

INFLUENCE OF POPULATION GROWTH ON LAND USE IN UGANDA.

A CASE STUDY OF BIGULI SUBCOUNTY KAMWENGE DISTRICT

1 Kagaba Ronald, 2 Dr Arinaitwe Julius

1 Metropolitan International University, 2 Lecturer Metropolitan International University

ABSTRACT: The purpose of this study was to; find out the influence of population growth on land use in Uganda, a case study of Biguri sub county. The objectives of the study were to find out the indicators of population growth on land use in Biguli Sub County in Kamwenge district. To determine the effects of population growth on land use in Biguli Sub County and to analyze the relationship between population growth and land use in Biguli sub county. The study used both primary and secondary data in its analysis using mainly qualitative methods of data collection to capture data. Data was collected using research questionnaire where the researcher was asked questions on the questionnaire and noting down the respondent's answers. The findings revealed that the population growth has affected land use whereby there was high rate of urbanization hence environment pollution, deforestation high rate of bush burning. Awareness raising campaigns: The government should therefore intensify its education and awareness raising campaigns about the aims, objectives and implementation progress of the negative effects of population growth using all available channels of communication

Key words: population growth and land use

Background of the study

Human population has been increasing and is expected to increase in future. As of 2015, world population was 7.3 billion and is expected to reach 9.6 billion in 2050 AND 10.9 billion in 2100 (UN, 2015). Population in the developing countries, is expected to rise from 5.9 billion in 2013 to 8.2 billion in 2050. Projected increases in world population appear moderate from the perspective of the past, however, in absolute indices it is quite high. Increases in the world population are expected to be uneven across the globe, with some areas growing much faster and a few others potentially shrinking (UN, 2013).

The rapid population growth being experienced in Africa has given rise to the growth of urban centers, led to encroachment into forests, increased the size of farmlands, and reduced the size of the available productive land, while the need for more production to feed the growing population has increased the rate of Land Use and Land Cover Changes. The tropical region is growing faster, at 2.6 % annually, in contrast to 1.7% for Northern Africa and 1.1 % for Southern Africa (UN Population, 2012). According to Prakasam (2010), LULCC in Africa are as a response to the socioeconomic, the political, cultural, demographic and environmental conditions which largely are a characteristic of human populations.

Uganda's population has been increasing since independence. The previous population censuses showed that the population was 44.27 million for the year 2019 (UNBS, 2010). Uganda has an annual growth rate of about 2.8% (Newmark, 2013) and her population is projected to reach 51million by 2025 (Miller & Spoolman, 2012). According to Kiage *et al.*, (2007).

Kamwenge district was formed in 2000 and cut off from Kabarole district, after much pressure was put on the resource allocation in the area and also due to pressure by the Kamwenge chiefdom. Since then population has been growing in Kamwenge especially in Biguli subcounty putting much pressure on land. Biguli Sub County is one of the most populated counties in Kamwenge district

with a population of almost three quarters (3/4) of the district population density. Such growing population has influenced population growth land use especially in Kiyagara parish in Rwebikwato village which is characterized by high fertility rate thus put more pressure on land resources leading poor farming practices such as land fragmentation hence much pressure on resources.

PROBLEM STATEMENT

Population and land use are closely related in a complex and dynamic manner and this relationship is mediated by number of socioeconomic, cultural, political, and developmental aspects whose role varies considerably from one context to other (Richards, 2017). Thus, the rapid growth of human population is often identified as one of the main factors behind environmental degradation. Population affects the environment mainly through changes in land use and industrial metabolism² (Turner and Meyer, 2018).

As population increases, this expanded growth begins to distort our environment, leaving what scientists call an ecological footprint. This concept draws upon the idea that each person has certain basic needs such as land, water and energy use.

Specific objectives

1. To find out the indicators of population growth on land use in kiguli sub county in kamwenge district.
2. To determine the effects of population growth on land use in Biguli Sub county
3. To analyze the relationship between population growth and land use in Biguli sub county

Research questions

The study endeavored to answer the following questions,

1. What are the indicators of population growth on land use in Biguli subcounty?
2. What are the effects of population growth on land use in Biguli subcounty?
3. What is the relationship between population growth and land use in Biguli subcounty?

