

Impacts Of Floods On Crop Productivity In Uganda. A case Study Of Kirima Sub-County Kanungu District

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ABSTRACT

The purpose of the study was to investigate the impact of floods on the crop productivity in Kirima Sub-County in Kanungu District. The study was based on the findings from 260 respondents presented results that were accurate and basing on the objectives of the study. The objectives of the study were to examine the impacts of floods on crop production, to find out how floods affect crop productivity, to establish the measures of floods on crop production. The findings of the study presented results indicating that majority of the respondents informed the researcher that floods would lead to loss of top soil was one of the major negative impact of floods on crop productivity. some of the respondents presented results indicating that floods would reduce soil fertility in the gardens, a few of the respondents informed the researcher that floods would also lead to poor drainage of the soil and finally 10% of the respondents presented results indicating that floods would also lead to soil compaction reducing on the yields. The findings of the study presented results indicating that majority of the respondents informed the researcher that the main measure that was used to stop floods was through mulching, a few of the respondents also presented results indicating that cover cropping was another measure that was used by farmers as a measure to stop soil erosion. Some of the respondents presented results indicating that through afforestation floods would be abolished in gardens and finally a few of the respondents presented results indicating that through use of organic fertilizers floods was also abolished. Finally, the findings of the study, indicated that many of the respondents informed the researcher that to a greater extent floods created an impact on the crop productivity followed by some of the respondents who presented results to the researcher findings indicating that to a lower extent floods would affect crop productivity and finally a few of the respondents presented results indicating that they were not sure whether floods created an impact on crop productivity.

Key words: floods, crop productivity and agriculture

Background of the study

In East Africa, most people live in rural areas and depend on agriculture. One of the most fundamental problems in agricultural areas today is depleted soils, resulting in declining yields (Collins et al., 2023). One of the reasons is floods, which are the result of the cultural and natural environment. Together with the loss of nutrients, it creates serious problems especially in intensive farming in wet areas (Allan et al., 2023). Hilly areas, along with cropland, irrigated land and pasture, have the highest rate of decline in productivity

(Scherr & Yadav 1996). In this study, biophysical factors affecting soil productivity were mainly investigated. Other factors such as economic and socio-political also affect land productivity in different ways. Biophysical factors influence economic and socio-political factors in the area because they are the basis of agriculture (Christopher et al., 2022). There are strong interactions between economic and socio-political factors and it is difficult to determine whether, for example, demography is a socio-political

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or an economic factor. Biophysical factors such as geology, soil type, drainage, topography, rainfall and temperature, along with human history, are factors in this case. Factors such as labour, capital, inputs, security of tenure, politics, culture, knowledge and demography and vegetation, on the other hand, are human-modifiable in the short term (Nicholas et al., 2023). All of these factors directly or indirectly affect flooding and land use and therefore have implications for land productivity and agriculture (Kazaara et al., 2023). This study mainly examines the following: topography, soil type, vegetation, precipitation, soil

nutrients, land use and management, and soil erosion and how this affect soil productivity. Soil productivity affects livelihoods and the environment. This in turn affects sustainable development. This study is conducted in farmers' fields and the results are compared with studies from field plots (Christopher et al., 2022). Flood and productivity studies are often conducted on field trials and are therefore a modification of reality and less reliable for policy making. This type of research is best done on the farm and with the direct involvement of land users (Paul & Kazaara, 2023).

Statement of the problem

Floods has a direct impact on crop productivity in Kanungu district for example loss of soil fertility accompanied by flash flood which leads to low crop yield which cannot sustain the growing population in Kirima Sub-County in Kanungu district (Ntirandekura & Christopher, 2022). This study will ought to find out and document the various impact of soil erosion, its implications on the people in the Kirima Sub-County in Kanungu district and hoped that this will help the policy implementers and NEMA officials to understand it's impacts on crop productivity and lay strategies to curb them (Paul & Kazaara, 2023).

