

LIVELIHOOD RESILIENCE CAPACITY DEVELOPMENT FOR PROTECTED AREA FRONTLINE COMMUNITIES: EXPERIENCE FROM UGANDAS MURCHISON FALLS CONSERVATION AREA

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ABSTRACT

Murchison Falls Conservation Area frontline communities partly depend on the park's resources for their livelihoods. Uganda Wildlife Authority (UWA) supports local community-groups tourism-related income-generating enterprises to reduce pressure on the park. We assessed the community-groups' livelihood resilience capacity gaps in the adjacent districts. The results reveal that the groups are engaged in motor cycle transport, beekeeping, river fishing, cultural dance entertainment, tour guiding and sale of handcrafts. The livelihood resilience capacity gaps were strategic planning, leadership skills, product development and marketing, resource mobilization and financial management. The capacity gaps were partly addressed through training of trainers and training of group members. In addition, livelihood resilience framework is developed elaborating the linkages between adaptation measures, resilience strategy and sustainable livelihood mechanisms. The study recommends assessment of the how the groups have applied the knowledge and skills acquired during the training.

Keywords: Capacity gaps, Livelihood resilience, Enterprises, Local community groups

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INTRODUCTION

Protected areas are among the world's most productive ecosystems providing critical environmental, social and economic benefits to the adjacent communities and national economy. Traditionally, protected areas have been cornerstones of national strategies to conserve biological diversity, contribute to national economies and improve the livelihoods of local people (Del Arco, 2021). Balancing development, livelihoods and natural resources conservation is a fundamental goal of the sustainability paradigm that has been widely debated and documented (Boluk, 2019). Sustainable development needs to be integrated with development planning in order to achieve inclusive economic growth in consonance with natural resource conservation (Emas, 2015). Human development, sustainable livelihoods and natural resources management are priority areas in the development frameworks of many nations anchored on the principles of the United Nations Sustainable Development Goals (SDGs). The 17 goals and 169 targets constitute a universal call to action to improve the livelihoods of local people (Annan-Aggrey, 2021). The overall outcome of the SDGs is the achievement of socio-economic transformation by the United Nations member countries and prosperity for all the citizens (Bardal et al., 2021).

According to (Sherr, 2020), the SDGs and targets put the world onto a sustainable and resilient development path. They also proffer the foundation upon which sustainable development can be planned at the local level to achieve positive outcomes (Moallemi, 2021). The comprehensive approach of the SDGs, coupled with the notion of 'leaving no one behind', is a transformational agenda for the world's poor populations (United Nations, 2015) and if well calibrated to local development context and centered on the intersections between society, economy and natural resources, it can greatly contribute to enhancing and sustaining livelihoods (Hallström et al. 2017; Szetey et al., 2021).

In Uganda, tourism has been prioritized as one of the key economic growth sectors expected to spur economic development, lead to socio-economic transformation and enable the country achieve middle-income status (National Planning Authority, 2020). This position is re-echoed in the Government of Uganda's Vision 2040, Uganda Tourism Development Master Plan 2014-2024, the Tourism Policy 2015, the Wildlife Policy 2014, the Uganda Tourism Act 2008, Tourism Sector Development Plan 2015-2020 and the National Development Plan III 2020/21-2024/25 (Ayorekire et al., 2019). One of the critical stakeholders in Uganda's tourism and protected areas is the frontline communities whose livelihoods partly depend on tourism activities and natural resources. Research on community development (Amakye, 2017; Vaneeckhaute et al., 2017) livelihoods and poverty (Matter et al., 2021; Carr, 2020, Chazovachii, 2020; Naku, 2020) and tourism and local communities (Asa et al., 2022; Lo et al., 2020) has continued to grow. However, limited knowledge on the resilience capacity gaps of frontline communities involved in tourism related enterprises coupled with unclear mechanisms for addressing the

capacity gaps inhibit attainment of sustainable livelihoods (Boluk et al., 2019) and provides the impetus for this study. The capacity gaps of frontline communities living around MFCA are profiled with a view to strengthening their sustainable livelihood resilience. The communities are viewed as ‘people in transition’ thus there is a need to migrate them from relying on protected area resources to management of income generating tourism related enterprises. The paper answers the following research questions: what are the livelihood resilience strategies adopted by the frontline communities? What capacity gaps constrain the management of tourism-based enterprises? How can capacity gaps be addressed?

The paper is structured as follows: after the introduction the discussion delves into the conceptual perspectives on livelihood resilience of frontline communities, capacity development as a research domain and frontline communities. The methodology including a description of the study area and the research process are presented followed by results on livelihood resilience strategies adopted by the frontline communities, capacity gaps in management of tourism related enterprises, how the capacity gaps were addressed and lessons learnt. The next section focuses on discussion and paper ends with conclusions and contribution to knowledge.

Livelihood and capacity development conceptual considerations

This section gives an overview of the concepts of livelihood resilience of frontline communities, capacity development and the role of research as well as a deeper insight into the characteristics of frontline communities, how they are affected by wildlife disturbance and the challenges they pose to management of protected areas by engaging in illicit activities. These concepts underpin the study and are elaborated in the livelihood resilience framework presented in the results.