Methodology

Research design

The study used a case study research design, which employed both qualitative and quantitative data collection methods.

Both qualitative and quantitative methods/approaches were used in the study. The quantitative approach (use of frequencies and percentages) or numerical data used to quantify and present data for example in percentages. Qualitative methods were instrumental in the analysis and description of the respondents' responses and explanations as provided in the questionnaires administered

Determination of Sample size

Stratification sampling technique was used where by people living with Biguli Sub County and local council leaders were taken as strata. Sample sizes from each stratum was taken using proportional allocation and drawing the sample from the strata was by simple random and purposive sampling techniques. A total of 50 respondents were selected using proportional allocation.

Sampling technique and procedure

A combination of simple random sampling and stratified sampling method was used. In the case of the stratified sampling technique, the study population was divided into a number of sub-groups by the researcher after which the samples was drawn from the sub-groups; this gave equal chances of choice to individuals who participated in the concerned study.

Data collection methods

Observation method

In this method a researcher used his naked eyes and look around the area of study and take observe of population growth on the land use in Biguli Sub County in kamwenge district.

Interview method

Here the researcher interacted with both local people and local council leaders and some district leaders in order to collect more data about the influence of population growth on land use in Biguli Sub County and in Kamwenge district at large.

Questionnaire method

With this method, the researcher set both open ended and close ended questions and give them to the respondents and pick them later after they have been answered.

RESULTS

Descriptive statistics

The descriptive statistics include: Age, Sex, Level of education, Level of experience of the respondents.

Age of the respondents

Age distribution among the respondents was presented in the study.

Respondents were asked Questions related to their age and tire results reveal in the table below.

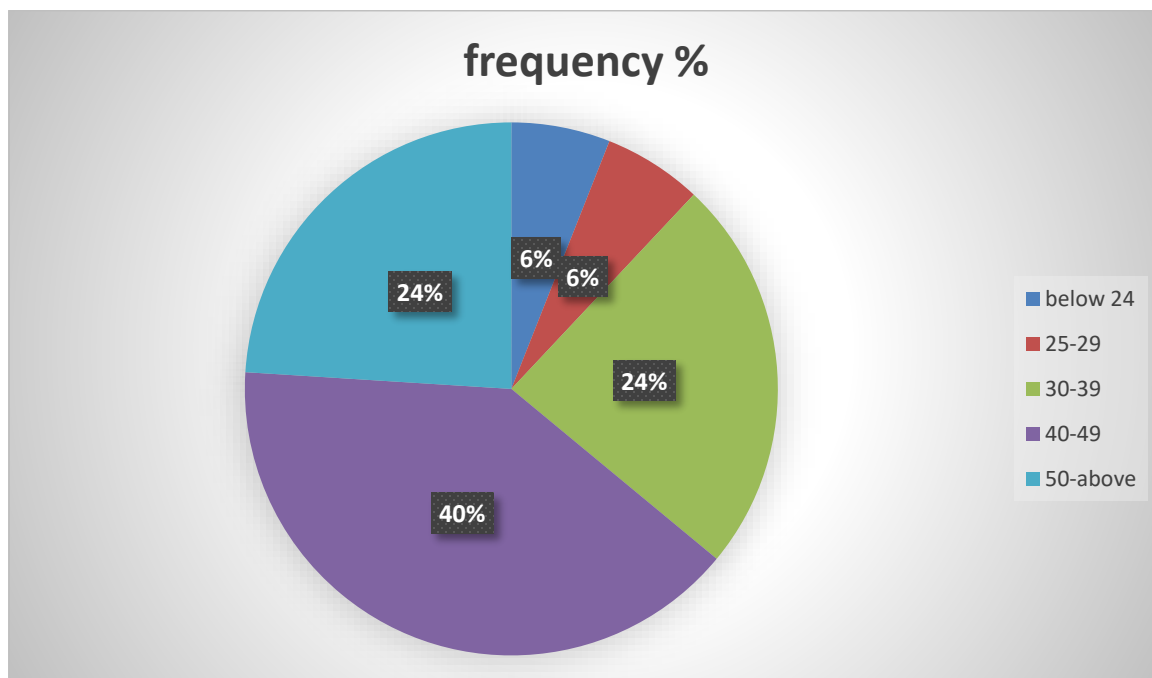
Table 1: Age distribution of respondents