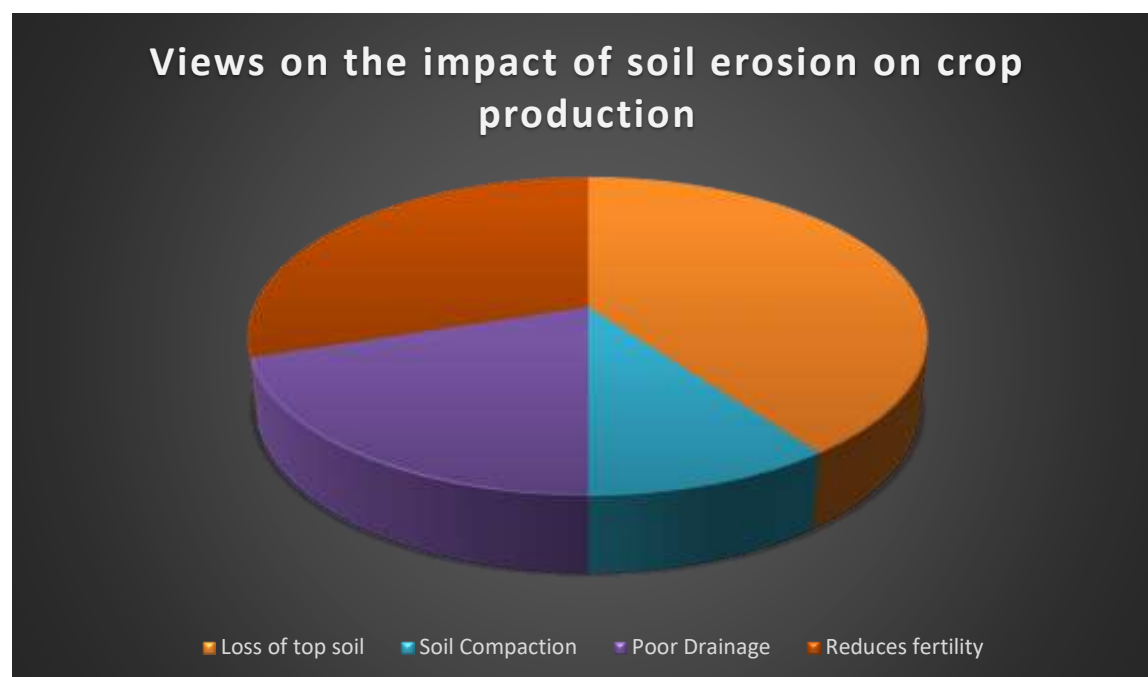
Specific objectives

1. To examine the impacts of floods on crop production.
2. To find out how floods affect crop productivity
3. To establish the measures of floods on crop production