Livelihood resilience of frontline communities

The livelihoods approach to community development was pioneered in the late 1990s as a framework to deepen understanding of the complex processes that construct livelihoods (Peng et al., 2019). The livelihoods approach also guides policy interventions that enable implementation of sustainable livelihood strategies. Livelihood measures selected by frontline communities have important implications on achieving a balance between conservation and community development. Such measures may have multiple portfolio encompassing livelihood intensification and diversification activities that include investments in community-based tourism related enterprises (Neo et al., 2020; Peng et al., 2019).

The concept of resilience originated from efforts aimed at understanding ecological resilience of ecosystems. In the late 1970s to 1990s, a number of studies focused on analysis of social-ecosystem resilience and from 2000 to present, the concept of resilience has been introduced into social science research in order to understand the resilience of human systems and their impact of protected area-based tourism (Zhou, 2021). Resilience refers to

an organized network of adaptive capabilities linked to the ability of people to function following social and ecological disturbances (Sisneros-Kidda, 2019). It is a measure of the capacity of a system to absorb disturbance and reorganize while undergoing change. Community resilience is a key component of sustainable livelihood that enables harnessing of resources in order to adapt to change (Bec, 2016). Tourism resources can be harnessed and tourism enterprises developed to diversify the local economy and provide communities with revenue. However, over-dependence on tourism may also adversely affect the livelihoods of the local people by reducing their resilience and increasing vulnerability.

In the context of this study, resilience refers to the capacity of local communities to improve and sustain their livelihood opportunities amidst environmental, economic, social and political disruptions (Deng, 2020). From the standpoint of frontline communities, resilience encompasses self-awareness, care and resourceful thoughts as prerequisites for addressing livelihood strategies in response to shocks (Jones, 2017). These aspects are crucial for frontline communities to adopt resilience strategies and achieve sustainable livelihoods. Livelihood resilience refers to the absorptive, adaptive and transformative capacity of frontline communities to cushion shocks and achieve sustainable livelihoods (Mallick, 2019). Studies of livelihood resilience help to deepen understanding of the adaptation strategies and development needs of frontline communities in protected areas. In the face of an uncertain future, many scholars posit that attaining livelihood resilience is one of the best ways of ensuring frontline communities' sustainable livelihoods (Sun & Geng, 2022).

Capacity development as a research domain

Enhancing the capacity of frontline communities' livelihood resilience is very crucial (Amadei, 2020) and a key spotlight of this paper. Capacity refers to the ability of people, organisations and societies to manage their affairs successfully whereas capacity development is the process that enables individuals, organizations and society to unleash, strengthen, adapt and maintain their ability over time (Aantjes, 2021). Capacity development makes it possible to achieve objectives, perform functions, solve problems and participate in sustainable development programmes (Vallejo & Wehn, 2016). It empowers local communities to engage in productive economic activities and develop resilience to shocks. To engage effectively in conservation and tourism related enterprises, frontline communities need to understand how capacity development processes unfold and the linkages between development interventions, improved capacity and the support provided by research (Gruskin, 2015).

There are different approaches to capacity development that includes application of Participatory Action Research (PAR) - a structured and focused learning activity where people work together to solve common problems and answer shared questions (Cronkleton et al., 2021). PAR promotes social learning by facilitating collective reflections and actions to improve

community livelihoods (Rania, 2021). According to (Amadei,2020). the capacity of a community can be built on the basis of identified gaps which start with a needs assessment. Even though there is no single approach to capacity development that would work for all stakeholders, the process is nonetheless a strategic means to create sustainable and resilient communities (Amadei, 2020).

In a related capacity development study, (Onwujekwe,2020). applied a workshop approach in which participants (users of knowledge) were purposively selected and trained. This was followed by step-down workshops and interviews to obtain feedback on the participants' perceptions of the effectiveness of the capacity-building workshops and challenges encountered in follow up activities. Generally, the key outcome of capacity development is achievement of a desired change in people's well-being, improved institutional performance, increased stability and adaptability which also indicate the extent to which objectives of capacity development have been achieved (Bassaneti, 2021).

Frontline communities

Front line communities are local people living next to protected areas and often derive their livelihoods from crop production and livestock rearing (Hudu & Ibrahim, 2021). They experience different levels of vulnerability and disturbance by wildlife particularly within a five-kilometer distance from the protected area boundary where wildlife strays into the adjacent community lands (Mukeka et al., 2019). Human-wildlife conflict is, therefore, a common challenge among frontline communities and has evolved from being perceived as a nuisance to a major conservation concern (Nyumba, 2020). Apart from this, limited access to resources within protected areas compounds the problem already underlined by negative social and economic impacts suffered by frontline communities. Given that frontline community members are frequently affected by wildlife disturbance, they tend to engage in activities that involve guarding (and it disrupts schooling for children who have to help guard the fields). Furthermore, the disturbance increases risk of injury and death from wildlife attacks as well as transmission of diseases by wildlife to people and livestock (Long, 2020). These challenges threaten livelihoods, reduce agricultural production and contribute to persistent food insecurity (Abukari & Mwalyosi, 2020).

