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An Evaluation of the Participation of the Affected Public in Environmental Impact Assessments (EIAs) For Manufacturing and Processing Industries in the Central Region of Uganda

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*Affected public,
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Environmental impact assessment (EIA) was legally introduced in Uganda through the National Environment Act (NEA) 1995 (now NEA 2019) and made operational by the EIA Regulations 1998. Since the origin of EIA from the National Environment Policy Act of 1970 in the USA, public participation has taken an essential part of the EIA process. This paper assesses the legal provisions for public participation in the EIA process and the actual practice in Uganda, particularly the affected public. Data was collected using literature review, survey questionnaire, interview guides and documentary analysis. The results indicated fairly good legal provisions for public participation and involvement in EIA. However, public participation was not well legislated in the early phases of the EIA process (preparation of project brief, screening, and scoping) and the later phases, particularly final decision-making and EIA follow-up. There were gaps between the law and the actual practice due to many contextual factors, including public participation, weak monitoring by the regulator, weak community cohesion and environmental stewardship, limited dissemination of EIA information and lack of community awareness of projects' potential environmental, social and health impacts. The study made recommendations to promote the participation of the affected public in the EIA process.

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INTRODUCTION

EIA was legally instituted in Uganda through the National Environment (NEA) 1995 (GoU 1995), which was repealed by the NEA 2019. EIA was made operational by the EIA Regulations, 1998, also repealed by the Environmental and Social Impact Assessment (ESIA) regulation, 2020. The EIA Regulations, 1998 stipulated the procedures for conducting EIA and defined the roles of key categories of stakeholders in the EIA process. In the Ugandan context, EIA is considered a broad process of assessing the likely impacts of an action on all aspects of the environment, from social to bio-physical, before making a decision, just as in the study (Morgan, 2012).

A related study (Taako et al., 2020, p. 8) describes the EIA process in Uganda, including submission of the project brief, screening, development of terms of reference (ToR), assessment, reporting, review, decision-making and EIA follow-up. One of the vital principles of EIA is that the process should provide suitable opportunities to inform and involve the potentially 'affected public' and the 'interested public', and their concerns should be addressed clearly in the documentation and decision-making (IAIA & IEA, 2006). Scholars (Faircheallaigh, 2010 p. 20) defined 'public participation' as any form of interaction between corporate actors, government and the public that occurs as part of EIA processes to aid decision-making, achieve a role for the public as joint decision makers and reconstituting decision-making structures. Authors (Nadeem & Fischer, 2011 p. 39) argue that measuring the influence of public participation on EIA decisions has been identified as a major challenge to research. However, the same authors maintain that EIA reports, proceedings of final decisions and the EIA approvals conditions may be used to assess

the extent of consideration of public concerns in EIA decisions (p. 43-42). EIA scholars (Morrison-Saunders and Arts, 2023) defined public participation as the involvement of individuals and groups that are positively or negatively affected by, or are interested in, a proposed project, program, plan or policy subject to a decision-making process (EIA). This participation and involvement should be at all key phases of the EIA, including EIA-follow activities such as monitoring, post-assessment environmental audit, evaluation, implementation of mitigation measures and communication. Public participation in EIA should be able to empower the affected public and be involved in the EIA decision making processes, influence project designs and implementation strategies so as to prevent, mitigate, off-set negative effects and maximize the positive benefits of a project or activity to the entire community.

Despite the popularity of 'public participation in EIA', the term 'public' has no precise definition; as such, the terms; 'public', 'citizen', and 'stakeholders' are frequently used interchangeably in the EIA literature. Glucker et al. (2013, p. 109) concluded that there seems to be a broad consensus that the "public" in the context of EIA refers to anyone interested in or affected by a decision. According to the Uganda EIA-related legislations, particularly the EIA Regulations, 1998 (now ESIA Regulations, 2020), the term 'public' was not explicitly defined, but in practice, it is taken to mean the 'affected public' and the 'interested public'. The former refers to "organized groups" that are or will be affected by or have a strong interest in the outcome of a decision. The latter refers to the broader collectivity of individuals who are not directly affected by a decision but have some interest in it.

This paper particularly focuses on the participation and involvement of the ‘affected public’ in the EIA process of manufacturing and processing industries.

Many authors have different views about who should be involved in the EIA process. Scholars (Dietz, 2008 as cited in Glucker et al., 2013) argued that including the full scope of public actors in all environmental controversies would be inefficient and a waste of time and money. However, authors (Glucker et al., 2013, p.109) maintain the common practice that everyone interested in a given project or activity subjected to the EIA procedure should be invited to participate because environmental decisions affect everybody since world ecosystems are interlinked.

