Factors Affecting Disaster Risk Management Practices In Case of Jimma Zone Selected Weredas

A Theses Submitted to the School of Graduateof Jimma University In Partial Fulfillment of the Requirements for the Award of the Degree of Masters ofPublic Management (MPM).

BY:

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JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

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BY

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DECLARATION

I, Tariku Frew, here declared that this theses entitled "***Factors affecrting*** *Disaster risk management practice. A case study in Jimma zone selected woreda, Jimma, Ethiopia*" is submitted by me in partial fulfillment for the requirements MPM in public management at Jimma University. It is my original work and has been cried out by me under the guidance and supervision of Mr. Wendweson Siyum (Ass. Prof) and Mr. Gemechu Abdisa. It has not been submitted earlier for the award of any degree or diploma.

Name	Signature	Date
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Certificate

This is to certify that the thesis entitled "factors of disaster risk management practice: in case of Jimma zone selected woredas", Submitted to Jimma University for the award of the Degree of Master of public management (MPM) and is a research work carried out by Mr. Tariku Frew Belisti, under our guidance and supervision.

Therefore we hereby declare that no part of this thesis has been submitted to any other university or institutions for the award of any degree of diploma.

Main Adviser's Name	*Date*	*signature*
_____	_____	_____
Co-Advisor's Name	*Date*	*Signature*
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Abstract

The main objective of the study was to assess the practice of disaster risk management and its factors(avoid it) in jimma zone selected woredas. The study assesses the impact of independent variables (sex, age, number of family, educational background, geography, information access, disaster risk management tools and vulnerability) on dependent variable (disaster risk management practice) in jimma zone. The researcher were used self-administered questionnaires. A total number of 146units of questionnaires were distributed physically among sampled respondents of the study in the selected woredas. Statistical Package for Social Science version 20 (SPSS) was used to analyze the data which were collected from the survey. Respondent's feedbacks were analyzed through Pearson's Correlation Analysis and Multiple Regression Analysis. The results indicate that whether the independent variables have significant relationships and correlations with the dependent variable which is disaster risk management practice. The findings also reveal that sex, number of family, educational background, information access, disaster risk management tools and vulnerability have significant relationships with disaster risk management practice. Among the independent variables, disaster risk management tools has the strongest correlations while number of family has the weakest correlations with disaster risk management practice.

Key Words: disaster risk management,disaster risk reduction, disaster risk management practice, vulnerability anddisaster risk reduction.

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ACRONYMS

NGO: - nongovernmental organization

GIS: - geographical information system

CDMP: - comprehensive disaster management program

DM: - disaster management

RD: - risk reduction

NPDPM:-

DPPC:-

ECHO:-

DRRAP:-

UNISDR: - United Nation International strategy for disaster reduction

UNSDR: - United Nation Strategy for Disaster Reduction

TVET:-

RRC: - relief and rehabilitation commission

DPPA: - disaster prevention and preparedness agency

DRM: - disaster risk management

DRMP: - disaster risk management practice

FAO: - food and agricultural organization

MGDS: - Malawi Growth and Development Strategy

JICA: - japan international cooperation agency

NMA: - national meteorological agency

NDRMC: - National disaster risk management commission

CMDRR: - community managed disaster risk reduction

AWD: - acute watery diarrhea

SNNP: - southern nations nationalities and peoples

DRR: - disaster risk reduction

EWS: - early warning system

SPSS:- statistical package for social science

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Chapter One

1. Introduction

1.1 Background of the study

Disaster management is an important sectors of the government so as to manage the disaster risk happens in the country as well as to response to risks happened. All of the activities in the world is vulnerable to its own risks. Reducing disaster risk and effects of disaster can only be possible through building resilience to counteract impacts of hazards and related disasters and by providing timely and appropriate response to disasters. (REPUBLIC, 2013)

Disasters hit every part of the globe (developing and developed), causing deaths and destructions. Hurricanes, fire, earthquake, tsunami, flood, drought, volcanic eruptions, landslides, cyclones, wars, oil spills, acts of terrorism, just to name a few, are the natural and man-made disaster events that resulted in untold suffering to the millions of people worldwide. Apparently, most of the developing countries bear the brunt of natural disaster losses. Why because low resisting ability the developing nations are more exposed than the advanced ones socially, physically and economically. Globally, disaster losses have shown an increasing trend over the past decade. In 2007, for instance, natural disasters affected nearly 10, 000 deaths and over $54 billion worth of losses worldwide. Global disaster statistics for 2000-2006 revealed staggering economic costs estimated at $235 billion and 130000 lives lost (op cit). Drought and flood were the major disaster events that severely affected Africa accounting for 2.2 % of the global share of people killed by natural disasters (ibid). Currently, Asia is the world's most disaster-prone region, involving over 78 % of the total affected populations, 40 % of the deaths, and 48 % of the total economic losses. (Abebe, 2009)

Ethiopia is highly exposed to a wide range of disasters. The significant disasters are drought, flood, human and livestock epidemics, crop pests, conflict etc. Drought is the leading disaster in the country followed by flood which resulted from (climate change and associated risks).

Before the 1973 in the country there is no formed and organized system of disaster risk management and distinctive response to disasters. Therefore Relief & Rehabilitation Commission (RRC) was established in the country which the fist governmental

institution of disaster risk management for the first time. The established institution is aimed to provide relief assistance to drought affected people in Wollo and Tigray. Then this institution was reorganized and incorporated with settlement and Awash Valley Development Authorities in 1978 with a mandate of relief and rehabilitation including settlement programs in 1993, the policy on NPDPM delivered. Following the confirmations of the policy RRC again re-organized and changed into DPPC in 1995 with a major change in its objective (Relief supplies and Disaster Prevention through linking relief to development) it was retitled again as the Disaster Prevention and Preparedness Agency (DPPA), with a revised objective to focus on emergency response.

The system had been practically break oriented and therefore was relatively effective in saving lives, but its support to reduce susceptibility to disaster risks as well as deficiency reduction exertions is low. Rearrangement of the principles to manage disaster risk in the country important. (Woldemariam, 2013).

In practice, risk management contains three major characteristics; these are risk identification, risk measurement and risk mitigation. This can be differs from place to place because the potential of every communities to resist the happened disaster.

(al A. e., 2013). However, the number of the studies on the factors of disaster risk management practices in the context of Jimma zone is relatively small. Based on this the study will important to develop new insights in disaster risk management practice and it will help in decisions for the officer of Jimma zone selected weredas disaster and risk management.

1.2 Statement of the problem

Now a day the world is witnessed by the issue of disaster management. That is obvious teaching the whole public is essential to control and reduce the vulnerability of the community to disaster risk.

Domestic know how and disaster risk management map is more important and it is a must to employ as a program, but this does not mean that the essentiality of the professional of disaster risk management and technical assistances are expected to be reduced. There will be many instances where the community does not internalize or fully understand local hazards and disaster risks, and does not know about the full range of measures that it can take to protect itself. The main objectives of disaster risk management is to create the sense of 'culture of safety' among the societies and to make them the disaster risk reduction practice is one part of activity in their daily life. It is more or less a guide to initiate the internalization of the communities about the case of disaster and risk, how to handle the happening to make necessary measurement individual and by group. (Twigg, 2004)

Most of the time Africa is experiencing hydro-meteorological disaster type in nature, with droughts quietly affecting the largest number of communities of the continents and flood happening again and again on the continent and flood happen frequently along the major river systems and in many urban areas. **(**Ashok Subramanian et al, 2011**)**

Disaster allied with the natural happening remain to just like that the past, intensity and its negative effects. In many areas, natural hazards are becoming direct pitfall to the public security because their affects are expand in destruction of the sustainable development activities in the countries, which doubles the exposure of and vulnerabilities of wealth and the communities. Eradicating disaster risk is used as an establishment phase for sustainable development. (Ayala, Altan , Baker, & Briceño, 2015)

According (Teresia, 2007) the happening of disaster can be used as an opportunity to take ways to reduce the vulnerability of, even people are often more open to change at the time of disaster strikes, the disaster. Disaster plans can have long term advantages to the all over community and it is developed to assist them. In addition to this, the community is expected to be prepare possible disaster planning including planning pre disaster and post disaster planning. Also it is expected that the public should respond to

the needs of all members, pre and post disaster. The economy of countries like Ethiopia are quite dependents of rainy agricultural in most cases. In the country side areas, more than 80 percent of the population often depends on agriculture activities. Despite progress made in supporting rural livelihoods and upgrading agricultural technologies, weather risks, especially oftentimes droughts and flooding, continue to act on the major pitfalls to livelihoods and food security. Farmers and pastoralists in many drought-prone areas have become dependent on humanitarian relief and food aid. (Ashok Subramanian et al, 2011).

The frequent occurrence of any disasters can stuck the potential development motion of countries all in all and developing nations in specific. Thereupon, searching funding methods and minimizing the disaster risk is the major motivation of the concerned bodies of disaster risk management. Further, disaster risk management agencies, academicians and policy makers in general. (Fernando, 2010)

Obviously disaster have a vital effects on economic and social impacts, resulting in direct destruction of both the private and public assets, which affect the short and long run economic losses of the country. In addition to this it increase the large fiscal flow to resilience and recovery of the damaged properties. (Ashok Subramanian, 2010).

Many researches have been conducted on the issues of disaster, while works of Maria Tadesse, (2008). Assessing the root causes of flood and options for future risk reduction in relation to the land degradation. Beside this, Tigist Getahun, 2007. Write on the Women's response to the environmental problems with particular emphasis to forest resource. In addition to this the United Nations FAO, 2013 report on the resilient livelihood disaster risk reduction for food and nutrition security.

As to my best knowledge, study was not yet conducted on the factors of disaster risk management practice in context of Jimma zone, this study was assess the existing situations of Jimma zone selected woreda disaster risk management practice. Therefore this study was tried to fill this gap and made a clear conclusion from observation and results. Finally the general question of the study were:

1. What are the major disasters happens in the selected woreda?
2. What is the status of disaster risk management practice of the selected woreda?
3. What are the factors that hinder disaster risk management practices in the woredas?

1.3 Objective of the study

1.3.1 General objective

The main objective of the study was to assess factors of disaster risk management practice of Jimma zone selected woredas.

1.3.2 Specific objectives

The specific objectives of the study was:

- To identify the potential disasters happen in the selected woredas.
- To describe the current status of disaster risk management practice of selected woreda.
- To describe the factors that affects disaster risk management practice in the selected woredas.

1.4 Significance of the study

Now a day in Ethiopia is experiencing hazards occurred based on the happenings. So this study was important to inform the bureau of disaster risk management so as to make them proactive rather than reactive to disaster risk management practice. The main importance of this study were to provide professional assistance for improving coordination among the various partners working in emergency response especially in controlling, identify capacity gaps and priority action plans in the affected parts of te communities zones and make recommendations for improving emergency response including control program in Jimma zone selected woreda.

In addition to this the study was significant in point out solution to the problems during observation and discussion.

1.5 Scope of the Study

Regarding geographical scope, the study were conducted in Oromia Region Jimma zone 3 selected woreda disaster risk management practices of the offices. Whereas the subject matter of the scope was delimited to the factors of disaster risk management practices facet. The study was focuses only on the factors of disaster risk management practices aspect.

1.6 organization of the study

To examine the factors of disaster risk management practices of some selected woredas of Jimma zone, the study was structured as follows. Chapter one is the introduction part which contains background of the study, statement of the problem, research objective, significance of the study, scope of the study and organization of the study. Chapter two presents a discussion on literature review composed of theoretical and empirical review of prior studies and overview of disaster risk management practice in Jimma zone. Chapter three outlined the research methodology followed in the study. Chapter four presents the results and analysis from descriptive statistics and inferential statistics analysis. Chapter five presents conclusion, recommendation, major findings, and future research directions of the study.

Chapter Two

2. Literature Review

2.1 Theoretical Literature

The disaster dominant effect results mortality, morbidity, and loss of infrastructure like residential housing, roads, telecommunication, and electricity networks, and other infrastructure. These dominant effects are followed by original impacts are followed by negative impacts on economic development of countries. Macroeconomics generally distinguishes between the short run and the long run (Cavallo, 2010)
According to FAO, 2008

A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources. A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk. Disasters of all kinds happen when hazards seriously affect communities and households and destroy, temporarily or for many years, the livelihood security of their members. A disaster results from the combination of hazard risk conditions, societal vulnerability, and the limited capacities of households or communities to reduce the potential negative impacts of the hazard.

2.2 Vulnerability

The best option to minimize vulnerability of community is disaster prevention.The direction that the world used to prevent the climate change within the financing system is an important ways to reduce the magnitude and frequency of risks happening. If the system of prevention failed the consequences of disaster can be reduced by building preparedness and response capacities. (UNDP, 2014)

The Vulnerability of community to poverty has strong geographic dimensions in Ethiopia. The first predictor of poverty in rural parts of Ethiopia is distance from market place: the 2014 World Bank Poverty Assessment found that poverty rates increased by 7% with every additional 10 km distance from a market place or town of at least 50,000

people.Rural households living in rural which is far from the market place are not exposed to the facilities like fertilizers and the inputs for agricultural development. (Anderson, 2015)

Disabilities

People living with disabilities face physical barriers to practice rights and exercising choices.This means they lacks easy access to public service like, transportation, entertainments, education and health service, participation in economic and political aspects of the world. Particularly vulnerable among people with disabilities are those in poverty. Disabilities are particularly vulnerable at times of disasters happens and at the time of conflicts. Definitely, disable people have a lower chance of employment rates. According to the World Health Survey for 51 countries shows employment rates of 52.8 percent for men with disabilities and 19.6 percent for women with disabilities, compared with 64.9 percent for men without disabilities and 29.9 percent for women without disabilities.But addressing the barriers and vulnerabilities of people with disabilities can unlock their potential and benefit society as a whole. (UNDP, 2014)

Hazards

Hazard is the existence of people in the environment that instruct the security, assets, or livelihood at unexpected situations. This situations may become a risk to the communities of the area. These risks are avalanche, coastal erosion, drought, earthquake, flood, fog, frost, hail, landslide, lightning, snow, tornado, tropical cyclone, volcano, and wind. Some forms of environmental degeneration may can cause to the existence of hazards, such as deforestation and desertification.(Dries, 1986)

a wide range of natural hazards are present in Ethiopia, including drought, flods, landslides, human and animal diseases, pests, earthquakes, and urban and forest fies. recurrent drought and flods in particular have the most severe impacts on people's lives in Ethiopia. The country's vulnerability to natural disasters is due to a number of inter-linked factors. These include dependence on rain-fed agriculture, under-development of water resources, land degradation, low economic development, and weak institutions. furthermore, with a population of 80 million people, Ethiopia is the second most populous country in sub-saharan Africa, and has a relatively rapid annual population growth rate of 3.2%.

