

**PAINTING IMPRESSIONS ON THE CAUSES OF LANDSLIDE
OCCURRENCES IN THE HILLY AREAS OF BUDUDA
DISTRICT IN EASTERN UGANDA**

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ABSTRACT

The study aimed at painting impressions on the causes of landslide occurrences in the hilly areas of Bududa district in eastern uganda and it was guided by the following objectives; To assess the factors that causes of landslide occurrences in the hilly areas of Bududa district in eastern uganda, to identify the different classifications of landslides occurring in Bududa in Eastern Uganda and to determine the impact of landslides in Bududa district in Eastern Uganda. The research studied a cross section of households and opinion leaders in Nametsi sub-county, Bududa district, Bududa County. The households were of interest in this study because they were the ones directly affected by the landslides hazards and whose livelihood was being disrupted. According to the key informants that were interviewed in the field, the occurrence of landslides in the area took the residents by surprise because it was a natural phenomenon. The majority of the respondents, 91.51% were aware of the 2010 landslide occurrence, while only 7.75% said they were not aware. In terms of the effect of landslides, 59.39% of the respondents had been affected by the landslides, and 40.61% said they had not been affected. The settlement activities such as cultivation, use of organic fertilizers, slope cutting for construction of houses, animal husbandry and clearance of forests should be discouraged. About failed relocation of communities as proposed by government and the difficulty in accessing the area hampered delivery of emergency assistance and rescue equipment. A serious intervention is needed and relocation effected.

Key words: painting impressions, landslide, cultivation and communities
Background of the study

Landslides are among the most widespread geological hazards that threaten lives and property globally, most especially on the mountainous regions of the world (Huabin, et al., 2005:548; Jamali & Abdolkhani, 2009:25,). According to this framework, various vulnerabilities are addressed on the basis of social, economic and environmental context. The framework stresses that vulnerability analysis goes beyond the estimation of the deficiencies and the assessment of the disasters in the past. It emphasizes the necessity to view vulnerability within a process focusing simultaneously on vulnerability, coping capacities and potential intervention tools to reduce vulnerabilities (Willies et al., 2022).

According to the Committee on Disaster Research in the Social Sciences (CDRSS) (2004:33), a landslide hazard is described as the potential for occurrence of a damaging landslide within a given area. Such damage could include loss of life or injury, property damage, social and economic disruption, or environmental degradation. Uganda has experienced a wide range of disasters that have affected the country such as displacement of persons as a result of civil strife, famine as a result of drought, earthquakes, disease epidemics, livestock and crop disease, flooding, technological accidents as a result of inadequate safety procedures and landslides resulting from heavy rains and injudicious environmental management (Christopher, 2022). Landslides, however, have become common phenomena in Uganda especially on the mountainous areas of the Southwest and Eastern sides where they have caused extensive damage to property, environment and loss of lives (Office of the Prime Minister (OPM), 2005:2; Kitutu, et al., 2009:611). Kizza (2011:1) notes that the African continent was not much affected by landslides or mudslides in the early days until recently when they have become common.

Problem statement

Although it is clear that landslides have caused damage in the mountainous areas of Bududa District, (NEMA, 1998) their causes and factors that influence them in the Bududa areas are still not well understood. The challenge of some of the hilly

areas not affected as compared to others heavily devastated leaves more questions to be answered on what the actual causes are. Available information indicates that the heavy rains experienced between October 1997 to January 1998 caused landslides, which killed 48 people and displaced 10,000 from the slopes of Bududa. Government had proposed resettlement of some of the affected people to safer areas in Mbale District. This was hampered when Bududa was made a district (Christopher, 2022). The situation is likely to become worse because the sediment from landslide caused siltation of river channels and wetlands downstream resulting into floods and affecting more communities. Therefore, researcher tends to come up with painting impressions sensitizing the public on the impact of landslides.

Study objectives

1. To assess the factors that causes of landslide occurrences in the hilly areas of Bududa district in eastern uganda.
2. To identify the different classifications of landslides occurring in Bududa in Eastern Uganda.
3. To determine the impact of landslides in Bududa district in Eastern Uganda.

