

**EFFECTS OF URBANISATION ON ENVIRONMENTAL MANAGEMENT IN  
UGANDA. A CASE STUDY OF MPOLOGOMA SWAMP, KIBUKU DISTRICT**

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**ABSTRACT:** *In the Kibuku district, urbanization is one among major governance challenges and has accelerated significantly over the past two decades. Modernization is the process of transforming a rural area into a town with a contemporary structure by adding more people to it. It is referred to as "rapid urbanization" when it happens more quickly than prior to when compared with comparable urban regions in the same area.*

*The current research concentrated on the implications of rapid development on environmental quality in Kibuku municipality. It did this through recognizing the causes of rapid urbanization in Kibuku municipality, analyzing the impacts of rapid increasing urbanization on natural resources, and learning about the conservation efforts being made to guarantee higher levels of environmental quality. Ecological laws and regulations, the development of landfills, and more public involvement were all measures of preservation that were put into action. Water treatment, flowers and growing trees, and control of rural-to-urban migration. Impact analysis of the surroundings. The responders recommended applying interdisciplinary and harmonica-sectorial approaches, reinforcing current regulations and regulations, and creating capability.*

**Key words:** *urbanization and environmental management*

### **Background of the study**

One of humanity's strongest and most obvious human-caused events on Earth was a rapid urbanization. The rate of industrialization worldwide, especially among developing nations, has been increasing at the quickest rate since the latter part of the 20th century (Anderson, 2018). Fast urbanization is the term used to describe the faster-than-normal increase in the population of urban regions. According to the UNWUPR (2015), it was also described as an increase in urban population growth and the transition of land use and society to a metropolitan form of organisation. Urban areas mostly experience horizontal as well as vertical physical development as a result. The UN predicted that by the end of 2008, half of the world's population will live in urban regions, and by 2050, 64.1% and 85.9% of both the developing as well as developed worlds, correspondingly, were predicted to be urbanized (UNWUPR, 2015).

Rapid industrialization, high rural the number of babies born, countryside exodus, a population explosion, and congestion were all factors that contributed to fast urbanization, which in turn caused issues such the growth of shanties and collapses in the land, streams, and air quality. Some of the issues include the release of greenhouse gases, spontaneous fires, random trash disposal, a decaying urban road a network, collapsed bridges and homes, landslides, and urban catastrophic flooding (World Bank, 2012). Based to the UN Environment Programme (UNEP, 2015), industrial and farming contamination problems that were growing due to rapid urbanization were exacerbating these environmental health issues in developing nations.

The percentage of the worldwide population that lives in cities has drastically increased, rising from 13% (220 million) in the 1990s to 29% (732 million) in 2014 to 49% (3.2 billion) in 2015, with a projected increase to 60% (4.9 billion) by 2030 (UNWUPR. 2015). Since the start of the industrial age in the United States 300 years ago, fast urbanization has accelerated

daily. In the latter half of the nineteenth and early the twentieth century, there was a significant rural-urban transition in the United States.

### **Problem statement.**

Kibuku's inhabitants had climbed to 83,700, as reported by UBOS (2010). Rapid development of cities occurs alongside industrialization, modernization, and science and technology, all of which have a significant impact on the planet. Some of the issues influencing the environment include population growth, creating trash as a result of growing consumption and manufacturing. Formerly. In the locality of Kibuku, there was more green space than there is now. The municipality's primary water supply, the River Manafwa, which connects to the Mpologoma Swamp, provides pure water that doesn't necessarily require costly purification. Currently. Before providing water to customers, the National Water and Sewerage Corporation (NWSC) does a good job of treating it at a high cost.

### **Specific objectives**

The specific objectives of the study were;

1. To identify the factors leading to urbanization in Kibuku municipality.
2. To determine the effects of urbanization on environmental resources in Kibuku municipality.
3. To find out the conservation measures being used to ensure better environmental quality.

### **Research questions.**

1. What were the factors leading to rapid urbanization in Kibuku municipality?

2. What were the effects of urbanization on the environmental resources?
3. What conservation measures were being used to ensure better environmental management?
4. Were there any relationship between rapid urbanization and environmental management?