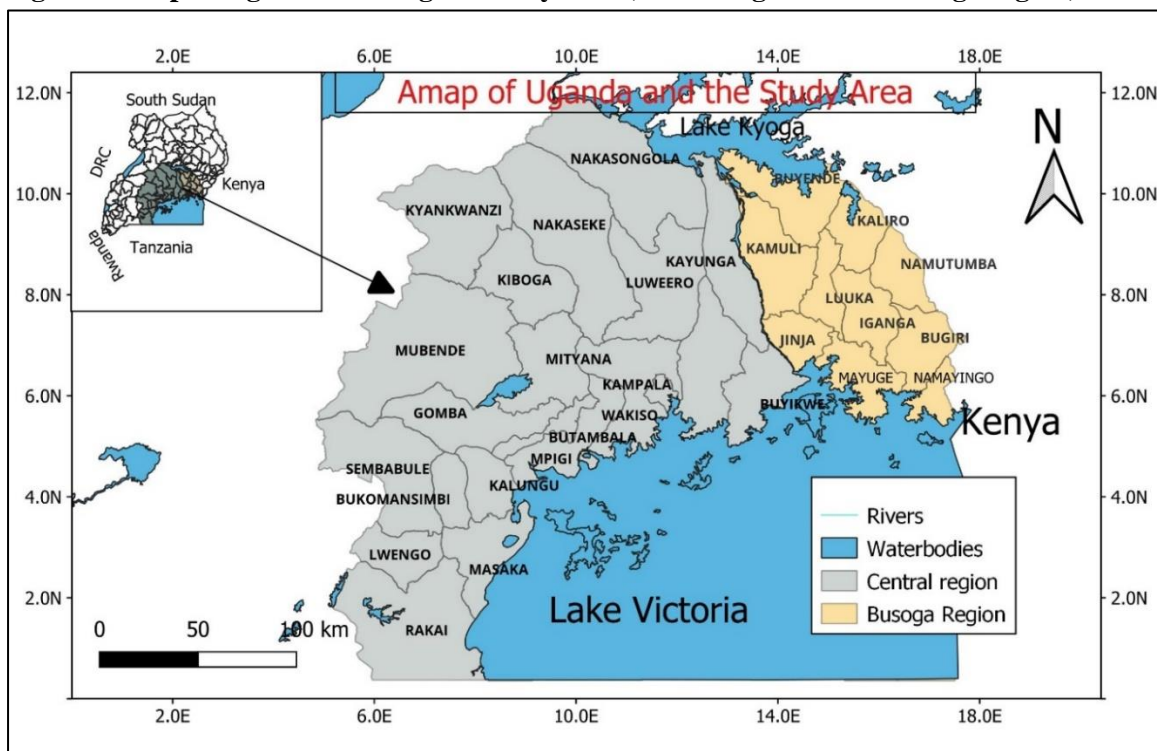
This paper first assessed the legal provisions for public participation and involvement at all levels of the EIA process in Uganda. At the second level, the paper assessed the actual practice of public participation and involvement, focusing on EIAs for manufacturing and processing industries. Studies (Akurut et al., 2017; Kabenge et al., 2016; Luyiga et al., 2015; Namuhani, 2015; Pierre &

Wondwosen, 2016) established processing and manufacturing industries as the leading polluters of lakes, rivers and soils in the central region of Uganda.

METHOD AND MATERIALS

This research used a mixed method (both quantitative and qualitative) and conducted in the central region of Uganda, represented in Figure I. Scholars (Wang et al., 2019 pg.7) reveal that more than half of Uganda’s total GDP is generated in the central region of Uganda including Kampala Capital City which is also one of the country’s industrial hubs. Secondly, the region has a high population and a fragile ecosystem, with Lake Victoria, the world’s second-largest freshwater lake, and several wetlands of international importance, such as Lutembe Bay. Therefore, industrial developments without effective EIA in which the affected public participates will likely have severe negative environmental impacts. Pollution from industries in the central region has been identified as the primary source of pollution in Lake Victoria (Akurut et al., 2017; Kabenge et al., 2016; Luyiga et al., 2015).

Figure 1: Map of Uganda showing the study area (central Uganda and Busoga region)



Data was collected using a review of related literature, a survey questionnaire, semi-structured interview guides for key informants, and documentary analysis (EIA legal documents and environmental impact assessment statements or reports). The key informants included one (1) staff from the directorate of district support, three (3) staff from the directorate of monitoring, compliance, and enforcement and one (1) staff from the directorate of policy, planning and communication. Four (4) industries were selected using systematic sampling from a list of 16 manufacturing and processing industries whose EIAs were approved between 2000 and 2005. These manufacturing and processing industries (company names withheld for anonymity) included a pharmaceutical industry, a sheet corrugation, forming an expanded metal plant, a plastics recycling factory and a tobacco leaf processing plant. There was no accessible village register of the affected public around the manufacturing and processing industries; as such, we systematically sampled the heads of households at an interval of two households to the south, west, north, and east of each of the selected industries. 25 households were systematically selected and interviewed around each of the 4 manufacturing and processing industries, totalling 100 households (52% female and 48% male).

Since the study involved administering questionnaires, we got approval from the Uganda National Council for Science and Technology (UNCST), which is the authority responsible for research ethical approval in the country. In line with the provisions of the national guidelines (UNCST, 2014 pg.18), verbal informed consent was made part of the questionnaire before proceeding with the interviews and consultations with the key informants. The respondents who had settled in the area before the respective industries were established were the ones selected to proceed with the interview, and 100 households were interviewed. The environmental impact statements (EISs) or EIA reports for the industries obtained from the NEMA were also explored for evidence of public participation and involvement. The data analysis tools included the use of

Microsoft excel and SPSS (Statistical Package for Social Sciences). Data was analysed using descriptive statistics and presented using tables and graphs for easy interpretation.

