

REVIEW OF RELATED LITERATURE ABOUT FLOODS MANAGEMENT &SOCIO-ECONOMIC DEVELOPMENT OF PEOPLE OF KAMBUGA SUBCOUNTY, KANUNGU DISTRICT IN UGANDA

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ABSTRACT: *This review was meant to analyse the causes, impact, management and the effect of floods on the socio-economic development of the people. It was found out that floods affected the wellbeing of people and animals and they led to the destruction of a lot of property. Most of the floods were caused by torrential rains and they were affecting the social well being of people. Most of the households live in fear and do not usually associate with their colleagues especially at night. The government needs to evacuate people from vulnerable areas, Install early warning systems and the farmers should use sustainable land management practices in their agricultural fields such as agroforestry, digging of trenches and check dams to reduce on the runoffs.*

KEYWORDS: RELATED LITERATURE, FLOODS MANAGEMENT, SOCIO-ECONOMIC DEVELOPMENT, KANUNGU DISTRICT

2.0 Introduction

The literature will be reviewed on the flood's management and the socio-economic development of Kambuga Sub County. The related literature is based on numerous authors and scholars' ideas about the topic. It was based on the conceptual framework and the objectives of the study that included: the causes of floods in Kambuga Sub County, floods management and the impact of floods management on the socio-economic development of Kambuga Sub County.

1.1 The Causes of Floods

Floods are an overflowing of large amount of water beyond its normal confines especially over what is normally a dry land.

According to Nott (2006), the causes of floods can be broadly divided into physical, climatological forces and human influences such as vegetation clearing and urban development. The most common causes of floods are climate related, most notably rainfall. Prolonged rainfall events are the most common cause of flooding worldwide. These events are usually associated with several days, weeks or months of continuous rainfall. Human impacts on river catchments influence flood behaviour. Land use changes in particular have a direct impact on the magnitude and behaviour of floods. Deforestation results in increased run-off and often a decrease in channel capacity due to increased sedimentation rates

According to Doreen (2003), human activities like deforestation also lead to decreased stability of hill tops as compared with geological factors. She further states that combinations of topographical, geological and climatological factors such as heavy rains are responsible for the occurrence of floods.

Antonio (2006) on the other hand argue that flood catastrophes is directly related to human activities resulting from population pressure and urbanization, environmental degradational use change making areas more vulnerable to natural hazards. The tendency to occupy the flood plains has been a serious concern over the years.

According to Theodore and Simon (1967), the areas where metrological events for instance hurricanes, typhoons and cyclones are recurrent, the occurrence of floods is more frequent with a more devastating impact and inadequate capacity of the rivers to contain within their banks the high flows brought down from the upper catchment areas following heavy rains leads to flooding.

Crossman, et al. (2006) suggests that in the face of such increases in risk, the provision of reliable information and public awareness is essential. There is a clear need for a continental and deepening partnership between the public and private sectors in managing flood risk and the potential to extend to it to other areas). They point out that in the UK; flood risk represents a significant threat to many communities.

The 21st century is predicted to be an age of water scarcity, the flood losses worldwide continue to rise to tens of billions of US dollars in material damage and thousands of fatalities per year. For thousands of years, people have settled in flood plains attracted by the fertile soils, the flat terrain appropriate for settlements, and they have access to safe water. They further observed that floods are natural phenomenon that has always existed and people have tried to use them for their advantage to the extent possible. However, increased population density, urbanization and agricultural expansion in flood prone areas have steadily increased society's

vulnerability to the negative effects of floods. As a consequence, floods have become more and more disastrous to human settlements. Kundzewicz et al. (2002)

According to Kundzewicz, et al. (2002), economic development of flood prone areas is a factor that increases flood risk. Population pressure and shortages of land cause encroachment into flood plains. Mushrooming informal settlements often form enlargement zones around mega cities in developed countries

Bankoff (2003) states that in Philippines, flooding is not a recent hazard but one that has occurred throughout the recorded history.

Holmes wrote in Sunday Post (26 October, 2008) that the number of those displaced by natural disasters is rising, as the adverse effects of climate change continue to mount. Nine of every ten recorded disasters are now climate related. As many as 50 million people around the world are estimated to be displaced each year by floods, hurricane, tsunamis, earthquakes and landslide. However sudden the initial displacement, the impact can last for generations, together with a long-term need for clean water, shelter, health care, and other basic services, as victims of hurricane Mitch in Central America in 1998 know from bitter experience, nor are rich countries immune. Two years after Hurricane Katrina, thousands of people remained in temporary shelters.

Hanson, et al. (2007) states that reducing poverty is one of the great challenges facing the World. Over half of the world's poor live in rural areas. Poverty worsens when natural hazards destroy vital rural infrastructure.

Borrows and De Bruin (2006) indicated that floods are caused by river over flow, rivers can overflow their banks and this happens when there is more water upstream than usual and as it flows downstream to the adjacent low-lying areas, water gets into the land. More so, they stated that strong winds in coastal areas could carry water onto dry land and cause flooding.

