

Effect of Flood Management on Economic Growth of Somalia

Case Study Jowhar District

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ABSTRACT

A flood is a natural event that can have far reaching effects on people and the environment. Put simply, a flood is too much water in the 'wrong' place. This study was examined the Effect of Flood Management on economic Growth of Somalia. The specific objective of the project was; first to examine, the effect of flood management for competence, strategies and policies on economic growth. The study took from May 2015 to June 2016. The target population of this study was 120 Farmers in Jowhar district, who have been affected by floods. The populations was chosen as they affected floods since 2013 and involved in Farmers, drivers, channel irrigation managers and local authority. The research instrument was survey questionnaires which were used to collect primary data. Questionnaires were used since the study is concerned with variables that cannot be directly observed. The sample size was significantly large (92) used by Slovings formula in a given time constraints, questionnaires is an ideal tool for collecting data. The study use both qualitative and quantitative models to analyze data. Quantitative data was coded and entered into Statistical Package for social Scientist (SPSS Version 20.0) and analyzed using descriptive and explanatory statistics. Qualitative data was also analyzed on content matter of the responses and findings and recommendations presented. The correlation between Flood management competence indicated that a positive relationship existed between them. This suggests that flood management competence was an important aspect in improving economic growth. The correlation analysis results in also indicate that Flood management strategies had a significant influence on economic growth. The Karl Pearson's product moment coefficient of correlation suggests a strong relationship existed between the two variables. There was positive and significant effect of Flood management strategies on economic growth. There was also a positive and significant effect of Flood management on economic growth finally, there was need to determine whether there existed a significant relationship between authoritarian leadership and employee performance in Export Processing Zones in Kenya. The correlation analysis shows that a positive relationship exists therefore, it can be concluded that all the variables were significant to the study problem although the degrees of influence varied.

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1. Introduction

Somalia is situated in Horn of Africa, lays the Gulf of Aden Indian Ocean to the east. It is borders by Kenya in the south, Ethiopia in the west and by Djibouti in the north-west. Generally arid and barren, Somalia has two chief rivers, the Shebelle and the Juba. Temperature rise is uncertain while future rainfall patterns are even more uncertain, making it difficult to plan for the future. This is particularly important for agriculture, where crop yields are affected by temperature and rainfall, and planning for future water demands to support the economy. Climate data from Somalia should improve confidence in global climate models and enable better regional modeling, contributing not only to Somalia's adaptation planning, but planning in the region (FAO, 2015).

Somalia is currently vulnerable to climate change as it is strongly reliant on rain-fed agriculture both for rural and cities livelihoods and the country experiences emergency situations

from flooding disasters (FAO, 2015). Every year floods causes enormous damage all over the world in the last decade of the 20th century floods killed about 100,000 persons and affected over 1.4 billion people (S, 2014) indirectly floods can cause the loss of economic and agricultural production and decrease Scio-economic welfare

Many of the urban poor in Africa face growing problems of severe flooding. Increased storm frequency and intensity related to climate change are exacerbated by such local factors as the growing occupation of floodplains, increased runoff from hard surfaces, inadequate waste management and silted-up drainage. One can distinguish four types of flooding in urban areas: localized flooding due to inadequate drainage flooding from small streams within the built-up area; flooding from major rivers; and coastal flooding

Natural hazards like Floods and Landslides can lead to major disasters which hamper the development of the nations

and affect many areas in the World. Most of countries around the world, especially Asian and African countries, do not have adequate methodology of estimation of losses due to the occurrence of natural disasters. The information about loss estimation caused by floods of different magnitudes and the loss return period are crucial to develop policies for rational flood and landslide alleviation, based on cost effective measures. According to FAO (2011) the current socio-economic status of Jowhar district is strongly dependent on agricultural activities where 90 Percent of livelihoods are farmers and livestock combined and the rest is living in cities, business centers with various trading. The critical issues is that all agricultural activities are carried out on a fragile land in many localized areas of the country, where most of landslides and flooding fatalities are due to human activities carried out on steep slopes, lack of drainage system and rain water collection, poor soil cohesion etc. (FAO, 2014). These facts are aggravated by critical rate of population growths which makes pressure on land water and energy resources and climate change impacts all this is associated with a number of other triggering factors. The consequences of floods in urban areas are relevant, ranging from impacts on human health to effects on housing prices, urban transportation infrastructure, and other damaging effects such as time lost in work and education, damages to property and psychological stress.

The Shebelle River is one of the Somali's permanent two rivers which are basis for irrigated agricultural activities in the southern part of Somalia.