RESULTS AND DISCUSSION

Legal Provisions for Public Participation in EIA in Uganda

The ‘public trust doctrine,’ i.e., the protection of important natural resources by the State on behalf of the people of Uganda, is pronounced by Objective XIII of the National Objectives and Directive Principles of State Policy and Article 237(2)(b) of the 1995 Constitution of the Republic of Uganda. Objective XXVII of the National Objectives and Directive Principles of State Policy obliges the State at national and local government levels to pursue policies that ensure the protection of the environment and natural resources and promote sustainable development. Furthermore, Objective II (i) of the National Objectives and Directive Principles of State Policy states, ‘State shall be governed on democratic principles which empowers and encourages the active participation of all citizen at all levels in their governance (this includes environmental governance and management).

Article 39 of the 1995 Constitution of the Republic of Uganda (GoU, 1995) states that “every citizen has a right to a clean and healthy environment”. Article 50 Clause 2 states, “Any person or organization may bring an action against violating another person’s or group’s human rights. This opened a window for organized groups and individuals to quash wrong EIA decisions and promote compliance to EIA approval conditions through public interest litigation in the high court of Uganda in case of failure of administrative approaches as stipulated in section 104 of the NEA 1995 (now NEA of 2019) and Regulation 38 of the EIA Regulations, 1998 (now ESIA, Regulations 2020).

Article 17(1)(j) of the 1995 Constitution of the Republic of Uganda provides that every citizen has a duty to create and protect a clean and healthy environment. Therefore, public participation is a

constitutional mandate, especially the affected public in EIA and all other matters related to environmental protection and conservation of natural resources. Furthermore, Article 41 of the Constitution of the Republic of Uganda guarantees the right of access to information (including environmental information). Access to environmental information is a key factor in influencing and supporting public participation in EIA and environmental management in general.

Legislation of Public Participation in the Key Phase of EIA in Uganda (1998 to 2019)

The study by Taako et al. (2020, pg.8) describes the broad phases of the EIA process in Uganda, which include submission of the project brief, screening, development of terms of reference (ToR), assessment, reporting, review, decision making and follow-up. Public participation was not legislated in the early EIA phases, which included preparation and submission of the project brief, screening, and the development of Terms of Reference (ToR). In Uganda, screening is done by the lead agency in consultation with the authority (NEMA). In some good practices (SPREP & UNEP, 2016 pg.18), screening is usually led by the EIA administrator in consultation with other government agencies, local communities, local land or natural resource owners and other stakeholders. The development of ToR for EIA studies, which the developer does in consultation with the lead agency and the regulator (NEMA), was considered synonymous with the scoping phase of EIA in Uganda. In other best practice guides (SPREP & UNEP, 2016 pgs. 17 & 18), ToR for EIAs is the end product of the scoping phase, and it is prepared by the developer in consultation with the regulator, lead agencies and involvement of stakeholders, particularly the affected public.

EIA literature (Borioni et al., 2017 pg. 201) suggest that through a well-administered scoping phase, relevant issues will be identified for detailed assessment while minor issues will be left out, thus allowing for benefits that include more cost-effective study; data collection is directed to obtaining useful and relevant information;

increased transparency; relevant project design modification; effective consideration of cumulative impact; better governance and increased effectiveness of the EIA process. This meant that this deterministic approach used in developing ToRs and the lack of explicit legislation on the realistic scoping phase denied the EIA system in Uganda the benefits for the last 22 years of EIA practice (1998 – 2019).

Public participation is legislated in the assessment or study phase of the EIA process by Section 19, sub-section 8 (c) of the NEA 1995 (NEMA, 1995) and Regulation 12, Sub-Regulations 1 and 2 of the EIA Regulations 1998 (NEMA, 1998). Regulation 14 of the EIA Regulations 1998 and its First Schedule predetermined the issues to be included in the EIA report. Our survey of the EISs revealed that, in practice, the EIS documented evidence of public participation in meeting international best practices (IAIA, 2006; Nadeem & Fischer, 2011). Public participation was well legislated at the review phase. The study established that only members of the local council leaders were involved in public participation, which was not a sufficient representation of the community.

Public participation was well legislated at the review phase by regulations 18,19, 20 and 22 of the EIA regulations (1998), which allowed for comments or expression of opinion on EIS by the lead agency, the general public and the persons specifically affected by the proposed project respectively. However, these review processes were developer-led. For small projects, the EIA reports were practically reviewed by some assigned staff of the regulator or lead agency, who then prepared and submitted a review report to the Executive Director of NEMA, which forms the basis for the approval decision. One of the environment officers at a local government remarked, '*We review EIA reports and submit EIA review reports to NEMA, but our views are not taken into consideration in decision-making*'. A study by Joseph et al. (2015, pg.244) identified three EIA review models: (i) the independent review model, (ii) the temporary review body and (iii) the government department review model.