Zahiran, et al. (2008) observed that floods are the most lethal kind of hydro-meteorological disasters in the United States. They observed that the rupturing of dams could lead to flooding. Dams are manmade blocks mounted to hold water flowing down from a highland. The power in the water is used to turn propellers to generate electricity. Sometimes too much water held in the dam can cause it to break and overflow the area.

1.2 Floods Management

Lara et al. (2010), the use of specific questions about flood warning allows us to discuss other correlations between information, preparedness and non-structural mitigation measures. None of them incorporates an analysis of awareness with regard to emergency management during the phase in which emergency response techniques and methods are being implemented which is critical to ensure the effectiveness of mitigation measures due to the limited time available. He stated that there should be flood education; this effort will address the multi-faceted aspects of floods management covering the pre and post flood situations that include the inculcation of a culture of prevention, mitigation and preparedness.

FEMA (1998) observed that as more rain water tries to flow down the drains, it puts more stress on the drainage system instead, if there are several rain water systems would try to go to the subsoil of the region locally rather than to go through the drainage system, the easier it is for the drainage system to drain off the water. In addition, wetlands should be conserved and restored. Wetlands provide effective flood water. The existing wetlands should be revived and maintained properly.

According to Guzzeti (2005) there should be diversion of flood water, whenever the capacity of river channels passing through the villages is adequate and cannot be improved to the required extent. Water should be diverted to new channels to prevent flooding.

1.3 Impact of Floods Management to the Socio-Economic Development

A study carried out in 2005 in Southeast Bangladesh confirms the positive relationship between environmental risk, poverty and vulnerability. Poorer segments of society live closer to the river and therefore face a higher risk of flooding and are thus more vulnerable. Environmental risk exposure also goes hand in hand with income inequality and access to natural resources.

Brouwer, et al. (2007), Families living nearer to the river seem to have fewer opportunities to engage in multiple economic activities which make them more vulnerable to natural disasters and may keep them trapped in a poverty cycle. He further stated that hard engineering projects such as dams are classic solutions to flooding problems. Water builds behind the dam and forms a reservoir which can be steadily drained at a controlled rate over time.

Mark et al. (2004) early warning systems send flood warning signals to flood vulnerable communities that helps them to save assets and lives. The system saves lives and property by providing lead time for downstream communities to prepare.

Brouwer, et al. (2007) states that Bangladesh is a highly flood prone country. Eighty (80) percent of the country consists of floodplains and several other minor rivers. These floodplains sustain a predominantly poor rural population. Once every ten (10) years roughly one-third of the country gets severely affected by floods while in catastrophic years such as 1988, 1998 and 2004, more than 60% of the country was inundated. Floods caused social disruptions and resulted in scarcity of drinking water as surface water got contaminated.

According to Jackson (2006), floods management by afforestation creates new habitats for animals and improves water quality by filtering pollutants out of rain water. Afforestation also prevents mass wasting which reduces on the amount of soil entering the river and keeps the rivers capacity high afforestation reduces on runoffs thus maintaining the soil fertility that leads to high crop productivity that in turn ensures food security of an area.

Living (2005) observed that studies undertaken show that the economic impact of natural disasters shows a marked upward trend over the last several decades. The hazards tend to hit communities in developing countries especially the least developed countries, increasing their vulnerability and setting back their economic and social growth, sometimes by decades. The floods have led to loss of human life, destruction of social and economic infrastructure and degradation of already fragile ecosystems.

In 1986/87, floods hit again and had an adverse direct impact on both the farmer and the consumer and had also seriously damaged the infrastructure of riverside towns. Farmers suffered losses in stock and irrigation land while farming implements, plantations and sheds alongside rivers had been damaged as well as houses, bridges roads railways lines, telephone connections and dams. In many places the supply of drinking water had been affected and apart from the special measures that had to be taken in this regard, it was also necessary to introduce preventive health measures.

According to Nxumalo (1984) South Africa did not only suffer from the effects of the world economic recession but also economic stagnation due to the effects of natural hazards such as floods since government had to divert funds to deal with the impact of floods.

Parker (2000) observed that in many African countries, floods create great natural threats to life, health and population. The exposure and vulnerability of human settlements and activities to floods is partly explained by the important role which flood plains play in African Societies and economics, and partly by the condition of societies and the resilience they are able to present in the face of disaster.

Food stocks may be damaged if storage areas are flooded. Serious flooding usually disrupts transportation of food and insufficient food supplies are likely in food deficit areas, particularly in towns, which are cut off from supply sources and have inadequate food stocks. The flood that hit Sudan in 1988 is a good example of an extreme flood event. The sudden and unexpected flow of water of the White and Blue Nile due to unprecedented torrential rain caused serious property damage and human sorrow. In Khartoum province alone food production fell by at least 60% and damage included irrigation canals, sewage system, electricity, roads and water system. Severe losses were reported in agriculture, the main economic activity of the population (Disaster Risk Management Study Guide for DIM 605: Module 2).