Studio guiding question

1. What factors cause landslide occurrence in the hilly areas of Bududa district in eastern uganda?
2. What are the different classifications of landslides in the hilly areas of Bududa district in eastern uganda?
3. What is the impact of landslides occurrence in the hilly areas of Bududa district in eastern uganda?

Methodology

Study Design

This chapter describes the techniques that were employed in the course of executing this study to the point of arriving at conclusions that have been made from the raw data. It describes the methods used in data collection, tools and sources of data. It explains issues of sample selection, data management and

analysis. The chapter provides a full description of the study area and also highlights the limitations to the study. This study employed qualitative design and it applied a cross sectional approach. This was a better design in conducting an assessment of a phenomenon, and has enabled the researcher get the real overall picture of what is on the ground.

Study Population

The research studied a cross section of households and opinion leaders in Nametsi sub-county, Bududa district, Bududa County. The households were of interest in this study because they were the ones directly affected by the landslides hazards and whose livelihood was being disrupted. The opinion leaders, on the other hand, were considered for the purpose of providing a balanced assessment on the vulnerability factors, resilience and coping mechanisms in the disaster-prone areas. The opinion leaders constituted the key informants who were interviewed during data collection.

Sample Size

The study collected data for a period of fourteen days from a cross section of 261 households constituted from Bukalasi sub-county in the villages of Nametsi, Kubewo, Namubele, Murwerwe, Maskanu and Tunwasi. The household heads interviewed were selected from the five different villages. In the selected villages, interviews with key informants consisting of opinion leaders were conducted. A sample size of 261 was considered adequate enough to provide ample data that could be used to generate reliable, valid and generalizable results. These would provide valid inferences representative of the population in Bududa. The sample size was also considered on the basis that it would produce adequate information to explain significant relationships, differences or interrelationships in the variables under consideration (Bartlett, et al., 2001:43).

Sampling Method

The sub-county of Bukalasi was strategically selected because of its location. The sample parishes and villages from the two sub-counties were selected on the basis

of their strategic location and having experienced landslide hazards in 2010. The households interviewed in each village were selected on the basis of purposive sampling technique. This allowed the researcher to select the most appropriate sample of households to be interviewed. The researcher asked the previous interviewee to provide details and contact of another potential two to three households that could be interviewed.

Research Tools

The study used structural questionnaires, personal observation and key informant discussions in the data collection process. The questionnaires for the household interviews were composed of closed ended questions, a sample attached as Appendix A.

Questionnaires

The research instrument of choice for this investigative study was the written questionnaire. A questionnaire is a prepared question form submitted to respondents in order to obtain information about a given topic (Beins, 2003). A structured questionnaire, containing questions with alternative answers from which the respondent selects was regarded as the most suitable research instrument for this study.

Interview guides

(Kelly, 2007) defines an interview as a face-to-face conversation between an interviewer and respondents conducted for the purpose of obtaining Information. The researcher used the interview method and this will involve face to face encounter between the researcher and all targeted respondents. This was a suitable method for the research because of its flexibility as it provided an opportunity for open expression of opinions and gave the researcher an opportunity to probe more on the issues being raised during the discussions.

Data Analysis

The data collected was cleaned and coded according to the criteria developed by the researcher. The coding process was then followed by data capture using Epi

Info. The data was transferred to the statistical package for social sciences (SPSS) for analysis to be performed (Nelson et al., 2022). To ensure quality, research assistants were recruited and trained for one day on how to administer the questionnaires and collect quality qualitative data. They were familiar with the study area and fluent in the local language (Lumasaba) and English.

RESULTS

DEMOGRAPHIC INFORMATION OF RESPONDENTS

Socio-Demographic Characteristics of Households

The total sample comprised of 261 respondents who were household heads. The social demographic features of households are as shown in Table.