Before and during the anarchy period, flooding was one of the recurring problems. In 2013 alone the floods affected many people who become aid dependants as reported by (OCHA, 2013) where "11,000 households that spread over 33 villages were affected by localized flooding in Jowhar district". The floods have seriously affected the farmlands and farming activities in areas. According to "8,000 hectares of land have been affected by flooding in Jowhar and Balcad districts.

This sometimes takes the proportion of a catastrophic natural disaster that have taken a severe toll on the institutions and infrastructure necessary to manage the water resources of the two rivers that is the lifeline of southern Somalia (SWALIM, 2009). Jowhar district is a town that lies along the Shabelle River and its inhabitants are badly affected by the floods as they also cutoff key roads including road that link Jowhar to Mogadishu and displace

The floods occur in two rain seasons, 'Gu' and 'Deyr' and the scale of the effect of the floods are not same as it hugely depends on the intensity of the rain fall in the Ethiopian highland. 8.(Sebhat, 2014) Central and Southern Somalia has experienced widespread flooding that has affected over 300,000 people in November 2013. It has led to destruction of villages, crops and killed livestock and pushed people to the margins of existence, such problems never got solve, because is under developing countries and due to lack of capacity, human and material cannot cope such serious problems, Somalia disaster problems drought and floods is recurring every ten years atleast at ones. It is because of this persistent occurrence of floods that the study aims at investigating the effect of floods on economic growth of Somalia. (McKenzie, 2006).

Objectives of the Study

1.To determine the flood management competence on economic growth of Somalia.

2.To identify the effect of flood management strategies on economic growth of Somalia

3.To find out the flood management policies on economic growth of Somalia

2. Literature Review

Theoretical Frame work

Resilience Theory

Resilience theory has been applied to community resilience, strengthening the capacity to absorb recurrent hazard impacts and reorganize while undergoing change so as to maintain fundamental structures processes, identity, and feedbacks. Likewise, urban resilience to floods is defined as the capacity of the city to tolerate flooding and to reorganize should physical damage and socioeconomic disruption occur, so as to prevent deaths and injuries and maintain current socioeconomic identity. It can be conceptualized as the capacity to remain in a desirable regime while experiencing a flood (Blackmore, 2009).

The desirable regime is defined by a set of variables reflecting aspects such as livelihood security, economic performance, and mobility that collectively represent the city's socioeconomic identity 10.(Adger, 2006). Urban resilience to floods is measured by the flood magnitude the city can undergo until it reaches a threshold and shifts to an undesirable regime.

The desirable regime reflects the city's tolerable range of socioeconomic state changes, which matters to urban resilience to floods. A wider range implies that the city considers a greater degree of socioeconomic fluctuations normal, hence a larger/deeper basin of attraction; whereas a narrow range leads to a smaller/shallow basin of attraction and a flood could cause a regime shift easier (Carpenter, 2008).

A city is considered to have shifted to an undesirable regime when experiencing a flood disaster involving widespread human, economic, and environmental changes that exceed the city's own ability to cope (United Nations International Strategy for Disaster Reduction, 2004).The undesirable regime is characterized by significantly reduced resources and assets, large-scale population displacement, livelihood disruption, and loss of security (Adger, 2006).

Essentially, urban resilience to floods is the capacity to avoid flood disaster. To prevent physical damage and socioeconomic disruption from occurring, it would depend on the city's flood ability, which is defined here as the physical ability to accommodate—not resist—flooding. If damage and disruption had occurred, remaining in the regime counts on reorganization—reestablishment of socioeconomic order. While the return to pre flood conditions is irrelevant, the speed of reorganization matters because prolonged socioeconomic disruption can eventually push the city into an undesirable regime (Walker, 2011).

Classical management theory

Classical management theory was introduced in the late 19th century. It became widespread in the first half of the 20th century, as organizations tried to address issues of industrial management, including specialization, efficiency, higher quality, cost reduction and management-worker relationships. While other management theories have evolved since then, classical management approaches are still used today by many small-business owners to build their companies and to succeed.

Hierarchical Structure

One of the advantages of the classical management structure is a clear organizational hierarchy with three distinct

management levels. Each management group has its own objectives and responsibilities. The top management is usually the board of directors or the chief executives who are responsible for the long-term goals of the organization. Middle management oversees the supervisors, setting department goals according to the approved budget. At the lowest level are the supervisors who oversee day-to-day activities, address employee issues and provide employee training. The levels of leadership and responsibilities are clear and well defined. While the three-level structure may not be suitable for all small businesses, it can benefit those that are expanding.