According to Ocha (2008), the cumulative number of people affected by rains and floods in 2007 in Southern Africa was more than 194,103 persons. This included 60,995 in Malawi (mostly damage to property and crops), 94,760 people in Mozambique (all were evacuated into resettlement camps); more than 16,680 in Zambia (1,890 persons in temporary accommodation, the rest in host families); and 15,168 in Zimbabwe. An estimated additional 4,000 people had been affected in Lesotho and another 2,500 persons in Swaziland.

In 2008, thousands of people were affected after flash floods submerged hundreds of hectares of farmland in the north-eastern region after floods displaced hundreds of families in the region. The farmland which supported some 1,200 farmlands had their livelihoods and food security disrupted (Irin 2008).

It was clearly indicated that at least 20 countries in Africa were affected by floods. These countries included Algeria, Berlin, Burkina Faso, Cote d'Ivoire, Ethiopia, Gambia, Ghana, Guinea, Kenya, Liberia, Mali, Mauritania, Nigeria, Rwanda, Senegal, Sierra Leon, Sudan, Togo and Uganda. Reports estimated that approximately 300 people in 20 countries had died in floods during a period of two (2) months, noting that the inaccessibility of the affected areas had made it difficult to accurately access the death toll. Floods had several socio-economic and political implications which caused a wide range of complex issues. Some of the immediate consequences included the displacement of people, the destruction of infrastructure such as houses and roads, damage to forms and crops and loss of cattle and livestock. The destruction of roads and other infrastructure delayed on-going development initiatives and political processes (Theron 2007).

He further observed that the immense damage to farms, crops and livestock caused long-term food insecurity. The Ivory Coast flooding occurred very close to harvest time making the loss even greater, since farmers did not have much food stored from the previous harvesting season. Floods also caused loss of soil fertility which lessened future harvests. In the long-term, affected areas had to deal with the spread of infections and water borne diseases, cholera, dysentery and diarrhoea which increased the need for safe drinking water and the provision of water purification tablets.

Adamson (1983), states that extreme events such as floods over Southern Africa have resulted in loss of life, massive damage to property, crops and livestock and disrupted communications. The risk of such events at any point in the sub-continent may be small but their occurrence within the total sub-continental space has been historically quite frequent. The Laingsburg flood disaster of January, 1981 has been described as South Africa's greatest Natural Catastrophe. The flood waters washed away a considerable part of the town with loss of 100 lives. In addition to loss of lives extensive damage was largely on bridges and irrigation schemes.

He further stated that the heavy rains of January, 1974 had a disastrous effect on the agricultural economy of the central regions of South Africa. From the literature reviewed, it's clear that the increasing population of our planet is leading to the increasing exposure of people and property to hazards of flooding. This assertion is in line with the findings of the research which has confirmed that the population of people living along the river banks in the study area has increased over the years and has made them susceptible to the flooding.

Lindsell and Prater (2003) argue that social impacts can cause significant problems for the long-term functioning of specific types of households and businesses in an affected community. A better understanding of disasters' socio-economic impacts, therefore, can provide a basis for prediction and the development of contingency plans to prevent adverse consequences from occurring.

According to Ariyabandu and Wickramasinghe (2005) observed that some groups are more vulnerable to floods than others are. Vulnerability is not just poverty, but the poor tend to be the most vulnerable due to their lack of choices. The influences of both poverty and development process on people's vulnerability to disaster are now well established. Class, ethnicity, gender, disability and age are some of the factors affecting people's vulnerability. They further noted that because vulnerability plays such an important part in why natural hazards become human disasters.

African Wildlife Journal, who is to blame for floods? (2000) also points out that the cumulative impact of human activities without regard for nature has turned the recent floods from a natural phenomenon into a man-made disaster of epic proportions. When severe floods occur in areas occupied by humans, they can create natural disasters which involve the loss of human life and property plus serious disruption to the on-going activities of large urban and rural communities. Flood losses are therefore essentially human interpretations of the negative economic and social consequences of natural events.

Daily Monitor of Thursday, sept, 14, 2017 reported that heavy rain that had persisted for the last two weeks in Kanungu, Kisoro, Rubanda, Kabale, Rukungiri, Bushenyi, Isingiro and Bundibugyo had caused massive destruction and death. A down pour in Rukungiri caused flooding at Kisiizi hospital located in a low-lying area of Nyarushanje Subcounty. Three babies who were in the incubator room died after floods destroyed the 300 watts generator used for lighting.

New Vision of 8th September 2017 reported that heavy rains destroyed the villages of kandago and Kakimbiri in Bukinda Sub County in Rukiga district. In Rwamucucu sub county, gardens, livestock and roads were destroyed in Sindi, Kitojo, Bulime and Nyakagabaraga villages.

New vision of Friday September 8th 2017 stated that the weather looked tame as residents of Bukimbiri and Nyundo in Kisoro in western Uganda after floods that had swept through the villages swept away people as well as animals and sunk.

According to the daily monitor of Tuesday 12th September 2017 heavy rain had hindered delivery services in Bundibugyo where two bridges were washed away in Kisubba Sub County and some rivers busted their banks destroying a number of plantations.

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New vision 8th September 2017

Daily monitor Tuesday, 12th September, 2017

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