EIA scholars and practitioners ranked the independent review model highest, citing its independence as the key benefit. In contrast, the temporary review body was associated with a lack of staff continuity and the government department review model was associated with potential bias.

In Uganda, the final EIA decision-making was exclusively vested in the ED, NEMA, a government appointee. However, the decision whether to approve, refer back or reject a project by the ED, NEMA is based on the comments of the lead agency, the general public, comments of persons specifically affected by a proposed project or the report of a presiding officer at a public hearing in case of any. Therefore, public consultation and participation in EIA decision-making was indirectly legislated. However, the exclusive decision-making powers vested in a government appointee risk the highest level of business and political interference, which a related study (Taako et al., 2020, pg. 9) identified as a major factor negatively affecting the implementation of EIA legislations and regulations in Uganda.

Public participation in EIA follow-up was partially legislated in the EIA legal regime in Uganda. EIA follow-up activities, according to (Baker J. 2004 in Angus Morrison-Saunders & Arts, 2004), Morrison-Saunders et al. (2007) and (Pinto et al., 2019), include monitoring, environmental audit, evaluation, management or implementation of mitigation measures and communication and were mostly legislated in the Uganda's EIA legal regimes. However, how the affected public was to participate in these activities was not explicitly legislated. Third-party EIA follow-up, which is EIA follow-up conducted or initiated by the affected public, was legislated by Regulation 32, Sub-Regulation 3 of the EIA regulations, 1998. It stipulated that a member of the public, after showing sound cause, may appeal to the ED NEMA to cause an environmental audit to be carried out on any project. Morrison-Saunders and Arts (2023) stated that the main goal of public participation in EIA follow-up is to ensure that relevant stakeholders are properly engaged in determining and learning about the

outcomes of impact assessment of projects or plans. Authors (Baker J., 2004 In Angus Morrison-Saunders & Arts, 2004; Morrison-Saunders et al., 2007; Pinto et al., 2019) argued that the effectiveness of public participation in EIA follow-up depends on how the development of the EIA follow-up program involved the affected public at all the pre-approval decision phase of the EIA process.

The Evaluation of Actual Practice of Public Participation by the 'Affected Public in the EIA Process in Uganda

Despite the legal and regulatory provisions for public participation in the EIA process as described in section 3.2, our interview of the 100 households around the 4 manufacturing and processing industries revealed that the majority (94%) of the respondents did not participate in the EIAs of the respective industries. 2% reported that they moderately participated, 2% reported that they slightly participated, and another 2% reported that they somewhat participated. Further investigation established that the attendance list was mainly members of the village local councils 1 (local leaders), which was not representative of the population of the affected public. This amounts to 'insufficient participation' as described by authors (Armstein, 1969 cited in Gaber, 2019 pg. 189), constituting the bottom rungs 1 and 2 (manipulation and therapy, respectively) in the ladder of participation. This was mainly attributed to the developer-led public participation as provided for in regulation 12, sub-regulation 1 of the EIA regulations 1998 (NEMA, 1998). According to section 19, sub-section 8 (c) of the National Environment Act, 1995, NEMA was to provide guidelines to the developers concerning the participation of the public, especially those most affected by the project during the assessment stage, no detailed formal guidelines for public participation were developed and operationalized. In addition, the developers were not monitored and supervised during the assessment due to logistical challenges as reported by a key informant from NEMA.

One of the key elements of stakeholder capacity is the level of information and knowledge about a process or practice. Access to information and the level of knowledge and awareness of a project's potential impacts enhances the level and effectiveness of participation of the affected public in EIA. We, therefore, assessed the level of awareness of the affected public about the potential environmental, social and health impacts of the project (industry) subjected to the EIA process. The results revealed that the majority 97% of the respondents (the affected public) were aware of the potential social impacts of the projects, while only 3% were not aware of the potential social impacts of the projects. 48% of the respondents were aware of the potential environmental impacts of the projects, while a higher percentage of 52% of the respondents were not aware of the potential environmental impacts of the projects. While 52% reported unawareness of the potential environmental impacts of the projects, 20% cited a lack of knowledge of environmental matters, 13% cited a lack of sensitization on the environmental impacts of the projects, 1% cited a lack of concern for the environment in the community, 3% thought environmental management was not their responsibility, and 11% did not specify the reasons. Similar studies by Zuhair & Kurian (2016, p. 139) identified a lack of environmental awareness as a key constraint to effective public participation in EIA in developing countries.