Division of Labor

One of the advantages of classical management approach is the division of labor. Projects are broken down into smaller tasks that are easy to complete. Employees' responsibilities and expectations are clearly defined. This approach allows workers to narrow their field of expertise and to specialize in one area. The division of labor approach leads to increased productivity and higher efficiency, as workers are not expected to multitask. Small-businesses owners can benefit from taking this approach if they are looking to increase production with minimal expense.

Conceptual Framework

A conceptual framework is used to outline the possible courses of action or the preferred approach to an idea. The conceptual framework highlights the independent variables and the dependent variable. The interaction between the dependent variable and the independent variables of the study is shown by the figure below.

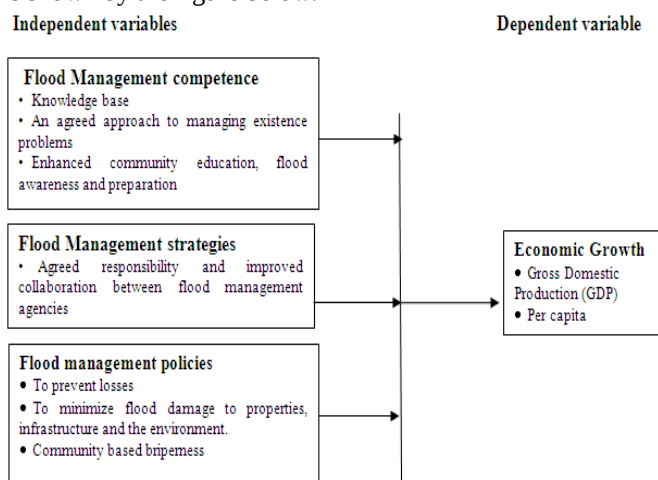


Figure 1. Conceptual Framework

Flood Management competence

• Knowledge base

Understanding the extent and full impacts of flooding is essential for planning for potential future pressures on the drainage system arising from climate change and infill urban development equally important is the capacity to share this information and engage with other stakeholders and the community. The identification and accurate mapping is essential for flood risk areas is considered to be critical foundation for development and flood management activities 11. (Port Phillip and Westernport Region, 2014). Mapping throughout the Somali Rivers is currently incomplete and most information is missing (SWALIM, 2000).

• An agreed approach to managing existence problems

The Somalia Water and Land Information Management (SWALIM) will sponsor research and consult with stakeholders to develop criteria to establish flood risk

tolerability thresholds which take into account relevant social or intangible flood impacts

- Enhanced community education, flood awareness and preparation

A community flood education, awareness and preparedness program, including flood warning, will be developed and implemented, public consultation and risk communication it needs upgrading.

Flood Management strategies

- Agreed responsibility and improved collaboration between flood management agencies

The Somalia Water and Land Information Management (SWALIM) will provide technical and financial assistance to councils that have identified flood risk for the preparation and review of flood management plans.

Flood management policies

Prevention of losses

Prevention is the Activities aimed at eliminating or reducing the incidence or severity of emergencies and the mitigation of effects.

Understanding the extent and full impacts of flooding is essential for planning for potential future pressures on the flood relief system arising from climate change and infill urban development

Equally important is the capacity to share this information and engage with other stakeholders and the community (Port Phillip and Westernport Region, 2014).

Working with councils to develop detailed local flood management plans, and working with the FAO SWALIM Office and other stakeholders to develop a flood management planning framework for the region.

Measurement of economic growth

Remittances are not counted in the gross domestic product (GDP) but are a dominant feature of Somalia's economy and a key factor in the welfare of its people. About 1 million Somalis live abroad as part of the "Diaspora" Most left to escape war, rather than famine, and were relatively well educated and well off. This, combined with a strong Somali entrepreneurial streak, positioned many to thrive overseas. Strong family and clan ties mean that much of their income – at least \$1.2 billion per year, (Stephen hardley, 2014) equal to almost half of Somalia's GDP – flows back to Somalia as remittances and keeps many families above water despite high unemployment.

Livestock is Somalia's largest sector, its largest employer, and is often described as the backbone of the economy. Pastoralism lies at the heart of the Somali nomadic culture and identity. Livestock in Somalia means goats, sheep, camels and cattle in descending order of headcount. The majority of livestock produced are exported – almost exclusively to the Middle East and mostly as live animals.

livestock and meat industries account for 60% of jobs.. As much as 80 percent of Somalia's livestock production is exported, which means that the food safety concerns of importing countries are critically important to the industry's survival. Also, Somalia's livestock exports go to just a handful of countries. The industry paid a large penalty for that dependence when Saudi Arabia banned the import of live animals from Somalia for nine years in 2000 and the United Arab Emirates (UAE) banned the import of frozen meat in 2005. Despite the central importance of food safety standards and certification, (Stephen hardley, 2014) Somalia has not succeeded in establishing its own control systems. Instead, it imports safety controls from importing countries that send

their own people to monitor the supply chain in Somalia. Recent studies suggest that livestock production may not be as important as commonly thought. It may also be declining in relative importance. A calculation of Somaliland's GDP by the World Bank in January 2014, for example, concluded that livestock makes up 29.5 percent of GDP – a large proportion, to be sure, but not the 60 percent. Other sources suggest that land degradation from overgrazing is putting an upper limit on the industry..