Table 1 Gender composition of respondents

<i>Gender</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Male</i>	<i>187</i>	<i>71.65</i>
<i>female</i>	<i>74</i>	<i>28.35</i>
<i>Total</i>	<i>261</i>	<i>100</i>

Table 2 Age group of house hold head

<i>Age</i>	<i>Frequency</i>	<i>percentage</i>
<i>Below 18</i>	<i>02</i>	<i>0.77</i>
<i>18-24</i>	<i>38</i>	<i>14.56</i>
<i>25-39</i>	<i>91</i>	<i>34.87</i>
<i>40-49</i>	<i>54</i>	<i>20.69</i>
<i>50-59</i>	<i>43</i>	<i>16.48</i>
<i>60+</i>	<i>33</i>	<i>12.64</i>
<i>Total</i>	<i>261</i>	<i>100</i>

Education level

<i>No schooling</i>	<i>40</i>	<i>15.38</i>
<i>Primary schooling</i>	<i>170</i>	<i>65.38</i>
<i>Secondary schooling</i>	<i>39</i>	<i>15</i>
<i>Tertiary schooling</i>	<i>11</i>	<i>4.23</i>

Total	261	100
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Source: Primary data, January, 2022

The majority of the respondents were male (71.65%) while females constituted 28.35%. Most of the respondents were aged between 25 and 39 years (34.87%). The level of education was assessed because it was an important factor in understanding household vulnerability to disasters. The majority of the respondents (65.38%) attained only primary education as their highest level with 15.38% having no schooling at all. 15.00% had secondary level education and only 11 respondents, represented by 4.23% had attained tertiary level of education. The majority of the households 112; that is 42.91% had between four to six members, 20.77% had between one to three members, while 93 households, a representative of 36.40% of the total households had seven or more members.

Awareness and Impact of the Landslides

Table:3 showing awareness and impact of landslides

<i>Variable</i>	<i>Frequency</i>	<i>Percentage</i>
Yes	241	91.51
No	20	7.75
Total	261	100
Affected house holds		
Yes	155	59.39
No	106	40.61
Warning against landslides		
Yes	12	4.62
No	248	95.38
Total	261	100

Source: primary data, January, 2022

According to the key informants that were interviewed in the field, the occurrence of landslides in the area took the residents by surprise because it was a natural phenomenon. The majority of the respondents, 91.51% were aware of the 2010

landslide occurrence, while only 7.75% said they were not aware. In terms of the effect of landslides, 59.39% of the respondents had been affected by the landslides, and 40.61% said they had not been affected. A majority of the households (95.38%) said they did not have any prior warning about the impending threat of landslides, while 4.62% said they had warnings about the threat of landslides.

To come up painting impressions on the causes of landslide occurrences in the hilly areas of Bududa district in eastern Uganda.

The researcher was guided by studio guiding question, what factors cause landslide occurrence in the hilly areas of Bududa district in eastern Uganda?

To verify this studio, question the researcher developed the source of inspiration for the factors causing landslides occurrence in the hilly areas. While in the studio, the researcher further gathered materials and tools to be used in the production process. The tools and materials here include; painting tools, canvas, paints among others.



Figure: 8 some of materials and tools

Source: researcher

The researcher made several preliminary studies as he came up with different developmental stages.

Conclusion

The chapter presented results of the data analysis based on the household survey, observations and key informant interviews carried out. This study was conducted in the district of Bududa, eastern Uganda, in the sub county of Bukalasi. The study covered the villages of Nametsi, Kubewo, Nambele, Murwerwe, Masakanu and

Tunwasi. The study established that landslides in Bududa caused loss of lives and injuries to the people. In 2010, for example at Nametsi village, over 300 people lost their lives when their houses got buried under rubble by landslides. This was the highest death toll ever experienced as compared to the previous landslides in the area. The landslides caused economic losses in the affected areas through destruction of crops in the field and storage; destruction of farmland, houses and killing domestic animals.

Recommendation:

The settlement activities such as cultivation, use of organic fertilizers, slope cutting for construction of houses, animal husbandry and clearance of forests should be discouraged

About failed relocation of communities as proposed by government and the difficulty in accessing the area hampered delivery of emergency assistance and rescue equipment. A serious intervention is needed and relocation effected.

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