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Abstract

Purpose: The purpose of this study was to analyze the gap between wetland management functions and the extent of wise use and sustainable harnessing of livelihood opportunities through restoration programs. This study contributes to the comprehension of wetland management functions concerning wetland restoration through the promotion of sustainable livelihoods.

Methodology: A cross-sectional research design was adopted. Both quantitative and qualitative data were collected using Focus Group Discussions (FGD) and interviews. FGD was conducted with five groups of beneficiaries of livelihood options. Interviews were carried out with seven key informants who were thought to be knowledgeable about the wetland restoration alternative livelihood options. These included local council chairmen from communities near the wetland, village opinion leaders, district natural resources officers, IUCN Representatives, NEMA officials, and the wetland department.

Findings: Results showed a positive but insignificant relationship between planning function and restoration activities. Furthermore, results also indicated a negative significant relationship between implementation and restoration activities. Finally, findings revealed that there was a relationship between the control function and restoration activities. It was found out that Wetland restoration is a process that helps to transform the wetland area that has been impacted by human or natural activity into an area that can sustain native habitats. Wetlands cover 6% of global and 13% of Uganda's land cover. Over the past forty-five years, wetlands have lost 30% and 36% of land cover globally and in Uganda respectively.

Recommendations: Wetlands, particularly those in rural Uganda are, however, getting degraded through mainly conversion of land use to agriculture, exploitation, and settlements despite the existing resource management regime. The study recommends inclusive management functions to achieve a successful wetland restoration.

Keywords: *Implementation, Control, Wetland Management, Wetland Planning, Wetland Restoration.*

1.0 INTRODUCTION

The vital roles of wetlands as the most productive life-supporting systems in the world and being of immense socio-economic and ecological importance to mankind have been widely documented (Hayri Kesikoglu *et al.,* 2019; Kingsford *et al.*, 2021; Kumari *et al.*, 2020; Salimi *et al.*, 2021; Sinclair *et al.*, 2021; Thomas *et al.,* 2020). While they may be imperative for the maintenance of biodiversity, they perform a critical role in the biosphere (Barakagira & de Wit, 2017) and could be the only critical natural remedy for the most daunting global challenge today; climate change (Ramsar, 2016). In Uganda, wetlands are areas used for farming, fisheries, cattle grazing, sources of building materials, water for irrigation, water filtration for domestic use; and in addition they retain nutrients and toxins as reported by MWE, (2019) among others.

Despite the vital role of wetlands, they continue to be the most degraded ecosystem (GómezBaggethun *et al.,* 2019; Obubu *et al.*, 2022; Ramsar, 2016; Sinclair *et al.*, 2021) three times more than forests (Ramsar, 2016). Wetland degradation is a severe problem worldwide (Businge, 2017), and Uganda not being an exception experienced a 2.5% (6,146.6km^2) decline in the spatial wetland coverage between 1962-2015 (MWE, 2019). Several authors have previously demonstrated that wetland degradation may be due to loss of wetland area, changes in water regime, changes to water quality, over-exploitation of wetland resources, drainage, water abstractions, nutrient enrichment, and siltation (An & Verhoeven, 2019; Kakuba & Kanyamurwa, 2021; Kumari *et al.*, 2020; MWE, 2019). In recognition of this trend, The Ramsar strategic plan (Ramsar, 2016) aimed at restoring 50 percent of degraded wetlands by 2021 as a management goal, however only 30% was realized (Kingsford *et al.*, 2021). In Uganda, previous studies have revealed that the current management strategies to reverse the degradation in Uganda have been to coercively drive encroachers out of the wetland area by external forces and destroy their developments therein (Kakuba & Kanyamurwa, 2021; MWE, 2019; Nelson *et al.*, 2017; Turyahabwe *et al.*, 2013; UNDP, 2019). The evicted communities however often return to the wetlands after a short while, questioning this management option in terms of suitability and sustainability (Kakuba & Kanyamurwa, 2021; UNDP, 2020). In 2004, the Ministry of Water and Environment in Uganda restored part of Limoto wetland by forcefully driving out encroachers (Government of Uganda, 2016; UNDP, 2016). The forceful eviction was not successful forcing the government and her development partners to devise an alternative strategy, the use of incentives (GCF, 2015).

According to An & Verhoeven, (2019), ecological restoration is one of the fastest-growing fields in applied ecology providing new ideas and opportunities for biological conservation and natural resource management. However, despite countless attempts in the past (Roe *et al.*, 2015), several restoration projects have fallen short of being considered successful (Bunyangha *et al.,* 2022; Obubu *et al.,* 2022). Kakuba & Kanyamurwa, (2021) note that these shortfalls could be as a result of one or a combination of the following mainly: unrealistic goals; inadequate restoration plans based on an ad-hoc approach; lack of explicit and quantified evaluation criteria for restoration success; lack of ecological understanding; social, economic, and political constraints. Thus, well-managed wetlands restoration should be intended to calculatingly design and maintain its performance following the projects' core objectives. While management is broadly defined, this study augments three of its fundamental facets of planning, implementation, and control to assess how these management mechanisms influenced wetland restoration in Limoto wetland. Ramsar, (2016) underlined the management of wetlands as key to the conservation and wise use of all wetlands through diverse local approaches and international cooperation, for the achievement of sustainable development globally.

The management function involves planning for sustainable use of Limoto wetland, implementing strategies, and controlling them to ensure that restoration of the Limoto wetland was achieved. The (UNDP, 2016) report on Limoto Wetland system confirmed that between 1994 to 2014, Limoto Wetland had lost nearly 80% of its coverage to accelerated rice production and settlement. Streams feeding Lake Lemwa, the only water source for Pallisa town got silted and dried up causing a drop in lake water levels and quality (NEMA, 2017). The government of Uganda and its development partner GCF intervened with a restoration program approach using alternative livelihood options (GCF, 2015; MWE, 2016). By 2019, progress reports showed that Limoto wetland had recovered and regained most of its ecological functions with vegetation regenerating, quantity and quality of water improved thereby supporting a vibrant wetland ecosystem (MWE, 2019; UNDP, 2019). Soon the wetland became a National reference for successful wetland restoration using the alternative livelihood options model (MWE, 2019). However, an appraisal report on the restoration program at the end of the year 2020 showed emerging re-encroachment of the restored Limoto wetland (UNDP, 2020).