On the other hand, the frontline communities also create problems for protected area management particularly when they engage in illicit natural resource exploitation such as poaching, illegal grazing, encroachment for agricultural land, timber harvesting and others. On a positive note, there is evidence that frontline communities are likely to comply and participate in conservation when their opinions and knowledge are incorporated into protected area decision-making. In this regard, frontline communities and conservation managers need to implement policies that improve social and economic benefits to the local households while maintaining a balance between livelihoods and conservation (Mojo et al., 2020). Therefore, understanding

ways in which frontline communities' livelihoods are moderated by wildlife interactions provides crucial insights for developing mutually beneficial mitigation and conservation strategies (Mukeka, 2019).

METHODOLOGY

Study area

Murchison Falls Conservation Area ($1^{\circ}42'N$ - $02^{\circ}15'N$ and $31^{\circ}24'E$ - $32^{\circ}14'E$) is located in northwestern Uganda and covers 3,893 km² (Uganda Wildlife Authority, 2014). The national park was established as a game reserve in 1926 and upgraded to a national park status in 1952. It is Uganda's largest, oldest and most visited protected area with 31% of all national park visits (MacKenzie, 2017). It comprises Murchison Falls National Park (MFNP), Bugungu Wildlife Reserve, Karuma Wildlife Reserve and Ajai Wildlife Reserve (AWR) (**Figure 1**). The southern bank of River Nile is ethnically diverse with over 56 ethnic groups. Human population density is over 111 persons/km² (Dell, 2020). The socio-economic activities include bush meat hunting (Dell et al., 2020), agro pastoralism and subsistence crop farming (Kizza, 2012). Below the western Rift valley escarpment, fishing in Lake Albert and the Albert Nile is the main occupation. The adjacent communities do not fully participate in tourism although some members are employed in the tourism service industry (Uganda Wildlife Authority, 2014). A small fraction of the communities operates transport and offer accommodation services but the big tourism businesses are taken up by private individuals and companies.

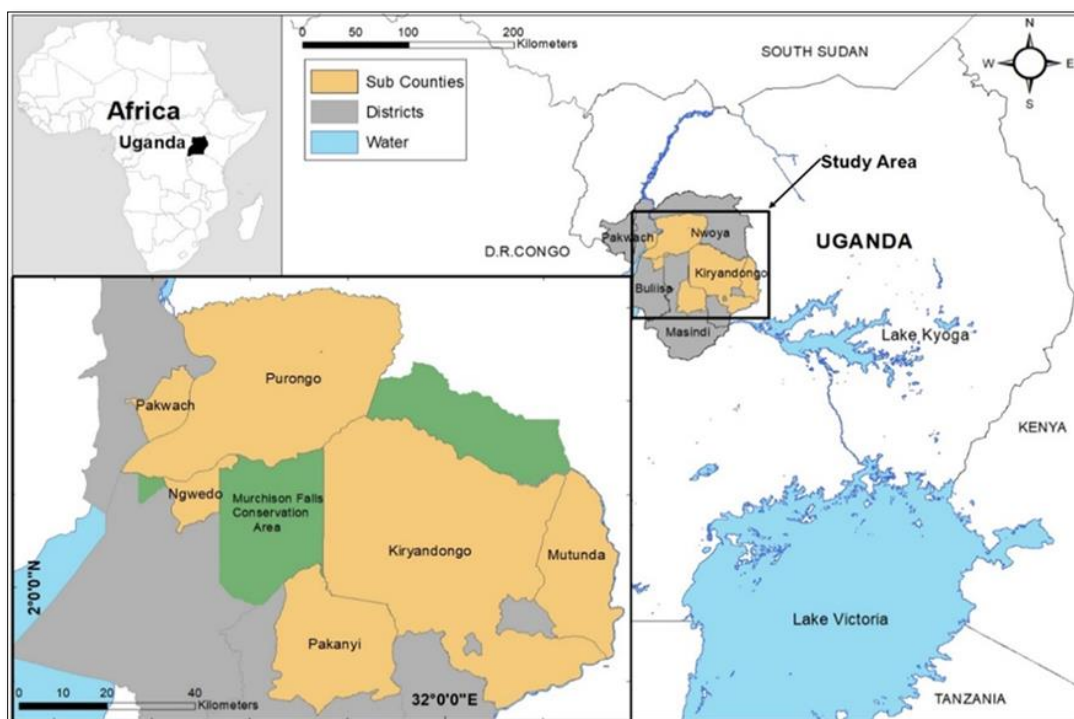


Figure 1. Map showing location of the sub-counties bordering MCFA.

The study processes

The study focused on local community groups in Mutunda, Kiryandongo, Pakwach, Ngwedo and Pakanyi sub counties that neighbor Murchison Falls Conservation Area (**Figure 1**). The 11 community-based groups were purposively sampled (with guidance from the Community Conservation Warden) based on the criteria that they are located near the park entry gates and are involved in tourism enterprises most of which are funded by Uganda Wildlife Authority under the revenue sharing scheme. The community groups are also allowed limited access to harvest resources from the park under the park-community user agreements. Other stakeholders who participated in the study were District Tourism Officers, Community Development Officers, cultural leader and leaders of community-based tourism associations.