Agriculture plays a central economic role in south-central Somalia, where rainfall is greater and two rivers as well as irrigation systems provide a more consistent supply of water. In south-central Somalia, agriculture may be the largest single industry.

Technical challenges

The greatest challenge to agriculture in south-central Somalia is the inconsistent water supply: it suffers from both severe periodic drought and occasional flooding. Catchment structures, levees and irrigation canals help, but they have deteriorated since the beginning of the civil war – falling into disrepair and/or silting up.

The fishing industry has the highest potential for growth and job creation among the industries currently active in Somalia. It is much undeveloped –not among the top three contributors to

GDP in Somaliland, perhaps second in Puntland and, probably, third behind agriculture and livestock in south-central Somalia. Yet Somalia has the longest coast of any African country and, off shore, some of the richest fishing grounds in the world. According to the FAO, the only fish stocks in the world that are actually “underfished” are in deep water off Somalia's coast. Large schools of, primarily, tuna migrate from north to south and back along the east coast of Africa and concentrate off Somalia, where the upwelling of oxygenated deep water brings nutrients to the surface and, ultimately, smaller fish on which the tuna feed. As Somalis prize meat from livestock and consider fish to be second-class food, the domestic market for fish is very small –a principal reason why the industry has not developed further. The fact that it is cheaper in Somalia to buy canned tuna from Thailand than from a few miles up the coast illustrates the industry's weaknesses.

Empirical review

Natural disaster have always had an increasing trend in the history for developing countries in Africa and Asia yet these Africa economies are mostly dependent on their agricultural sector, which acts as a main source of economic activity. (NEPAD, 2010) Growth of these economies is adversely affected due to their high dependence on agriculture sector as all the developing economies are disaster prone. El nino rains causing floods of 2007 in East Africa hindered economic growth massively, (Giuliano, Alberto, Harry, Demetris, Luigia, Günter., 2010) as the economic losses. As disasters have experienced an increasing trend over the period of time so far that reason planning aspects have been highlighted, including few important ones like; sensitivity analysis, forecasting techniques, community participation and a system that incorporates proper implementation of disaster mitigation projects.

Disasters i.e. floods and earthquakes can lead to intrastate conflicts as the resources; food, relief aid, housing and medicine are limited for survival and this can move on to affect the GDP of the country as the case of earthquakes in have been primarily focused. As densely populated areas are

the ones which are highly affected in terms of lives lost and revenue generation as well. (Fund, 2004) A relationship has been developed in a way that disasters are seen as promoting the intrastate conflict, which later aids to certain factors and affects GDP adversely

Focused his Study on the losses from disasters from 1980-2004 in Pakistan and they amounted to \$1 trillion just in terms of economic losses. Disasters primarily focus on two aspects; one being economic losses and other being the loss of human capital. The productive capitals inform of human minds and productive land, which when lost is counted as the biggest damages and affects the growth of the economy. Effects of disasters on real income is also seen to be adversely affected as the development process featuring growth of damaged resources is gradual and takes place over the period of time (Shahzad, 2014). Drastic climate changes have been discussed to support the fact that disaster are increasing in numbers and are directly related to the climatic changes.

(Kahn, 2005) focused on disasters in 73 countries across the globe during 1980-2002. Developed or rich countries are seen to experience same number of disasters as the poor countries but the differences are in the loss of human lives as they suffer with less deaths resulting from disasters. (Shahzad, 2014) Natural disasters seem to affect different sectors of the economy, from growth rates to the prices of natural resources. The fact acknowledged here is that both the rich and poor nations experience same amount and quality of shocks but the reason due to which there is less loss of human capital in rich countries is higher GDP per capita Which reflects the institutional efficiency and better governance acting as shield to protect the locals and keep them aware of the situation by performing their assigned roles

The consequences of floods in urban areas are relevant, ranging from effects on human health to effects on housing prices, urban transportation infrastructure (Greck, 2014), and other damaging effects such as time lost in work and education, damages to property and psychological stress.

(OCHA, 2016) Local NGOs and civil society organizations (CSOs), as part of their own communities, work to reduce poverty and drive sustainable development. When disasters or conflict strike, they are the first to respond with relief assistance and stay to support recovery and build community resilience long after other organizations have left.