## **METHODOLOGY**

### **Research Design.**

Both quantitative and qualitative study designs were used in the study. By presenting questions orally and receiving responses that were recorded and presented in a narrative manner, a qualitative method was adopted. To reveal the statistical nature of data, such as research, a quantitative methodology was used. various percentages, etc. The quantity, transportation, and connection of the variables were all quantified.

target audience

The target demographic of sixty people surveyed was chosen as a group based on the length of time they had lived in Kibuku, specifically taking into account their ages and level of interest in providing information. This made it possible to learn as much as feasible concerning the area's historical makeup as quickly as practicable.

### **Sampling Design**

This consisted of sample size, sampling method

### **Sample Size determination**

The total sample size of the study was 78 respondents. It comprised of 25 people who were settling in each of the three divisions to make 75 in total. One local leader from each division was included to make an overall total of 78 respondents, to get more information

on the past and the rate at which people were entering the municipality as residents and how it had affected the environmental quality.

### **Sampling Method**

In order to provide each participant in the sample group an equal chance of being chosen, I first utilized simple random sampling, followed by the local leaders. In order to reflect the remainder of the population, clusters are formed in the various divisions. Since Kibuku Municipality comprised three distinct divisions and it would require a lot of time to visit every area of concern and every responder there, the approach of cluster sampling was adopted. I chose residents and particular neighborhoods at random to create clusters that represented the entire division. In each division, a group with the local leader was formed.

Judgmental sampling, a non-random selection technique, was used to choose a small number of people, including local elders and leaders, who provided information about historical conditions.

### **Data collection methods**

In order to address the objectives of the research, the researcher used the following instructions which assisted in gathering and collection of data.

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## **Questionnaires**

The participants selected received surveys containing closed-ended as well as open-ended inquiries. The respondents, particularly the literate ones, self-administered the surveys in order to quickly and efficiently gather all of the complete answers to the (on-the-spot) inquiries.

## **Interviews**

This was applied to a variety of local people who were nearby inhabitants and didn't require surveys but rather only a conversation with the researcher during interviews. Important sources of information were subjected to in-person interviews by the researcher. Leaders one another, ecological officers, clan administrators, and several local elders were among the important informants. How much knowledge there is about the early stages of rapid urbanization and the pre-Kibuku circumstances.

## **Data Analysis**

Tables were used for assessing and displaying the data, and percentages scores essentially indicating prospective themes, classifications, and groupings were carefully studied to see how they actually emerged from the data in accordance to the study's goals. The association between fast urbanization and environmental quality was discovered by quantitative data analysis utilizing the one computed by (non-parametric) statistical test. The correlation test returned a result that fell between 1 and -1. A positive response suggested a favorable association, whilst a negative response suggested an unfavorable one. In an advantageous connection, both variables rise when one rises, but in a negative relationship, one variable falls as the other rises. RESULTS

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**Social demographic characteristics**

The respondents were asked questions related to their age and results were tabulated in table two.

Table 1: Age distribution of respondents

| Age group | Frequency | Percentage |
|-----------|-----------|------------|
| Below 25  | 6         | 10         |
| 25-29     | 10        | 16.7       |
| 30-39     | 24        | 40         |
| 40-49     | 12        | 20         |
| 50-above  | 8         | 13.3       |
| Total     | 60        | 100        |

**Data source: Primary**

Considering the above table, the findings from the field shows that majority of the respondents were in the age group of 30-39 which represented 40%, followed by age group of 40-49 which was 20%, the age group of above 50 years of age contributed 13.3%. All age groups were represented in the study.

**Marital status**

The respondents were asked questions related to their marital status and results were tabulated in table three as shown below;

Table 2: Marital status of respondents

| Marital status | Frequency | Percentage |
|----------------|-----------|------------|
| Single         | 15        | 25         |
| Married        | 7         | 11.7       |
| Divorced       | 28        | 46.6       |
| Widow/Widower  | 10        | 16.7       |
| Total          | 60        | 100        |

Data source: Primary

Considering the above table, the findings from the field shows that majority of the respondents were the divorced (46.6%), followed by the single parents at (25%), widows/widowers represented 16.7% and the married respondents represented only 11.7%. from the researcher this confirms that divorced respondents were the majority people who were highly concerned with the task of looking after their families and the only activity was agriculture.