RESULTS

Impacts of floods on Crop Production

Figure 1: Impacts of floods on crop production

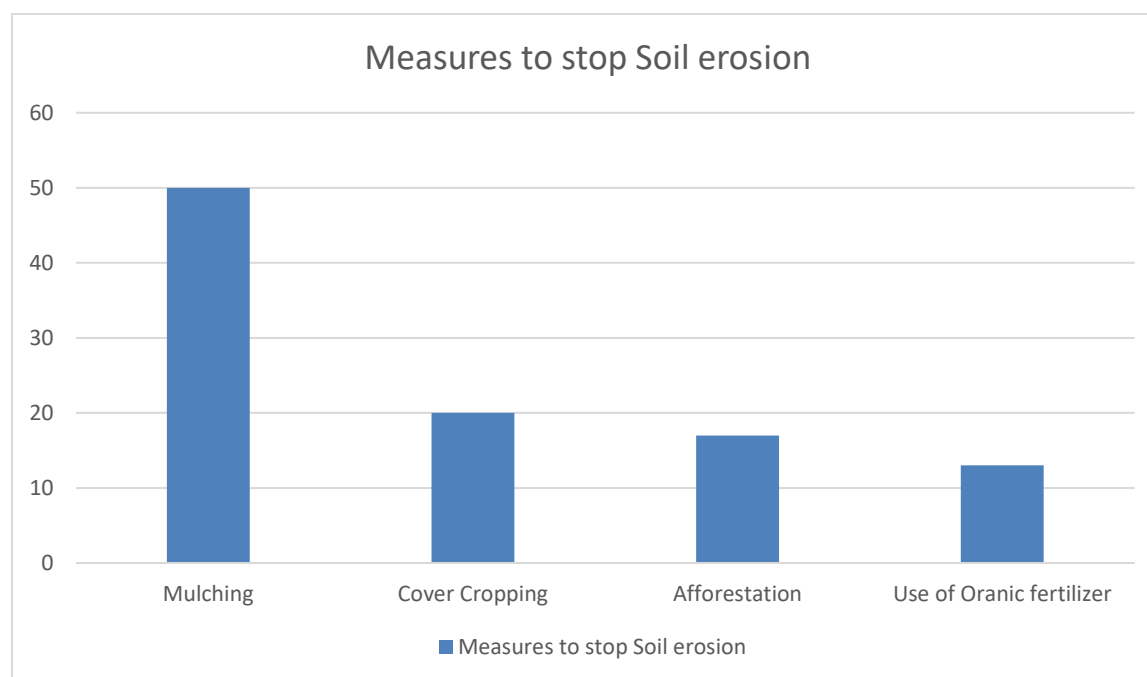


Research Data: 2022

According to the figure above, the findings of the study presented results indicating that 40% of the respondents informed the researcher that floods would lead to loss of top soil was one of the major negative impact of floods on crop productivity. 30% of the respondents presented results indicating that floods would reduce soil fertility in the gardens (Willies et al., 2022), 20% of the respondents informed the researcher that floods would also lead to poor drainage of the soil and finally 10% of the respondents presented results indicating that floods would also lead to soil compaction reducing on the yields.