(Best Practices on Flood Prevention and Mitigation, 2003) There is a number of basic principles and approaches regarding sustainable flood prevention, protection and mitigation,

(a) As far as possible, human interference into the processes of nature should be reversed, compensated and, in the future prevented. It is necessary to promote and harmonise changes in water policies and land-use practices, as well as environmental protection and nature conservation, in order to improve flood management in the frame of Integrated River Basin Management.

(b) This should cover the entire catchment area of watercourses and promote the co-ordinated development, management and conservation of actions regarding water, land and related resources. Such a holistic approach is based on multilateral and even multinational co-operation, including interdisciplinary planning for the whole catchment areas.

(c) Considering the evolution and trends, the approach to natural hazards requires a change of paradigm. One must shift from defensive action against hazards to management of the risk and living with floods

(d) Human uses of floodplains should be adapted to the existing hazards. Appropriate instruments and measures should be developed to reduce the risk of flood damages.

(e) Mitigation and non-structural measures tend to be potentially more efficient and long term more sustainable solutions to water-related problems and should be enhanced, in particular to Reduce the vulnerability of human beings and goods exposed to flood risk.

(f) Nevertheless, structural measures (defence structures) will remain important elements and should primarily focus on the protection of human health and safety, and valuable goods and property. Requirements of nature conservation and landscape management should also be taken into account.

(g) The major part of population and goods are located in big urban areas so efforts for avoiding flood problems should also be focused on these urban areas. River overflowing does not always cause urban floods; they can also be caused by high rain intensities over the city combined with inappropriate sewer systems. Special attention should be taken to the present drainage of rainwater, for instance the capacity of the sewer systems of our cities.

(h) Everyone who may suffer from the consequences of flood events should also take –if possible- his/her own precautions. To this end, appropriate information and forecasting systems should be established by the competent authority.

(i) Solidarity is essential, one should not pass on water management problems in one region to another. The appropriate strategy consists of a three-step approach: retaining, storing and draining. (first make every effort to retain

All floods are not bad

Seasonal flooding can be an important source of nutrients for agricultural lands, and recharge water supplies in dams and underground aquifers. In some parts of the world a lack of seasonal flooding is disaster.

Floods usually occur when people are not prepared for a flood due to lack of early warning preparedness and mitigation measures. Floods occur at night, which occurs rapidly are both, is the most dangerous type of flooding (fund, 2004)

3. Methodology

The study took descriptive research design in which both qualitative and quantitative approaches was used.

Target population as described by Borg and Crall (2009) is a universal set of study of all members of real or hypothetical set of people, events or objects to which an investigator generalized the result. The target population of this study was 120 people in Jowhar district which effected by floods in 2013.

4. Research Findings

Flood management competence

An early warning system in the community

Of the 92 participants asked, 14% agreed that community has an early warning system while 74% disagreed about the existence of an early system. This is in line with the findings of Mr. Fund that floods occur because of lack of warning, "Floods usually occur when people are not prepared for a flood due to lack of early warning preparedness and mitigation measures. Floods occur at night, which occurs rapidly are both, is the most dangerous type of flooding" (fund, 2004)

1. The study is aimed to investigate position held by responders an early warning system in the community, were asked the participants(14%) agreed and strongly agree that the community has an early warning system while (74%) disagree

and strongly disagree that the community have no early warning system indicated the mean of 2.7 and stander deviation of 1,1 This is in line the finding of Mr. Shahzad,

Community prepared to mitigate floods

From the findings of the study community are prepared to mitigate floods and (70%) of the responders agreed communities are not prepared to mitigate floods while (25%) of the responders are agree community are prepared to mitigate floods and indicated that the mean of mean of 2 with the stander deviation of 1,

This is in line the findings of the informal meeting of Water Directors of the European Union (EU), "the best practice document" structural measures (defence structures) will remain important elements and should primarily focus on the protection of human health and safety, and valuable goods and property. Requirements of nature conservation and landscape management should also be taken into account.

Administration transports the flood affected people to safe place

According to the findings (33%) responders choose agree that the administration transport the effected floods people to safe place and of the 38% responders said its neutral and 29% of responders disagree that the administration to transport the flood effected people o safe place showing the mean of 3 with stander deviation of 1

Table 4.1. Flood management competence.