Model Validation

A wetland Management Model (WMM) was validated through image acquisition and classification from sentinel 2A images. A series of cloud-free sentinel images were acquired from the Sentinels Scientific Data Hub (https://scihub.esa.int) using a user-pre-processed technique, and this was analyzed to quantify land use/ land cover changes. The Sentinel images were preferred due to their high resolution, highly frequent repeat cycle of 5 days, and availability for download freely (Grivei *et al.*, 2020). The Sentinel satellite is equipped with an optoelectronic multispectral sensor for surveying with a sentinel-2 resolution of 10 to 60 m in the visible, near-infrared (VNIR), and short-wave infrared (SWIR) spectral zones, including 13 spectral channels, which ensures the capture of differences in vegetation state, including temporal changes, and also minimizes impact on the quality of atmospheric photography(Fernandez *et al.*, 2013; Yao *et al*., 2017). The specifications of the sentinel scenes of 2015, 2020, and 2022 years were downloaded, processed, and analyzed to characterize land use/cover changes in and around the papaya wetland. The image acquisition and specifications are presented in Table 1.

Table 1: Image Specifications

Satellite/ Sensor	Date	Tile No.	Band No.	Resolution
Sentinel 2A	2022/01/29	T36NWG	4,3,2	20m
Sentinel 2B	2020/01/30	T36NWG	4,3,2	10m
Sentinel 2A	2015/02/22	T36NWG	4,3,2	20m

Sentinel images were resampled from 20m spatial resolution before image analysis. The resampled images (20m) were later atmospherically corrected using the Dark Object Subtraction procedure to minimize the impact of the atmosphere on the sensor. For the preprocessed images, the areas of interest were masked out for faster rendering. The masked images were classified using a hybrid of supervised and unsupervised classification algorithms in ArcMap software version 10.8 for spectral reflectance clustering because of the heterogeneity of land use/cover types in the case study area. This algorithm provided land use/cover spectral classes in and around the Limoto wetland system. The definition and description of land use/cover classes were based on field knowledge and observations. However, this study was limited to seven land cover types; the classes included the built-up area, Bushland, Farming, Grassland, Open water, Papyrus, and Woodland. Validation was done for both the delineated wetland boundaries and the classified wetland use/cover types. A total of 500 training sites were randomly created and visited for validation purposes after the classification. The points were visited to confirm if the classified classes collated with ground information. The sampled points were reached with the help of using eTrex Garmin hand-held global positioning systems.

Problem Statement/Gap

Between 1994 to 2014, Limoto Wetland had lost nearly 80% of its coverage to accelerated rice production and settlement. Streams feeding Lake Lemwa, the only water source for Pallisa town got silted and dried up causing a drop in lake water levels and quality (NEMA, 2017). Wild animals disappeared, birds shunned the vast wetland, pollution, disease outbreaks, loss of fish productivity, and crop yields declined drastically in response to drought conditions due to the long dry spells consequently affecting food security and community livelihoods (MWE, 2019; UNDP, 2019). The puzzle now is, either the management mechanism could have fallen short or there are new encroachers on this Riverine wetland of Eastern Uganda. Accordingly, this study investigated the wetland management model (WMM) above, with a focus on its most central facets of planning, implementation, and control to measure the logical linkages with restoration activities. The study contributes to sustainable community-led wetland restoration, remediation, and conservation actions through mitigation and remediation options as provided for by the wetland laws of Uganda. The study tested the hypothesis which stated that "There is no significant relationship between the influence of management functions and the restoration of Limoto wetland".

2.0 METHODOLOGY Location of the Study Area

The study area was Limoto wetland located within the Kyoga plains, Eastern Uganda *(Figure 1).* It lies between latitudes 1010'0 N'' and longitudes 33057'0" E with an average elevation of between 1040m above sea level around Lake Lemwa and to1060 m above sea level within the floodplains. It is an arm of the bigger Mpologoma wetland system which is dominant within these plains. The wetland covers a total area of 136sq.km, of which 70% is in the Pallisa district and 30% is in the Kibuku district. Limoto wetland is characterized by small-scale subsistence agriculture, mainly of annual crops, limited pastoralism, and a high level of food insecurity (UNDP, 2016). The human population density is moderate by national standards at 260 persons per km². The annual rainfall range is 900-1500 mm, and the vegetation is mainly composed of savanna species (Bunyangha *et al.*, 2022).