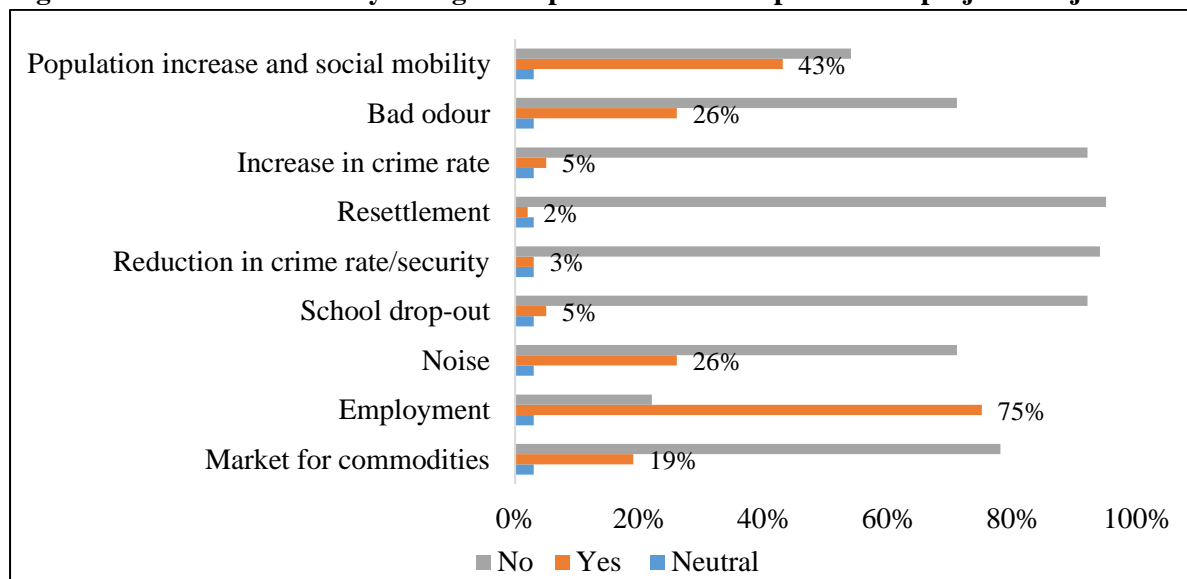
In general, a low percentage (39%) of the respondents were aware of the potential health impacts of the projects, while a high percentage (61%) were unaware of the potential health impacts of the projects. Of the 61% who reported unawareness of the potential health impacts of the projects, 10% cited a lack of knowledge of health issues, 25% cited a lack of sensitization on the potential health impacts of the projects, and 26% did not specify any reasons for their lack of awareness of the potential health impacts of the projects. The study attribute the high level of awareness of the potential social impacts of the

projects to the emphasis EIA consultants placed on the socio-economic impacts of the manufacturing and processing industries, evident in all EISs explored. Nadeem & Fischer (2011) gave one of the objectives of public participation was to educate and increase awareness of the stakeholders about the projects and their potential environmental impacts, which in this case was tilted towards social impacts such as employment, market for products, revenue to government but less attention was drawn to the potential environmental and health impacts.

The respondent's level of awareness of the potential social impacts of the projects to their community is represented in Figure 3. The majority (75%) of the respondents who responded that they were aware of the potential social impacts of the project cited employment as the potential social impact of the projects (industries) on the community, while only 22% said no, employment was not the potential social impact of the project and 3% were neutral. This was followed by (43%) who reported that population increase and social mobility were the potential social impact of the projects on their community, while 54% said no, population increase and social mobility were not the potential social impact of the projects on their community, and 3% were neutral.

The high level of poverty of 1.93% in 2019, according to Macrotrends (1991-2023), and the high unemployment rate of 20.3% in Uganda (UBOS, 2020) made the affected public conceive such projects as a source of employment and income in disregard of other potential impacts. In such context, the affected public becomes more susceptible to EIA manipulation, manifesting itself in the forms of information falsification, exaggeration, withholding and undervalue or overvalue of impacts by developers, consultants and other power holders within the EIA system as identified in the study by Enríquez-de-Salamanca (2018 p. 11). This undermines the effectiveness of public participation and EIA as an instrument of sustainable development.

Figure 3: Affected community rating of the potential social impacts of the projects subject to EIA.



The environmental and social management plans (ESMPs) were poorly described, with no milestones and responsibility centres. There were visible and narrative signs of powerlessness and hopelessness among the affected public, in the case of the steel corrugation industrial plant where there was the flow of untreated wastewater from the plant to the nearby community. When we asked a community member whether they had

reported the case to the relevant authorities, the response was, ‘We did not, and even if we did, there will be no change of the status quo; these are powerful people’. This suggests that the affected members felt powerlessness in their effort to contribute towards environmental reporting. It also suggests why the affected public was less interested in participating in the EIA activities, particularly EIA follow-up activities.

Table 1: The perception of the affected public about the potential environmental impact of the manufacturing and processing industries subjected to EIA.