Measures to stop Soil Erosion

Figure 2: Measures to stop Soil Erosion

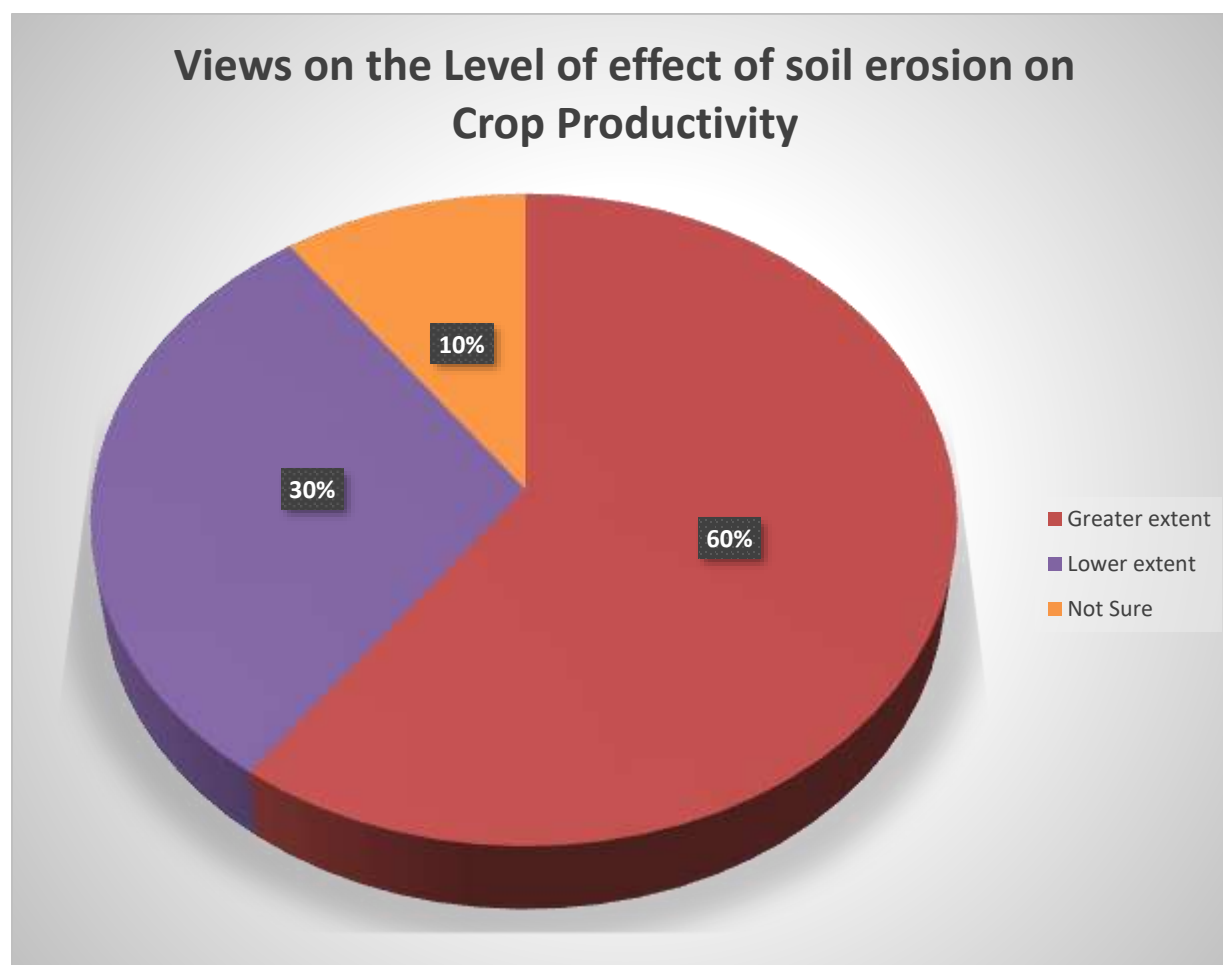


Research Data: 2022

According to the figure above, the findings of the study presented results indicating that 50% of the respondents informed the researcher that the main measure that was used to stop floods was through mulching, 20% of the respondents also presented results indicating that cover cropping was another measure that was used by farmers as a measure to stop soil erosion. 17% of the respondents presented results indicating that through afforestation floods would be abolished in gardens and finally 13% of the respondents presented results indicating that through use of organic fertilizers, floods were also abolished.

Level of effect of floods on crop productivity

Figure 3: Level of effect of floods on crop productivity



Research Data: 2022

According to the findings of the study, the findings of the study indicated that 60% of the respondents informed the researcher that to a greater extent floods created an impact on the crop productivity followed by 30% of the respondents who presented results to the researcher findings indicating that to a lower extent floods would affect crop productivity and finally 10% of the respondents presented results indicating that they were not sure whether floods created an impact on crop productivity (Willies et al., 2022).

Conclusions

The findings of the study presented results indicating that majority of the respondents informed the researcher that floods would lead to loss of top soil was one of the major negative impact of floods on crop productivity. some of the respondents presented results indicating that floods would reduce soil fertility in the gardens, a few of the respondents informed the researcher that floods would also lead to poor drainage of the soil and finally 10% of the respondents presented results indicating that floods would also lead to soil compaction reducing on the yields (Christopher, 2022).

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Recommendations

The researcher recommends the farmers on Kirima Sub-County should emphasize the use of good farming methods like mulching.

The researcher also recommended that the farmers in Kirima Sub-County should attend agricultural seminars in order to learn more about modern farming.

The researcher also recommended the agricultural officials in Kirima Sub-County to always teach the farmers on the best ways how to prevent soil erosion.

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