
**INDUSTRIALISATION AND ENVIRONMENTAL MANAGEMENT. THE CASE OF MBALE
INDUSTRIAL DIVISION- EASTERN UGANDA.****1 Ngaboyani Joel, 2 Asiimwe Isaac Kazaara****1, 2 Metropolitan International University****ABSTRACT**

Historically, industrialization has been associated with falling relative returns to skills. This fact is at odds with most unified theories of industrialization, which tend to imply rising skill premium as natural concomitants to economic growth. Assuming that human capital is both a consumption good and an investment good, the model demonstrates how gradually rising investments in human capital, non-monotonic fertility rates, and falling skill premium can all be explained within one theory. Mbale, Uganda's third largest city, has a population of millions and is an extremely important border city. Its location has many advantages such as well-developed transport network and complete infrastructure. The Ugandan government attaches great importance to its development. With its developed agriculture, Mbale is Uganda's agricultural trade center and is rich in rice, coffee, cotton, fruits, vegetables and grains, textiles, there are also coffee processing, wood processing and other industries, the development prospects are very impressive. Industrialization has brought economic prosperity, additionally it has resulted in more population, urbanization, obvious stress on the basic life supporting systems while pushing the environmental impacts closer to the threshold limits of tolerance. With booming industrial growth and relatively low land mass, environmental sustainability is now becoming a significant deciding factor in industrial development process. Accumulating evidences constantly indicate that the transition of the existing industries into eco-industrial network through successful implementation of green approaches provides a viable solution to preserve the natural resources of the region while concurrently enhances the regional economy on a sustainable basis.

Key words: industrialization and environmental management**Background of the study**

World economic history could be told simply for the last few hundred years technological progress has allowed some societies to lift themselves out of their timeworn region-based poverty (Godfrey et al., 2023). One major difficulty was to capture the effects of these technological changes (Christopher et al., 2022). In particular, many features of growth today were very different from those at the dawn of robust technological progress. The world's first foray into

modernity two and a half centuries ago saw exploding populations, stagnant rates of education and only modest increases in income (Oromo et al., 2023). A century later growth was associated with falling fertility rates and rapid rises in both education and average incomes. Traditional growth theories, able to capture present-time growth, are nevertheless consistent only with a small fragment of human history (Kucuoğlu, 2023). The park located in the

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Mbale City, eastern part of Uganda, it covers an area of 2.51 square kilometers, 220 kilometers away from Kampala, the capital of Uganda, 65 kilometers from the Kenyan border, it was adjacent to the standard gauge railway project, the transportation extending in all directions was very convenient and the location was traffic hub from Uganda Inland to Mombasa port in Kenya. The terrain in the park was flat and surrounding labor force is sufficient, electric high-voltage line is in place and the water resources are abundant (Christopher et al., 2022), the telecommunications and the network are all covered. The park developed and later commissioned by President Museveni to start construction, as part of the industrialization agenda (Kazaara et al., 2023), where a total of 22 industrial parks will be created. It is expected to create 15,000 jobs for the community in Mbale region. The park has a capacity of 20 factories and efforts were being made to attract more investors, according to Mr Paul Zhang, chairman Sino- Uganda Mbale industrial Park. Twenty acres out of the 619-acre park has been designated for a small and medium enterprise incubation base with a total investment cost of \$80m (Ronald et al., 2023). Uganda Investment Authority (UIA) Board Member Morrison Rwakakamba, hailed the investors for creating jobs for the Ugandans. "The Authority was also keeping on improving services aimed at attracting more investors and serve them with first

class services," he said adding that that was why the Authority has established the One Stop Centre aimed at easing business registration and implementation in Uganda (Alex & Kazaara, 2023).

Problem Statement.