The study was undertaken between November 2020 and March 2021 beginning with a reconnaissance visit during which research team met the local area leaders, explained the purpose, method, expected outcomes and benefits of the study, sought permission to carry out the study and pre-tested the questionnaire (**Figure 2**). Reconnaissance visit is crucial in action research because it is a quick and cost-effective way of introducing the study (Yaddanapudi & Yaddanapudi, 2017) and getting feedback on the suitability of the questionnaire in terms of questions wording and focus as well as duration of the interview (Chiwariidzo, 2017).

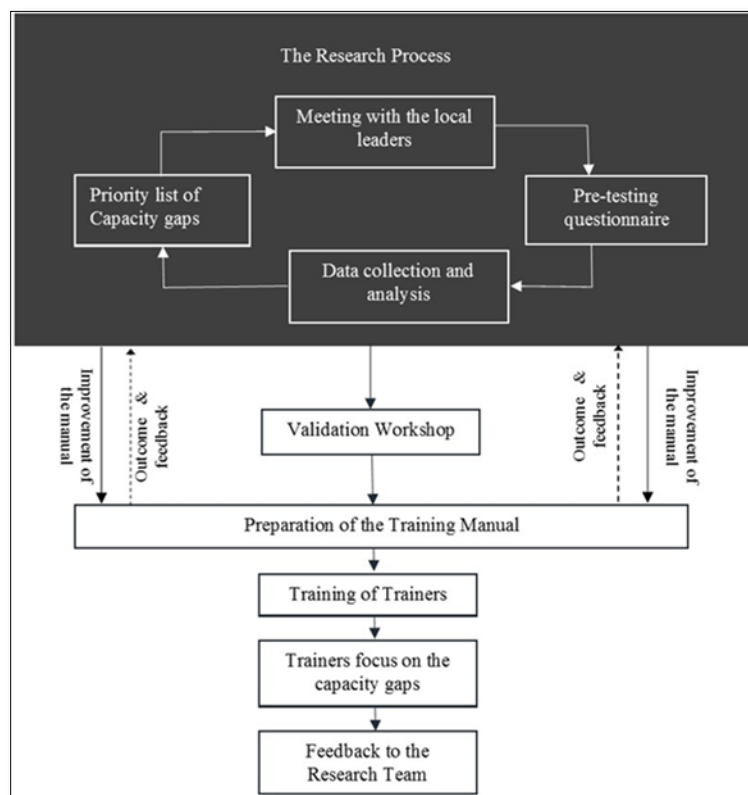


Figure 2. The stepwise research processes.
Source: Authors (2022).

Data quality was controlled at three levels: first, the Cronbach alpha coefficient of reliability was computed and it ranged from 0.854 to 0.958 implying that the questionnaire could be used to collect reliable data (Setia, 2017). Feedback from respondents at this stage was crucial as the challenges encountered were discussed by the research team and mitigated during the full survey. Secondly, research assistants from the local areas who are familiar with the socio-cultural set up and local languages of the communities were recruited and trained to acquaint them with the objective of the study, the interview method and length. Thirdly, the research assistants during the entire data collection period were supervised by the research team and it also managed the key informant interviews.

The questionnaire responses were edited, coded entered into SPSS software version 26 (IBM Corp, 2019). to create a data file while the responses from key informant interviews were analyzed and summarized into themes to generate a list of capacity gaps in knowledge and skills. Pairwise ranking, a participatory rapid rural appraisal technique, was applied to rank the capacity gaps and then subjected to expert analysis by the research team considering the diverse literacy levels of the group members. From this analysis, five key capacity gaps were generated and the training modules focused on them.

With the help of a structured questionnaire, the team collected information on the capacity resilience gaps from members of the 11 groups that are adjacent to MFCA. The information was analyzed to generate the resilience capacity gaps that were used to develop the training manual. Each capacity gap became a training module to address the required skills. The training manual facilitated the training of trainers (TOTs) selected from among the group members. The manual is divided into introduction (background and context), structure and training approach, key aspects to ensure effective delivery of the modules, a training programme, materials and equipment and methods of delivery. Each module is described in terms of learning objectives and practical exercises. A stakeholder dissemination workshop was held comprising members of the local community groups who had been trained as trainers, district local leaders, and representatives of Uganda Wildlife Authority. The trainers and other workshop participants were given a copy of the manual and the trainers urged to conduct step-down training workshops for the group members. Lastly, feedback on the experiences and lessons learnt from the step-down training workshops was obtained using a structured questionnaire.

RESULTS

Livelihood resilience strategies adopted by the frontline communities

A mixture of strategies was adopted to strengthen the frontline communities' livelihood resilience given the disparity in tourism related enterprises they were involved in and the implications for achieving a balance between conservation and community development. the strategies included revenue sharing and livelihood enhancement, regulated community resource access and exploitation, community enterprise development and employment in the enterprises.