	N	Mean	Std. Deviation
There is an early warning system in the community	92	2.7609	1.16137
Communities are prepared to mitigate floods	92	2.3696	1.00239
The local administration transports the flood affected people to safe place	92	3.0217	1.02687
Valid N (listwise)			

Flood management strategies

Business and local authority collaborate floods protection/response

The study further sought to find out the respondents to rate the business and local authority collaborate floods protection/response (50%) of the responders agree and strongly agree that there is collaboration between business people and local authority for flood protection but, (18%) strongly disagree saying there is no collaboration between business people and local authority , on other hand (30%) are neutral or moderate and show by the mean of 2.6 with stander deviation of 1

Also this is inline the finding of Mr. Umair, The fact acknowledged here is that both the rich and poor nations experience same amount and quality of shocks but the reason due to which there is less loss of human capital in rich countries is higher GDP per capita Which reflects the institutional efficiency and better governance acting as shield to protect the locals and keep them aware of the situation by performing their assigned roles

INGO's & local NGO's support the communities and administration to protect/respond floods

The study also sought the role of INGO's & local NGO's support the communities and administration to protect/respond floods (70%) of the participants agree and strongly agree that INGO's & local NGO's support the communities and administration to protect/respond floods, on the other hand (6%) of the participants disagree and strongly disagree INGO's & local NGO's support the communities and

administration to protect/respond floods, but more than (22%) said its neutral the mean 2 of and stander deviation 0.9

This is in line the findings of Humanitarian bulletin Philipin in Ocha report 2016 “ Local NGOs and civil society organizations (CSOs), as part of their own communities, work to reduce poverty and drive sustainable development. When disasters or conflict strike, they are the first to respond with relief assistance and stay to support recovery and build community resilience long after other organizations have left.

International & local NGO's provide materials support (Money and Aid)

The study aimed to reveal the assistance of International & local NGO's during hazards of floods (58%) of the responders agree and strongly agree NGO play important role the socioeconomic of the displaced people but (11%) strongly disagree INGO's & local NGO's support the communities and administration to protect/respond floods, but more than (30%) are moderate or neutral indicated by the mean of 2.4 with stander deviation 0.8

The local administration provide coordination and security support

The study investigated the role of the local administration, to provide coordination and security to assess the sharing responsibility among stakeholders' operation floods. (64%) of responders agree the local administration provide coordination and security during emergencies, (14%) refused and disagree that administration provide security and coordination (19%) are moderate or neutral and this show by the mean of 2 and stander deviation

As disasters have experienced an increasing trend over the period of time so for that reason planning aspects have been highlighted, including few important ones like; sensitivity analysis , forecasting techniques, community participation and a system that incorporates proper implementation of disaster mitigation projects

The central government provides emergency aid and asked support to the world4

The researcher was also inquisitive to determine whether the central government provides emergency aid and asked support to the world, according to the findings majority of (64%) of the responders indicated that the central government provides emergency aid and asked support to the world while (22%) are neutral and the rest of (14%) did not indicated otherwise. This implies that the most of the flood effect people received emergency assistance from the central government and indicated by the mean of 2 with the stander deviation of 1

Table 4.2. Flood management Strategies.

	N	Mean	Std. Deviation
Business and local authority collaborate floods protection/response	92	2.6087	1.00500
INGO's & local NGO's support the communities and administration to protect/respond floods	92	2.0978	.90250
International & local NGO's provide materials support (Money and Aid)	92	2.4565	.85694
The local administration provide coordination and security support	92	2.2717	1.04937
The central government provides emergency aid and asked support to the world	92	2.3370	1.11214
Valid N (listwise)			

This is also in line the findings EU conference in Copenhagen of best practice on flood prevention “Everyone who may suffer from the consequences of flood events should also take –if possible- his/her own precautions. To this end, appropriate information and fore casting systems should be established by the competent authority”

Flood management policies

The administration prepare evacuation material

The study sought to find out how the responders rate the policy of flood management, and asked administration prepare evacuated material (64%) disagree the administration prepare evacuation material (25%) an agree that administration prepare evacuation material and remaining (10%) are neutral. This implies the administration have no evacuation material

This is in line the finding of EU conference in Copenhagen “Human uses of floodplains should be adapted to the existing hazards. Appropriate instruments and measures should be developed to reduce the risk of flood damages”

The administration prepare protection equipment and material

The study aimed to investigate the administration prepares protection equipment and material to protect or respond the floods (47%) of the responders agree and strongly agree administration prepare protection equipment and material but (26%) strongly disagree administration prepare protection/respond equipment floods, but more than (26%) are moderate or neutral indicated by the mean of 2.8 with stander deviation 1.1

Also this is the same findings of EU conference in Copenhagen “It is necessary to promote and harmonise changes in water policies and land-use practices, as well as environmental protection and nature conservation, in order to improve flood management in the frame of Integrated River Basin Management.”