Mbale is one of the growing industrial towns in Uganda. Rodrick 2016 examines that there are different industries that exist in Mbale such as Bugisu cooperative union, coffee limited industry, SINO Uganda limited, Bidco industry, Uganda mills and they are categorized under manufacturing industries, agro based industries among others (Lydia et al., 2023). However, the existence of industries in Mbale town have contributed towards the development of the city, win (Ronald et al., 2023), Industrialization has led to power extension, development of infrastructure such as roads, created employment opportunities. In addition to the above Raj (2017) also urges that Industrialization has led to reduction in income in equally. Improved people's standard of living (Frank et al., 2023). Despite of the positive factors contributed by introduction in Mbale city, it has also contributed negatively towards environment and to the surrounding communities. According to Andiiy Blokin may 17th 2021 urges that indoctrination has led to air pollution, immortal, traffic congestion, income inequality among other, Micheal J

Specific Objectives

- To assess the relationship between industrialisation and environment.
- To investigate the impact of industrialisation on environmental management.

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To analysis the challenges faced by the people living around Mbale industrial area.

Methodology

Research Design

This research was descriptive as it sought to analyze the influence of industrialisation on environmental management in Mbale industrial division. The researcher will use both qualitative and quantitative research methods so as to enrich the content of the findings. The qualitative approach was used to collect data from Mbale industrial division among the leaders of industrial area, and from key informant interviews with industrial area leaders and opinion leaders. Quantitative methods were used to collect information from beneficiaries around Mbale industrial area, their spouses and children in different households. Secondary data from the Mbale industrial division's documents and records supplemented the findings.

Study Population

Sino-Uganda Mbale Industrial Park was one of 22 state-level industrial parks in Uganda, which were proposed by Ugandan President Museveni and China's Foreign Minister Wang Yi, approved by Uganda's Ministry of Finance, organized and constructed by the Tian Tang Group. Since its launch, the project has won great attention and support from the governments of China and Uganda.

Sample Size and Selection

A total of 120 respondents was studied and they were included among others like beneficiaries of the industrialisation, their spouses and children, respondents were selected from the groups that were participating in investigating the influence of industrialisation in three randomly selected areas of Bugema, Wanale, Busamaga, and Nkoma where industrialisation is predominantly practiced. The respondents comprised of men and women in balanced numbers to have equal gender representation. Sixty (60) beneficiaries, (30) women and (30) men were interviewed using a questionnaire, twenty (20) beneficiaries, 10 (women) and 10 (men) participated in the focus group discussions and Twenty (20) spouses of the beneficiaries, 10 (women) and 10 (men) participated in the focus group discussions. Ten (10) Sino Uganda Limited leaders were interviewed as key informants as well as Five (5) opinion leaders and five (5) community leaders.

Table 1: Classification of Respondents

Respondent Category	Number of Respondents
Key Informants	
Sino Uganda Ltd leaders	10

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Opinion leaders	5
Community/Local leaders	5
Household surveys	
Beneficiaries (both men and women)	60 (30 men, 30 women)
Focus Group Discussions (FGDs)	
Beneficiaries (both men and women)	20 (10 men, 10 women)
Spouses (both men and women)	20 (10 men, 10 women)
Total	120 Respondents

Source: Primary Data, 2007

Methods and Techniques of Data Collection

Qualitative Methods

Focus Group Discussions (FGDs)

Focus Group Discussions was held with the Community on the influence of industrialisation on environmental management in Mbale industrial area with the help of interview Guides to get general views on the benefits, the challenges and limitations of industrialisation both within and the surrounding area, and to collect their views on the influence of industrialisation on environmental management. The respondents were both male and female and they were varying in numbers. FGDs also facilitated the researcher to get information from the people on their perception of how industrialisation was influenced environmental management in Mbale industrial area. Twenty (20) spouses, both men and women were interviewed as well as twenty (20) other group of individuals living around the industrial area.

Key Informant Interviews

Key informant interviews were used to hold the Sino Uganda Limited leaders using the Key Informant Interview Guide, to get information on the influence of industrialisation on environmental management. Key informant interviews were also conducted with community leaders and opinion leaders to get information on their perception on how industrialisation has influenced the environmental management have improved the standards of living among the households living in Mbale division and how these have benefited the community as a whole. Ten (10) Sino Uganda Ltd leaders, 15 opinion leaders and 15 community leaders were interviewed.

