be grouped into 5 factors, as follows; Factor 1 (includes Information governance, policy and guidance factors and Collaboration and partnerships factors); Factor 2 (includes Information sharing systems factors and Data standards & format factors); Factor 3 (includes Communication and dissemination factors); Factor 4 (includes Information sensitivity factors) and Factor 5 (includes Cultural factors).

## **5.2: Conclusions**

The results indicate that many organizations are aware of substantial benefits of information sharing and that majority of the organizations have implemented information sharing strategies. Majority of the organisations have defined information governance policy and guidelines, and communication and dissemination methods, developed collaboration and partnerships with partners and often or always use Information sharing systems to facilitate for information sharing.

However there is relatively wide diversity of the extent of information sharing by organizations as evidenced in the relatively large standard deviations and as also indicated by the fact that majority organizations tend to share information to a greater extent upon request and that there is limited sharing of data, policy guidelines and ICT tools. An indicator that information sharing may not be adequate.

The study established that information sharing among organizations is influenced by 5 factors grouped and ranked as follows; existence of appropriate Information governance, policy and guidelines; Collaboration and building of partnerships, use of appropriate ICT systems; support to open data standards & format, Communication and dissemination strategy in place, Information sensitivity, and organizational Culture.

### **5.3: Recommendations**

From the study it can be recommended that organizations should ensure that appropriate information governance, policy and guidelines are developed to provide a framework to bring together all of the requirements, standards and best practice that apply to the handling of information. This will provide guidance to data users and data providers on best practice when sharing information between agencies. Organizations are also recommended to collaborate and partner with established networks or groups to promote organizational information sharing, this also allows for opportunities for networking, sharing and exchanging information. Organizations need to ensure that Information and data accessible to them is easily available to other humanitarian actors through establishing well-defined communication strategy and dissemination methods and data or information sharing strategies.

### **5.4: Scope and Limitations of Study**

The scope of study was limited due to the time available. Whereas the study was meant to get responses from all 64 organizations only 34 responded, more responses could have enriched the study findings. The scope of the current study was also limited to the responses of information managers within the target organizations. As online questionnaire was used, lack of physical contact with the respondents may have contributed to the low response rate. There was also inadequate literature on information sharing based on Kenyan context especially in the context of humanitarian sector.

### **5.5: Suggestions for Future Study**

Future research could expand the scope of this study to include private commercial companies, firms and the large network of local NGOs in order to get a comprehensive picture of Information sharing in Kenyan context.

Further, new information sharing techniques may emerge in the future due to changes in regulations, managerial policy and new technologies. Researchers must continue to their efforts to identify such success factors and empirically test their importance in practice and determine incentives that motivate sharing information among organizations.

Also, there is need to for longitudinal studies to more clearly establish the cause and effect relationships between the main variables in this study.

It is strongly recommended that confirmatory factor analysis be conducted for any future studies when larger based samples can be obtained. This research study makes significant contribution to empirically test the factors determining information sharing. Hopefully this study will provide impetus for future research with an aim to gain a better understanding of information sharing.

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## Appendix1. Questionnaire

### Section A: Background Information (please put an X in relevant box)

1. Name of your Organization \*. \_\_\_\_\_

2. Type of organization? \*

- UN Agency
- Local NGO
- International NGO
- Red Cross / Red Crescent
- Donor

Other specify \_\_\_\_\_

3. What is your level of work experience?

- |                       |                        |                       |                       |
|-----------------------|------------------------|-----------------------|-----------------------|
| Less than 1<br>year   | Between 1<br>- 5 years | 5-10 years            | Above 10<br>years     |
| <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> |

4. Which is your highest academic level? \*

- Primary certificate
- Secondary certificate
- College diploma
- University graduate
- Post graduate

Other specify \_\_\_\_\_

5. Please specify your gender

- |                       |                       |
|-----------------------|-----------------------|
| Male                  | Female                |
| <input type="radio"/> | <input type="radio"/> |

6. What is your age bracket? \*

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 20 - 30<br>years      | 31 - 40<br>years      | 41 - 50<br>years      | Above 50<br>years     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

7. How many employees does your organization have?

- 10 employees and below
- 11 to 20 employees

- 21 to 30 employees
- 31 to 40 employees
- 41 to 50 employees
- Above 50 employees

**Information Governance, Policy and Guidance and Collaboration and Partnerships**

8. Does your organization have any information governance policy in place? \*

- Yes
- No

9. Does your organization have any agreements with other organizations or partners to facilitate access or use of information that they may be holding in their custody? \*

- Yes
- No

**Communication and Dissemination**

10. In respect to Information dissemination, please indicate the most common dissemination methods used by your organization. \*

	Never	Rarely	Sometimes	Often	Always
Electronic mail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Website / Online portal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Print Media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Data Standards and Format**