With a GDP of us$200 per capita, Ethiopia is also one of the world's poorest countries.(Bank, 2009)

'Hazard' refers to the natural events that may affect different places singly or in combination (coastlines, hillsides, earthquake faults, savannahs, rainforests, etc.) at different times (season of the year, time of day, over return periods of different duration). The hazard has varying degrees of intensity and severity. although our knowledge of physical causal mechanisms is incomplete, some long accumulations of records (for example of hurricanes, earthquakes, snow avalanches or droughts) allows us to specify the statistical likelihood of many hazards in time and space. But such knowledge, while necessary, is far from sufficient for calculating the actual level of risk.(Wisner, 2003)

2.2 The Definition of Disaster Risk

Disaster is an occasion caused by the geophysical weather related biological or human activity that badly harm the economic, social, physical, political and environment of the communities that is beyond the coping capacity of the existed community. It can also categorized as a result of hazards striking a community.(TUVALU, 1997)**.**

Now a day the world and the local government have highly concerned about the issues of disaster risk with its impacts on economic development of the world as a whole. While actions have been taken to account for these risks, the frequency, magnitude, and intensity of disasters are increasing as a consequence of global warming. (Hailu, 2013)

Disasters have all the time been a result of human relations with nature, technology and other living things. Sometimes volatile and sudden, sometimes slow and lasting, various types of disasters continually affect the style in which we are experiencing our daily life. Human beings as innovative creatures have pursued new ways in which to control the overwhelming effects of disasters. However, for year human conduct regarding disasters has been reactive in nature. Communities, sometimes conscious of the risks that they face, would wait in expectation of a catastrophic occasion and then initiate procedures and measures. Human social and economic development has in advance contributed to creating vulnerability and thus failing the capability of humans to cope with disasters and their effects. (Niekerk, 2011)

2.3 Types of Disaster

2.3.1 Natural Disaster

1. Flood

Flooding disasters are closely linked with rapid and unchecked urbanization that forces low-income families to settle on the slopes of steep hillsides or ravines, or along the banks of flood-prone rivers. (Dries, 1986)

Flood is became increasing frequent, rising from 123 per year on average between 1994 and 2003 to an annual average of 171 in the period 2004-2013. Asia and Africa were experienced floods more than other continents, but these were also an increasing danger somewhereelse. In South America, for example, 500,000 people were affected by flood on average between 1994 and 2003. By the following decade (2004-2013) that number had increased to two million people, a four-fold increase. (CRED, 2015)

The concept of floods refers to the 'deluges of vast part of the land or covered by water for some duration of time'. Flood is one of the major common disaster which the so called natural disaster happening in every year in many parts of the worldwide. The root the causes of flood is because of heavyweight rainfall within a short period of time in a particular region which causes the rivers and rivers to run-off.(Nikita, 2016)

Floods are the first and leading causes of death from natural disasters in the United States. Averagely,above 300,000 peoples are shifted from their home town and lost their properties as a results of floods. Over 200 flood-related catastrophes are happened, and $6 billion in total flood damages are commonlyeach year.Over half of the fatalities are vehicle related and a problems related with persons trying to drive through flash floods. (Dvorak, 2013)

2. Earthquake

The Tremors effect societies, towns, and nations cannot make themselves as to plan to protect from earthquake because the event is not anticipated ahead. Because of the rigidness of the injuries the affected part of societies cannot resist the damage even after the actual event, which need the relief of post disaster rehabilitation. In the 2014 Ludian earthquake, the condition was deep why because the local healthcare services severe because the local healthcare service infrastructure has been displayed, and human resources manpower, assets, and relief provisions were inadequate. Therefore, the immediate and efficient recovery and response from abroad healthcare organization

resources were necessary. All in all doctors and nurses with their working materials emergency and exhaustive care backgrounds grouped and campaigns from the urban areas to the damaged areas, Hereafter, taking the health experts to give health assistance fellows to undertake the healthcare demands of the victims is critical to of selecting medical assistance team fellows to meet the health demands of disaster victims is critical to upgrading the effectiveness and efficiency of the program. (Li, 2016)

3. Drought

Drought is a situation of irregular weather condition of abnormally dry weather within a geographic region. Drought refers to the lack or insufficiency of rain for an extended period of time in a specific region. During droughts, rainfall is less than normal causing a water imbalance and resultant water shortage. It occurs when the rate of evaporation and transpiration exceeds precipitation for a considerable period. Drought should not be confused with dry climate, as in the Sahara or Thar Desert. It is marked by an unusual scarcity of water and food for the humans as well as animals.(Nikita, 2016)

Training and education have a great role in the progress of countries development and efficient use of the resources the countries have in general and to prevent deforestation particularly. Developing the environmental education and upgrading the attitudes of the societies is element of the input in achieving the approaches in the progress of preventing diversification and minimizing the impacts of drought. Within this the mentioned below main actions have been In line with this, the following major activities have been embarked on at all levels the nations: combination of environmental science in the educational curriculum; the development of environmental associations; awareness creation by using the media available in the country and also abroad, publications, audio and video materials; formation of environmental forums, and the celebration of public events such as World Desertification Day, Tree Day & the World Environment Day. (FDRE, 2004)

2.3.2 Man Made Disaster

Manmade disasters occur as a result of human negligence and intentions. They result from failings of human race and they include wars, fire, water leakage and theft. They are caused by industrial accidents such as nuclear or chemical spills, technological disasters such as viruses, computer equipment failures, electric faults and criminal behavior such as theft and arson. (TAABU, 2014)

Man-made disasters occur as a result of human negligence and intentions. They result from failings of human race and they include wars, fire, water leakage and theft. They are caused by industrial accidents such as nuclear or chemical spills, technological disasters such as viruses, computer equipment failures, electric faults and criminal behavior such as theft and arson.

2.4. Disaster Risk Management

The interference of the Government and the whole community have a vital role in managing disaster. Therefore the government alone cannot prevent and manage disaster without the participation of the whole community of the disaster prone area. The top-down approaches to disaster management is not effective. As a consequence, many professional and stakeholder commented it a time to develop another options and strategies the way that involve the disaster prone or vulnerable communities in the activities of planning and implementation of mitigation, preparedness, response, and recovery measures because communities are the best judges of their own vulnerability and capable of making the best decisions regarding their well-being. (Huq, 2016)

Over the past decade, the number of people that required support through disaster risk management actions has ranged from 1.36–13.2 million people. The support activities includes those of food and non-food emergency resource distribution for the disaster affected communities. The food ensures that affected people receive more predictable and timely relief in the event of risks.From the nonfood DRM actions supports Health and nutrition, water, environmental sanitation, agriculture and livestock services. DRM also provides early warning, contingency planning and financing, and strengthening institutional arrangements and capacity buildings for the concerned body. There has been a recent shift in approaches from managing disaster to a multi-sectoral and multi-hazard focused disaster risk reduction strategy. (Ethiopia, 2012)

The recognized thing is that the result of disaster risk reduction is health, and the incorporation DRR and health is the important in order to make the Sendia framework disaster risk reduction 2015–2030. Health Emergency and Disaster Risk Management (Health-EDRM) has emerged as an umbrella field that encompasses emergency and disaster medicine, DRR, humanitarian response, community health resilience, and health systems resilience. In September 2016, an international group of experts met in Hong Kong to assess the current status and potential of the Health-EDRM research

field, a research area that these scholars characterized as underdeveloped and fragmented. The basic challenges propound includes research overlap, lack of basic research topic, lack of general understanding on the terminologies and absence coordination among the concerned body. (al S. e., 2017)

Disaster risk management is defined as the systematic process of using organizational directions, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster. This term is an extension of the more general term “risk management” to address the specific issue of disaster risks. Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures of prevention, mitigation and preparedness.

The proceeding disaster risk reduction program actions related with allaying, preparedness, response and retrieval. It contains hazards and vulnerability research and information system. Disaster management concentrates against organizing and developing, it is different from operational response activity the latter execute plans and procedures which are already developed by the program. (Tuvalu, 1997)

The individuals, families as well as the whole societies have a vital role in influencing the community how can protected from risks in addition to the capacity of the societies in resilience to disaster. Families are expected to have responsibility to save their own properties from the potential hazards from natural and man-made by using the system of identification, minimization and insuring the properties so as to insure the damaged assets. (Republic of Namibia, 2011)

To get people think in a preventive way, and to see the links between disasters, development and environment one needs a mindset that is best developed at an early age. A culture of prevention is something that forms over time. Cultural approaches and paradigms must be taught early and in school to have real success.

There are various ongoing efforts and process to prevent disaster and to become more disaster resistant population in the world. In 1999s UN campaign focused on assessing the concrete results and achievements of disaster reduction, and promoting "a global culture of prevention for 21st century". During this occasions, stated that the past few decades there was $90,000 million economic losses were occurred. (Ozmen, 2006)

Ethiopian national policy of disaster risk management

Disaster Risk Management Policy. The National Policy and Strategy on Disaster Risk Management was adopted by the Government of Ethiopia in July 2013. The new Policy amends the earlier National Policy on Disaster Prevention and Management (under implementation since 1993) and marks a paradigm shift in doing business differently – moving away from a system focused on drought and emergency assistance to a comprehensive disaster risk management approach. The overall vision of the policy is to see capacity for withstanding the impacts of hazards and related disasters is built at national, local, community, household and individual levels; and damages caused by disasters are significantly reduced by 2023.The main objective is to reduce disaster risks and potential damage caused by disasters through establishing a comprehensive and coordinated disaster risk management system in the context of sustainable development. Specific objectives include: (i) reduce and eventually prevent disaster risk and vulnerability; (ii) ensure all disaster affected population is provided with recovery and rehabilitation assistance; (iii) reduce dependency on and expectations for relief aid by bringing attitudinal change and building resilience of vulnerable people; and (iv) ensure disaster risk management is mainstreamed into development plans and programs.(Anderson, 2015)

2.4.1 Disaster risk management cycle

1. Pre Disaster phase

2. Response phase

Disaster Response means "the provision of emergency servicesand public assistance during or immediately after a disaster in order to save lives,reduce health impacts, ensure public safety and meet the basic subsistenceneeds of the people affected." "Disaster Response" is also defined by the law as "predominantly focused on immediate and short-term needs and is sometimes called -disaster relief-". (Philippines, 2014)

3. Post disaster

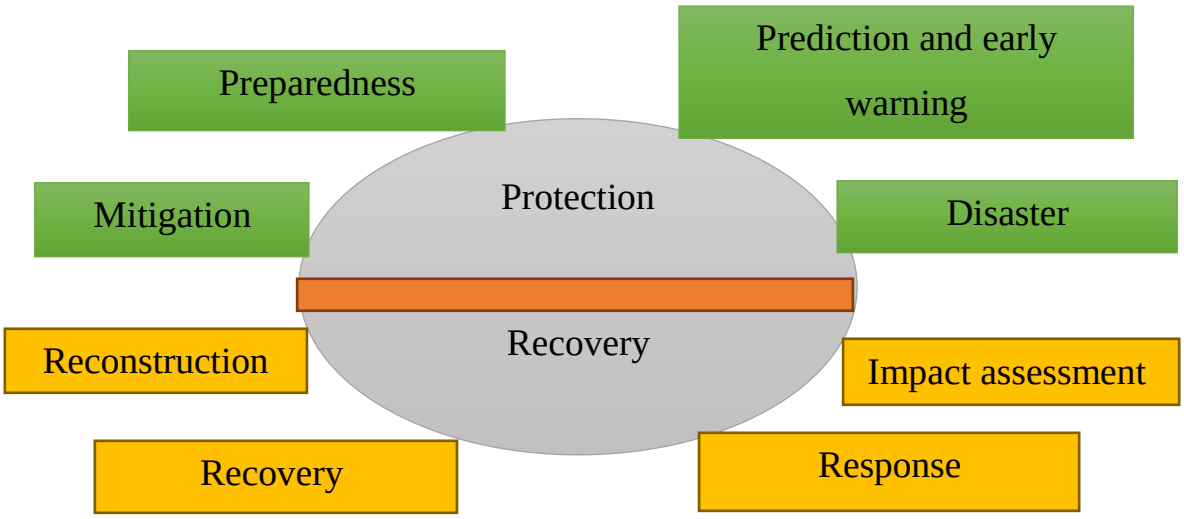

Figure 1. The disaster risk management cycle

2.4.2 The Importance of Disaster Risk Management

Natural disasters disappears kill one million peoples around the world every decade and make millions homeless each year. Disasters regardless of natural or man-made can foray at any time. The possible solution of after the disaster is already happened emergency response. But, if the concerned body that means both Government and the affected community is prepared of it is simple to handle the happened disaster. If not the impact is high on the economic development of the country. The impacts of disaster can be mitigated through good understanding of the community with issues of disaster risk reduction and sustainable development along with having the skills and knowledge of disaster risk management tools and methods so as to save the life and property at the time of disaster happening. (Ayalew, 2014)

The extent and effectiveness of community participation from the perspective of a shift from a managerial approach to an approach using participatory, collective decision-making and resource-sharing to manage disaster risk. There are very limited research about the disaster management to attain sustainable development via community

participation and further analysis needed in near future. This study is undertaken to find out the necessity of community based disaster management, its barrier and its possible solution for the betterment of the affected people in the vicinity of disaster prone areas. (Huq, 2016)

2.5 Disaster Mitigation and Preparedness

To face the various disasters community undertake multi steps to cope with the severity of disaster individually. The Disaster Management Bureau set up first milestone by conducting research on the issue and implementing the objectives to reduce disaster risk and loss. Moreover, DMB organized six workshops for community leaders on disaster preparedness and indigenous knowledge on coping mechanism in the year of 2003.

1. Creation of public awareness

This tool is very important in disaster management because there are some superstitions about women participation that can be eradicated by creating awareness among the people. Pulong-Pulong sa barangay (barangay meetings) was started in June 2000 to empower the people. The municipal government has planned to set up a community radio station to empower the people through information dissemination and informative/educational programs (Nawaz and Shah, 2011). Programs on farming techniques and new technologies, health care, livelihood, and an interactive program that would serve as a platform for community-local government dialogue and financial assistance has been sought from and committed by Congressman Monfort (Haider, 1991).

2. Proper utilization of climate information Information on climate is very essential for preparedness and reducing disaster related losses. Timely weather forecasting is the urgent need as a consequence community radio station was established to broadcast time-relevant and accurate information and advisories during emergencies and technical support is provided by the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA). Community-based flood forecasting and warning in collaboration with PAGASA help in identifying risks and measures to reduce these risks.

3. Appropriate prevention and mitigation measures The allocation of National government resources to LGUs is determined by a formula that effectively aims to improve the quality of life in the least densely populated areas awarding 50% of the resources according to population size, 25% by land area and 25% divided equally

between all (local governments of the same categories (World Bank, 1995b). However, the World Bank argues that 'the amounts transferred bear no necessary relationship to the actual cost implications of devolved functions. Nor do they take into account the capacity of local governments is to raise their own resources or to carry out devolved functions' (World Bank, 1995a). Varying levels of funding are actually drawn down depending on the incidence of disasters in a particular year (Rahman, 1991) because different LGUs face varying expenditure demands with regard to natural disasters at particular points in time, depending both on their vulnerability to disasters and LGUs feel obliged to use such funding in full cost-recovery projects, a practice which could discriminate against investment in disaster prevention and mitigation projects (Walker, 1994). Furthermore, land can be exempted from land taxes which accrue to LGUs if natural disasters legally or physically prevent improvement, use or cultivation of that land (Kafiluddin, 1991).