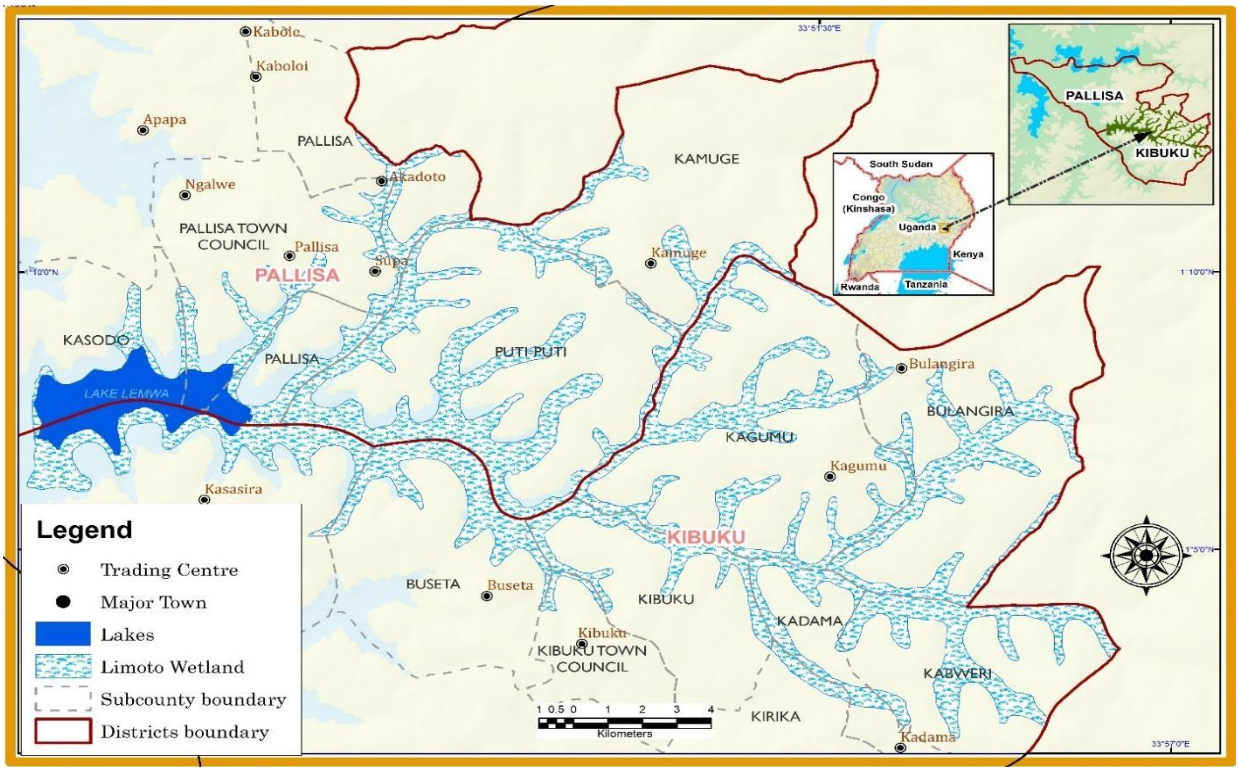


Figure 1: Location and Map of Limoto Wetland

Source: Author, 2022

Sampling and Data Collection Methods

The target population consisted of primary users and managers of the wetlands in the Limoto system. A sample size of 405 was picked from the total household population in eight randomly selected villages (Katome C, Katome Central, Katome West, Limoto A, Limoto B, Limoto C, and Limoto T/C) in Pallisa and (Natooto A and Buseta 3) in Kibuku Districts. The sampling frame was a village and the sampling unit was a household, defined as all people living under one roof and sharing the same pot for cooking their dishes. Additionally, a focus group discussion of local council chairpersons from eight villages and eight key informants was purposively selected. These included village opinion leaders, Pallisa district natural resource representatives, Ministry of water and environment representative, and IUCN representative.

To understand the mediating role of management functions in influencing Limoto wetland restoration, both quantitative and qualitative data were collected using household interviews, key informant interviews, and field observations. Thus, a cross-sectional research design with mixed methods was applied. Household survey data was collected using a pre-tested questionnaire uploaded to the Kobotool box and administered through face-to-face interviews while key informant interviews were guided by a pretested checklist designed to exhaustively collect the necessary data. Data were collected on the planning, implementation, and control processes of the restoration project

Data Analysis

To generate information about the level of participation in planning, implementation, and control; percentages and graphs were generated. Inferential statistics were generated through a binary logistic regression. Binary responses were; not re-encroached (0) versus re-encroached

(1). This regression aimed to identify management function components that significantly influenced the decision to re-encroach or not to. The variables in the model are presented in (Table 1). Data collected from Key informants were analyzed thematically.

3.0 FINDINGS Socio-Economic Characteristics of the Respondents

The majority of the respondents were married (93.9%) with a household size of 10.6 members and affording two meals per day (Table 2). They were males (58.3%) aged 41.9 years and with farming (94.1%) on their land (82.5) as the main occupation. A majority also had primary level education (62.2%) with permanent house structures (45.5%). A significant number also had grass-thatched houses.

Table 2: Respondent Socio-Economic Characteristics

Socio-economic characteristics		Counts
Age	**Mean (Std D.)**	41.860 (13.810)
Household size	**Mean (Std D.)**	10.578 (7.867)
Gender	Female	41.70%
	Male	58.30%
Highest level of education	Primary	62.23%
	Lower Secondary	27.07%
	No education	9.83%
	Tertiary	0.66%
	Degree	0.22%
Marital status	Married	93.87%
	Single	3.28%
	Widow	2.63%
	Divorced	0.22%
Main Occupation	Farming	94.10%
	Fishing	4.59%
	Trader	0.66%
	Formal employment	0.44%
	Student	0.22%
Housing structure	Permanent structure	45.51%
	Grass thatched hut	36.32%
	Temporary structure	18.16%
Meals per day	2 meals	82.31%
	1 meal	9.61%
	More than 2 meals	8.08%
Land ownership	Own	82.53%
	Hire	17.47%

Participation in the Restoration Project

Close to half of the respondents (47.1%) did not participate in any way in the restoration project. About 31.5% of those who participated were just informed about the restoration campaign. Only 10.5% of the respondents reported having been consulted about the restoration of Limoto wetlands. Additionally, five percent of the community neighboring Limoto Wetland controlled the restoration interventions (Figure 2).