Revenue sharing and livelihood enhancement

Uganda Wildlife Authority (UWA) shares some of the money it earns from tourism with communities neighboring the national parks and wildlife reserves. The Uganda Wildlife Act 2019 mandates UWA under Section 65(4) to remit 20% of the park entry fees collected as a conditional grant to the neighboring communities (UWA, 2019). The funds collected are sent to the adjacent District Local Governments to support community-based enterprises initiated by frontline communities. The overall goal of sharing the revenue is to enable frontline communities to experience economic benefits and strengthen their livelihood resilience since they often bear disproportionate cost of conservation. In addition, the revenue helps to improve their welfare as an incentive to work in partnership with UWA and local governments to sustainably manage the parks' resources. This study involved 11 local community groups comprising 242 members that had benefited from the revenue sharing scheme and used the financial support to establish enterprises (**Table 1**). The study found that the enterprises were at different levels of performance due to disparity in knowledge and skills gaps in business development and management.

Table 1. Local community groups by gender and type of enterprises.

Location/sub-county	Female	Male	Total	Type of enterprises
Mutunda	17	13	30	- Fishing in River Nile - Bee keeping - On-farm tree planting - Group savings and loan scheme
Ngwedo	20	11	31	- Cultural dance entertainment - Bee keeping - Group savings and loan scheme
Pakanyi	27	9	36	- Bee keeping - Metal work - Accommodation - Agroforestry - Tour guiding - Hand crafts
Pakwach	21	10	31	- Motor cycle transport - Duck rearing* - Goat rearing - Metal work
Purongo	18	7	25	Hand crafts

Regulated community resource access and exploitation

Under the UWA community conservation initiatives, MFCA allows communities to regulated access resources that may not be found outside the

protected area. In the study area women were allowed once a week to collect two head loads of firewood from the park under the supervision of a park ranger to provide security and monitor the level of resource extraction. A member of the local resource management committee also accompanied the women to monitor and ensure that they complied with the two-head load rule and collected only dry wood. The fire wood was collected only once a week, a strategy that also ensured that the dry wood stock was not exhausted rapidly. However, from May to July 2019 firewood collection was temporarily halted as the period coincided with increased incidences of problem animals crossing onto community farmlands. Furthermore, women were permitted to harvest thatch grass from designated areas of the park. The study found that the demand for thatch grass had increased due to human population increase and growth in the number of housing units and increased use of thatch by tourism lodges to blend the accommodation facilities with the natural environment.

In terms of fishing, the River Nile fishing community group signed a resource user agreement with the park managers that allowed members to access the river section within the park and fish once a week. Upon return from each fishing visit, each member paid UGX 10,000 (approx. USD 2.5), 50% of which went to the park and the other 50% was retained as a saving by the fishing group's association. The weight of the fish harvested on each trip to the river was recorded and the data were used for resource management planning and policy guidance. To sustain the fish stock, the fishermen were allowed to only use fishing hooks authorized by the Park. Fishing activities were sometimes temporarily halted for one month to enable the stock recover as a resource conservation strategy.

Community enterprise development

Frontline communities around MFCA were involved in different enterprises presented in **Table 1**. According to the revenue sharing guidelines (UWA, 2000), each village bordering the park was expected to form a Community Project Management Committee. The process of enterprise development started with the Committee submitting applications for projects selected during village meetings to UWA. The Village Chairman forwarded the proposals to the Parish Development Committee, which selected the projects and submitted them to the Sub County Chief. The sub-County Chief called a meeting at which the Parish Chiefs, the Conservation Area Manager and other government officers selected the best projects. The projects were then integrated into the district development plans following which the Chief Administrative Officer requested UWA to release the funds for them. The projects' funds were then managed in accordance with the Public Finance Management Act 2015 (MFPED, 2015). According to local leaders' oral accounts, local community-based enterprises were developed as safety nets to remedy the adverse effects of wildlife on local communities' livelihoods. There were 13 types of enterprises out of which six were agro-based (**Table 1**). During the study we observed that women were majority members in the enterprises.

Employment in the enterprises

The study has also revealed that COVID-19 pandemic halted tourist flows to MFCA and resulted in lay off of local people who were employed in tourism related facilities in the park hence compromising the livelihood resilience. With the economic hardships in place, the frontline communities' livelihood spiraled down and community-based enterprises employed some of people that had been laid off thus providing them with alternative source of livelihood. The employment, though low paying, meant that money spent and re-spent within the frontline communities supported the establishment of other enterprises and associated services which in turn bolstered frontline communities' livelihood resilience.

Livelihood resilience capacity gaps in management of tourism related enterprises

Analysis of the questionnaire responses revealed livelihood resilience capacity gaps in 10 areas as presented in **Table 2**. The group members considered some capacity gaps to be equally important hence the tie in rankings. Using expert knowledge and experience in capacity building, the research team compressed the 10 areas into five modules as follows: Strategic planning; Leadership skills; Product development and marketing, Resource mobilization and Financial management.

Table 2. Capacity gaps in community-based enterprise management.

Capacity gap	Purpose	Participants' ranking
Strategic planning	• A structured approach to enterprise management	1
Leadership skills	• For management of group dynamics	1
Resource mobilization	• Increase financial resource base	2
Customer care and relations	• To improve communication skills	2
Financial management and accounting	• To avoid income loss and enterprise collapse	3
Entrepreneurial and business management	• Sustainability of enterprises	3
Record keeping and retrieval	• Information storage • Enterprise progress tracking	3
Product development and resource interpretation	• Undemanding product to sell • Enhance product packaging • Better product marketing	4
Decision making	• Ability to decide and basis for decision	4
Monitoring and evaluation	• Tracking enterprise performance	5

How the livelihood resilience capacity gaps were addressed and lessons learnt

The livelihood resilience capacity gaps were addressed by conducting training in two stages: the first stage involved training of trainers using the training manual and facilitated by the research team based on adult learning approach. The training objectives were to (i) explore ways of utilizing tourism resources for livelihood enhancement, (ii) examine the process of identifying community-based tourism enterprise opportunity and how it should be planned and developed and (iii) analyze the different management structures that ensure sustainability of community-based tourism enterprises. The training covered the five modules guided by specific learning objectives (**Table 3**).