Administration prepare safety location for the displaced people

The study sought to find out how the responders rate administration prepare safety location for the displaced people figure below show findings,(60%) of the responders disagree the administration prepare safety location for the displaced people (17%) agree that the Administration prepare safety location for the displaced people and (13%) are neutral showed by the mean of 2.8 with deviation of 1.2 this means displaced people did received safety location prepared by the administration.

This is same the finding of UE conference in Copenhagen “Mitigation and non-structural measures tend to be potentially more efficient and long term more sustainable solutions to water-related problems and should be enhanced, in particularly to Reduce the vulnerability of human beings and goods exposed to flood risk”

International and local NGOs prepare food, water and shelter to displaced people

The researcher investigated local & international NGOs prepare food, water and shelter to displaced people majority (64%) agree local & international NGOs prepare food, water and shelter to displaced people but, (14% disagree and strongly disagree NGOs to provide food and water it IDPs, and (22%) respondents are neutral, this implies NGos play important role for the assisting the IDPs especially during emergencies.

Table 4.3. Flood management policies

	N	Minimum	Maximum	Mean	Std. Deviation
The administration prepare evacuation material	92	1.00	5.00	2.8370	1.14140
The administration prepare protection equipment and material	92	1.00	5.00	2.8370	1.13173
Administration prepare safety location for the displaced people	92	1.00	5.00	2.8043	1.22465
I-ngo & L-ngo prepare food, water and shelter to displaced people	92	1.00	5.00	2.3478	1.07350
Valid N (listwise)	0				

Multiple Regression Analysis

Multiple regression analysis was performed to assess the relationship between the dependent variable (employee performance) and the independent variables (transactional leadership, transformational leadership and authoritarian leadership), and to test the research questions on the effects of leadership styles on employee performance with specific focus on Mombasa Apparel EPZ Ltd. Standard multiple regression analysis was conducted to test the research questions (Cooper & Schindler, 2013; Sekaran, 2008).

Standard Multiple Regression Analysis**Table 4.4. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.393 ^a	.154	.176	.05219

a. Predictors: (Constant), Flood Management policies, Flood Management strategies, Flood Management Competence

In order to test research questions, a standard multiple regression analysis was conducted using economic growth as the dependent variable on the side, flood management competence, flood management strategies and flood management policies as the predicting variables. Tables 4.1, 4.2, 4.3 and 4.4 present the regression results. From the model summary in table 4.4, it is clear that the adjusted R^2 was 0.154 indicating that the combination Flood management competence, flood management strategies and flood management policies explained a 15.4% of variation in economic growth.

Table 4.5. Analysis of Variance

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.790	3	5.597	5.356	.002 ^b
	Residual	91.949	88	1.045		
	Total	108.739	91			

a. Dependent Variable: Economic growth

b. Predictors: (Constant), Flood Management policies, Flood Management strategies, Flood Management Competence

From the ANOVA table 4.5, it is clear that the overall standard multiple regression model (the model involving transactional flood management competence, flood management strategies and flood management policies is significant in predicting how on economic growth. The regression model achieves a high degree of fit as reflected by an R^2 of 0.15 ($F = 5.356$; $P = 0.001 < 0.05$).

Table 4.6 presents the regression results on how flood management competence, flood management strategies and flood management policies on economic growth. The multiple regression equation was that: $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$ and the multiple regression equation became: $Y = 3.265$

$312X_1 + 266X_2 + 029X_3 + \epsilon$. As depicted in table 4.6, there was a positive and significant effect of Flood management competence on economic growth.

Table 4.6. Regression Coefficients

Model	Coefficients			t	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
1 (Constant)	3.265	.430		7.596	.000
Flood Management Competence	.312	.095	.332	3.294	.001
Flood Management strategies	.266	.120	.220	2.224	.029
Flood Management polices	.029	.097	.030	.299	.466

a. Dependent Variable: Economic growth

$\beta = -.266$; $t = 0.332$; $p < 0.05$). There was positive and significant effect of Flood management strategies on economic growth ($\beta = -.332$; $t = 1.378$; $p < 0.05$). There was also a positive and significant effect of Flood management on economic growth ($\beta = -.29$; $t = -.220$; $p < 0.05$).

The correlation summary shown in Table 4.4 above indicates that the associations between the independent variables were significant at the 90% confidence level. This means that the inter-variable correlations between the independent variables were strong enough to affect the relationship with the dependent variable. It also reveals that there was indeed a very strong positive relationship between Flood management competence, strategies and policies.