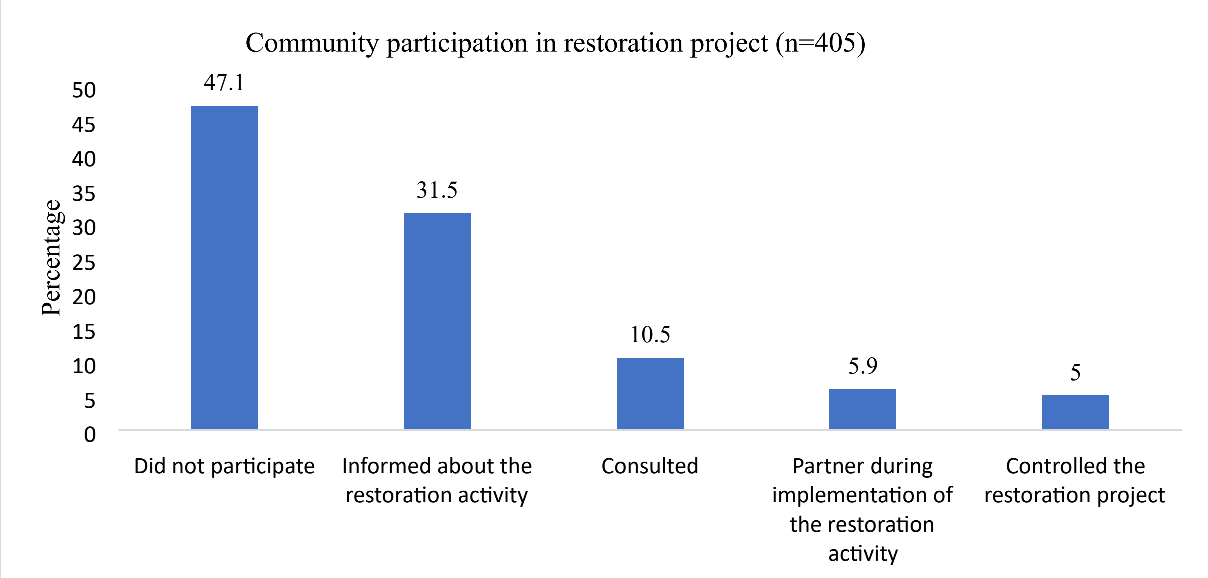


Figure 2: Community Participation in the Restoration Interventions

Almost half of the respondents (47%) did not participate in the restoration activities, while only 31% were informed of the activity with only 10% having been consulted. This could be linked to the re-encroachment observed later as most of the community did not participate or were informed about the restoration activities. This study is in agreement with Barakagira & de Wit, (2017) who affirmed that for successful community-based conservation, there is a need to involve members of the local community to appreciate the indirect functions wetlands provide, mainly through increased awareness/public education, involve their direct participation and equip lead agencies to effectively implement the sustainable utilization measures.

Planning for Restoration of Limoto Wetland

Results in this perspective are presented with effort focusing on the relationship between the planning functions and the outcomes measured at the community level in Limoto wetland. Table 2 above presents the findings on planning for the sustainable use of Kinawataka wetland re- sources.

Based on multiple key informants, planning seemed adequate. A management plan for the wetland was developed during the process. National Environment Management Authority (NEMA) sensitized the local people, and the Pallisa district local government did the additional sensitization, monitoring, and implementation of the restoration project. During planning, 10.5% of the respondents were consulted. A consultation was largely partial (55.9%) (Figure 3). Information shared during the consultation was largely on how to make restoration a success and the negative effects of the restoration process on peoples' livelihoods (Figure 4). The most utilized mode of consultation was through stakeholder meetings (Figure 5). Local people on average attended 1.8 stakeholder meetings. The community believed that the information shared during the consultation was not incorporated into the process of restoration (Figure 6).

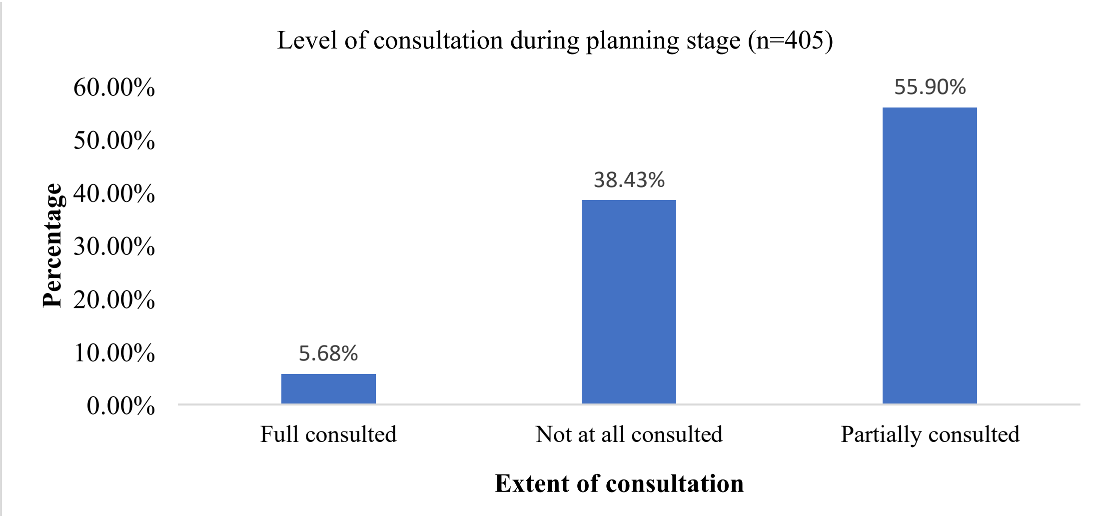
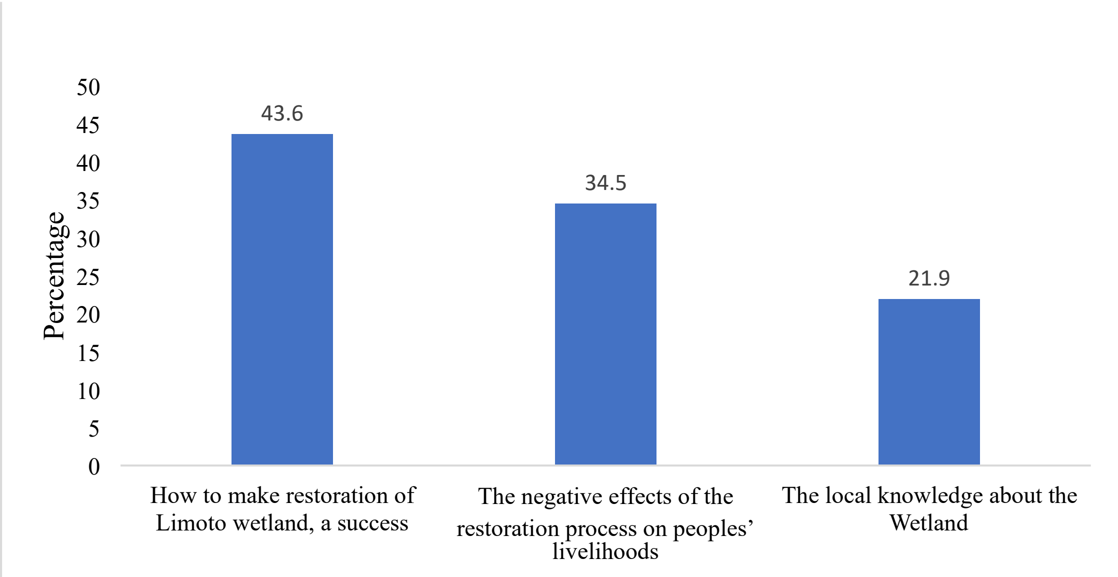


Figure 3: Level of Consultation during Planning for Restoration of Limoto Wetland