11. Please indicate which of the following formats you commonly receive and store data in your organization? \*

	Never	Rarely	Sometimes	Often	Always
Database (access, SQL etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Table (Excel, csv, dbf etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Word format (doc,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never	Rarely	Sometimes	Often	Always
txt etc)					
Geospatial (shp, DXF, KML, GPS points etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Web data service (wms, wfs, xml, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Static format (PDF, image)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other specify _____					

12. Does your organization have a data or information sharing strategy in place? \*

- Yes
- No
- Planned / currently being developed

13. Does your organization have any Information Communication Technology tools in place to manage data sharing? \*

- Yes
- No

### Section B. Extent of Information Sharing

14. Indicate to what extent your organization shares the following information with other organizations. \*

	No extent	Little extent	Moderate extent	Great extent	Very great extent
Data available	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Policy guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ICT tools in use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other specify _____					

15. In your opinion during humanitarian crisis does your organization take all necessary steps to share as much as possible all information collected on the crisis with other humanitarian partners? \*

- Yes
- No

16. In evaluating your organization's information sources, please indicate the extent to which your organization uses the following sources of data for humanitarian response planning. \*

	No extent	Little extent	Moderate extent	Great extent	Very great extent
Field data collection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Updates from collaborating partner organization or networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information from coordination meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Subscribed mailing lists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Web portal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research findings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other specify _____					

17. To what extent does your organization share information with any of the following organizations? \*

	No extent	Little extent	Moderate extent	Great extent	Very great extent
UN Agencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International NGOs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local NGOs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Donors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clusters / Sector (working group)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other specify _____					

18. To what extent is information in your organization shared via following? \*

	No extent	Little extent	Moderate extent	Great extent	Very great extent
Upon request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regular scheduled updates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irregular /Ad hoc updates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Section C: Factors Affecting Information Sharing

19. To what extent do the following factors affect your organization's ability to share acquired data or information with other organizations?

#### I. Cultural factors

	No extent	Little extent	Moderate extent	Great extent	Very great extent
Organizational leadership & Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees' attitudes towards knowledge and knowledge sharing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Established practice of information sharing within and between agencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### II. Information governance, policy and guidance factors

	No extent	Little extent	Moderate extent	Great extent	Very great extent
Policy guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procedures and practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legislative and regulatory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	No extent	Little extent	Moderate extent	Great extent	Very great extent
framework					
Formal protocols for communicating with external actors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>III. Communication and Dissemination</b>					
	No extent	Little extent	Moderate extent	Great extent	Very great extent
Communication strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dissemination methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to mobile and online ICT tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>IV. Collaboration and partnerships</b>					
	No extent	Little extent	Moderate extent	Great extent	Very great extent
Partnerships & Networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpersonal relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obligation and agreements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>V. Information sensitivity</b>					
	No extent	Little extent	Moderate extent	Great extent	Very great extent
Information content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confidentiality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relevance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

VI. Information sharing systems

	No extent	Little extent	Moderate extent	Great extent	Very great extent
Website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Email	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shared ICT tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

VII. Data standards & format

	No extent	Little extent	Moderate extent	Great extent	Very great extent
Standardized ICT tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Common data standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other specify _____					

## **Appendix II: List of humanitarian organizations based in Nairobi**

### **Organization Name**

1. ADESO
2. ICRC
3. IFRC
4. ILRI
5. IOM
6. ACTED
7. Action against Hunger
8. Action Aid
9. AMREF
10. CAFOD
11. Care International
12. Caritas Switzerland
13. Catholic Relief Services
14. Child Fund Kenya
15. Christian AID
16. Christian Blind Mission
17. Christian Children Fund
18. Christian Mission Aid
19. Concern Worldwide
20. Danish Refugee council
21. Feed the children
22. Food for the Hungry
23. German Agro Action
24. Goal (K)
25. Handicap International
26. Helpage International
27. Hijra-Kenya Programme
28. Horn Relief
29. International Institute of Rural Reconstruction (IIRR)
30. International medical corps
31. International Rescue Committee

32. Islamic Relief
33. Kenya Red Cross
34. Lutheran World Federation
35. Merlin
36. Norwegian Refugee Council
37. Oxfam GB
38. Oxfam Novib
39. People in Aid
40. Plan International
41. Practical Action
42. Samaritan's Pulse Int'l Relief.
43. Save the Children
44. Solidarities
45. Tearfund
46. Transparency International
47. Trocaire Kenya
48. World Concern
49. World Vision International
50. FAO ROEA
51. FAO Kenya
52. OCHA
53. UN Habitat
54. UNAIDS
55. UNDP Kenya
56. UNEP
57. UNFPA
58. UNHCR Ken
59. UNHCR RSB
60. UNICEF ESARO
61. UNICEF Kenya
62. UNWOMEN
63. WFP
64. WHO