Data Analysis

Data analysis and spatial modeling was done by integrating spatial layers and non-spatial attribute captured from FGDs and KIIs to generate final HRV maps at divisions. Spatial analysis was done using ArcGIS to generate specific hazard, risk and vulnerability profile for the industrial division.

Qualitative Data Analysis

Focus group discussions, key informant interviews were transcribed and analyzed continuously during and after fieldwork each day. The analysis was done around sub-themes of the study and where possible code categories was identified, written in the margin of the transcript, was added together to get the general trends and significant differences between transcripts and conclusion drawn.

Quantitative Data Management and Analysis

Each interview schedule was edited before leaving each respondent, there was crosschecking for uniformity, accuracy, completeness and consistency of information. The data was coded and tabulated using the Statistical Package for social scientists (SPSS) (Nelson et al., 2022). Tables, pie charts and bar charts were used to describe the findings

RESULTS

Table 1: Table on the teacher employed of the Respondents.

EMPLOYER	FREQUENCY	PERCENTAGE (%)
T.S.C	5	50
B.O.G	4	40
Volunteer	1	10
Total	10	100

Source: Primary source (2022).

The table indicated that only 50% of the teachers within the zone were employed by TSC the B.O.G managed to employ 40% and very few 10% accepted to volunteer. Due to this fact, academic excellent could never be attained.

How was industrialisation related to environment

The research was made and respondents were asked on how they feel about investigating the influence of industrialisation on environment management in Mbale industrial division. Industrialisation has led to environmental degradation in terms of industrial pollution. With industries operating, a 100 per cent pollution-free environment is a myth. It is neither possible nor necessary. However, it is imperative to ensure that industrial units cause the least pollution. Adequate and effective pollution control measures are required so that adverse effects on the environment are minimized. Necessary technological know-how and institutional back up support are available in this regard. Dust, smoke, fumes and toxic gas emissions occur as a result of highly-polluting industries such as thermal power plants, coal mines, cement, sponge iron, steel & ferroalloys, petroleum and chemicals. In industry-specific clusters, these have not only become hazardous, but also cause irreparable damage to our ecology and environment, often breaching the environment's carrying capacity. The following questions were asked ie; Kind, Cruel and Well.

Table 2: How delivery method affects the learners academic basically during the period of Covid-19.

Variable	Frequency	Percentage
Kind	20	21.1
Cruel	75	78.9
Well	0	0.00
Total	95	100

Source: Primary source (2022).

What is your awareness about impact of industrialisation on environmental management?

The effects of industrialization included a significant population growth, the urbanization or expansion of the cities, improved access to food, a growing demand for raw materials and the development of new social classes formed by capitalists, a working class, and eventually a middle class. The social environment at an industrial area is perfect to build a child's character and personality.

On outcome on the awareness about impact of industrialisation on environmental management.

The findings showed that the respondents who believe that the information circulated frequently were 75(78.9%) respondents, those who believe that the information about corona virus circulated occasionally were 15(15.8%) respondents and those who believe that the information never circulated properly were 05(5.3%) respondents as shown above.

What do you think are some of the possible ways of overcoming the negative impacts of industrialisation on environmental management in your city?

However, it is imperative to ensure that industrial units cause the least pollution. Adequate and effective pollution control measures are required so that adverse effects on the environment are minimized. Necessary technological know-how and institutional back up support are available in this regard.

To what extent does influence of industrialisation on environmental management affect economic growth of communities in your city?

The process has improved productivity and allowed for mass production, which has increased standards of living. Through industrialization, we have seen more goods produced in less time, increased time for recreation and leisure, and an increase in real incomes.

Table 3 workers housed by the school

HOUSES	FREQUENCY	PERCENTAGE
Subsidized	2	20%
Free	1	10%
Stay outside industrial park	7	70%
Total	10	100%

Majority of the workers were housed by school this shown by 70%. Majority of the teachers were not house by the school this shown by 70%.

Types of motivation received by the workers in improve the industrial output.