Information shared by the community during consultation

Figure 4: Information Sharing during Consultations

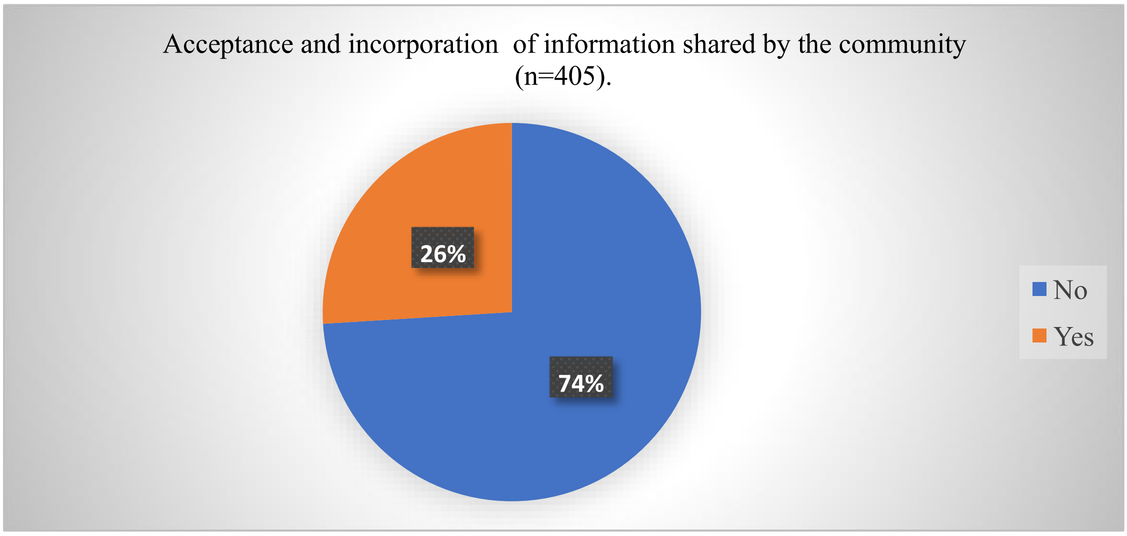


Figure 5: Perception About the Utilization of Information Shared during Consultations

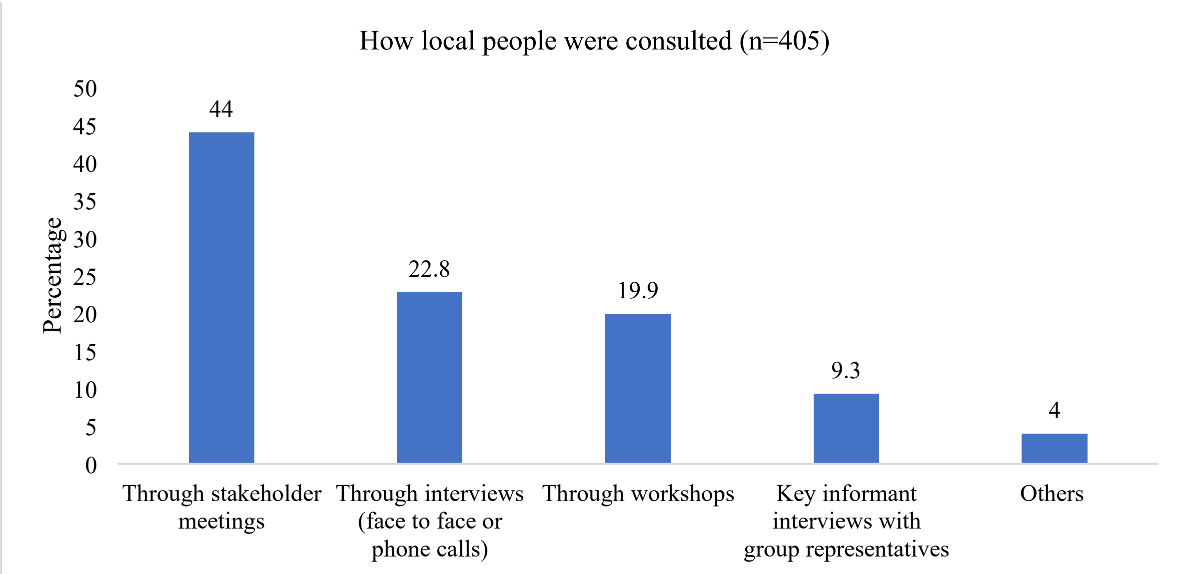


Figure 6: Mode of Consultation of the Local People

Implementation of the Restoration Process

According to a key informant from a concerned ministry, actual restoration was through enforcement, and afterward, local people were given livelihood alternatives. Thus participation of the local people in the restoration was largely partial (63%) and a significant number was not at all involved (35%) *(Figure 7)*. Local people participated in the implementation of restoration by attending meetings (40.1%) and observing what was going on (31.4%) (Figure 7). Implementation of restoration initiatives faced a lot of challenges however the most striking was resistance from the local people (35.9%) (Figure 8).

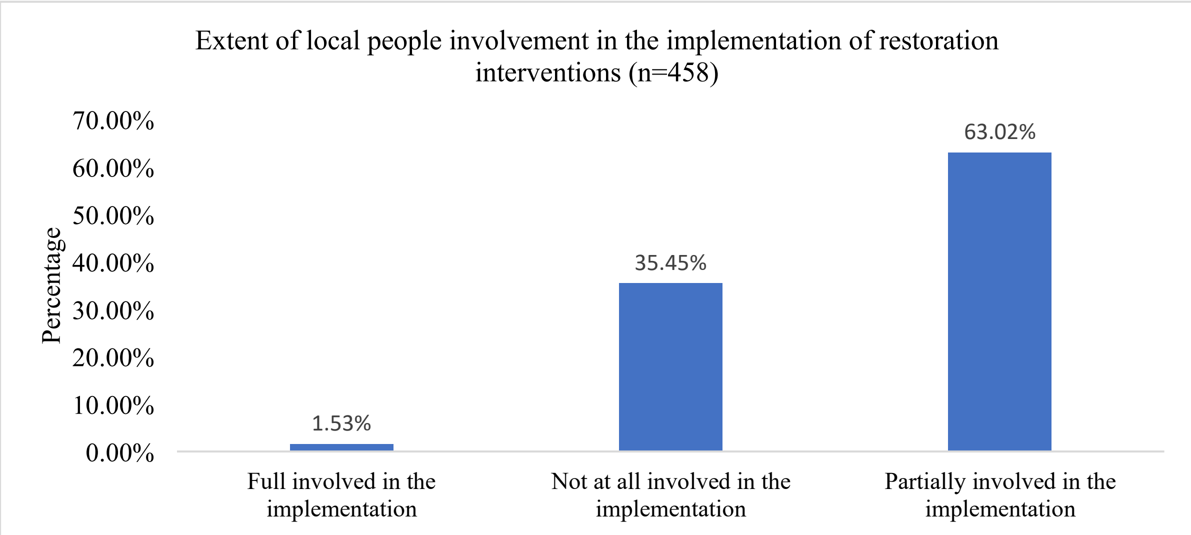


Figure 7: Involvement of the Local People in the Implementation of Restoration Activities