Potential Environmental Impacts	Neutral	Yes	No
Reduction in Flooding	52%	2%	46%
Air pollution	52%	24%	24%
Water pollution	52%	3%	45%
Soil pollution	52%	2%	46%
Wetland degradation	52%	7%	41%
Deforestation	52%	2%	46%
Increase in flooding	52%	8%	40%
Others (not specified)	52%	18%	30%

In the same way, we also asked the 48% of participants who reported ‘yes’ they were aware of the potential environmental impacts of the projects subject to the EIA process to rate the potential environmental impacts of the project on their community. The results in Table I indicate that the majority (24%) reported air pollution as the project's potential environmental impact (industry). This was followed by 8% who reported flooding as the major environmental impact of the

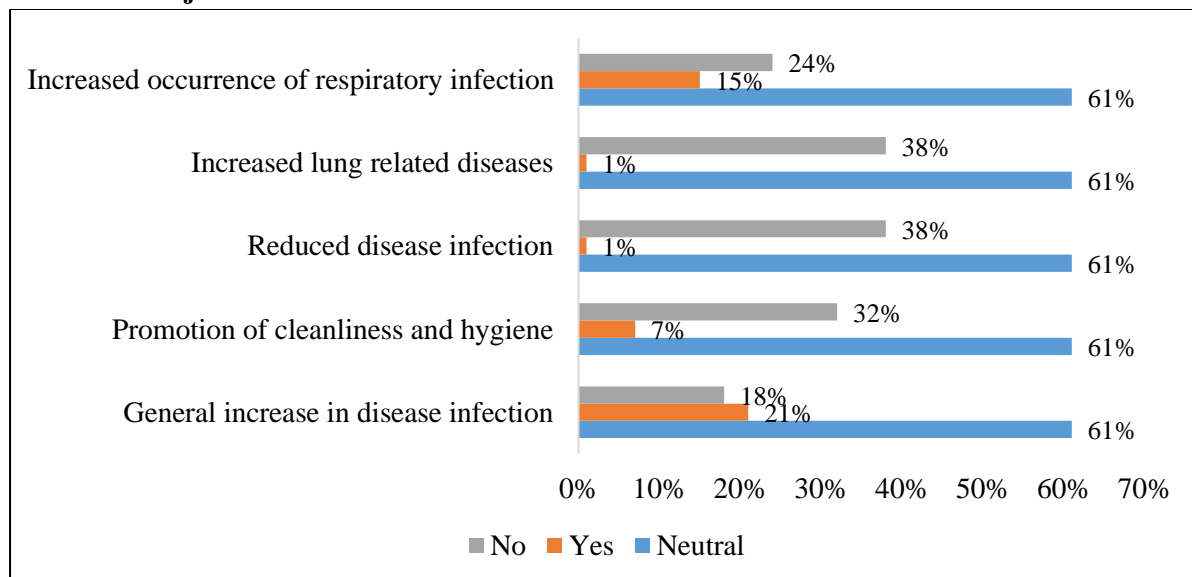
project, and another 7% reported wetland destruction as the major environmental impact of the project. Other studies (Banadda et al., 2009; Bateganya et al., 2015; Oguttu et al., 2008; Paul, Walakira; James, 2011; Scheren et al., 2000) identified untreated wastewater from industries and wetland degradation as causes of pollution of Lake Victoria resulting in frequent eutrophication of adjacent Murchison Bay. These above concerns of the affected public were not addressed in the

EIA documentation and yet are serious constraints to the achievement of the SDGs particularly SDGs 6(ensure availability and sustainable management of water), 11(make cities and human settlements inclusive, safe, resilient and sustainable),12(ensure sustainable production and consumption), and 13 (take action to combat climate change and its impacts) which according to literature (Le Blanc, 2015; Maes et al., 2019; Nilsson et al., 2016; Stafford-Smith et al., 2017) are linked to almost all other SDGs through targets.

According to scholars (Nadeem & Fischer, 2011), one of the objectives of public participation in EIA is to educate and increase stakeholders' awareness about a project and its potential environmental impacts. This study revealed the affected public's limited participation in the EIA process. Therefore, the little knowledge of the impacts of the projects was mainly based on experiential learning, which can be used as input in subsequent related EIAs. Similarly, we also asked 39% of the participants who responded that they were aware of the potential health impacts of the projects subject to the EIA processes to rate the

potential health impacts of the project on their community. As represented in Figure 4, the majority, 21%, reported a general increase in disease infection rate as the health impact of the respective project, and 18% said no. While 15% said yes, there was an increase in the occurrence of respiratory infections as the health impact of the project in their areas, while 24% said no. Surprisingly, 7% reported that promoting cleanliness and hygiene was one of the project's health impacts in their community, while 32% said no. The responses suggested a strong perception of the socio-economic benefit that the community associated with the processing and manufacturing industries, which must have had a bearing on their responses. The targeted industries consisted of 4 industries, but one of them (the pharmaceutical industry) addressed these concerns in their EIA report, while the remaining included the health and safety of workers as one of the mitigation measures to be undertaken. This represents the weak capacity of predictions of project impact by consultants and the lack of willingness to address and document the real concerns of the affected public for fear of probable rejection of the project proposal.

Figure 4: Affected public perception of the health impacts of manufacturing and processing industries subjected to EIA.