4. Showing Mutual respect In order to ensure co-ordination, proper management overall well-being of affected people all civil agencies and military administration must have respect for each other.
5. Timely communication For achieving the desired fruit or goal, proper and timely communication between civil and military administration is a much needed tool.
6. Regular basis Specialized Training Training helps to make out the mitigation measures and annual preparedness among the affected people even though most of them are illiterate.

Disaster management in Bangladesh is an important phenomenon for the sustainable and meaningful development as Bangladesh is a natural disaster prone country by its geographical location. Government alone cannot cope with the disaster for this need community participation with their opinion and ensuring participation in every stage of policy cycle, emerged on the backdrop of dominant approach though it is very difficult to predict the impending danger and the socio-economic conditions and the logistic support facilities. But there are some problems related to community participation which must be solved by social workers as they have extended networks in communities, they are familiar with community resources and potentiality of local leaders and are equipped with necessary knowledge for addressing complex situation resulting in emergency at local and national levels (Mathbor, 2007). Because of climate change more trained as well as devoted social worker need for post disaster situation.

Moreover the government has to allocate more funds in disaster management sector, government officials have to give-up bureaucratic attitude and have to be more people friendly to make CBDM program a success (Hossain, 2012). Nonstructural measures should be enhanced (Mirsa and Mathur, 1993) for flood management. Weather forecasting and warning system should be adequately planned and timely done. For this need expert and trained personnel which can be generated by training on regular basis. Seminars, consultations and public discussions are necessary tools for providing education and counseling services. Giving emphasis on building more strong infrastructures for shelter during disaster. At the end, it is urgent to bring disaster prone areas under feasible communication system for the reduction of disaster period losses. (Huq, 2016)

The leading factors that affecting the impact of hazard is preparedness and mitigation. The core weight is within disaster preparedness actions will be allied with Planning, Training and Education and Awareness.(Tuvalu, 1997)

Early Informing the whole societies within the language which can understand have a vital role in managing the disaster happen.Therefore, according to the current status it needs additional efforts. Even though, this is done the societies are not interesting to take part in resolving the problems of disaster, the reason is firstly, there is lack of awareness in sensing the effects of disaster. Secondly, the resistance of the communities to live their livelihood and losing assets and properties.However, if the condition continuous like this there may be a direction to people exhaustively shift their lively hood in the future.Therefore the concerned body or government is expected to develop additional alternative so as to save the disaster prone communities. From the proposed options converting the houses to be shelter, developing cluster housing for a group of community that are living in marginalized hazard prone lands. Comprehensive disaster management program (CDMP) of the DM&RD shall design, develop, pilot such disaster resilient shelters and scale up upon seeing results. (Hasina, April,2010)

NGOs including individual volunteers (volags) have their own possibilities to assist disaster risk management process. The expected traditional role of these volunteers is to react to disasters in the form of emergency relief and sometimes long-term recovery programs. (Dries, 1986)

2.6 Disaster Risk Reduction

Disaster risk reduction can be well-defined as the notion and exercise of reducing disaster risks by using systematic exertions manage the causal factors of disasters, including by reduced vulnerable to hazards, downscale vulnerability of people and property, wise management of land and the environment, and improved preparedness for unfavorable events. (UNDP, 2012)

In 2005 a number of shareholders, as well as government organizations and ECHO DRRAP partners, have showed the Community Managed Disaster Risk Reduction (CMDRR) method in northern Kenya and southern Ethiopia. Their main concentration has been on drought as the leading disaster in the area. In order to upgrade the community managed disaster risk reduction application, Cordaid its Global CMDRR and the international institute of rural reconstruction (IIRR) and with other practitioners convey an activity that would experience with the 4 important steps in community managed disaster risk reduction

Step 1: Participatory Disaster Risk Assessment

Step 2: Creation of development and contingency plans

Step 3: Strengthening community organizations

Step 4: Monitoring, evaluation and learning

The activity delivered a learning chance through which practitioners engaged with community victor to develop the new idea exchanging, new insights, innovations and good practices for the communities. (Tilstone, 2012)

The figure and the cost risk is raising time to time as a result of this a lot of disaster risks are happened repeatedly because of climate change along with the increasing of the communities vulnerability towards risk. In other word, the increase in populations the life expectancy, growing, unintended settlements and so on expose the societies to disaster physically socially economically and politically. The year in 2005 to 2009 50% of peoples are harmed by natural disaster.(UNISDR, 2013)

Disasters undermine government efforts towards achieving economic growth and poverty reduction. In order to address the root causes of disasters, mitigate their impacts and develop a resilient society, the Government of Malawi has undertaken a number of measures aimed at mainstreaming effective disaster risk reduction. Among such measures are: the development of the draft NDRM policy, Operational Guidelines for Mainstreaming DRR, and a draft DRM Bill.

District Disaster Risk Reduction officers have been recruited and deployed in 14 of the most disaster-prone districts. Focal point officers in line ministries and departments have been established and trained to ensure effective mainstreaming of disaster risk reduction into sector plans and budgets. A DRM National Platform has been established and launched. (Africa, 2015)

The Failed rains by the year 2015 and the El Niño-catalyze drought in 2016 expressively corroded resisting capacities of the communities. Various areas of the country experienced severe flooding with unexpected heavy spring the so called Belg in April/May 2016. Though, some regions does not get enough rainfall, in addition to this there is also lack of sufficient water. While these rains reduced emergency water trucking requirements in most areas, flooding affected more than 480,000 people, displaced close to 190,000 people, damaged several water points and presented an urgent need for water treatment chemicals and rehabilitation of water points. Reported cases of acute watery diarrhea (AWD) increased since mid-June as a result of poor hygiene and sanitation practices. Initially reported in Oromia, Somali and SNNP regions, cases were later reported in Addis Ababa on 9 June 2016.(Ethioia, 2016)

As many of the cases show, it is imperative to promote a culture of participatory planning and implementation of disaster risk reduction initiatives. When successful, this builds on local and national government and civil society partnerships and cooperation in support of local initiatives to dramatically reduce the costs of risk reduction, ensure local acceptance and build social capital. There are limitations to what household and community action can do to reduce disaster risk without government support, or without a broader infrastructure and service framework into which community provision can integrate, as some of the examples demonstrate from a positive point of view. (UNSDR, 2010)

Science and technology for disaster risk reduction (DRR) has always existed in some form in all countries. Through scientific research progress, disaster risk reduction has benefitted, especially in terms of early warning systems (EWS) that identify risk at various spatial and temporal scales and construction techniques that strengthen the resilience of buildings and infrastructures to different types of hazards, among many other examples. There have also been significant achievements in recognizing the role of higher education in disaster risk reduction, both as a specialized subject and by the integration of disaster studies into a broader higher education curriculum. In recent

years, in addition to contributions from ‘‘hard’’ science or natural science, the importance of ‘‘soft’’ or social sciences have also gained prominence. A positive outcome attained from the analysis of many different major disasters has been the realization that there needs to be a good balance between the hard and soft technology, and engineering and social solutions.

The consideration disaster risk reduction strategies and initiatives into the Strategy since 2006 was based on the recognition that, even though the fact that the Government had developed an array of sectoral regulations and strategies including the MGDS, the attention and concentration of disaster risk ineffectively addressed in these policies and regulations. And further a lot of researches conducted on the impacts of disaster on those vulnerable parts of the community and the economy of the countries as a whole. Therefore, the government accept that, as it is not to become within the efforts of the government to make sustainable economic development and alleviating poverty as well as the socioeconomic aspect without proactive disaster risk reduction system.(Africa, 2015)

2.7 The effects of disaster on the development of the country

Disasters interrupt the economic condition rather than destruct it. Because of whenever disaster happen peoples may leave their works and concentrate on disaster related activities so as to reduce the effects of disaster on the communities and in searching relief. During this situation the regular economic activities will be harmed. Whether or not an economy can recover quickly depends on the losses sustained. Physical damage to businesses and industry may stopfor short time. (Dries, 1986)

(Irasema Alcántara-Ayala, et al, 2015) Disaster impacts are growing, amplified by rapid growth and unsustainable development practices that increase the exposure and vulnerabilities of communities and capital assets. Governments increasingly recognize that the reduction of disaster risks is a foundation for successful sustainable development and that disaster risk is a crosscutting issue, requiring action across multiple sectors.

Table 2.1 United Nation report on disaster as world

According to the UN 2012 report

s.№	**Countries**	**2011 Disasters**	**Costs (US$)**
1.	Japan	Earthquake/Tsunami	210 billion
2.	Thailand	Flood	40 billion
3.	USA	Storms	25 billion
4.	New Zealand	Earthquake	15 billion
5.	China	Floods	10 billion
6.	USA	Draught	8 billion
7.	Bahamas, Dominican Rep, USA	Hurricane	8 billion

Source: (UNISDR, 2012)

We can see from the above table the world is witnessed with the issue of disaster. Furthermore United nation reported that similarly in 2012 the severity of this disaster is increasingly from the past experience.

Table 2.2 the United nation international strategy for disaster reduction

s.№	**Year**	**Countries**	**Disasters**	**Costs (US$)**
1.	2011	Japan	Earthquake/Tsunami	210 billion
2.	2010	Chile	Earthquake	30 billion
3.	2009	China	Earthquake	87 billion
4.	2005	USA	Hurricanes	176 billion
5.	2004	Japan		33 billion

Source: (UNISDR, 2012)

Conceptual framework

Dependent vs. independent variables

1. Dependent variable: the dependent variable is the disasters risk management.

2. Independent variables: to asses factors that associated with dependent variable I have the following independent variables

- Sex
- Age
- Family size
- Educational background
- Geographical land scape of the area
- Budget
- DRM tools
- Vulnerability

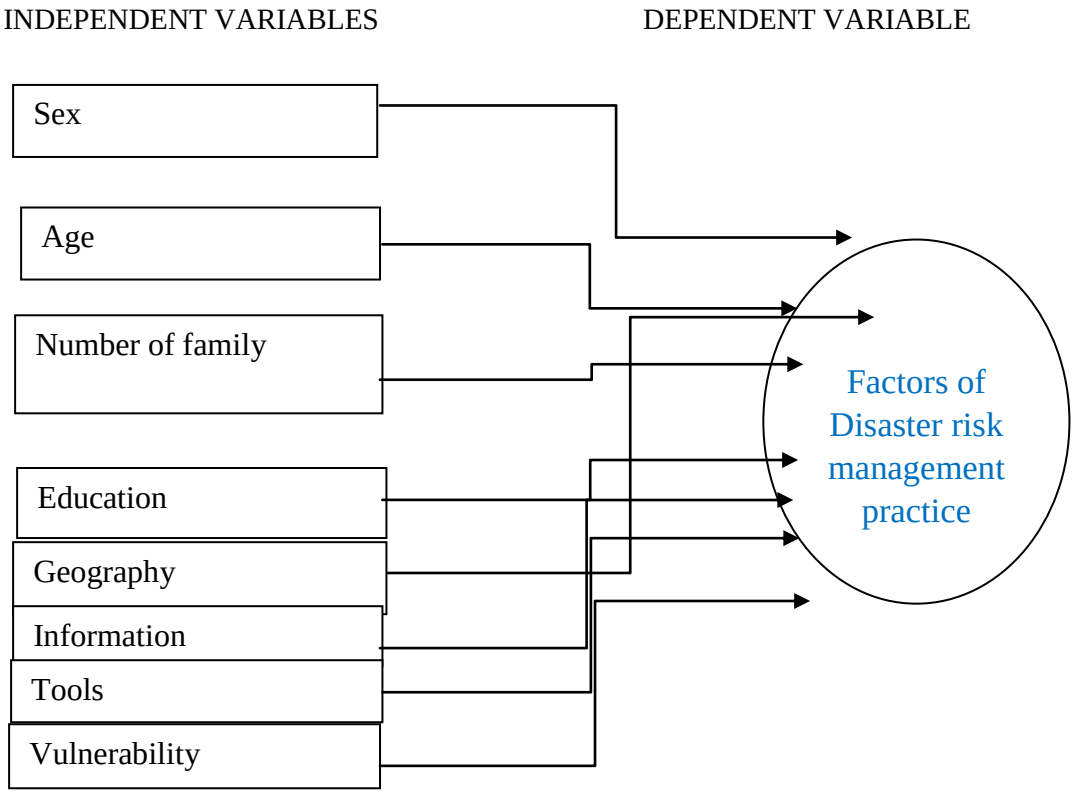

Figure 2.2 conceptual frame work of the study

Chapter Three

Methodology

3.1 Research Design

This research serves as a quantitative study to assess factors of disaster risk management practice of selected jimma zone woredas. The objective is to assess relationship of the dependent variable (disaster risk management) with the independent variables consists of (a. sex, b. age, c. family size, d. educational background, e. geography, f. information access, g. disaster risk management tools, h. vulnerability) Quantitative research is found to be more suitable than qualitative research in this study. Quantitative research is based on the measurement of quantity or amount.

3.2 Study area

Jimma zone is the largest zone in southwestern Ethiopia. Located in Oromia region, this town has a latitude and longitude of7°40'N 36°50'E / 7.667°N 36.833°E / 7.667; 36.833. The distance of about 346 K.M. away from Addis Ababa to the south west. It was the capital of Kaffa Province until the province was dissolved. Based on figures from the Central Statistical Agency in 2005, this town has an estimated total population of 159,009 of whom 80,897 were males and 78,112 were females. Herbert S. Lewis states that in the early 1960s it was "the greatest market in all of southern Ethiopia.

The particular study area is Jimma zone 3 selected woreda, which are more vulnerable to disaster in the zone.

3.3 Target Population and Sampling Methods

The target population of the study was jimma zone. Based on the information obtained from the zonal disaster risk management Affairs Office there are selected and vulnerable weredas. The researcher also have no adequate time to conduct survey to all woreda. Based on this the researcher have select 3 of them. Those woredas are Shebe Sombo, Dedo and Limmu kossa.

The sample size determination was determined by the number of vulnerable kebeles[1] of each woreda. Based on this in Shebe Sombo wereda there is 23 kebeles of 3 urban and the rest 20 rural kebelles are there. From this 15 kebeles are vulnerable to disasters.

[1] Kebeles are small sub-divided local administrative units in the community

There for in each kebele there 3-5 peoples concerned about disaster. Dedo wredea there is 37 kebelles from this 7 kebelles are vulnerable to disaster the same to that of shebe there are 3-5 peoples in each kebelles.

When we come to limmu kossa woreda there is 44 kebelles, of 4 urban and 40 rural kebelles from this 24 kebelles are vulnerable to disaster. In this woreda also there are 3-5 concerned body of disaster. Why the researcher use this sample the concrete data will be obtained from them, and the key informant of the study are them. Finally when we summarize the sample unit the following table will describe more.