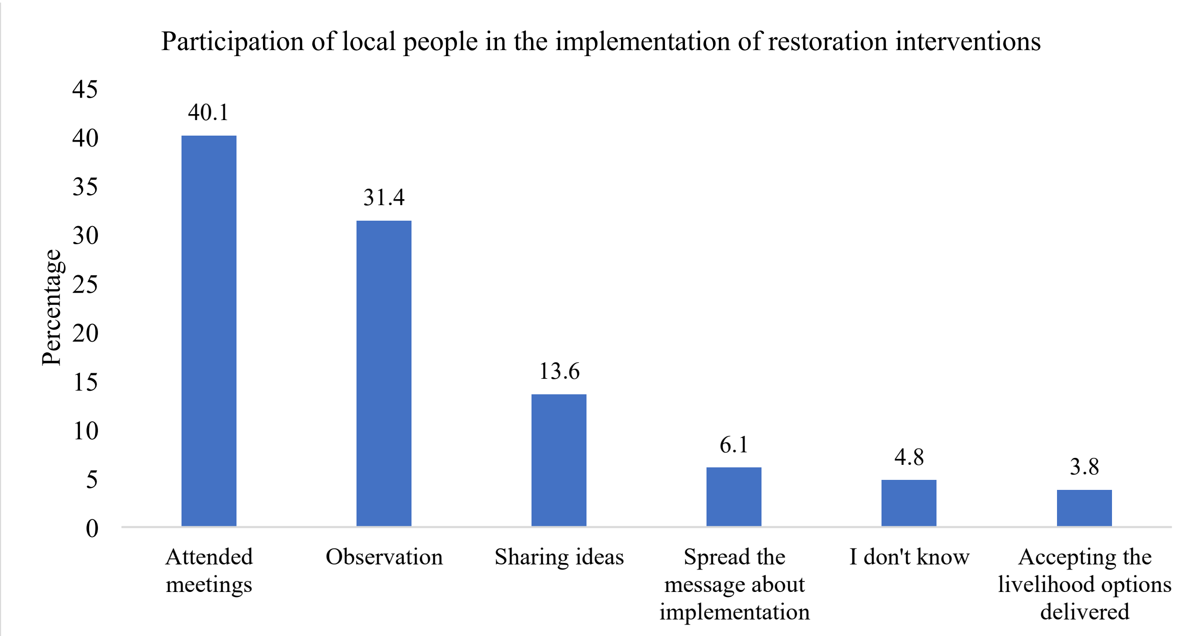


Figure 8: Participation of Local People in the Implementation of Restoration Initiatives

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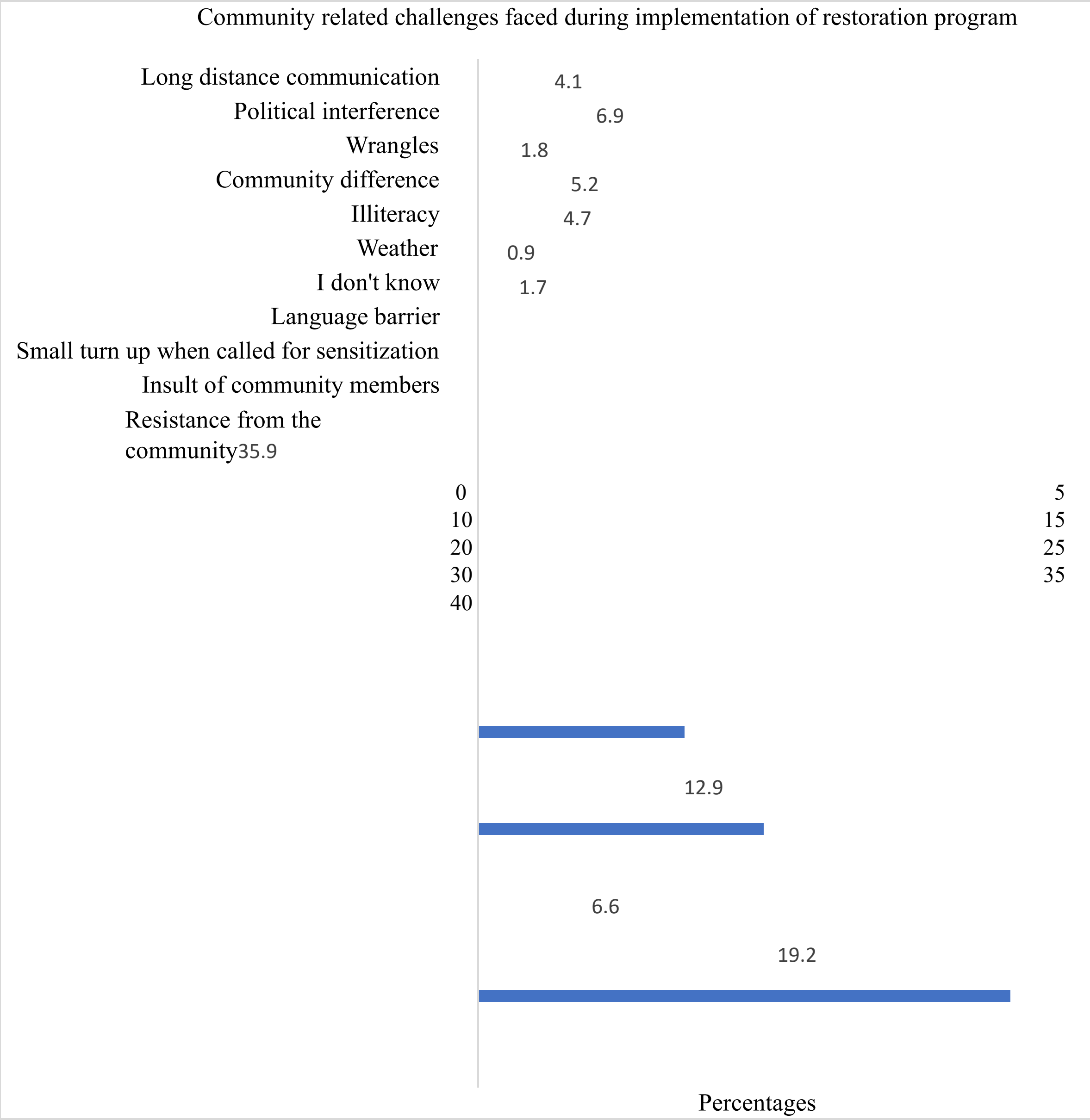