Age group	Frequency	Percentage	Degrees
Below 24	3	6%	22
25-29	3	6%	22

30-39	12	24%	86
40-49	20	40%	144
50-above	12	24%	86
Total	50	100%	360

Source: primary data, 2020

Figure 1: A pie chart showing age distribution of respondent



Source primary data 2020

From the table and figure 1, 3 (22%) of the respondents were below 24 years, 3(22%) were Between 25-29 years of age. 12(86%) were between 30-39 years of age, 20(14.4%) were between 40-49 years and 12(86%) were above 50 years of age. This shows that data was collected from nature People.

The Sex of the respondents

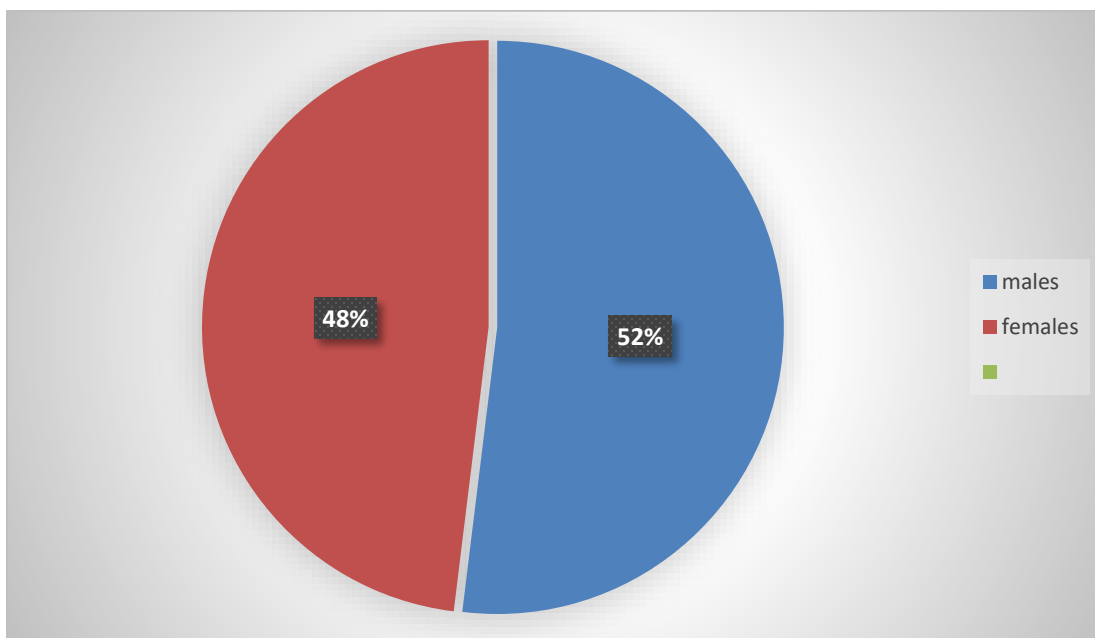
The researcher was interested in finding out the number of females and males in the whole of the population, and compares the percentage composition of the two. Therefore, sex of the respondents was considered.

Table 2: Sex of the respondents

Sex	Frequency	Percentage	Degrees
Males	26	52%	187
Females	24	48%	173
Total	50	100%	360

Source: primary data, 2019

Figure 2: a pie chart showing sex of respondents



From table and figure 2 above, it was found out that 52% (187) of the respondents were males and 48% (173) were females. This implies that next media employs more females than males.