By using this data the sample size will be:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{230}{1 + 230(0.05)^2} = 146.03 \approx \mathbf{146} \text{ respondents}$$

If there are at least 3-5 concerned body in disaster risk management in each kebeles then:

1. Dedo =7*5=**35**
2. Shebe sombo= 15*5=**75**
3. Limmu kossa = 24*5= **120**

To determine sample size from each woreda:

$n_i = (N_i/N_s)n$

Where:

n_i= sample size from each stratum,

N_i = total population in each stratum,

N_s =total population of the sum of Strata for study (x) and

n = total sample size from the study population

(Israel, 1992; Cochran, 1963).

Based on this formula, sample size from each stratum is provided below.

Table 3.1 sumary of sample size determination

Name of Woreda	№ of selected kebeles	№ of respondents	**Sample for each woreda** $n_i = (N_i/N_s)n$
1. Shebe sombo	15 kebeles	75	75/230*146 = 47.6≈**48**
2. Dedo	7 kebelles	35	35/230*146 = 22.21≈**22**
3. Limmu Kossa	24 kebeles	120	120/230*146 = 76.17≈**76**
Total	**46**	**230**	145.98≈**146**

Source: own computation 2017

Finally the sample size is **146** key respondents.

3.4 Sources and Method of Data Collection

Applicable data's for the study was collected from primary and secondary sources. Primary data was obtained from structured questionnaires prepared to test the research questions for the selected sample respondents because they know the existing situations of the practices by using survey.

Secondary data sources wasrelated books, journals, articles and varieties manuals and reports on disaster related.

3.4.1 Tools employed

In order to collect the data required for the study, there was structured questionnaires. The tool was developed by the researcher. The tool was first prepared in English and translated into Amharic and Afaan Oromo so that the participants can easily understand and give appropriate responses. Moreover, the researchers have established rapport with the participants and briefed the objectives of the study in order to get valid and reliable information.

3.5 Trust worthiness

Different techniques were used to increase the trust worthiness of this study. To maintain the reliability (integrity) of participant information, participants of the study were carefully selected based on the set criteria; the investigator tried to guide the participants to respond open ended information from their own experiences, beliefs and values in detail without generalization. To get accurate and detail information without

any fear of losing confidentiality, during the process of data analysis, repeated cross checking of the raw data will be undertake to ensure that the responses of the participants are not changed or taken with different meaning.

3.6 Method of Data Analysis methods

As the study focus to describe the disaster risk management practice, the study was take on descriptiveand inferential statistics. The descriptive statistics quantitatively describe the important features of the variables using mean, maximum, minimum and standard deviations. The inferential statistics used asses the independent variables associated with the dependent variables.The collected data were analyzed by using SPSS version 20.

3.7 Model Specification

In this model specification the contribution of each independent variable to the prediction of the dependent variable will be measured. Which is the best predictor of disaster risk management: sex, age, number of family, educational background, geography, information access, DRM tools and vulnerability? This questions will be answered in this model. The research questions will be tested by using the following standard multiple regression formula.

$Y = \beta o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + e$

Where;

Y = disaster risk management practice

β_o = Constant

X_1 = Sex

X_2 = Age

X_3 =family size

X_4 = educational background

X_5= Geography

X_6= Information access

X_7= DRM tools

X_8= Vulnerability

e = error term.

3.8 Ethical considerations

The researcher is taken the ethical considerations as in order to keep the confidentiality of the respondents to do so, participation in surveys and in-depth interviews are voluntary, falsification, fabrication and misinterpretation of data avoided and works of other researchers and authors used in research are referenced using Harvard referencing system, finally any type of communication in relation to the research was done with honesty and transparency and also exclude misleading information, as well as representation of primary data findings in a biased was avoided.

Table 3.2 Summary variables description

Variable name	Definition	Its expected sign
Dependent variable		
The factors of disaster risk management practice		
Independent/explanatory variables		
Sex	Sex of respondents (women's)	+
Age	Age of respondents	+/-
NF	№ of family	+
EB	educational background of respondents	+/-
GE	Geography of the study area	+
IA	Information access of respondents	+/-
DRMT	Disaster risk management practice tools	+/-
VU	vulnerability	+

Source: Own computation, 2017

CHAPTER FOUR

4 RESULT AND DISCUSSION

This chapter presents results of the findings obtained using different methods of data analysis. The data were analyzed using both descriptive and inferential statistics.Descriptive statistics are used to summarize the important features of the study variables using frequency tables, charts,graphs and measures of central tendency. Inferential statistics are used to assess important factors using correlation analysis which shows the degree of relationship among the study variables, and multiple linear regressionanalysis which are used to identify factor that affect the estimated variable.

4.1 Demographic characteristics of the respondents

On the basis of respondents' background information's, a number of variables were investigated. The results on the demographic information of the respondents are indicated in the following presentation.

4.1.1 Sex Distribution of Respondents:

Table 4.1 summary of the demographic information of respondents'

Categories	**Description**	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Sex of respondents	Male	128	87.7	**87.7**	87.7
	female	18	12.3	12.3	100.0
	Total	**146**	**100.0**	**100.0**	
Age of respondents	19-29	29	19.9	19.9	19.9
	30-45	50	34.2	34.2	54.1
	46-60	61	41.8	**41.8**	95.9
	above 60	6	4.1	4.1	100.0
	Total	**146**	**100.0**	**100.0**	
Marital status of respondents	Married	109	74.7	**74.7**	74.7
	Single	30	20.5	20.5	95.2
	divorced	7	4.8	4.8	100.0
	Total	**146**	**100.0**	**100.0**	

№ of families	1-5 5-7 7-10 Above 10	51 27 50 18	34.9 18.5 34.2 12.3	**34.9** 18.5 34.2 12.3	34.9 53.4 87.7 100.0
	Total	**146**	**100.0**	**100.0**	
Educational background	Primary Secondary Preparatory University TVET	15 44 45 20 22	10.3 30.1 30.8 13.7 15.1	10.3 30.1 **30.8** 13.7 15.1	10.3 40.4 71.2 84.9 100.0
	Total	**146**	**100.0**	**100.0**	
Position of respondents	Manager	17	11.6	11.6	11.6
	Secretary	34	23.3	23.3	34.9
	health expert	63	43.2	**43.2**	78.1
	DA	32	21.9	21.9	100.0
	Total	**146**	**100.0**	**100.0**	

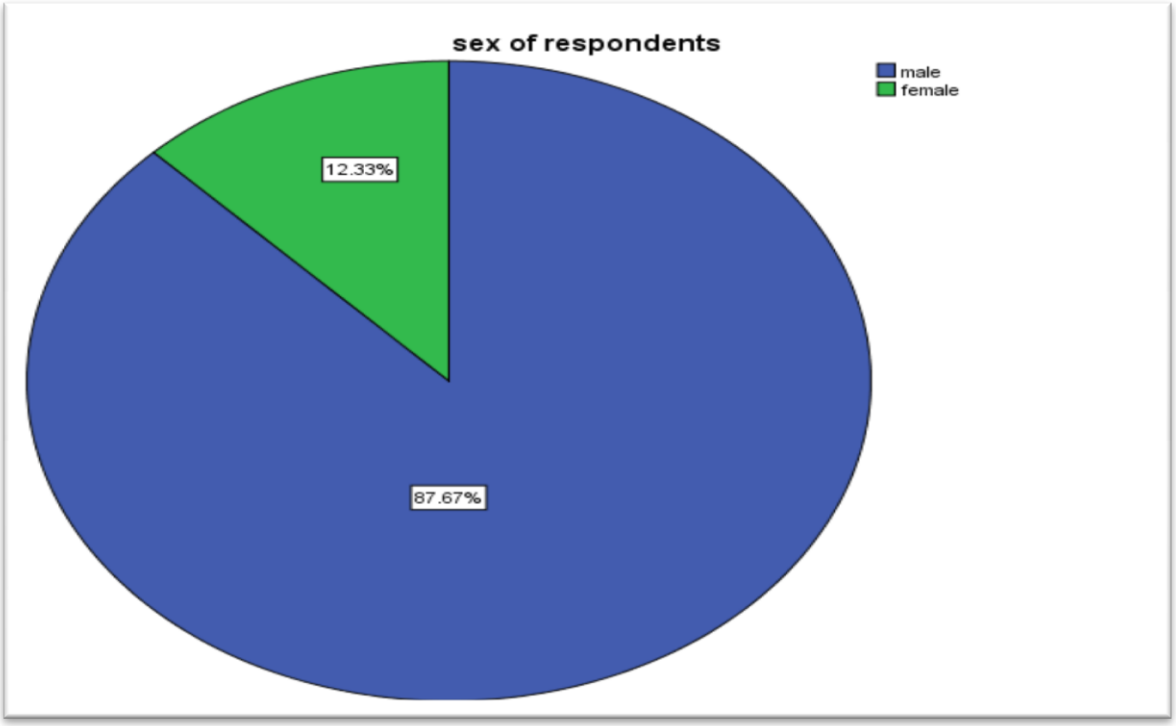

Figure 4.1 distribution of respondents' sex

The researcher intention here was to establish a correlation of the sex of a respondent with disaster risk management practice. As we observed from Table 4.1, it is clear that the majority of the respondents, 128 (87.7%) were males as opposed to females who were 18 (123%). This presupposes that generally, the margin between males and females are maximum. This implied that there was unequal representation of the male and female employees' distribution correlation in the study area.

As observed from Table 4.1 above, it is clear that the majority of respondents, 61 (41.8%) were in the age range of 46-60, this was followed by 50 (34.2%) in the age range of 30 -45), while 2129(19.9%) of the respondents are categorized under 19-29 and above 60 which was represented by only 6 (4.1%). This meant that the majority of respondents were under the ages of 46-60. This implied that in the study area the use of fresh mind is not applicable

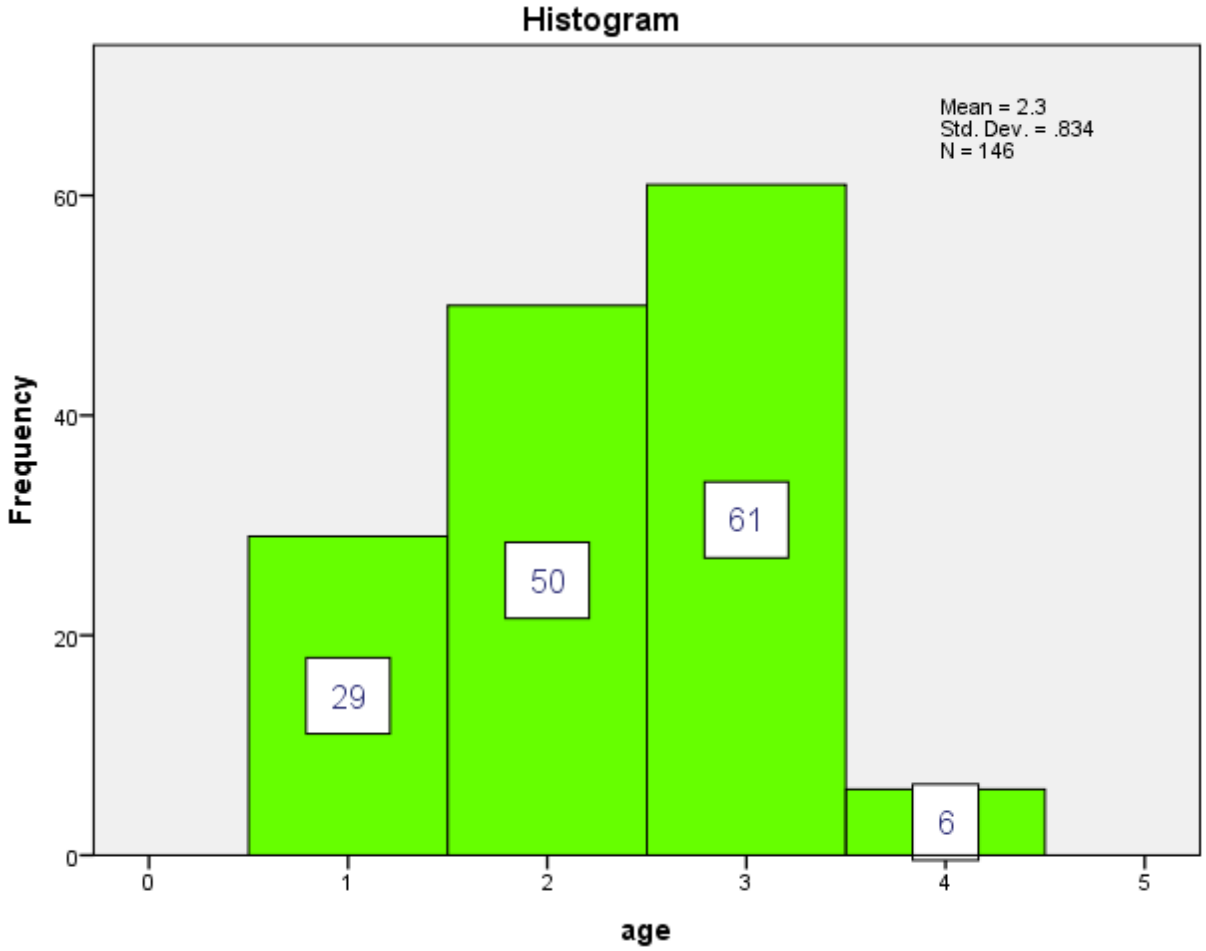

Figure 4.2 distribution of respondents' age

The researchers' interest here was to investigate correlation between married (stable employees) and unmarried (unstable) ones in an effort to establish whether they have a positive or negative influence on the process of disaster risk management practice. As shown above, Table 4.3 clearly shows that 109 (74.7%) of the respondents were married as compared to 30(20.5%) who were single, while 7(4.8%) are divorced. This indicates respondents in the study area had high levels of stability and have a concentration on their job. Therefore the question of low maturity and instability in the progress of duties did not apply. Because most of the respondents were married means they stable at work.