Table 3. Training modules and learning objectives.

Module	Learning objectives
Strategic Planning	• Appreciate the value of strategic planning in managing community-based tourism enterprises (CBTEs) • Understand how to apply strategic planning in their CBTEs
Leadership Skills	• Understand the importance of leadership in managing groups. • Apply the knowledge and skills acquired to improve leadership of the business and the group.
Product development and marketing	• Understand how to develop and package a tourism product • Understand how to market and the marketing channels to use
Resource Interpretation/Communication	• Understand how to interpret and communicate tourism attractions and activities
Resource Mobilization and Financial Management	• Plan, manage and make use of finances properly • Explore ways of mobilizing resources such as money and other things needed to support the business.

The training began with a situational analysis of the groups' enterprises facilitated by the research team, followed by elaboration of the capacity gaps. Participants undertook exercises to think through critical issues affecting group dynamics, how to build strong and coherent teams, ways of strengthening leadership, widening resource mobilization opportunities, and innovative product development. The group discussions led to synthesis of ways in which the gaps would be addressed during the step-down training workshops to be facilitated by those who had been trained as trainers.

At the same time, a number of lessons were learnt from the training experience, for instance, the participants were willing to undergo the training to acquire knowledge and skills with great enthusiasm as they actively took part in all the training sessions. Given the different levels of literacy, it was observed that the level of comprehension differed. In order not leave anyone behind, the adult learning approach enabled all participants to understand the content of each

module delivered. The approach entailed scaling down the use of technical jargons, speaking in simple English, use of pictorial illustrations and giving local examples that they are familiar with. Participants appreciated that before starting an enterprise it is important to undertake a feasibility study followed by business development planning. This helped to explain a scenario where one group purchased bee hives without tops and yet bees cannot colonize without them. Similarly, another group opted for metal fabrication enterprise and yet the workshop had no power supply. In spite of these challenges, the training enabled the groups to learn from each other, establish networks and realized that there were opportunities to mobilize funds from other sources beyond the UWA revenue sharing scheme.

From the perspective of the research team, the training expectations were met for a number of reasons. For instance, the attendance was good because all the 30 people invited turned up while facilitators ensured respect for local customs and recognized the participation of the local leaders. At the same time, training sessions were interactive and where necessary, English was translated into local languages to ensure that all the participants followed the training and no one was left behind. The adult learning approach ensured that the training language was kept simple and appropriate to the audience which encouraged interactive discussions. From the viewpoint of the participants, the training was perceived to be impactful as it was an eye opener that highlighted gaps in their enterprises such as understanding customers' needs and how to persuade them to buy the products. The local leaders also recognized the mistakes made during enterprise selection that led to frustrations and failure to take off. Furthermore, the local leaders emphasized the need to monitor and evaluate the performance of the enterprises in order to ensure sustainability. Moreover, they appreciated the research team's contribution to equipping the participants with knowledge and skills to establish and manage the enterprises that would support frontline communities' livelihood resilience.

DISCUSSION

The contribution of capacity building to improved livelihood resilience of frontline communities is a widely held logic among scholars (Gruskin et al., 2015, Amadei, 2020). The conceptual consideration presented in this paper and the aggregate analyses of the concepts support this logic. For a long time, research has demonstrated the role of tourism in improving the livelihoods of local communities' living adjacent to protected areas because protected areas resources and the livelihoods of such communities are inextricably linked. Destabilization of one aspect adversely affects the other hence the need for building the capacity of local communities to engage in enterprises that contribute to conservation and strengthen their livelihood resilience.

Livelihood resilience framework

This study has developed a livelihood resilience framework (**Figure 3**). The framework consists of the context that encapsulates the livelihood resilience problems to be addressed, the adaptation and resilience strategies, and sustainable

livelihood indicators. The shocks are positioned at the center of the framework to signify the effects and influence they have on the other components. The framework is robust and has multiple applications: firstly, it has helped to explain the challenges that MFCA frontline communities face in the management of tourism-based enterprises that support their livelihoods. Secondly, it has deepened understanding of their livelihood resilience. Thirdly, the framework can be applied to analyze the livelihood resilience of communities neighboring other protected areas in Uganda and beyond. According to (Zhou,2021). frontline communities' livelihood strategies are dynamic and can change the prevailing socio-economic, environmental and related conditions. Theoretically, frontline communities' livelihood resilience is an important phenomenon that affects their livelihood strategy choices. Based on the framework presented in this paper, the choices are dependent on a number of livelihood resilience factors which include enhanced capacity, strong functional networks, diversified community-based enterprises, product development and marketing as well as strong organizational structures. According to the oral accounts by the respondents, frontline communities face a wide range of shocks that include crop and property damage, occasional loss of lives, prolonged drought as well as unforeseen epidemics and pandemics such as COVID-19 presented at the center of the framework.