### **Gender of the respondent**

The respondents were asked questions related to their gender status and results were tabulated in table as shown below;

Table 3: Gender status of respondents

| Gender | Frequency | Percentage |
|--------|-----------|------------|
| Male   | 12        | 20         |
| Female | 48        | 80         |
| Total  | 60        | 100        |

Data source: Primary

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Considering the above table, the findings from the field shows that majority of the respondents were female composing of 48 respondents and male respondents composing of 12 this is in line with the fact that it's female who are responsible for cultivation and growing food for the family households.

### **Education back ground**

The respondents were asked questions related to their education background and results were tabulated in table five as shown below;

Table 4: Education status of respondents

| <b>Education level</b> | <b>Frequency</b> | <b>Percentage</b> |
|------------------------|------------------|-------------------|
| Un educated            | 6                | 10                |
| Primary                | 34               | 56.7              |
| Secondary              | 10               | 16.7              |
| Tertiary               | 7                | 11.6              |
| University             | 3                | 5                 |
| Total                  | 60               | 100               |

Data source: Primary

The table showed that, from the findings majority of the respondents (56.7%) attained primary level, while (11.6%) managed to enter the tertiary institution and only (16.7%) of the respondents' attained secondary education. Therefore, majority of local residents around Nawaikona wetland at least went to school and can follow what was expected in environment management.

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**Are you a resident of the areas around Nawaikona wetland?**

The respondents were administered to the question above and the responses were closed ended that required them to answer either yes, no or whether they didn't know.

Table 5: Showing where the respondents reside in relation to Nawaikona wetland

| Response | Frequency | Percentage |
|----------|-----------|------------|
| Yes      | 52        | 86.7       |
| No       | 6         | 10         |
| Not sure | 2         | 3.3        |
| Total    | 60        | 100        |

Data source: Primary

Taking the above table, most of the respondents gave answers, which confirmed that they reside around the wetland at 86.7%, yet 3.3% of the respondents didn't know where they really reside as they answered that they are not sure. 10% of the total respondents answered that they were not residents in the area around the wetland.

**In your own observation is the environment around Nawaikona being degraded?**

Table 6: Showing respondent's views to whether the environment around Nawaikona is degraded?

| Response | Frequency | Percentage |
|----------|-----------|------------|
| Yes      | 49        | 81.7       |
| No       | 5         | 8.3        |
| Not sure | 6         | 10         |

|       |    |     |
|-------|----|-----|
| Total | 60 | 100 |
|-------|----|-----|

Data source: Primary

Table 6 shows the data collected on whether in their own observations, Nawaikona wetland is destroyed. Out of the total of 60 respondents, 49, agreed that the wetland is destroyed, 5 confirmed that the wetland is not destroyed yet 6 respondents who represented 10% were not sure of the destruction of the wetland despite being residents in the area.

**In what ways do you think the environment around Nawaikona Sub County being degraded?**

Table 7: Showed responses to ways in which the environment around Nawaikona Sub County being degraded?

| Response                  | Frequency | Percentage |
|---------------------------|-----------|------------|
| Cutting tress             | 10        | 16.7       |
| Dumping industrial wastes | 15        | 25         |
| Poor garbage disposal     | 13        | 21.6       |
| Poor farming methods      | 12        | 20         |
| Encroaching wetlands      | 10        | 16.7       |
| Total                     | 60        | 100        |

Data source: Primary

The table displayed data from the discipline detailing the manner in which Nawaikona Sub County's ecosystem was deteriorating. The majority (25%) stated that the main cause of the wetland's degradation was the discharge of industrial trash. 21.6% of respondents believed that improper farming practices and removal of trees were to blame for environmental devastation. At least 16.7% of respondents said that cutting down trees and encroaching wetlands were harming the surroundings. 20% of those surveyed claimed that the damage to the environment near Nawaikona Sub County was caused by poor farming practices.