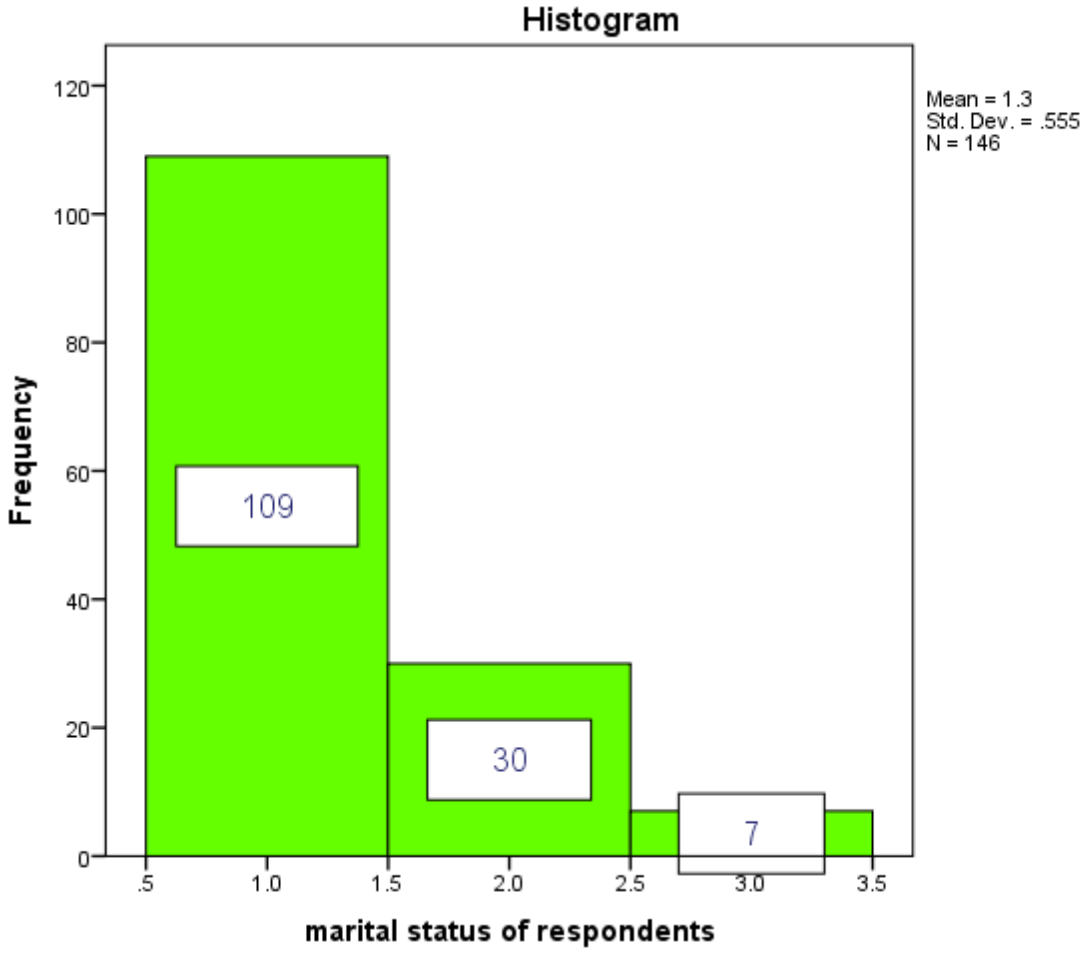

Figure 4.3 distribution of marital status of respondents

As shown on the table above, the majority 51(34.9%) of the respondents are a family size of 1-5 range, when 50(34.2%) were 7-10 family members which was followed by 25(18.5%) were 5-7 family while 18(12.3%) were have above 10 family members. This indicates that almost above half of the respondents are a family member with 1-5 range.

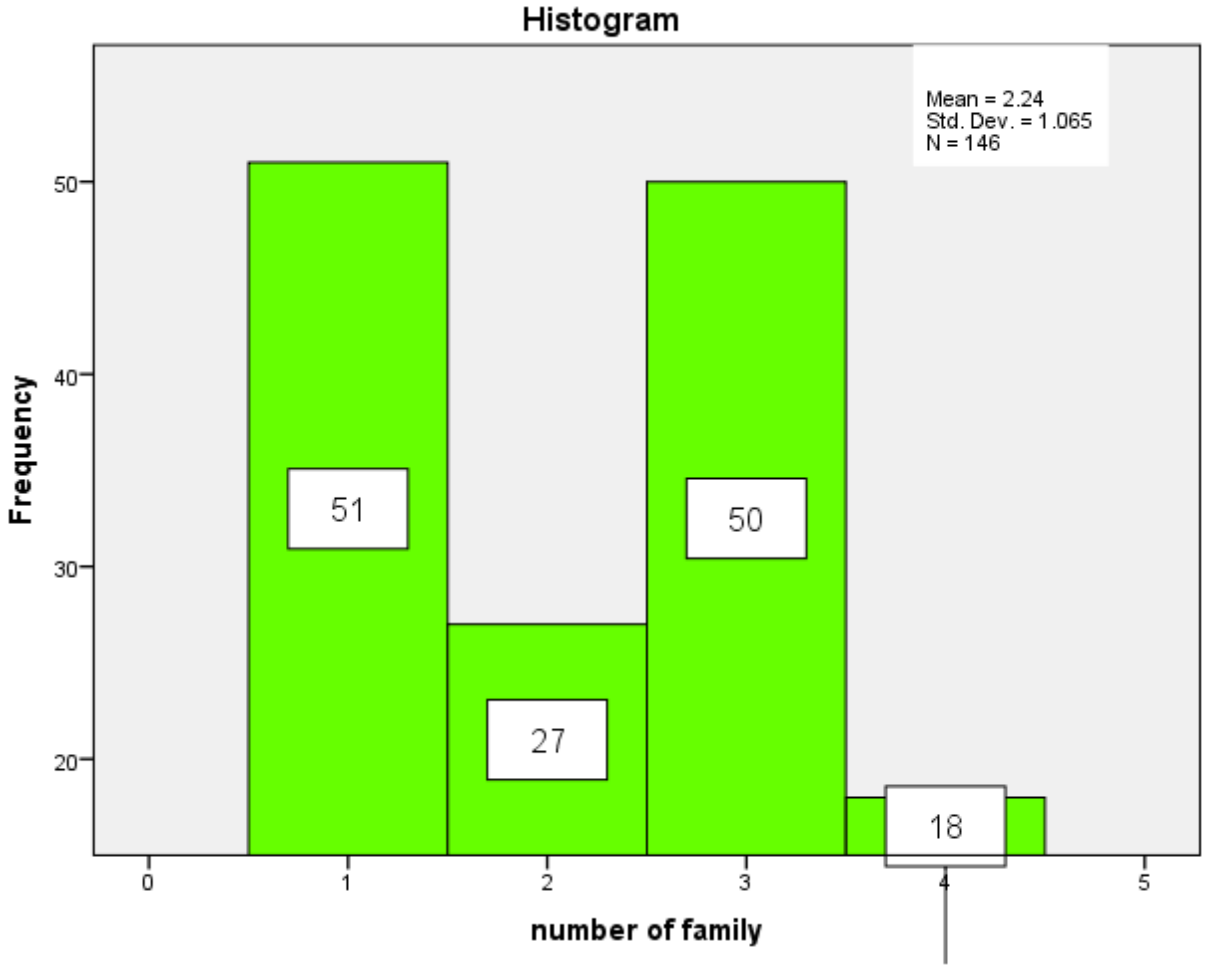

Figure 4.4 distribution of number of families of respondents

The researcher's interest here was to establish any link between competence and performance of disaster risk management in selected woredas and the best way to do so was to correlate educational levels of employees in selected woredas disaster risk management issues. As observed from Table 4.5, it is observed that the majority of respondents 45(30.8%) were preparatory and 44(30.1%) were primary and while TVET holders were 22 (15.1%) the next 20 (13.7%) respondents are graduates, and 15(10.3%) are primary rank of education represents from the total number of respondents. This implied that most respondents Jimma zone selected woreda disaster risk management are average qualifications is preparatory

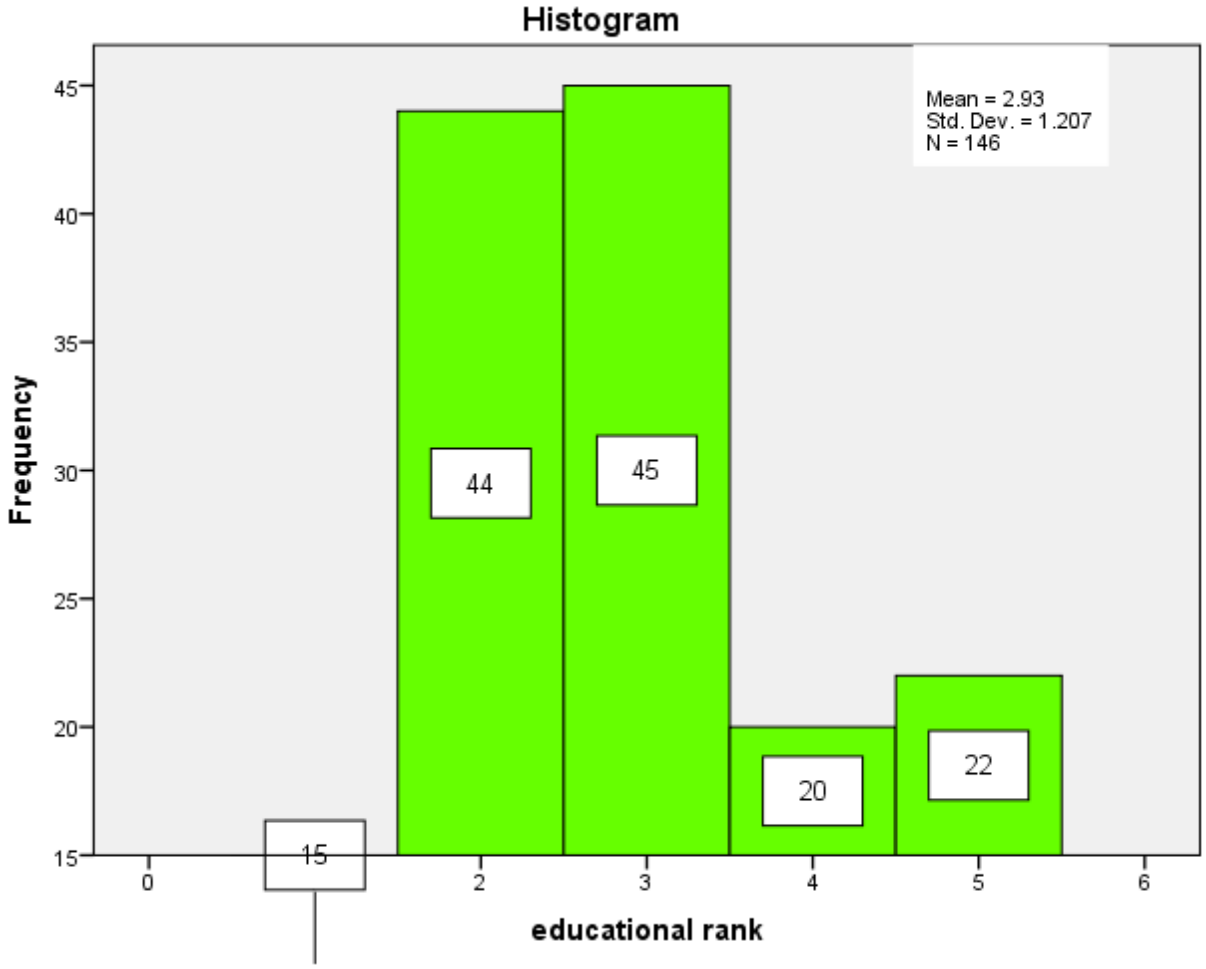

Figure 4.5 distribution of educational background of respondents

As we can see from the above table 4.6 the leading participants of the study was 63(43.2%) were health expert which was followed by 34 (23.3%) of the respondents are secretary while 32 (21.9%) are DA development agents and 17 (11.6%) were the management of the office. This indicates that the majority of the respondents are health extension.

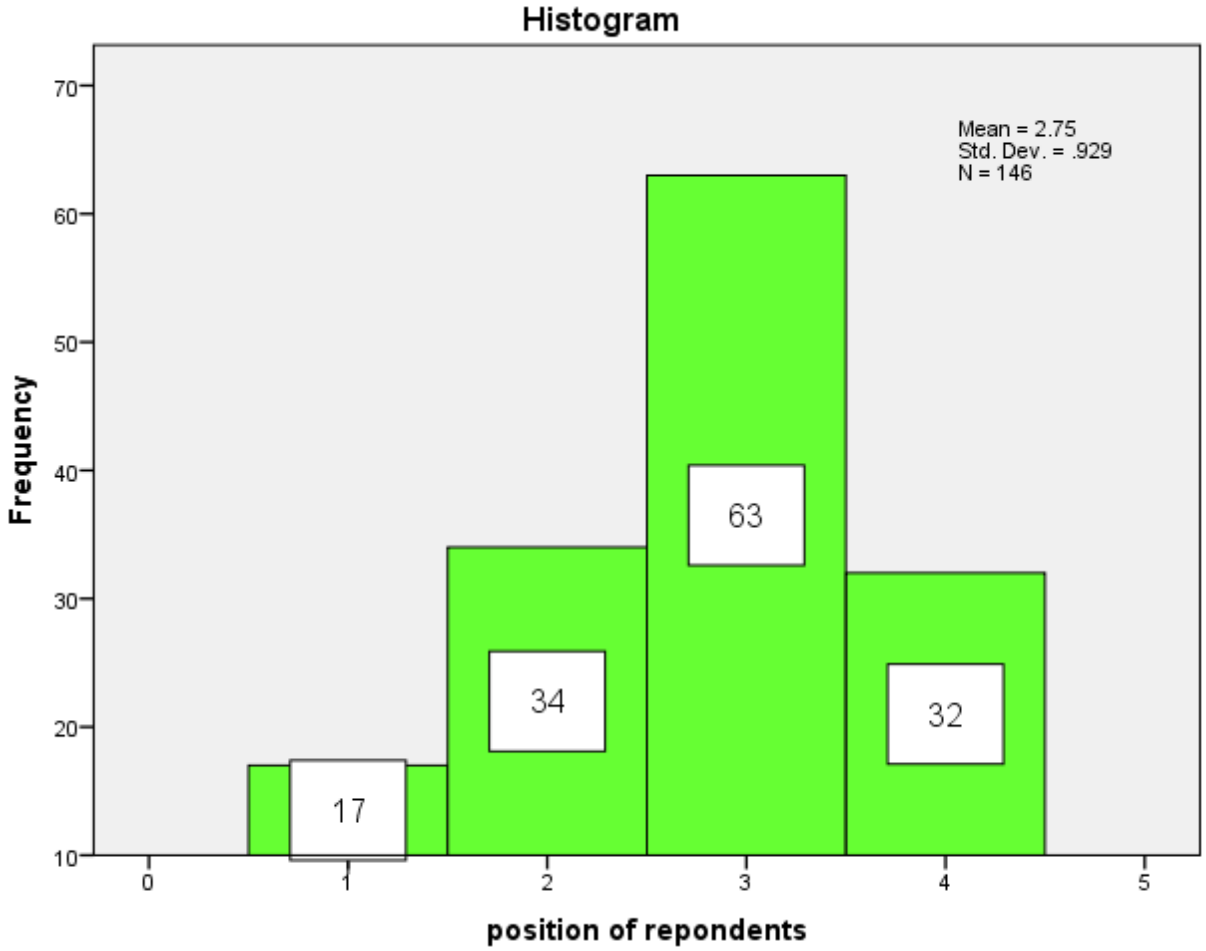

Figure 4.6 distribution of position of respondents

1.1.7 Distribution Geographical Land Scape Of Study Area

Table 4.7 Geography of the Study Area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highland	26	17.8	17.8	17.8
	Desert	1	.7	.7	18.5
	Semi-arid land	15	10.3	10.3	28.8
	Lowland	104	71.2	71.2	100.0
	Total	146	100.0	100.0	