Figure 9: Community-Related Challenges Faced during the Implementation of the Restoration Initiatives

Control of Restoration Projects for Sustainability

Based on multiple key informants, control of restoration initiatives for sustainability was a not a success. Initially sustaining the forceful eviction from Limoto wetland was not sustainable as it was costly forcing a switch to participatory restoration by offering to the local people alternative livelihood options. About five percent of the respondents controlled the restoration initiatives and this was largely partial (Figure 9). Local people were largely not trained to better manage restoration initiatives (55.5%). For those who were trained, credit was given to Pallisa district local government (70.2%) and NEMA officers (14.9%).

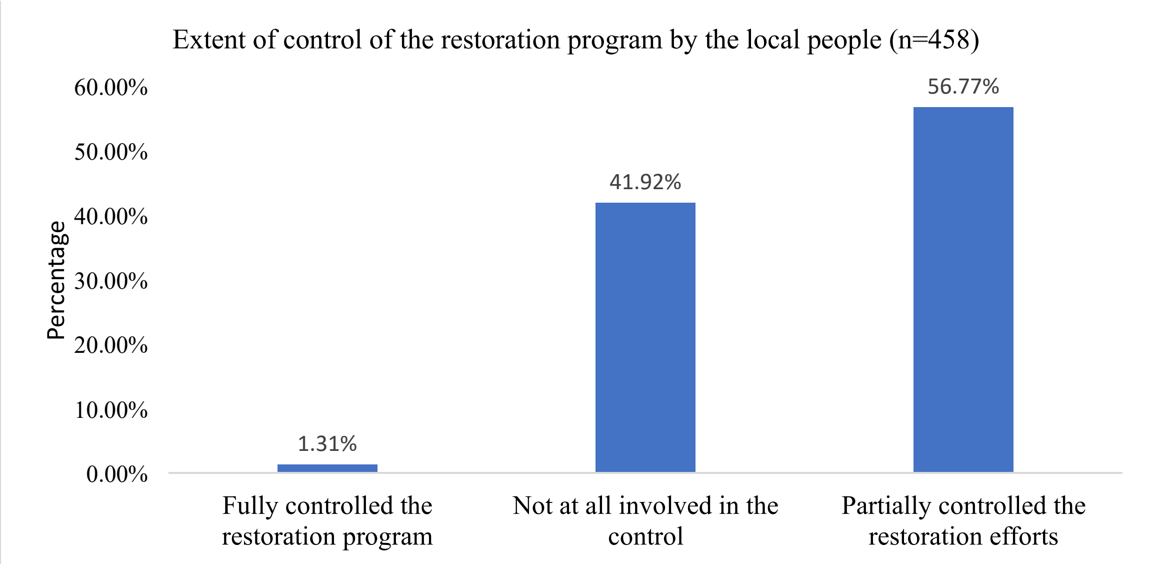

Figure 10: Extent of Control of Restoration Initiatives by the Local People

Further Analysis of Management Functions Concerning Re-Encroachment

A binary logistic regression was used. Binary responses were not re-encroached (0) versus reencroached (1). This regression aimed to identify management function components that significantly influenced the decision to re-encroach or not to. Management functions included in the model are shown in (Figure 10). Based on the Omnibus test, a full model containing all predictor variables was statistically significant, X^2 (28, N=443) =43.519, P=0.031. Indicating that the model was able to distinguish respondents who re-encroached versus did not. Only participation and information shared during consultations made a significant contribution to the model and were in favor of not- re-encroaching due to negative B values. Thus to avoid reencroachment, local people should participate in the restoration process by being informed, consulted, and taken up as partners. The ideas shared during consultations are also important *(Table 3)*.

Table 3: Predictor Variables in the Model and Their Codes

		Frequency	Parameter coding	
			(1)	(2)
The extent to which the local people were consulted during the planning stage of Limoto wetland restoration.	Fully consulted	25	1.000	0.000
	Not at all consulted	166	0.000	1.000
	Partially consulted	252	0.000	0.000
The extent to which the local people controlled the restoration program	Fully controlled	5	1.000	0.000
	Not at all controlled	181	0.000	1.000
	Partially controlled	257	0.000	0.000
Involvement in the implementation of Limoto wetland restoration?	Full involved	7	1.000	0.000
	Not at all involved	153	0.000	1.000

	Partially involved	283	0.000	0.000

Table 3: Predictor Variables in the Model and Their Codes

Acceptance and incorporation of suggestions/ideas shared during the consultation	No	326	1.000	
	Yes	117	0.000	
Ideas/suggestions shared during the consultation: The local knowledge about the Wetland	0	327	1.000	
	1	116	0.000	
Ideas/suggestions shared during the consultation: How to make the restoration of Limoto wetland, a success	0	208	1.000	
	1	235	0.000	
Ideas/suggestions shared during the consultation: The negative effects of the restoration process on peoples' livelihoods	0	261	1.000	
	1	182	0.000	
Sensitization of the local people to better manage restoration interventions.	No	244	1.000	
	Yes	199	.000	
Participation in Limoto wetland restoration: I did not participate	0	207	1.000	
	1	236	.000	
Participation in limoto wetland restoration: The people controlled the restoration project	0	421	1.000	
	1	22	0.000	
Participation in Limoto wetland restoration: I was a partner during the implementation of the restoration activity	0	415	1.000	
	1	28	.000	
Participation in Limoto wetland restoration: I was consulted	0	395	1.000	
	1	48	0.000	
Consultation mode: Through stakeholder meetings	0	126	1.000	
	1	317	0.000	
Consultation mode: Through workshops	0	300	1.000	
	1	143	0.000	
Responsibilities of local people in the restoration process: Accepting the livelihood options delivered	0	424	1.000	
	1	19	0.000	
Responsibilities of local people in the restoration process: Spread the message about the implementation	0	409	1.000	
	1	34	0.000	
Responsibilities of local people in the restoration process: Sharing ideas	0	363	1.000	
	1	80	0.000	
Responsibilities of local people in the restoration process: I don't know	0	414	1.000	
	1	29	0.000	
Responsibilities of local people in the restoration process: Attended meetings	0	203	1.000	
	1	240	0.000	
Responsibilities of local people in the restoration process: Observation	0	260	1.000	
	1	183	0.000	