**What are the different types of industries around Nawaikona wetland?**

Table 8: Showed respondents answers types of industries around Nawaikona wetland?

| Response             | Frequency | Percentage |
|----------------------|-----------|------------|
| Soft drinks          | 5         | 8.4        |
| Milling factories    | 41        | 68.3       |
| Confectionary bakery | 6         | 10         |
| Brick making         | 5         | 8.3        |
| Fertilizer factory   | 3         | 5          |
| Total                | 60        | 100        |

Data source: Primary

The above table revealed that majority of respondents (68.3%) affirmed that the types of industries around Nawaikona wetland were milling factories. 8.4% pointed out that the industries were comprised of soft drinks, 10% said that the industries are confectionary

bakeries and 8.3% and 3% said that the industries are brick making and fertilizer industries respectively.

**Do you benefit from the industries established in your community?**

Table 9: Showed the responses whether the local people benefited from industries in Nawaikona Sub County

| Response   | Frequency | Percentage |
|------------|-----------|------------|
| Yes        | 47        | 78.3       |
| No         | 10        | 16.7       |
| Don't know | 3         | 5          |
| Total      | 60        | 100        |

Source: Primary

From table nine, the majority of the respondents said that they benefited from the industries in their area while 16.7% did not see any benefits from the industries in their area. From the total respondents three did not know whether they benefit from the existing industries.

**What are the benefits you get from the industries around Nawaikona Sub County?**

Table 10: Showed how respondents benefited from industries in their community?

| Response                     | Frequency | Percentage |
|------------------------------|-----------|------------|
| Employment                   | 35        | 58.3       |
| Market for local merchandise | 18        | 30         |
| Extension of social services | 5         | 8.3        |

|                    |    |     |
|--------------------|----|-----|
| Road's maintenance | 2  | 3.3 |
| Total              | 60 | 100 |

Data source: Primary

Looking at the table above, out of the total 60 local residents who were approached around wetlands, 35 of them affirmed that they benefit from industries in terms of getting employment, 18 said that they benefit through provision of market for their goods. Five of the total respondents confirmed that industries around Nawaikona Sub County have been beneficial through extension of social services and two were of the view that industries are beneficial in terms of road maintenance in the area.

**What challenges are you facing in your community brought by industrial establishments?**

Table 11: Showed challenges faced by locals due to industrial establishments in their community

| Response                      | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Wetland's destruction         | 4         | 6.7        |
| Pollution                     | 32        | 53.3       |
| Social evils                  | 18        | 30         |
| Hygiene and sanitation issues | 6         | 10         |
| Total                         | 60        | 100        |

Data source: Primary

The information in the table higher than was obtained from inquire about six of the survey, which asked participants to identify any difficulties that the neighborhood's residents were experiencing as a result of the presence of manufacturing businesses. More than half of the participants (53.3%) agreed with the fact that pollution was the biggest issue raised by the presence of industries in their neighborhood. Additionally, 30% of respondents said that social injustices are one of the problems created by the presence of industries in the neighborhood. 10% of the participants claimed that industrial facilities located nearby have resulted in lower sanitation and personal hygiene standards, while 4% of the total reported that industries have caused wetlands to be destroyed.

**Do you agree that local residents around Nawaikona protect the wetland?**

This was question 7 on the questionnaire and the respondents were given responses in relation to Likert scale. They were meant to choose the best alternative as far as they are concerned.

|                |       |          |                   |              |
|----------------|-------|----------|-------------------|--------------|
| Strongly agree | Agree | Disagree | Strongly disagree | 1 don't know |
| 1              | 2     | 3        | 4                 | 5            |

Table 12: Showed whether local residents around Nawaikona protected the wetland?

| Response | Frequency | Percentage |
|----------|-----------|------------|
| 1        | 5         | 8.3        |
| 2        | 8         | 13.3       |
| 3        | 25        | 41.7       |
| 4        | 17        | 28.3       |
| 5        | 5         | 8.3        |
| Total    | 60        | 100        |

Data source: Primary

Looking at table 12, 41.7% disagree that local residents around Nawaikona wetland protect the environment from being destroyed. Those who strongly agreed with this view were 8.3%. Those that agreed with this view were 13.3%, 8.3% of the respondents didn't know whether they engage in environmental protection.