The educational level of respondents

Respondents were asked questions related to their educational status and their responses are shown in the table below:

Table 3: respondent's level of education

Level of education	frequency	percentage
A 'level	08	8
Graduate	20	48
Diploma	10	28
Post graduate	08	8
Others	04	4
Total	50	100

Source primary source

The table above 3 presents that the majority of the respondents represented by 48% were graduates, 12% post graduates, 28% obtained diploma, 8% obtained a 'level and the least were others with just 4% this implies that the researcher obtained valid and reliable data since the respondents were in position to read and translate the questions

Level of experience

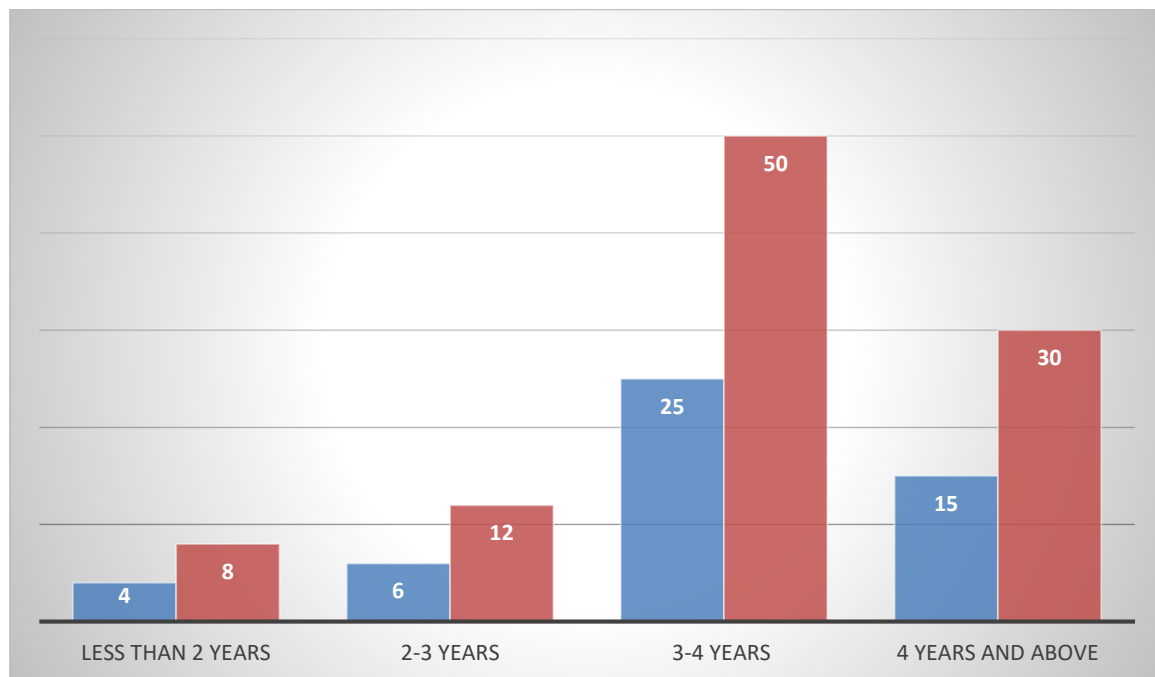
Table 4 period taken by respondents in the area

category	frequency	Percentage (%)
Less than 2 years	4	8
2-3years	6	12
3-4 years	15	30