We also investigated the participation of the affected community leaders in monitoring as part of their participation in EIA follow-up. Only 6% of the participants reported a fair degree of

participation in the general EIA process, and 24% reported that their community leaders were responsible for monitoring the activities of the developers. This is related to the finding by (pg

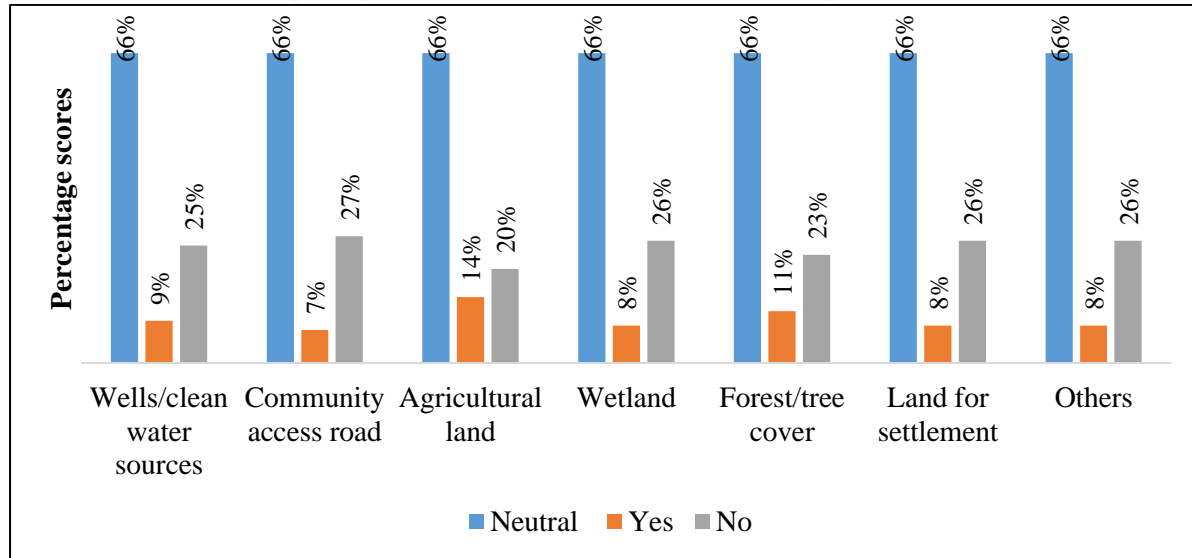
24), which states that when the affected public realises that they were not involved in the EIA for projects, they may undertake social mobilization and learn about the impact of the project and consequential devise other informal forms of participation such as public interest litigation, protests and demonstrations which may delay project implementation and increase costs. However, most of the respondents (76%) reported that their community leaders did not monitor the projects' activities. The most cited reason for the lack of monitoring was the lack of community cooperation, the lack of environmental stewardship among the community members, and the difficulty in accessing information from the project owners. A similar finding was reported by Zuhair & Kurian (2016, p. 137), which established that lack of community spirit, lack of awareness of EIA processes and environmental awareness are some of the key barriers to effective participation of the affected public in EIA. A study by Biswal et al. (2023, p. 7) noted that communities can best monitor project sustainability outcomes using their traditional knowledge and local indicators.

The study documented the monitoring visits by NEMA, the city council authority and the local government to the industrial establishments and adjacent communities. We asked, "Has any NEMA, city council or local government staff visited your area for reasons related to the activities of this developer in the last year?". The majority (90%) of the respondents reported that no staff from NEMA, the city council authority or the local government visited their area for reasons related to the industry's activities. Only 10% of the respondents reported that staff visited from the district local government and city council authorities to their communities for reasons related to the developer's (project) activities. A key informant from NEMA; "remarked, *"It is our mandate and wish to undertake periodic monitoring visits, but we are constrained by logistical problems ranging from equipment, transport and other field facilitations"*. The

majority (87%) of the participants reported that the developer did not communicate any information to the community regarding their actions or activities, while 13% reported that the developer did communicate to the community regarding their activities and mainly used community leaders.

Public participation is expected to occur in all key phases of the EIA process, including EIA flow-up activities, including monitoring, environmental audit/evaluation, management, and communication. The results of this study imply that there was a low level of participation of the affected public in EIA follow-up, which Pinto et al. (2019) considered critical for the success of EIA in improving the sustainability of operationalized projects and overall sustainable development. Glucker et al. (2013, p. 107) argue that some of the objectives of public participation in EIA include harnessing local information and knowledge and incorporating experimental and value-based knowledge into the EIA decision-making. Another study (Nadeem & Fischer, 2011) argues that one of the objectives of public participation in EIA includes consideration of public concerns in EIA reporting and using these concerns in the final decision-making phase.

This study explored the community natural resources that the affected public considered most valuable and lost as a result of the project activities by subjecting them to a list of potential natural resources in the community. The questions contained in the questionnaire were; "is there any valuable community natural resource you have lost as a result of this project's activities?". The expected response was yes or no. "If yes, which of the following community natural resources do you consider lost as a result of this project activities?". The results in Figure V indicated that the majority (66%) of the participants perceived that they did not lose any valuable community natural resources due to the project activities. While 34% reported that they had lost valuable community natural resources due to the project activities.

Figure 5: Community perception of natural resources lost due to project activities.