**Did you face any challenges while trying to protect the wetland around Nawaikona?**

| Strongly agree | Agree | Disagree | Strongly disagree | I don't know |
|----------------|-------|----------|-------------------|--------------|
| 1              | 2     | 3        | 4                 | 5            |

Table 13: Showed whether local residents face challenges while trying to protect the wetland around Nawaikona?

| Response | Frequency | Percentage |
|----------|-----------|------------|
| 1        | 40        | 66.7       |
| 2        | 8         | 13.3       |
| 3        | 7         | 11.7       |
| 4        | 2         | 3.3        |
| 5        | 3         | 5          |
| Total    | 60        | 100        |

Data source: Primary

The table showed information from the field as regarding challenges while trying to protect the wetland around Nawaikona. 40 of the total respondents strongly agreed to the response while 8 of the 60 agreed with the response. Those who disagreed were seven and strongly disagreed were two and three out of the 60 respondents didn't know.

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## **Conclusion**

In accordance to the study's conclusions, the investigator came to the conclusion that growing industrialization was the primary cause of the degradation of the environment because it harmed the organic ecosystem of the area by, between other things, causing greenery to disappear, soil damage, pollution of every kind, and pollution of the water and air.

Therefore, it was concluded that enhancing the economic and social condition of the local populace without automatically harming the environment is possible if the velocity of industrial expansion is carefully regulated.

## **Recommendations**

The researcher recommended that the major solution to curb down the rate of environmental degradation, industrial development measures and manifestations should be formed and implemented. People should be sensitized about the benefits of protecting the environment. Families should be encouraged to have smaller families which they take care of, however, the state as a whole should get involved in suggesting the number of children each couple should have.

## **REFERENCES**

- Abbassi, S.A, (1997). Wetlands of India-Status of Wetlands in India, Ecology and Threats. Volume I, Discovery Publishing House, New Delhi, pp.84-86.
- Anderson, Terry L. (2008). "Environmental Quality", 2nd edition, USA.
- Auher & Tamar (2013). "Climate change and rapid urban expansion in Africa threaten children's lives." UNEARTH News, Retrieved 10 August 2013.
- Bernstein, J. (1994). Land Use Considerations in Urban Environmental Management.

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Brand Stewart (2009). Whole Earth Discipline-annotated extract. Retrieved 29 November 2009.

Brown, D.G., Johnson, K.M., Loveland, T.R. & Theobald, D.M. (2005). Rural land-use trends in the conterminous United States.

Chatrath, K.J.S, (1992), Wetlands of India-Major threats faced by wetlands of India and their conservative measures, Ashish Publication House, New Delhi.pp.22-32.

Chen (2007). Effects of Land Use and Land Cover Change in Shanghai China Czech. B. Krausman, P.R. & Devers, P.1K. (2000) Economic associations among causes of species endangerment in the United States. Bio-Science 50: 593-601.

Davis 1993, Rapid Urbanization and Environmental Conservation in developing countries

Davis-Mattis, L. (2005). Marine Debris: Jamaica's Response. UN Open Ended Informal Doncika Simms. (2008). The Effects of Urbanization on Natural Resources in .Jamaica. 44th ISOCARP Congress

Drakakis-Smith, 1). (2000). Third World Cities: 2nd Edition, London: Routledge Environment Canada, (2005). Urban biodiversity [www document).

Krishna. MB. Chakrapani, B.K and Srinivasa, T.S, (1996), Water Birds and Wetlands of Bangalore, Karnataka State Forest Department, Bangalore.

Mediel. Michael White J., Catherine Andrzejewski 5 (2013). The Urban Crisis in Sub Saharan Africa: A Threat to Human Security and Sustainable Development.

Ministry of Lands, Housing and Urban Development, (2003). Kampala-Uganda. Mitsch, W. J, and Gosselink, J. G, (1993). Wetlands. Van Nostrand Reinhold. New York.

Paul William Kojo & Katherine Venton Gough (1999). The environmental impact of rapid urbanization in the pen-urban area of Accra, Ghana, Volume 99(1), pages: 89-100.

UN-HABITAT (2008; 2009). State of the World's Cities Report. Nairobi, Kenya: UN HABITAT.

World Bank (2002). World Development Report; Building Institutions for Markets (New York: Oxford University Press for the World Bank).

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