Source: survey, 2017

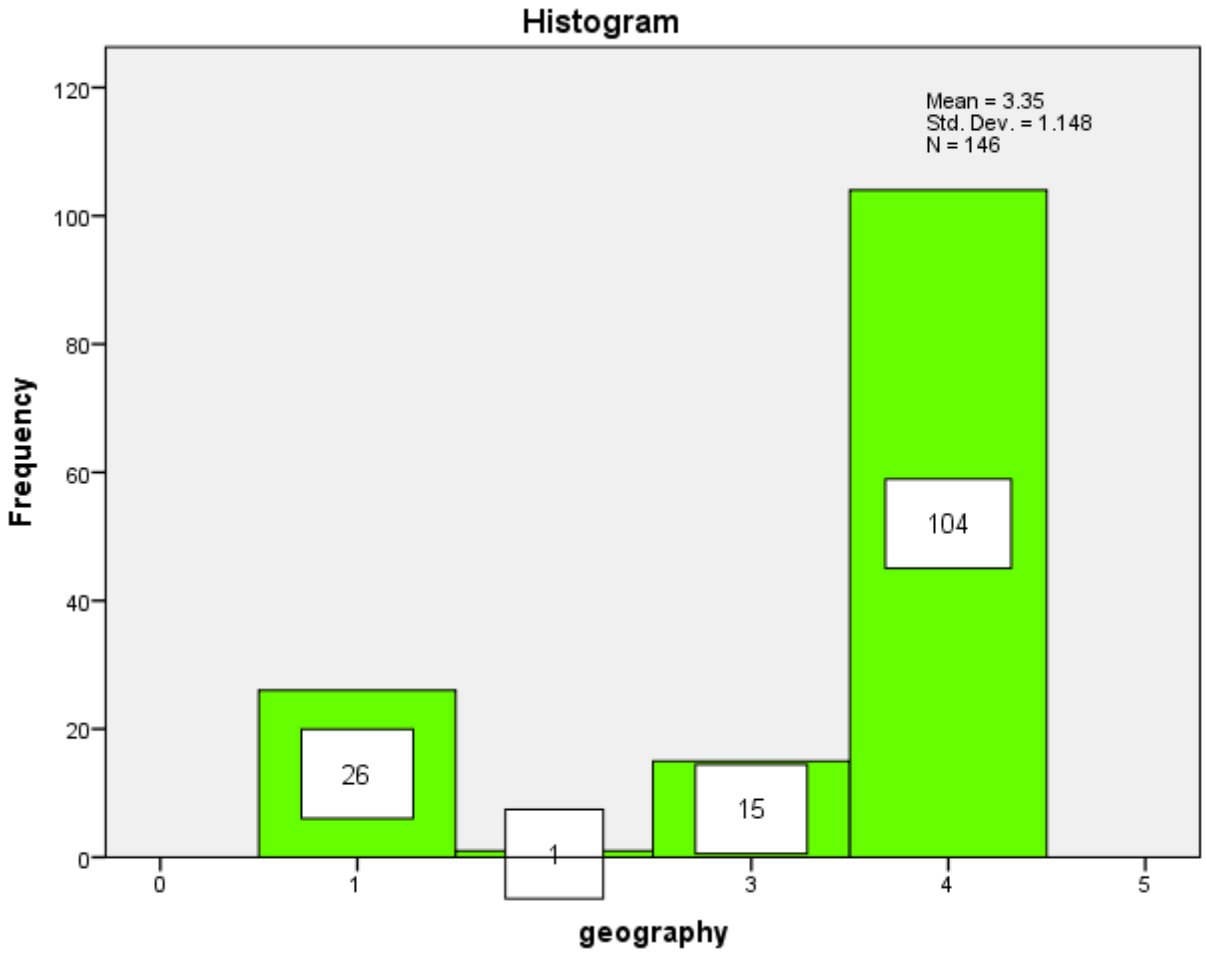

Figure 4.7 geography of the study area

The above table and graph summarizes that, the majority of the study area 104(71.2%) is covered by lowland which is followed by 26(17.8%) of the participants said that its highland, 15(10.3%) is covered by semi-arid land and lastly 1(0.7&) of the respondents respond that it is desert. This implies that the majority of the study area is lowland.

4.1.8 **Distribution of the Possible Disaster Happens in the Area.**

Table 4.8 the Possible Disaster Happen in the Study Areas

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	144	98.6	98.6	98.6
	No	2	1.4	1.4	100.0
				100.0	
	Total	146	100.0		

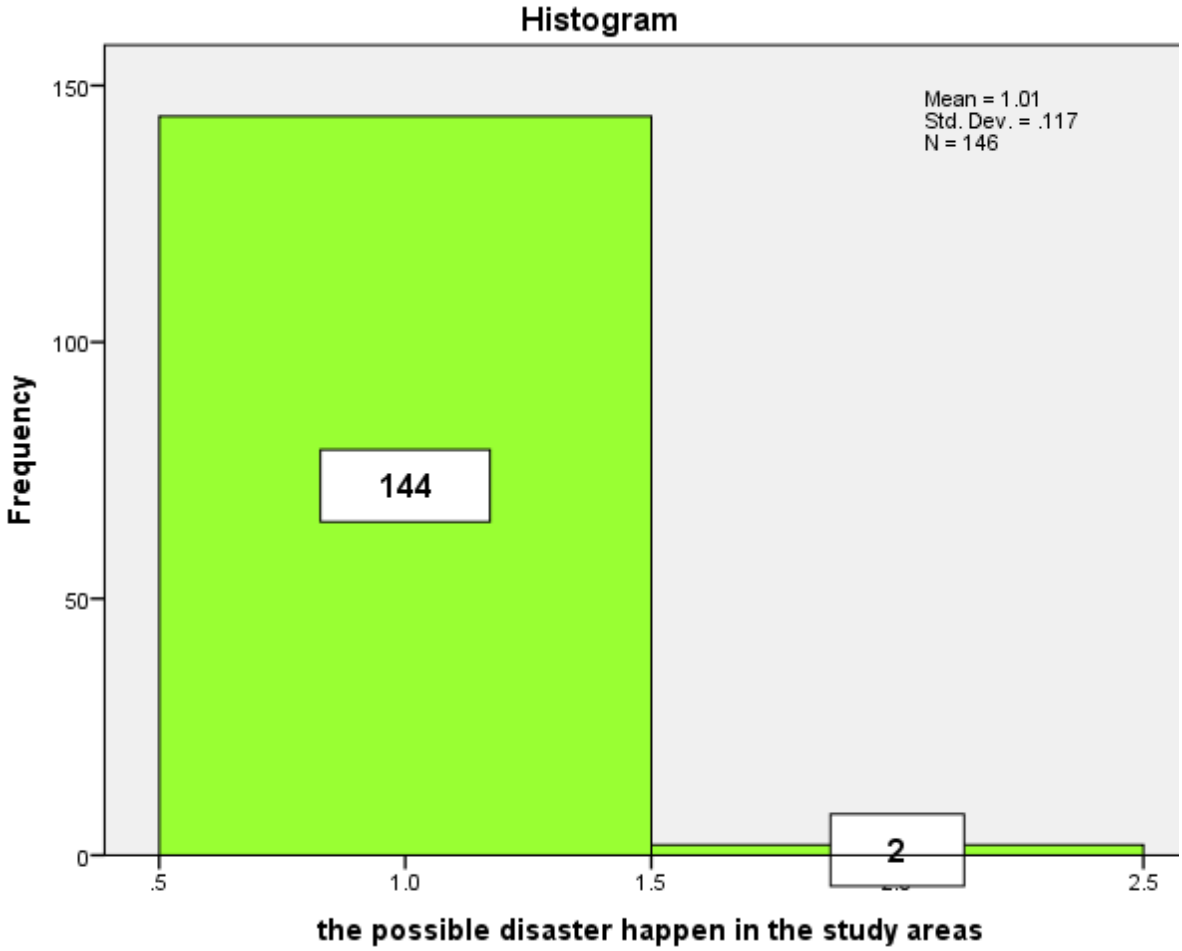

Figure 4.8 the possibility of disaster happening

4.1.9 Distribution of Affected Group

Table 4.9 The Major Affected Group of the Community

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	older person	24	16.4	16.4	16.4
	disabled person	41	28.1	28.1	44.5
	Children	48	32.9	32.9	77.4
	Women	33	22.6	22.6	100.0
	Total	146	100.0	100.0	

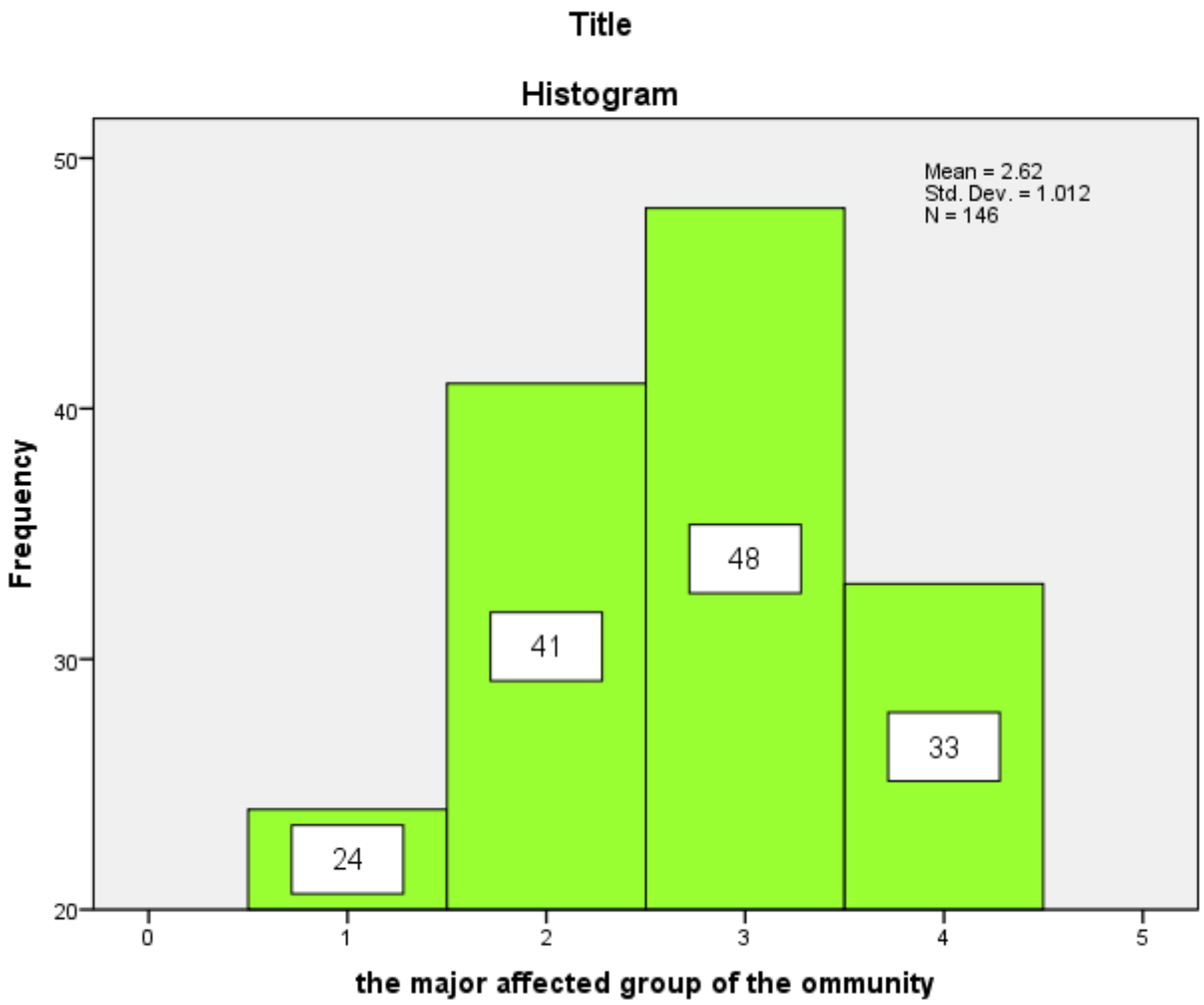

Figure 4.9 the major affected group of community

The above table 4.9, depicted that the major affected group by disaster is 48(32.0%) is children followed with 41(28.1%) is disabled person, 33(22.6%) is women and the last 24(16.4%) older person. This summarizes that the major affected or exposed to disaster is children's.

1.1.8 Distribution of Information Access of Respondents.

Table 4.9 Information Access

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	news paper	4	2.7	2.7	2.7
	family and friends	114	78.1	78.1	80.8
	television or radio	28	19.2	19.2	100.0
	Total	146	100.0	100.0	

Source: survey, 2017

Key media infrastructure is vulnerable to disasters and there is a lack of attention to disaster risk reduction. Private media respondents interviewed expressed the need for

more technical knowledge about disaster risk reduction. It should be noted that some community

FM radio stations are partnering with local and international nongovernmental organizations (NGOs) to broadcast public messages on preparedness for recurrent hazards when information is

provided to them. In addition, although local FM is available in most regions, it is vulnerable to lightning strikes, which render the entire system inoperable. Organizational contingency or recovery plans are lacking according to all media respondents.(USAID, 2011)The above table shows that the majority of respondents 114 (78.1%) have a chance of getting information about through their friends and families which is followed by television 28 (19.2%) and the lowest percent is by newspaper 4(2.7%). This shows that the majority of the sampled respondents tells us they have a way of friends and families to get information the issue of disaster.

4.2 Verification of Research Questions

Research question one

1. What is the major disaster happened in the selected woreda?

4.2.1 Distribution of Major Disaster Happen

Table 4.19 Major Disaster Happen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Flood	66	45.2	45.2	45.2
	Earthquake	1	.7	.7	45.9
	Hurricanes	26	17.8	17.8	63.7
	Landslide	53	36.3	36.3	100.0
	Total	146	100.0	100.0	

Source: survey, 2017

The above table shows that the major disaster happened in the study area majority of respondents 66(45.2%) said that flood is the most, which is followed by 53(36.3%) is land sliding and 26(17.8%) of respondents said hurricanes is the other disaster that happens in the study area. This table depicted that the major hazard or disaster happens in the study area is flood which causes a lot of damage.

woreda?

4.2.2 Distribution of Current Status of the Offices

Table 4.20 Current Status of the Offices

DRM current status

The current status of DRM the woredas	Frequency	Percent	Valid Percent	Cumulative Percent
1. needs more improvement	117	80.1	80.1	80.1
2. need some improvement	29	19.9	19.9	19.9
3. satisfactory	0	0	0	

Total	146	100	100	

As we can see from the above table the current status of the disaster risk management of the selected woreda is not that much enough which means 117 (80.1%) of respondents believe that the practice need more or substantial improvement and followed by 29(19.9%) respondents are said that it is good but needs some sort of improvement. This implies that, the current status or the expected value is not enough as compared to the sensitivity of the problems happening in the world.