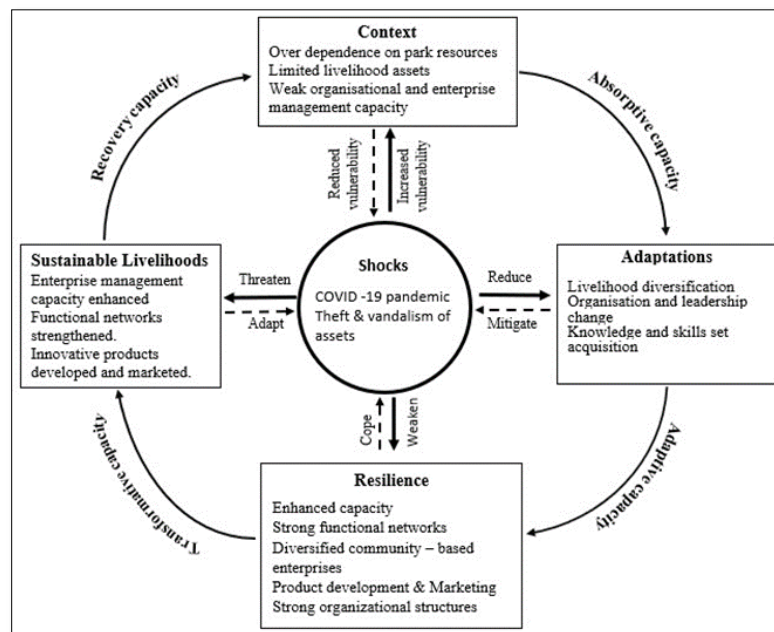


Figure 3. Livelihood resilience framework.

Source: Authors (2022).

However, the status of livelihood resilience also depends on the available livelihood options, ability to mitigate shocks as well as ex-ante and ex-post programme interventions by institutions such as UWA, Wildlife Conservation Society (WCS) and local governments. Therefore, broadening frontline communities' livelihood resilience options and adjusting their livelihood strategies are effective means of mitigating the effects of shocks specified in the framework. In the context of this framework, for the frontline community to strengthen its

livelihood resilience, a four-step approach is proposed consisting of absorptive, adaptive, transformative and recovery capacities. According to (Cheong & Assenonva,2021). absorptive capacity is the ability to learn, apply knowledge and information to ensure stability by preventing or limiting the negative impact of shocks on communities and enterprises. For instance, the frontline communities' over dependence on MFCA's resources and weak enterprise management capacity can be reduced through enhancement of the absorptive capacity, strengthening the adaptation mechanisms including livelihood diversification, organization and leadership change as well as acquiring knowledge and skills. These mechanisms enable the frontline communities to mitigate the effects of shocks while concurrently reducing the long-lasting consequences.

In the next step, once the absorptive capacity of the frontline communities has been strengthened, they will be able to adapt to the changing environmental, social and economic conditions created by shock thus becoming resilient. Adaptive capacity involves making proactive and informed choices to adjust to changes, moderate damage and take up opportunities to enhance livelihoods (Asmamaw, 2019). The adaptive mechanisms outlined above empower frontline communities to develop livelihood resilience through interventions such as enhanced capacity, strong functional networks, diversified community-based enterprises, product development and marketing as well as strong organizational structures many of which were covered in the training. Strengthening local communities' livelihood resilience through the above interventions makes them cope with the effects of shocks such as COVID-19 pandemic. Without such interventions, the communities' ability to cope with the effects of shock remains weak thus increasing their overdependence on the park's resources.

Furthermore, the framework shows the relationship between livelihood resilience and sustainable livelihoods that can be achieved through enhancing the transformative capacity. According to (Asmamaw,2019). transformative capacity refers to creating an enabling system that supports individuals and organizations to withstand shocks. The framework hypothesizes that sustainable livelihoods can be achieved through enhanced enterprise management capacity, strengthened functional networks and organizational structures as well as development and marketing of innovative products. Shocks threaten sustainable livelihoods of frontline communities who need to adapt to the effects through enhanced transformative capacity.

Once the frontline communities' livelihoods are sustainable, they can recover and adapt to shocks such as COVID-19 pandemic and reduce overdependence on the park's resources. Furthermore, sustainable livelihoods can also be achieved if local communities have capacity to manage community-based enterprises and are exposed to opportunities to broaden livelihood assets. Recovery is the empowerment of shock-affected individuals and communities to manage their own upturn to improve livelihoods and living conditions (UNDP, 2016). In the last stage of the framework, sustainable livelihoods shore up the recovery capacity thus reducing dependence on park's resources, broadening opportunities for acquiring livelihood assets and strengthening the organizational and enterprise management

capability. Recovery capacity entails priority setting and planning to remove inequities that may impede application of inclusive recovery strategies that support the needs of the community. In addition, it involves leveraging of resources to invest in developing a community's economic capacity; having a community that is informed; works in cohesion; have access to services, facilities and resources; safe in pursuit of their daily lives; lives and promotes healthy lifestyles; participates in development activities; and has a sense of identity through history, tradition, local culture and practices (Jewett et al., 2021).