4 years and above	25	50
Total	50	100

Source primary data 2020

Figure 3: A bar graph showing period taken by respondents in the area



Level of experience of the respondents

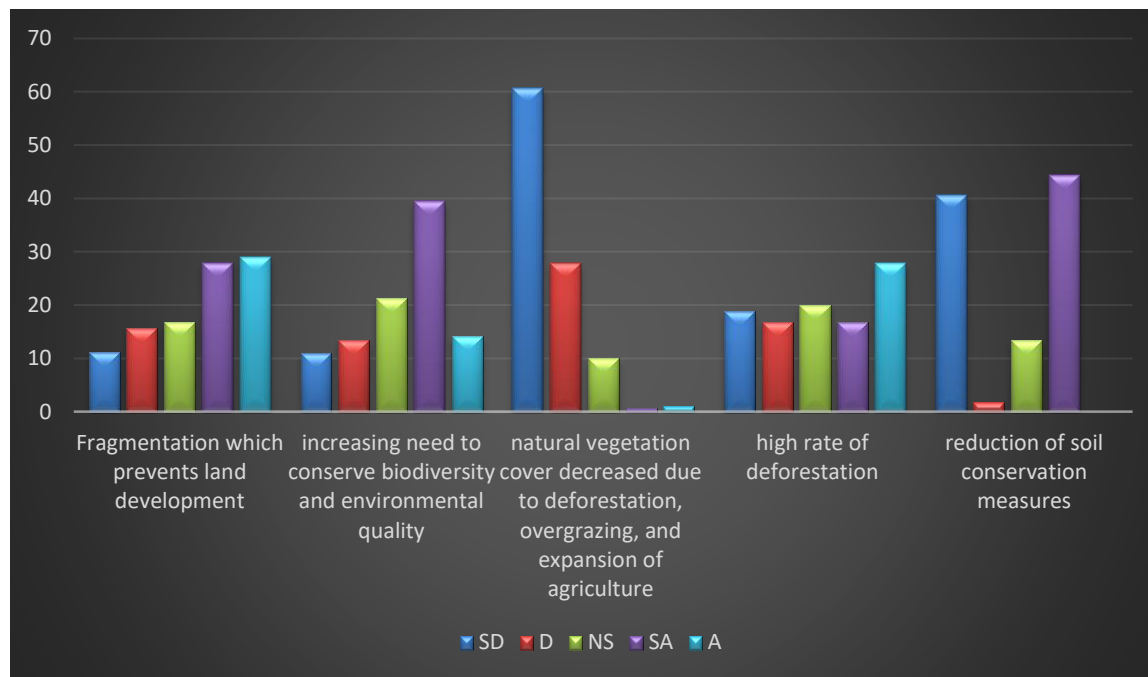
effects of population growth on land use.

Table 5: Distribution of the respondents on the effects of population growth on land use.

No.	Statement	SD %	D %	NS %	SA %	A %	TOTAL %
1	Fragmentation which prevents land development	11.1	15.5	16.7	27.8	28.9	100
2	an increasing need to conserve biodiversity and environmental quality	10.9	13.4	212.2	39.4	14.1	100
3	natural vegetation cover decreased due to deforestation, overgrazing, and expansion of agriculture	60.6	27.8	10.0	0.6	1.0	100
4	High rate of deforestation	18.8	16.7	20.0	16.7	27.8	100
5	Reduction of soil conservation measures	40.6		1.7	13.3	44.4	100
6	High rate of urbanization	3.3	5.0	15.0	45.6	31.3	100

Source; primary data, 2020

Figure 4: The table shows the effects of population growth on land use.