4.3 Pearson's Correlation Analysis

Research question three

1. What are the factors that hinder disaster risk management practices in the woredas?

4.2.3

Table 4.21 Correlations of Independent Variables and Dependent Variable

Correlations

		DRM P	NF	S	A	EB	GE	IA	DRMT	VU
DRMP	Pearson Correlation	1	.286**	.286**	.292**	.292**	-.292**	-.301**	.514**	.391**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000
	N	146	146	146	146	146	146	146	146	146
NF	Pearson Correlation	.286**	1	.092	.151	-.030	-.244**	-.070	.055	.221**
	Sig. (2-tailed)	.000		.270	.069	.719	.003	.401	.509	.007
	N	146	146	146	146	146	146	146	146	146
S	Pearson Correlation	.286**	.092	1	-.036	.021	-.096	.049	.143	.139

	Sig. (2-tailed)	.000	.270		.669	.798	.248	.553	.084	.094
	N	146	146	146	146	146	146	146	146	146
A	Pearson Correlation	.292**	.151	-.036	1	.055	-.024	-.230**	.143	.298**
	Sig. (2-tailed)	.000	.069	.669		.510	.771	.005	.085	.000
	N	146	146	146	146	146	146	146	146	146
EB	Pearson Correlation	.292**	-.030	.021	.055	1	-.057	-.303**	.196*	.131
	Sig. (2-tailed)	.000	.719	.798	.510		.492	.000	.018	.116
	N	146	146	146	146	146	146	146	146	146
GE	Pearson Correlation	-.292**	-.244**	-.096	-.024	-.057	1	.186*	-.127	-.164*
	Sig. (2-tailed)	.000	.003	.248	.771	.492		.025	.127	.048
	N	146	146	146	146	146	146	146	146	146
IA	Pearson Correlation	-.301**	-.070	.049	-.230**	-.303**	.186*	1	-.125	-.131
	Sig. (2-tailed)	.000	.401	.553	.005	.000	.025		.131	.116
	N	146	146	146	146	146	146	146	146	146
DRMT	Pearson Correlation	.514**	.055	.143	.143	.196*	-.127	-.125	1	.138
	Sig. (2-tailed)	.000	.509	.084	.085	.018	.127	.131		.097
	N	146	146	146	146	146	146	146	146	146

VU	Pearson Correlation	.391**	.221**	.139	.298**	.131	-.164*	-.131	.138	1
	Sig. (2-tailed)	.000	.007	.094	.000	.116	.048	.116	.097	
	N	146	146	146	146	146	146	146	146	146

*. Correlation is significant at the 0.05 level (2-tailed).

Table below depicts the output of correlation matrix for independent variables (sex, age, number of family, educational background, geography, information access, DRM tools and vulnerability) and dependent variable (disaster risk management). Basically most of the variables showweak and strong correlations (r) ranging from 0.221 to 0.514. Relatively strong correlation (r=0.514) is found between disaster risk management and disaster risk management tools. Thus, disaster risk management and disaster risk management tools have strong positive correlation with one another.

However, a weak correlation is found among the variable sex of respondents and other variables. These include sex (r=0.286), age (r=0.292), number of family (r=0.286), educational back ground (r=0.292) and vulnerability (r=0,221).

All in all, the most of variables show positive correlation. There is also a strong linear relationship among the variables. Since associated p-value of all variables are 0.000 which is smaller than the level of significance, $\alpha = 0.05$. Therefore, it shows that significant relationship exists between the variables.

4.4 Multiple Linear Regression Analysis

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.719[a]	.517	.489	.566	.517	18.352	8	137	.000	1.897

a. Predictors: (Constant), vulnerability, information access, sex, DRM tools, number of family, geography, educational rank, age

b. Dependent variable disaster risk management practice

The findings presented in Table 5 show that the R Square (r^2) for the regression model is 0.517. It means that 51.7% of the variation in dependent variable (disaster risk management) is explained by variation in all the eight independent variables: sex, age, number of family, education background,information access, DRM tools and vulnerability. The high percentage signifies that the model is relatively well in predicting the disaster risk management practice.

Table 4.22 Anova[b]

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	47.010	8	5.876	18.352	.000[b]
	Residual	43.867	137	.320		
	Total	90.877	145			

a. Dependent Variable: Disaster risk management practice

b. Predictors: (Constant), vulnerability, information access, sex, DRM tools, number of family, geography, educational rank, age

With reference to Table 6 above, F-test was conducted to test the overall significance of the model constructed in this study. The p-value of 0.000 is less than level of significance, $\alpha = 0.05$, we can concluded that at least one proposed independent variable has relationship with the disaster risk management practice.

Table 4.23 Coefficients[a]

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-.510	.538		-.948	.345	-1.575	.554
	Sex	.453	.147	.189	3.088	.002	.163	.743
	Age	.118	.061	.125	1.932	.055	-.003	.240
	number of family	.114	.047	.153	2.436	.016	.021	.206
	educational rank	.092	.042	.140	2.192	.030	.009	.174
	Geography	-.084	.043	-.122	-1.933	.055	-.170	.002
	information access	-.243	.117	-.135	-2.070	.040	-.475	-.011
	DRM tools	.608	.101	.376	6.040	.000	.409	.807

Vulnerability	.405	.141	.186	2.866	.005	.125	.684

a. Dependent Variable: Disaster risk management practice

The above table 23 reveals that p-value of sex (p=0.002), p-value of number of family (p=0.016), p-value of educational background of the respondents (p=0.030), p-value of information access of the respondents' (p-0.040), p-value of DRM tools (0.000) and p-value of vulnerability (p-0.005) are less than level of significance, α=0.05,. The results signify that there is significant evidence that relationship exists between disaster risk management practice and each selected independent variables. The relationship between these variables and disaster risk management practice are positive as the beta (β) value is positive.

In the opposite, p-value of geography of the study area (p-0.055) and p-value of age of respondents (p=0.055) is greater than level of significance, α=0.05, thus, there is no significant evidence that relationship exists between age of the respondents and the geography of the study area and disaster risk management practice.

Based on the above table 23, DRM tools is the strongest predictor of disaster risk management practice (β=0.608), this followed by the sex of respondents (β=0.453), vulnerability (β=0.405), age of respondents (β=0.118), number of family (β= 0.114), educational background of the respondents' (β=0.092), geography of the study area (β=-0.084) and lastly information access of the respondents (β= -0.243). Taking all beta (β) into consideration, an equation could be formed to outline the relationship between independent variables and Disaster risk management practice.

The equation is as below:

$$DRM = -0.510 + 0.453S + 0.118A + 0.114NF + 0.092EB - 0.084GE - 0.243INF + 0.608T + 0.4050V$$

Where,

DRMP = Disaster risk management practice

S= sex

A = age

NF = number of family

EB = educational background

GE = geography

INF = information

T = tools

V = vulnerability

Chapter Five

2. Conclusions and Recommendations

5.1. Introduction

This chapter provides a recap of the research objectives and conclusion of the overall findings. Finally, it provides recommendations to achieve the determinant of disaster risk management practice.

5.2. Conclusions

This research was conducted to identify what factors determine disaster risk management practice in selected woredas of Jimma zone. The descriptive analysis and inferential analysis were used to find out whether sex, age, number of family, educational background, geography, information access, disaster risk management tools and vulnerability are the determinants of disaster risk management practice. A total of 146 questionnaires were distributed for the sampled respondents and become successfully collected for valid analysis. For this research, SPSS version 20 was used as a statistical tool for measurements to both descriptive and inferential analysis.

In the analysis of demographic data, sex and age are some of the demographic variables used to test their descriptive analysis. Most of the respondents consist of males as compared to females in sex. With regard to the age level of respondents, most are younger generations that are 30 to 45. The other type of demographic variable tested in this research is the marital status of the respondents. The result shows that the most 109(74.7%) number of respondents are married.

The other was descriptive analysis that relates the measurement items of each independent variables and dependent variable. It comprises of sex, age, number of family, educational background, geography, information access, disaster risk management tools and vulnerability are independent variables and disaster risk management practice as dependent variable.

The Pearson's Correlation analysis shows that most of the variables have weak and high correlations ranging from 0.221 to 0.292. Strong correlation (r=0.514) is found between disaster risk management practice and disaster risk management tools. However, a weak correlation is indicated among the variable price of services and other variables. These include sex (r=0.286), age (r=0.292), number of family (r=0.286), educational background (r=0.292). Generally, the most of the variables show positive correlation which is statistically significant ($p< 0.05$).

In the Multiple linear Regression Analysis, the findings show that the R Square (r^2) for the regression model is 0.517. It means that 51.7% in dependent variable (disaster risk management practice) is explained by variation in all the eight independent variables(sex, age, number of family, educational background, geography, information access, disaster risk management tools and vulnerability) to evaluate model fit.

With the Analysis of Variance (ANOVA) F-test was conducted to test the overall significance of the model. The p-value of 0.000 is less than level of significance, $\alpha=0.05$, Therefore, it could be concluded that at least one proposed dependent variable has relationship with the disaster risk management practice.

Under the Regression results of disaster risk management practice (Coefficients) sex, number of family, educational background, information access, disaster risk management tools and vulnerability are less than level of significance, $\alpha=0.05$. The results show that relationship exists between individual independent variable and disaster risk management practice in selected woredas. In the opposite, p-value of age ($p=0.055$) and p-value of geography is greater than level of significance, $\alpha=0.05$

5.3. Recommendations

As the findings show that sex, number of family, educational background, information access, disaster risk management tools and vulnerability are found to be the determinants of the dependent variable disaster risk management practice and they have significant positive relationship. With reference to demographic and descriptive analysis percentages, the severity of disaster happening is described Subsequently, recommendations are proposed to improve the office to think of the issues of sex, family size, educational facilities, access of information, the mechanisms of disaster risk management and the communities vulnerability to the disaster, which can improve the activities of disaster risk management practice as a whole.

5.4 Future research direction

By taking this study as a standing point, it could be possible to come up with additional and better argument and insight are possible. There are several potential possibilities for future research and improvements.

Future studies can investigate how can we make disaster risk management practice more productive and systemic for the sake of sustain the socioeconomic safety. In addition to this the coming researchers can investigate the impacts of disaster risk on the economic development of the countries.

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Appendix

Jimma University

College of Business and Economics

Department of Management

Survey Questionnaires

Dear respondents

This questionnaire is designed to collect data for the study entitled **"factors Disaster Risk Management Practice In Case of Jimma Zone Selected Woreda"** the major objective of the study is to assess the practice of disaster risk management of selected woread. The questionnaire is meant to be filled by officials of disaster risk management of the selected woreda. Privacy is assured. For the research to generate valid results, it is essential that you answer all the questions as much as possible the truth & honest. It is expected that the answers should be explain your own opinion and perception with regards of the case.

SECTION 1: DEMOGRAPHIC INFORMATION

WOREDA_____

1. Gender
   a. male b. Female
2. Age
   a. 19 – 29 years c. 46 – 60 years
   d. 30 – 45 years e. Above 60 years
3. Marital status
   a. married c. Divorced
   b. Single
4. Family size
   a. 1-5 b. 5-7 c. 7-10 d. above 10
5. Educational background
   a. primary b. secondary c. preparatory
   d. University e. TVET

6. What is your position in the office?
   a. Manager b. secretary c. expert d. member of the committee
7. What is landscape or geography of your area?
   a. Lowland c. high land
   b. Desert d. semiarid land style
8. Are there possible disasters that are likely to happen?
   a. Yes b. no
9. If any which ones what are the major hazards the community faces?
   A. Floods b. volcanic eruption
   C Hurricanes d. Landslide e. Earthquakes
10. Based on your observations, are some groups in the community more affected than others? If so, please indicate below.
    a. Older persons b. Disabled persons c. Children d. Women
11. From past experience, what challenges did the community face in responding to or as a consequence of disasters?
    a. Death b. homelessness c. poverty d others
12. Does the community have a disaster plan?
    a. Yes b. No
13. How does the community receive information about disasters or emergency situations?
    a. Newspapers b. Family and friends c. Television / radio d. Internet
14. Are there laws, policies or regulations that deal with disaster management in your kebelle?
    a. Yes b. No
15. Does the communities have their own policies, laws or regulations on disaster preparedness and response?
    a. Yes b. No
16. What disaster related issues has the community faced that are not covered by or community level policies or regulations?
    a. death b. homelessness c. immigration d. serious sick
17. Has disaster preparedness been allocated funds in the organization budget?
    a. Yes b. No
18. If your answer is yes, what is the annual budget allocation?

a. 2,000 b. 5,000 c. 10,000 d. 15,000

19. What are the recommended next steps to reduce risks in emergencies and improve disaster preparedness?

    a. Awareness creation b. training and development

    c. equipping the office by budget d. Hiring experiencing expert

20. Disaster risk management capacity of your office.

Area		No capacity	Low capacity	Moderate capacity	High capacity
Disaster risk management	Disaster preparedness				
	Risk reduction				
	Emergency response				
	Reconstruction & rehabilitation				
Technical capacity	Hazard mapping				
	Infrastructure				
	Information				
	Value at risk information				
	Loss potential studies				
	Disaster database				
Institutional capacity	National institutional capacity				
	Coordination of disaster management				
Financial capacity	Paying for emergency response Paying for disaster damage Financial support for disaster management				

21. Who is vulnerable to disaster risk potentially?

s. №	Vulnerable group	Very high	High	Moderate	low	very low
1.	Poor					
2.	Landless					
3.	Children					
4.	All groups					
5.	Large family size					
6.	Women					
7.	Livestock tenders					
8.	Old					
9.	Men					
10.	Youth					

22. What are the factors that challenges the practice of disaster management in your case?
    a. The attitude of the community c. the capacity of the office to response
    b. the severity of the disaster d. all are the answers of the questions
23. Who is responsible body to prepared, mitigate and response to disaster happens.
    a. The community at all c. the government
    b. The non-governmental organizations d. the local government (kebelle) only.
24. What are the challenges regarding disaster preparedness in the organization?
    a. The awareness of the society's c. The scope of the disaster
    b. The willingness of the office d. the available budget
25. Is there a comprehensive policy governing disaster management in your office?
    a. Yes b. No

26. Have you been oriented on disaster management?
    a. Yes b. No

27. Are all the staff involved in disaster preparedness measures?

    a. Yes b. No

28. What support does your zonal office need to help in improving community self-reliance and resilience in the context of DM?

    a. Funding the program c. initiating the program

    b. Giving training and development for the experts d. discussion with community

29. Have you developed any specific areas of disaster and/or risk management collaboration with the communities?

Areas	Yes	No
Hazard mapping		
Risk modelling		
Data sharing		
Sharing staff, expertise, knowledge & technical assistance		
Joint submissions for funding		
Consistent and standardized approaches to dealing with risk		
Support for District DM planning		
Consistent approaches in land use planning controls		
Resource sharing to interpret and apply State policy		
Collaborative links with Ethiopian Government departments		
Joint training, exercises and the like		
Community engagement programs/ strategies		

30. Is there any importance or specific positive impacts of capacity building on DM planning?

a. Yes b. no

31. What change or support is required to overcome any barriers to integrating DM planning and operations across the kebelle?

    a. Lack of budget c. lack experts of disaster

    b. Understanding of the community d. other

32. What types of land use planning controls are in place in your kebelle to reduce the community vulnerability to hazards?

a. Horizontal plough
b. Terracing
c. plantation
d. There is no plan

33. With regard to your current situation, please comment on the following areas.

Areas	Needs substantial improvement	Needs some improvement	Is satisfactory
Policy			
Office support for DM			
Integration of hazard and DM across the range of the zonal office functions (where desirable)			
Coordination			
Availability of relevant local information/data (including spatial data)			
Availability of relevant local information/data from external sources (e.g. State and Federal agencies)			
Communication / engagement with the whole communities			
Resources			
Availability of skilled personnel (i.e. in planning/risk management/ analysis)			
Staffing allocation to DM planning/ exercises			
Time allocation for DM planning/ exercises			
Funding allocation for DM planning/exercises			
Other resourcing for DM planning (equipment, GIS, training, surveying etc.)			
Access to external funding beyond usual the zonal revenue streams for DM activities			
Community Support for DM			
Local political will & consistency in supporting DM			

support for regional DM partnerships & planning consistency			
Local community will in supporting DM			
Community engagement			

34. What are the problems in achieving increased community engagement as above?

a. perceived public apathy. c. lack of resources or budget

b. remoteness or distance d. lack of trust in Government

35. What community engagement strategies does your Council use to promote community self-reliance?

a. Information provision (media, pamphlets etc.)

b. Direct engagement via public meetings/ organizations/ DM planning processes

C. hazard/risk info for individual properties; coordination across agencies; mapping

36. Have you participated in any DM training, workshops, conferences, professional development?

a. yes b. no

37. Currently, in your area DRM is expected as: (Likert scale)

	Strongly agree	agree	disagree	Strongly disagree
A pro-active disaster reduction mechanism				
The first step towards developing a disaster plan				
A means to responding to disaster situations				
Part of the disaster recovery & rehabilitation process				

Thank you for your willingness to participate in this study! It is greatly appreciated!