Capacity gaps in management of tourism related enterprises

Identifying ways to address capacity gaps among local communities living adjacent to protected areas is critical for achieving sustainable livelihood resilience. This study has revealed that there are gaps in capacity of the frontline communities to manage tourism related enterprises around MFCA. The enterprises form an integral part of the frontline communities' livelihoods and play a pivotal role in diversifying livelihood options thus reducing dependence on protected area resources (Dahles & Susilowati, 2015). Whereas this position is true, it suffices to note that the future of protected areas resources and the livelihoods of frontline communities are inextricably linked. As noted by (Holland, 2021). (Stronza,2019). conservation of protected area resources and tourism-based enterprise development, once viewed as opposing forces, are increasingly embraced as synergistic and compatible.

Some scholars have challenged tourism's contribution to improved livelihoods and wildlife conservation (Bernhard,2021). In spite of this, (Munanura,2021). posit that tourism creates opportunities for employment, income, markets for local goods and services that strengthen local communities' livelihood resilience to shocks such as COVID-19 pandemic. This study applied capacity building approach to fortify livelihood resilience of frontline communities around MFCA engaged in tourism related enterprises. Although the approach is lauded as appropriate, (Holland,2021). argue that the use of tourism enterprises as a tool for incentivizing conservation support and building local community resilience has produced mixed results, thus rendering the approach questionable and underscoring the need for other complimentary measures to be applied including adaptive management approaches.

The links between resilience and livelihoods are clear thus, a successful livelihood resilience strategy should incorporate mechanisms for coping and bouncing back when difficulties emerge (Twigg & Calderone, 2019). This study has contributed to this understanding through livelihood resilience capacity building for the MFCA frontline communities that benefited from revenue sharing. In Uganda, revenue sharing offers startup capital for community-based enterprises and contributes to livelihood resilience especially when coupled with capacity building programmes (Blattman, 2014).

How the capacity gaps were addressed and lessons learnt

The study has revealed that building the capacity of frontline community groups is a deliberate action that strengthens the existing competencies and capabilities as well as broadens the knowledge and skills base. As reported by

(Vallejo & Wehn ,2016). the main objective of capacity development is to augment knowledge and skills in a broad sense. In this study, a deliberate effort was made to empower members of the community-based groups by building their capacity in a two-step process: the first step involved equipping and skilling the training of trainers while the second step entailed training of group members in the areas of strategic planning, leadership skills, product development and marketing, resource mobilization and financial management.

The ex-post feedback from the groups revealed a number of experiences and lessons learnt. For instance, the group members realized their weaknesses in enterprise management which were strengthened through the training. In addition, the group members eagerly participated in the step-down training workshops and acknowledged that the modules met their capacity needs. On top of that, they attested that the training enhanced their knowledge and skills that they would apply to improve enterprise management including group leadership. One of the key lessons learnt in this study is that the participation and support of the local leaders is a critical success factor in ensuring the sustainability of the local community-based enterprises. Moreover, the local leaders participate in enterprise selection for funding, supervise and monitor implementation of the enterprises. Therefore, a functional collaboration between the university and government agencies such as UWA and district local governments makes it possible to carry out of action research and outreach that simultaneously promote the tripartite benefits of conservation, tourism and sustainable livelihoods of frontline communities.

CONCLUSIONS AND CONTRIBUTION TO KNOWLEDGE

The capacity of frontline communities to sustain their livelihoods that are partly dependent on park resources is critical in promoting conservation that supports tourism. The frontline communities that are adjacent to MFCA are engaged in diverse enterprises as a strategy for generating incomes and strengthening their livelihood resilience. The enterprises include motor cycle transport, beekeeping, river fishing, goat rearing, metal fabrication, cultural dance entertainment, tour guiding, accommodation provision, sale of handcrafts and on-farm tree growing. However, the livelihood resilience of the communities was curtailed by capacity gaps in strategic planning, leadership skills, product development and marketing, resource mobilization and financial management. The capacity gaps were addressed through training of trainers and training of group members using a training manual and adult learning approach.

In view of the above, there is need to follow up the groups to assess the extent to which they are applying the knowledge and skills acquired during the training. Furthermore, group members should develop action plans on how to sustain the training at the local community level. Considering that the group members are not homogenous, it is crucial to tailor the training bearing in mind the disparity in literacy levels. More importantly, the local leaders at the district and lower level administrative units need to be involved in mobilizing the community-based groups for training as well as monitoring and evaluation of enterprise performance.

This study has contributed to the existing body of knowledge on livelihood resilience capacity building in two major ways; firstly, it has applied action research approach to identify and build capabilities of frontline community groups whose livelihoods partly depend on utilization of park resources. Secondly, the livelihood resilience framework developed is a novel initiative of the authors that has helped to explain the linkages between context, adaptation, livelihood resilience and sustainability in relation to shocks that frontline communities are vulnerable to. In terms of future research direction, there is need to undertake follow up studies to examine the extent to which the frontline community-based groups have applied the knowledge and skills they acquired during the training and how it has impacted on the performance of the enterprises.

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