Achievement was received a big number of teachers as it is shown by 30%. At least every teacher received an award for the good performance depending on the category of the award being offered. Categories awarded present include, best workers, most involved tasks, best friendship, bet humanities, best performed sector, best supervisors and the number of outputs got. These formed the basics for awarding performance and was different awards for every category.

Conclusions

It is clear that there are many challenges that the LAC region will face with the implementation of the 2030 Agenda. The 17 goals are quite ambitious to achieve as an inclusive matter throughout the world, especially for low-income countries. Hopefully with the support of middle-income and industrialized countries they will eradicate poverty in all its dimensions. It is going to be fifteen years full of challenges for the countries that are part of this project, but if they are aware of most of these challenges, they will be able to overcome them with the support of one another. Nowadays, we have enough resources to eradicate poverty in all its dimensions without leaving anyone behind, but

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the only way to achieve these ambitious goals is by the UN strengthening partnerships with governments and the private sector McDade, 2015, as well as the support from each country. Moreover, society is aware of the risks of climate change and the impacts that it has already affected people and ecosystems; safeguarding the environment is a true challenge since it requires a considerable amount change and the use of new technologies to avoid pollution, over-exploitation of natural resources, habitat destruction and climate change. The true challenge will be to achieve an inclusive industrialization with a sustainable development approach in order to have a positive social, economic and environmental impact. This paper suggests the following recommendations

Recommendation

Strategic planning is necessary to address the environmental impacts of economic development to an acceptable level. In this scenario of degrading environment and pressure for constant industrialization, Eco industrial network development provides viable solutions to move towards sustainable industrialization. However, it will require a supportive infrastructure base to make it happen. Industry will need a perfect combination of incentives, regulations, management mechanisms, information and other infrastructure facilities to provide the conditions in which industrial symbiosis (IS) can thrive.

References

- Alex, I., & Kazaara, A. G. (2023). *Internal Controls and Financial Performance of Saccos in Wakiso District*. 7(3), 47–56.
- Christopher, F., Moses, N., Muhindo, M. E., & Komunda, T. R. (2022). Employee Training and Organizational Performance: A Case Study of African College of Commerce and Technology in Kabale District, South Western Uganda. *International Journal of Academic Pedagogical Research*, 6(5), 1–7.
- Frank, M., Nelson, K., Kazaara, A. G., Deus, T., Christopher, F., & Catherine, M. (2023). *The Macroeconomic Determinants of Economic Growth in Uganda a Case Study Of Wakiso Distict*. 7(2), 147–159.
- Godfrey, S., Matovu, K., & Ismail, L. (2023). *Effect Of Youth Unemployment And Crime Rates In Uganda , A Case Study Of Mityana Distrist* . 7(3), 325–334.
- Kazaara, A. G., Charles, N., & Kazaara, A. I. (2023). *Investigating the Influence of Professional Code of Conduct on Journalist Performance among Women in Uganda . A Case Study of Uganda Broadcasting Cooperation (UBC) Uganda*. 7(3), 248–253.
- Kucuol, D. A. (2023). *The Effects of Outsourcing on Organizational Performance : A Case Study of Britam Insurance Company Limited* . 7(4), 76–89.
- Lydia, N., Kazaara, A. G., Kazaara, A. I., Brenda, T., & Bafaki, G. (2023). *Promotion of Small-Scale Industries and Development of Business . A Case Study ; Masafu Subcounty (Busia)* . 7(3), 240–245.
- Nelson, K., Christopher, F., & Milton, N. (2022). *Teach Yourself Spss and Stata*. 6(7), 84–122.

Received: 13.10.2023

Accepted: 17.10.2023

Published on: 30.10.2023

Corresponding: Author: research.miu.ac.ug/publications

Oromo, O. D., Julius, A., & Nelson, K. (2023). *Effect of Covid-19 Lockdown on Household Income in Uganda A Case Study of Kitoro Parish , Entebbe Municipality*. 7(4), 107–117.

Ronald, K., Kazaara, A. G., Ismail, L., & Micheal, T. (2023). *The Impact Of Privately Owned Enterprises On The Economic Development Of Communities In Uganda A Case Study Of Masaka City*. 7(3), 63–70.