The lost community natural resources included agricultural land, forest/tree cover, and wells/clean water sources. This undermines national efforts to achieve SDGs, particularly SDG 2 (end hunger), SDG 6 (ensure availability and sustainable management of water), SDG 11 (make cities and human settlements inclusive, safe, resilient and sustainable), and SDG 13 (take action to combat climate change and its impacts) which according to Le Blanc (2015 p. 3-9) are linked to a total of 27 of the 17 SDGs through targets. Nadeem & Fischer (2011, p. 38) argued that the extent of consideration of public concerns in the EIA report and incorporation of public concerns into the final decision reflected the effectiveness of public participation. However, 1 out of 4 EIA projects predicted some of these potential impacts, which were addressed in the respective EIA reports, representing only about 25% accuracy of impact prediction during the assessment. We also explored the level of community environmental stewardship by assessing the respondent's rates of concern about the environment. The majority (47%) of the respondents reported that their community was not at all concerned about the environment, 18% reported that their community was slightly concerned about the environment, 20% reported that, their community was somewhat concerned about the environment, 12% reported that, their community was moderately concerned about the

environment and only 3% reported that, their community was extremely concerned about the environment. This represents a low level of environmental stewardship and therefore low demand for substantial public participation in EIA by the potentially affected community.

Community cooperation and cohesiveness are important capacity factors in enhancing public participation in EIA. We used the frequency of community meetings as a proxy factor for assessing community cooperation and cohesion. The majority of the respondents (47%) reported that the community never held community-level meetings, 23% reported that they rarely hold community-level meetings, 11% reported that they occasionally hold community meetings, 7% reported that they sometimes hold community meetings, and 12% of the respondents reported that they frequently hold community level meetings. Further probing indicated that the main issues discussed in the meetings were security, hygiene, and sanitation. This reflects a low level of community cooperation and social cohesion, which is not favourable for forging a collective voice to demand substantial public participation at all phases of the EIA process and third-party EIA follow-up, which is follow-up started or initiated by the affected public.

In terms of access to information, the majority of the respondents (63%) reported that it was easy to

access information in their community, 22% reported that it was very easy to access information, 8% reported it was difficult to access information, 4% were neutral, and only 3% reported it was very difficult to access information in their community. Relatedly, a majority (37%) of the respondents reported that their common source of information was community mobilizers (village local council one secretary for information), 36% reported local radios, 3% reported newspapers, and 1% reported social media platforms, particularly WhatsApp. 7% reported community meetings, 1% reported church/mosque announcements, and 15% reported other sources which were not specified. In general, there was a low level of public participation, which was not mainly attributable to the inability of the affected public to access information but the lack of dissemination of EIA information by the regulator and the developers using the appropriate channel of communication (community mobilizers and local radio stations).

CONCLUSION AND RECOMMENDATION

Uganda has good legal and regulatory provisions for the participation of the affected public in the EIA process, particularly during the assessment and review phases of the EIA process. Unfortunately, public participation was not legislated in the early phases of the EIA process, in particular, preparation of project brief, screening, and scoping in the 22 years of EIA practice in Uganda (1998 – 2019). Public participation in the early phases of the EIA process is critical for addressing the concerns of the affected public through the choice of alternatives, project designs, impact analysis, development of mitigation measures and designing an effective EIA follow-up program. The final decision-making phase lacked explicit criteria for decision-making, and greater discretion for decision-making was vested in the administrator of the regulatory authority (NEMA), who is a government appointee. The participation of the potentially affected public in EIA follow-up was partially legislated but lacked clarity on how the affected public will participate in EIA follow-up activities. Generally, there were

gaps between law and actual practice of public participation, particularly the affected public, due to several context factors, including developer-led public participation, low enforcement capacity of the regulator, low level of community awareness of the potential environmental and health impacts of projects, low level of awareness and knowledge of environmental rights, low community social cohesion, low community environmental stewardship and limited dissemination of EIA related information by the regulator and the developer.

In order to increase the participation of the affected public in EIA, there should be explicit legislation of public participation in all phases of the EIA process and comprehensive guidelines be developed and operationalized. The enforcement capacity of the regulator at both NEMA and local government should be built through training, equipping and other facilitations. The capacity of the community should equally be built through sensitization on potential project impacts and education campaigns on environmental protection and environmental rights by the regulator and civil society organizations. Practical measures should be undertaken to increase public access to environmental information in general and EIA undertakings by the regulator establishing EIA web-based registries for all EIA projects. The concerns of the affected public should be clearly documented during the reporting phase and implemented during EIA follow-up. This will increase trust and confidence in the decision-makers, thereby increasing community willingness to participate in the EIA process.

Furthermore, there should be increased independence, transparency and inclusiveness in EIA reviews by adopting the independent review board and the independent decision-makers model while taking into account the possibility of increasing democratic accountability. Civil society organizations in partnership with donors on environment protection and the private sector, should work towards popularizing social media platforms to increase social cohesion, which provide favourable condition for third-party EIA follow-up.

In the context of inadequate enforcement capacity of the regulators and the developers, weak follow-up, narrow conception of sustainability, achieving meaningful community participation, and resource and power imbalance in the developing economies, there should be a paradigm shift from the conventional EIA approach to the next generation of community-based environmental assessment (CBEA) proposed by (Biswal et al., 2023), particularly for small rural development projects.

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Disclosure of Interest Statement

The authors report that there are no competing interests to declare.

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