The correlation between Flood management competence indicated that a positive relationship existed between them ($r = .121$, $\alpha = 0.01$). This suggests that flood management competence was an important aspect in improving economic growth. The correlation analysis results in also indicate that Flood management strategies had a significant influence on economic growth. The Karl Pearson's product moment coefficient of correlation ($r = 0.448$, $\alpha = 0.01$) suggests a strong relationship existed between the two variables.

Finally, there was need to determine whether there existed a significant relationship between authoritarian leadership and employee performance in Export Processing Zones in Kenya. The correlation analysis shows that a positive relationship exists ($r = 0.273$, $\alpha = 0.01$). Therefore, it can be concluded that all the variables were significant to the study problem although the degrees of influence varied.

5. Summary of the Findings

The objectives of this study were to determine the effects of flood management on the economic growth and come up recommendations whether the flood management influences on economic growth, to find out ways to improve the flood management. Flood management response, strategies and policies shown high positive relation with economic growth.

Flood Management Competence

The study shows that the flood management competence has significant role on the economic growth and community have no competence to mitigated floods, That flood management competence is an important aspect in improving economic growth. The study also it shows the low capacity of the community and administrations increase the loss from the floods and its needs to build the capacity of local administration to prevent or respond the floods.

Regression coefficient shows, there was a positive and significant effect of Flood management competence on economic growth.

Flood Management Strategies

Study indicate that flood management strategies had a significant influence on economic growth the relation between flood management strategy and economic growth its very strong, developing strategies to prevent the floods encourages local farms to cultivate their farmers and contribute on economic growth, to get tactics to mitigate floods and flood facility relieve such as dams and water irrigation channels improving economic growth. The study also shows that improving cooperation between administration and business people can get on proper use of equipments facilitates to protect or respond the floods. The study further found out that International and local NGOs play important role for the livelihood of the flood effected people.

Based on the result from the regression coefficient presents, there was a positive and significant effect of Flood management strategies on economic growth.

Flood Management Policies

The study indicates that flood management policy has important role on the economic growth, without proper policy may cause great loss of many and material.

As study of the flood management policy, local administration needs evacuation material, and capacity to evacuate the flood effected people and to transport them in to safety location, floods shows more losses from floods evacuation policy when floods occur is not exist

6. Conclusions

The study was set out to explore the concept of Effect of flood management on economic growth. The study has also sought to know whether flood competence, strategy and policy can result in economic growth,. The general theoretical literature on this subject and specifically in the context of Somalia is inconclusive on several vital questions within the economic growth. Floods usually occur when people are not prepared for a flood due to lack of early warning preparedness and mitigation measures, early warning system. Community can make plan but without early warning farmers make investment and mostly and expected floods destroy the flood, on the other side mitigation and skills is not exist or farmers, cannot make big investment like dams and big channels for flood relief, transportation to evacuate property also need to plan a heard, to minimize the losses floods. Flood strategies to prevent the floods encourage local farms to cultivate their farmers and contribute on economic growth, as study shows currently the coordination is not so strong. The study also demonstrates using strategies and sharing responsibilities can minimize the risk and upgrade on the economic growth. Flood management policy the respondents had agreed to have high relation with on economic growth.

The correlation between Flood management competence indicated that a positive relationship existed between them ($r = -121$, $\alpha = 0.01$). This suggests that flood management competence was an important aspect in improving economic growth. The correlation analysis results in also indicate that Flood management strategies had a significant influence on economic growth The Karl Pearson's product moment coefficient of correlation ($r = 0.448$, $\alpha = 0.01$) suggests a strong relationship existed between the two variables.

$\beta = -.266$; $t = 0.332$; $p < 0.05$). There was positive and significant effect of Flood management strategies on economic growth ($\beta = -.332$; $t = 1.378$; $p < 0.05$). There was also a

positive and significant effect of Flood management on economic growth ($\beta = -.29$; $t = -.220$; $p < 0.05$).

Finally, there was need to determine whether there existed a significant relationship between authoritarian leadership and employee performance in Export Processing Zones in Kenya. The correlation analysis shows that a positive relationship exists ($rh = 0.273$, $\alpha = 0.01$). Therefore, it can be concluded that all the variables were significant to the study problem although the degrees of influence varied.

7. Recommendations

1. Somali water and land information management should build early warning system and convince community to adhere their information
2. Ministry of agriculture to build the capacity of administration and community in the riverine area in terms of knowledge and equipment
3. local administration develop shared responsibility flood protection/respond among stakeholders. They should also develop protection mechanism and evacuation equipments
4. Recommended local administration to come up strategies convincing Somali business people to invest flood protection facilities

8. Areas of Further Research

The study revealed that, there is information gap for other potential factors that have positive effects to effects of flood management on economic growth:

1. Effect of deforestation on floods
2. Floods irrigating remote land on economic growth

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