Mode of consultation: Through interviews (face to face or phone calls)	0	277	1.000	
	1	166	0.000	
Mode of consultation: Key informant interviews with group representatives	0	375	1.000	
	1	68	0.000	
Mode of consultation: Others	0	415	1.000	
	1	28	0.000	
Participation in Limoto wetland restoration: I was just informed about the restoration activity	0	290	1.000	
	1	153	0.000	
Meeting attended				

Table 4: Variables in the Final Equation

Variables: Ideas/suggestions shared during the consultation:	**B**	**S.E.**	**Wald**	**df**	**Sig.**	**Exp (B)**	**95% C.I.for EXP(B)**	
							Lower	Upper
Participation in Limoto wetland restoration: I was just informed about the restoration activity(1)	-2.26	1.114	4.122	1	0.042	0.104	0.012	0.925
Participation in Limoto wetland restoration: I was consulted(1)	-3.31	1.432	5.343	1	0.021	0.036	0.002	0.604
Participation in Limoto wetland restoration: I was a partner during the implementation of the restoration activity(1)	-3.04	1.450	4.393	1	0.036	0.048	0.003	0.821
Participation in Limoto wetland restoration: The people controlled the restoration project(1)	-0.00	1.088	0.000	1	0.999	0.999	0.118	8.431
Participation in Limoto wetland restoration: I did not participate(1)	-2.00	1.170	2.93	1	0.09	0.135	0.014	1.337
The extent to which the local people were consulted during the planning stage of the Limoto Wetland restoration	-	-	1.21	2	0.55	-	-	-
The extent to which the local people were consulted during the planning stage of Limoto wetland restoration (1)	**-0.99**	**0.923**	**1.15**	**1**	**0.28**	**0.372**	**0.061**	**2.271**
The extent to which the local people were consulted during the planning stage of Limoto wetland restoration (2)	-0.22	0.507	-0.18	1	0.67	-0.81	0.298	2.180
The negative effects of the restoration process	-3.31	1.156	8.21	1	**0.00**	0.036	0.004	0.351
How to make the restoration of Limoto wetland, a success(1)	-2.71	1.131	5.74	1	**0.02**	0.07	0.007	0.611
The local knowledge about the Wetland(1)	-1.86	1.167	2.55	1	0.11	0.16	0.016	1.530
Acceptance and incorporation of suggestions/ideas shared during consultation 1)	-0.53	0.565	0.86	1	0.35	0.59	.195	1.789
Consultation mode: stakeholder meetings(1)	-0.74	0.658	1.27	1	0.26	0.48	.131	1.731
Consultation mode: Through workshops(1)	-0.66	0.505	1.71	1	0.19	0.52	.192	1.391

Consultation mode: Through	-0.12	0.509	0.05	1	0.82	0.89	.328	2.419
Consultation mode: Key informant interviews with group representatives(1)	-0.57	0.957	0.36	1	0.55	0.56	.087	3.681
Consultation mode: Others (1)	-1.74	1.360	1.633	1	0.20	.176	.012	2.529
Number of meetings	-0.16	0.148	1.148	1	0.28	.854	.639	1.140
Involvement in the implementation of Limoto Wetland restoration	-	-	0.001	2	1.10	-	-	-
Involvement in the implementation of Limoto wetland restoration(1)	19.7	12024.	0.000	1	1.10	355348661.340	0.000	-0.000
Involvement in the implementation of Limoto wetland restoration(2)	-0.02	0.554	0.001	1	0.97	0.982	0.331	2.910
Responsibilities of local people in the restoration process: Observation(1)	0.41	0.620	0.427	1	0.51	1.500	0.445	5.056

Table 4: Variables in the Final Equation

Responsibilities of local people in the restoration process: Attended meetings(1)	-0.28	0.571	0.239	1	0.62	0.757	0.247	2.317
Responsibilities of local people in the restoration process: I don't know(1)	0.18	0.999	0.031	1	0.86	1.193	0.168	8.450
Responsibilities of local people in the restoration process: Sharing ideas(1)	0.37	0.590	0.398	1	0.53	1.450	0.457	4.606
Responsibilities of local people in the restoration process: Spread the message about implementation(1)	-0.76	0.919	0.683	1	0.42	0.468	0.077	2.833
Responsibilities of local people in the restoration process: Accepting the livelihood options	0.35	0.933	0.139	1	0.71	1.415	0.227	8.808
Rank the extent to which the local people controlled the restoration program.	-	-	3.550	2	0.17	-	-	-
Rank the extent to which the local people controlled the restoration program. (1)	19.73	16508.0.234	0.000	1	1.91	371297739.530	0.000	-
Rank the extent to which the local people controlled the restoration program. (2)	1.20	0.639	3.550	1	0.06	3.331	0.953	11.647
Sensitization of the local people to better manage restoration interventions.1)	-0.15	0.519	0.089	1	0.766	0.857	0.310	2.368
Constant	19.03	5.132	13.74	1	0.000	183234653.262	-	-

4.0 CONCLUSION AND RECOMMENDATIONS

The study concludes that if government evicts the people from the wetlands to restore quickly their ecology, the people would recede into worse poverty. They would be deprived of their daily livelihoods. People are experiencing a lot of challenges with alternative livelihoods; they need skills or the opportunity to use some of the skills that they have. The study has shown that people need to be assisted to identify, in a participatory manner, what they need in terms of skills and other inputs, and to establish a local structure for addressing these needs. The study recommends that low-income wetland communities need to be prepared for the possibility of being evicted from the wetland and this real and urgent need. There is therefore a need to start working with the people to devise alternative livelihood strategies. People need to be assisted to feel that they are not only part of the problem of wetland degradation, but also part of the solution.

Conflict of Interest

The study declares no conflict of interest from any sources

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