Source Primary data, 2019

SA-strongly agree, A- agree, NS- not sure, D- disagree, SD- strongly disagree

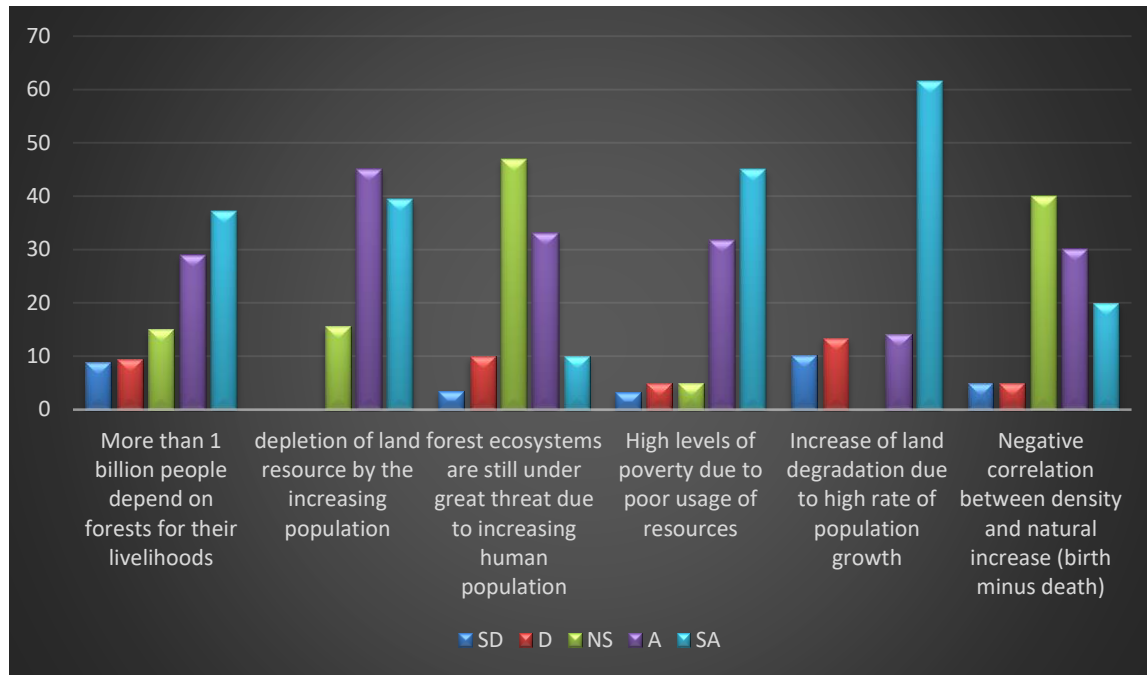
Table 5 the effects of population growth on land use. This is evidenced by 56.7% of the respondents agreed that there is Fragmentation which prevents land development, 53.5 % of the respondents agreed that there is an increasing need to conserve biodiversity and environmental quality, 44.5% of the respondents agreed that there was natural vegetation cover decreased due to deforestation, overgrazing, and expansion of agriculture, 57.7% of the respondents revealed that there is high rate of deforestation 76.9 of the respondents disagreed with the statement of Reduction of soil conservation measures, 88.4 %of the respondents agreed that there was high rate of urbanization.

Relationship between population growth and land use

Table 6 Distribution of the respondents on the relationship between population growth and land use

No.	Statement	SD %	D %	NS %	A %	SA %	TOTAL %
1	More than 1 billion people depend on forests for their livelihoods	8.9	9.4	15	29	37.2	100
2	depletion of land resource by the increasing population			15.6	45	39.4	100
3	forest ecosystems are still under great threat due to increasing human population		10	47	33	10	100
4	High levels of poverty due to poor usage of resources	3.3	5.0	5.0	31.7	45.0	100
5	Increase of land degradation due to high rate of population growth	10.1	13.4		14.1	61.6	100
6	Negative correlation between density and natural increase (birth minus death)	5	5	40	30	25	100

Source primary data 2020



SA- Strongly Agree, A- Agree, NS- Not sure, D- Disagree SD- strongly disagree

The graph 5 above show the relationship between population growth and land use in Uganda. This is from the fact that 66.6% of the respondents agreed that More than 1 billion people depend on forests for their livelihoods, 84.4% of the respondents agreed that there was depletion of land resource by the increasing population, 43% of the respondents agreed that forest ecosystems are still under great threat due to increasing human population, 76.7% of the respondents agreed that there was High levels of poverty due to poor usage of resources and lastly 55% of the respondents agreed that Increase of land degradation due to high rate of population growth.