YUNIVARSITY JIMMAATTI

KOOLLEEJII BIZNESII FI ICONOMIKSII

MUMMEE MANAGIMANTII

SAGANTA MPM

Gaaffilee odeeffannoo ittiin sassaabamu

Deebii keennaf:-

Gaaffiin gaafannoon Kun kan inni qopha'e raga waa'ee mancaa'ina (balaa tasa) godina jimmaa keessatti Aanoolee filataman keessatti mul'atan yoo ta'u, kaayyoon ijoo qorannoo kanas balaan tasa Aanaalee filataman kana keessattii akkamitti to'atamu addaan baasuudha. Gaaffiin gaafannoo Kun kan guutamu itti gaafatamtoota balaa tasa Aanaalee filataman fi gandootatti ittisa balaa tasatiin ni guutama jechuudha. Iftoominni qoorannoo kanaaf buu'aa qabeessummaa isaaf wabii dha. Deebii gaafannuu kanaaf dhugaafi amanamummaa qabaachuun isaa barbaachisaa dha. Deebiin keennitan Kun rakkoowwan mul'atanii ni ibsa.

Kutaa 1:- odeeffannoo haalaa dhuunfa

Aanaa_____

1. Saala
   a. Dhiira b. dubara
2. Umrii
   a. Waggaa 19-29 c. waggaa 46-60
   b. Waggaa 30-45 d. waggaa 60 ol
3. Haala gaa'ila
   a. Kan fuudhee/heerumte c. kan hiike
   b. Kan hin funee/hin heerumnee
4. Baay'ina maatii
   a. 2-5 c. 7-10
   b. 5-7 d. 10 ol
5. Sadarkaa barumsaa keessani
   a. Sad. 1ffaa c. qoophaa'ina
   b. Sad. 2ffaa d. Yunivarsitii e. oogummaafi tekniika

6. Dhaabbataa kana keessattii itti gafatamummaan keessanii?
   a. Hojii gaggeessitu c. ogeessa/ttii
   b. Barreessaa/tuu d. miseensa
7. Haalli teesssuma lafaa naannoo keessanii maali?
   a. Laf-dakee c. lafa olka'aa
   b. Gammoojjii d. badda-daree
8. Balaan naanoo kessanitii uumame beeka?
   a. Eyyee b. lakki (miti)
9. Yoo jiraatee balaa isa kamtu kan ummata yaadachisu?
   a. Loolaa c. buubbee
   b. Dhoo'insa voolkanoo d. babbaqaqinsa lafa
10. Akka ilaalcha keessanitti qaamoolee hawaasa keessanitti isa kamtu balaadhan miidhama?
   a. Namoota gurguddoo c. ijoolloota
   b. Namoota qaama hir'uu d. dubartoota
11. Muuxannoo yeroo darbee irra balaa akkamii ummataan kan qunname isa kamii?
   a. Du'aa b. hiyyumma
   b. Mana dhabeessaa ta'uu kan biro
12. Hawaasni balaa to'achuudhaaf karoora qaba?
   a. Eyyee b. lakii(miti)
13. Hawaasnii naannoo keessani odeeffannoo balaa dhaga'uu kan danda'aan?
   a. Gaazeexaadhaan c. TV/raadiyoodhaan
   b. Maatii/hiriiyaadhaan d. intarneetiidhaan
14. Seerri ykn imaammanni balaa ittiin to'atan ganda keessanittii jira?
   a. Eyyee b. lakki(miti)
15. Hawaasni ganda keessanii seera ykn imaammata ittiin bulmata fi qophii balaa tasa ittiin too'atan qabu?
   a. Eyyee b. lakki(miti)
16. Balaawwan ummata keessaa isaan kamtu humna uummataatiin to'atamuu kan hin danda'amne?
   a. Du'a c. goodansa
   b. Mana dhabu d. dhukkuba cimaa

17. Ganda keessanitti balaa tasa to'achuudhaaf baajatnii ni ramadamaa?
    a. Eyyee b. lakki(miti)
18. Deeebii keessani "eyyee" taanaan wagaatti haammam ni ramadamaa?
    a. 2,000 c. 10,000
    b. 5,000 d. 15,000
19. Qoophii balaa tasa uumamuufi tarkaanfiin kan fudhatamu danda'uu maaliin jettani yaaddu?
    a. Huubannoo uumuudhaan c. baajetaan deeggaru
    b. Ummata leenjisuufi guddisuu d. muuxannoo jiruu fudhachu
20. Dandeetti to'annaa balaa biro/wajjira keessani maal akka fakkaatu bareessa.

    Hubachiisa:- 1: dandeetti hin qabu 2: dandeetti xiqqaa 3: dandeettii gidu galeessa

    4: dandeetti gaha mul'isa

Naannoo		1	2	3	4
To'annoo balaa	Qophaa'ummaa balaa				
	Balaa xiqqeessuu				
	Balaa tasaaf deebii keennu				
	Deebisanii ijaaruufi haaromsuu				
Dandeettii teekniikaa	Kaartaa balaa baasuu				
	Bu'uuraalee misooma				
	Odeeffanno				
	Bu'aa Odeeffanno balaa qabaachuu				
	Hanqina dandeettii qo'achuu				
	Bu'uura raga balaa				
Dandeettii dhaabbaticha	Dandeetti dhaabbata beeka standaardii biyyoleessuumma dhaabbaticha				
	Qindoomina to'annoo balaa				
Baajataa qabaachu	Balaa uumameef deebii keennuu, qarshiidhan				

21. Balaa tasaaf irracaalaatti kan saaxilamuu eenyuufi sadarkaa isaa?

Hubachisa: - **1**: baay'ee olanaa **2**: olaanaa **3**: giddugalessa 4: gad aanaa **5**: baay'ee gad aanaa mul'isu

Lakk.	Qaama midhamu	1	2	3	4	5
11.	Nama hiyyeessa					
12.	Lafa kan hin qabnee					
13.	Ijoollee					
14.	Qaama hundaa					
15.	Baatii bal'aa kan qabu					
16.	Dubartoota					
17.	Horsiisee bultoota					
18.	Manguddoota/jaarsoota					
19.	Warra dhiira					
20.	Dargaggoota					

22. Uumamuu rakkoo kanaaf sababoota kan ta'an maali?
    a. Ilaalcha haawaasa
    b. Sadarkaa uumama rakinicha
    c. Gahumsa wajjircihi rakkoo kana furuuf qabu
    d. Hunduma
23. Balaa uumamee hir'isuus ta'ee ittisuuf itti gaafatamummaa kan qabuu eenyuu?
    a. Haawaasa hundaa c. mootummaa
    b. NGOs d. hoggantoota gandaa
24. Dhaabbata keessaniitti qophaa'ummaan balaa ittisuuf akka guufuu kan ta'ee ias kami?
    a. Hubannoo haawaasa c. bal'inaa balaa uumamee
    b. Feedhii dhabuu wajjiricha d. hanqinaa baajataa
25. Balaa uumamuu to'achuudhaaf akka wajjira keessanitti qajeelfamni ifa ta'ee jira?

a. Eyyee b. lakki(hin jiru)

26. Balaa mudatuu hambisuu irratti hubannoo argattetta?
    a. Eyyee b. lakii(hin argannee)
27. Miseensonni keessani hundi qophaa'ummaa dursani balaa ittisuu irratti ni hirmaatu?
    a. Eyyee b. lakkii(hin hirmaatan)
28. Haawaasni akka hubannoo argatuu fi hojii kana ofiitti fudhatuuf deeggarsii wajjiirrii keessan wajjira Aanaa ykn wajjira Godinarra maal barbaada?
    a. Baajataa barbaachisu ramaduu c. sagantaa kana jajjabeessuu
    b. leenjii oogeeyyiif keennuu d. haawaasa waliin marii gaggeessu
29. haawaasa waliin qindoomina balaa to'achuuf nannoo addaattii goodhamee beeka?

Lakk.	Naannoo	Eeyyee	lakkii
1.	Kaartaa naannoo balaan hojjechuu		
2.	Moodeelii balaa basuu		
3.	Odeeffannoo qoodu		
4.	Beekumsaa fi oogumma istaafii waljijjiiruu		
5.	Sagantaa galii sassaabachu qabaachu		
6.	Standaardii to'anno balaa baasuu		
7.	Karoora to'annoo balaa akka distriktiitti qabaachu		
8.	Karoora itti fayyadaminsa lafaa baasu		
9.	Imaammata hojiirra olchuu fi qoodinsa qabeenyaa baasuu		
10.	Qindoomina bulchinsa lafaa wajiin hojjechuu		
11.	Leenjii fi hojii walqabiinsaan deemsisuu		
12.	Sagantaan hubannoo haawaasaattii uumamuu hojjechuu		

30. hooggansa balaa tasaa irratti karoorsuun dandeettii balaa ittisuu irrattii bu'aa qabaamoo hin qabu?
    a. Qabaa b. hin qabu

31. Balaa gandaa keessanitti uumamuu to'achuu fi dhabamsiisuuf jijjiirama akkami ykn deeggarsa maalitu barbaachisa ta'e hanqate?
    a. Hanqina baajataa
    b. Hubannoo ummata hunda
    c. hanqina oogeessaa balaa to'achuu
    d. kan biro
32. Haawaasni ganda keessanii karoora too'annoo lafaa akkamii fayyadamuun balaa xiqqeessa?
    a. Dalga qootuu dhaan
    b. Daagaa ijaaruudhaan
    c. biqiltuu dhaabuudhaan
    d. karoora hin qabu
33. Haalaa amma waajjira keessan jiruu irrattii hundaa'uudhaan yaadoolee armaan gadiif yaada keessan keenna.

    Hubachisaa:- 1: jijjiirama baay'ee ni barbaada 2: jijjiirama hamma ta'ee barbaada

    3: gaha dha kan jedhan mul'isu

Yaadoolee	1	2	3
Imaammata /poolisii/			
1. Deggarsa biro balaa to'anna			
2. Qindoomina barbaachisaafi bu'aa qabeessaadhaan godina wajjiin hojiitti seene jira?			
Qindoomina (coordinashinii)			
3. Barbaachisummaa Odeeffannoofi daataa dabalata (akkaataa taa'umsa lafaa)			
4. Barbaachisummaa odeeffannoo naannoo fi bakke daataa qabeenya bakke.(dhaabbata Naannoo fi Federalaa) jira?			
5. Qindoomina motummaa Naannoo fi Federalaawalitti dhufenya balaa ittisu irraati qaban.			
6. Walqunnamtii hubannoo haawaasaa hundaa wajjiin qabdan maal fakkataa?			
Qabeenyaa(resourses)			
7. Barbaachisumma hogganaa leenji'aa ta'ee fi karoorsa balaa tasa qabuu fi xinxala gaggeessuu irraatti maal fakkaattu?			
8. Humna nama bakka balaan tasa ittin dhoorkamuufi karoorsuuf shaakalamuu ni jira?			
9. Yeroo balaa ittiin dhoorkamuufi karoorsuuf shaakalamuu ni jira?			
10. Qabeenya balaa ittiin dhoorkamuufi shaakalamu ni jira?			
11. Qabeenya addaa balaan ittiin dhoorkamuufi shaakalamuu ni jira?			

12. Qaqqabinsi baajataa aalaa balaa ittiin to'atan qabdu?			
Gargaarsaa haawaasaa hoggansaa balaa irra			
13. Dhaabbilee siyaasa naannoo fi dhaabbata to'ata balaa deeggaruun maal fakkaattu?			
14. Gargaarsi dhaabbilee Naannoo dhaabbata to'ata balaatiif qaban maal fakkaata?			
15. Deeggarsi haawaasa naannoo dhaabbata to'ata balaatiif qaban maal fakkaata?			
16. Hirmaanaa ummata hundaa maal fakkata?			

34. Sababni ummanni balaa to'achuutti akka hin hirmaanne kan taasisuu maali?
    a. Rakko ilaalcha ummanni qabu
    b. Fageenyaa bakka balaan uumame
    c. hanqina qabeenya
    d. hanqina amanamummaa Motumma
35. Gandi keessani akka ummanni ofii isaatiin balaa akka to'atu imaammata akkamii baasee jira?
    a. Tamsaasa odeeffanno waa'ee balaa tasa uumamuu
    b. Ummata naannoo wajiin fulaan marii gaggeessuun waa'ee karoora to'anna balaa
    c. Akkaataa ittiin balaa ittisan odeeffannoo nama hundaattii raabsuu fi kkfn.
36. Kanaan dura workshooppi ykn tra hirmaattani beektu?
    a. Eeyyee
    b. lakii(hin hirmaannee)
37. Amma gandi keessani akka dhaabbata to'anna balaa kan irra eegamu maal isinitti fakkaataa? Yaada keessan gabatee armaan gadirrattii ibsa.

    Hubachisa: - 1: baay'eetti wali galu 2: waligaltee
    3: walihingalu 4: cirumaa walihingalu

Yaadoollii	1	2	3	4
1. Imaammata Duradursa balaa ittisa ta'u				
2. Imaammata ykn poolisii balaa to'achuu baasuu				
3. Balaadhaaf deebii keennuf qophaa'uu				
4. Eega balaan darbee wanta bade deebisanii ijaaruufi haaromsuu				

Hirmaanaa qorannoo kanattii gotaniif baay'ee galatoma!