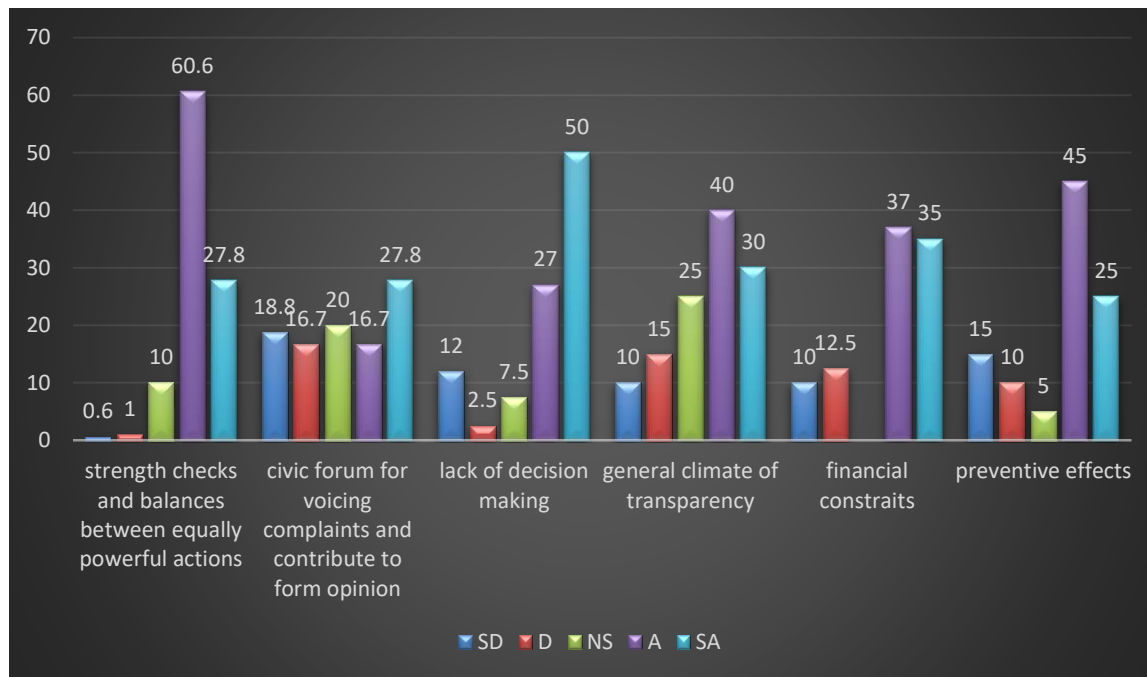
Effect of working environment on development of journalism in Uganda.

Table 7: Distribution of the respondents on the effect of working environment on development of journalism next media.

NO	STATEMENT	SD %	D %	NS %	A %	SA %	TOTAL %
1	Strength checks and balances between equally powerful actions	0.6	1.0	10.0	60.6	27.8	100
2	Civic forum for voicing complaints and contribute to form public opinion	18.8	16.7	20.0	16.7	27.8	100
3	Lack of decision making	12	2.5	7.5	27	50	100
4	General climate of transparency	10	15	25	40	30	100
5	Financial constraints	10	12.5		37	35	100
6	Preventive effects	15	10	5	45	25	100

Source primary data 2020

Bar graph 6 shows Distribution of the respondents on indicators of population growth on land use



SA-Strongly agree, A-agree, NS-not sure, D-disagree, SD-strongly disagree

Bar graph 6 above show the procedures involved in on indicators of population growth on land use in Biguri Sub County

This is from the fact that: 88.4% of the respondents agreed that Strength checks and balances between equally powerful actions, 44.5% of the respondents agreed in Civic forum for voicing complaints and contribute to form public opinion. 77% of the respondents agreed that there was lack of decision making among the journalists ,70% of the respondents revealed that there was general climate of transparency, 72% of the respondents agreed with the statement of Financial constraints, obtained 70% of the respondents agreed with the statement that Preventive effects. This implies that the procedures involved in the effect of working environment on development of journalism next are effective and efficient.

Conclusion

Findings on the effects of population growth on land use shows that 56.7% of the respondents agreed that there is Fragmentation which prevents land development, 53.5 % of the respondents agreed that there is an increasing need to conserve biodiversity and environmental quality, 44.5% of the respondents agreed that there was natural vegetation cover decreased due to deforestation, overgrazing, and expansion of agriculture, 57.7% of the respondents revealed that there is high rate of deforestation 76.9 of the respondents disagreed with the statement of Reduction of soil conservation measures, 88.4 %of the respondents agreed that there was high rate of urbanization

Recommendation

There is need for massive sensitization to demystify the perception that the government programs are government grant and a campaign tool. The PWDs should be sensitized to change their attitude, appreciate their potential and capacity. This will help to raise their low self-esteem. The government should therefore intensify its education and awareness raising campaigns about the aims, objectives and implementation progress of the effects of population growth using all available channels of communication. There was inadequate knowledge and skills to run the programs as the studies revealed.

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