



## BOOK OF ABSTRACTS

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### I. SESSION DESCRIPTION

**ID: G2**

Ecosystem services from African tropical forests

#### Hosts:

	Title	Name	Organisation	E-mail
Host:		Newman Tekwa	University of South Africa	tekwanewman@gmail.com
Co-host:		Samuel Nyikahadzoi	University of Zimbabwe	samnyika@gmail.com

#### Abstract:

The interconnectedness of ecosystem services and human welfare and wellbeing is non-debatable as natural ecosystems supply services critical in sustaining human welfare. Illustratively, as a stock flow resource, the ecosystem service of food production supports the provision of critical resources of land and water necessary for food availability, one pillar of household food security. In developing context particularly sub Saharan Africa, this connection has not been emphasised with the research area remaining understudied. Highly emphasised in the literature is the unidirectional co-existence of high dependence on ecosystem services, environmental degradation and extreme poverty in sub Saharan Africa. The relationships between resource stock of an area and levels of human welfare and the extent to which declining state of natural ecosystems (and their services) can lead to decline in human welfare, commonly referred to as poverty is not well understood. Less understood as well is the connection between natural resource rights structures governing use and access to natural resources; historical and contemporary loss of entitlements to natural resources and declining human welfare (intensification of poverty) in most parts of sub Saharan Africa. What connections exist between the structure of property rights and low human welfare? Relatedly from a gender perspective, this relates to the social relations and institutions governing access to and control over natural resources and the extent to which they determine the welfare of women relative to men. The links between ecosystem services and human welfare remains understudied research area but critical in understanding issues of environment, climate change and welfare in Africa.

Key words: Gender, ecosystem services, human welfare, and food security, sub Saharan Africa

#### Goals and objectives of the session:

- Understanding of the links between ecosystem services and human welfare commonly defined as poverty.

# 3rd ESP Africa Conference

8-10 June 2022 | Musanze, Rwanda

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- Establish the nature of relationships between high dependence on ecosystem services and extreme poverty or the corollary decline in wellbeing associated with increase in dependence on ecosystem services
- Understanding of the connection between natural resource rights structure (historical and contemporary); the institutions governing resource use and access to natural resources and human welfare.
- Understand the relationships between lack of access and control of natural resources emanating from social relations and institutions including gender and poverty (low human welfare).

## Planned output / Deliverables:

1. Session presentations
2. Journal articles

## Voluntary contributions accepted:

Yes, I allow my abstract to be submitted to my session for review

## Related to ESP Working Group/National Network:

Regional Chapters: East & Southern Africa

## II. SESSION PROGRAM

**Date of session:** Wednesday, 8 June 2022

**Time of session:** 14:00–15:30 & 16:00–17:00

## Timetable speakers

Time	First name	Surname	Organization	Title of presentation
14:00–14:15	Alex	Agaba	Mountains of the Moon University, Uganda	Achieving Conservation and Gender Based Violence Reduction in Communities Adjacent to Protected Areas in Uganda: The contribution of Social Enterprises in Energy Sector
14:15–14:30	Themb'alilahlwa	Mahlaba	University of Eswatini, Eswatini	Linking Ecosystem Services to Livelihoods in Southern Africa
14:30–14:45	Papama	Yose	Rhodes University, South Africa	Marine plastic debris impacts on ecosystem services and the economy in South Africa: Stakeholder perceptions and potential interventions
14:45–15:00	Lerato	Olgah	University of Johannesburg, South Africa	Cultural ecosystem services and human well-being linkages within the Vhembe District, Limpopo South Africa.

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Time	First name	Surname	Organization	Title of presentation
15:00–15:30				Discussion part 1
16:00–16:15	Felix	Donkor	University of South Africa (UNISA)	Gendered innovation in response to water stress and environmental degradation in South Africa's drought stricken rural communities: A case study
16:15–16:30	Evalyne, M.	Mutuwa	Kyambogo University, Uganda	An Assessment of the stakeholders' attitudes, farming practices and contributions towards landscape restoration of the upper Manafwa Watershed in Bushika Bukalasi and Bushiyi Sub Counties of Bududa district Eastern Uganda.
16:30–16:45	Johanes, A	Belle	University of the Free State, South Africa	The Impact of Climate change on wetland services provided to local communities in the eastern Free State, South Africa
16:45–17:00				Discussion part 2

### III. ABSTRACTS

*Abstracts are ordered based on the session program. The first author is the presenting author unless indicated otherwise.*

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Ecosystem services for the future: Delivering value for Nature, Livelihoods and Economic Investment

HYBRID EVENT

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1. Type of submission: Abstract

G. General sessions: G2 – Gender, ecosystem services and human welfare

## Achieving Conservation and Gender Based Violence Reduction in Communities Adjacent to Protected Areas in Uganda: The contribution of Social Enterprises in Energy Sector

*Presenting author:* Alex Agaba

*Other author(s):* Peter Musinguzi, Ronald Buwa, Thomas Sibayirwa Kiiza

*Affiliation:* Mountains of the Moon University, Uganda

*Contact:* agalex@student.mmu.ac.ug

Globally, wood fuel extraction from protected areas (PAs) and usage has emerged not only as a conservation challenge i.e. leading to wildlife habitat destruction but also a gender issue where women/girls are raped while collecting firewood and abused by their spouses/parents on cooking with fuelwood. Social Enterprises (SEs) have been touted as tools that could achieve double objectives of improving conservation and people's wellbeing/livelihoods e.g. reducing gender based violence (GBV). However, there is scarcity of studies on their roles towards achieving such objectives. This study assessed the contribution of a SE-led improved traditional cookstove intervention on fuelwood use and GBV reduction in PA-adjacent households in Kasenda sub-county, Kabarole district, Uganda. Data were collected from 304 households (153 beneficiaries and 151 non-beneficiaries) and analysed using SPSS and chi-square technique. Results indicate that households which adopted improved traditional cookstoves had i) a reduction in fuelwood used for cooking ( $p=0.000$ ), ii) decrease in dependence on forest tree species for fuelwood ( $p=0.071$ ), iii) decrease in number of trees cut for fuelwood ( $p=0.091$ ), iv) increase in tree varieties planted ( $p=0.022$ ), v) decrease in length of time for food preparation ( $p=0.003$ ) with, vi) good food quality (i.e. not smelling wood fuel smoke) ( $p=0.062$ ), and vii) a more food secure position ( $p=0.035$ ) and these (v,vi and vii) relate to reduced household quarrels linked to food preparation.

These results indicate that the SE's intervention can contribute to a PA's conservation as well as GBV reduction in marginalized rural households. Our results have implications for conservation practice where governments and relevant local, national and international agencies could embrace SEs as tools to achieve conservation and wellbeing/livelihood improvement. The



results contribute to the emerging literature on SE and wellbeing/livelihood improvement in the developing world context that is less studied.

*Keywords:* Social enterprises, Rural energy sources, Protected Areas, Conservation, Gender Based Violence

*2. Type of submission: Abstract*

G. General sessions: G2 – Gender, ecosystem services and human welfare

## **Marine plastic debris impacts on ecosystem services and the economy in South Africa: Stakeholder perceptions and potential interventions**

*Presenting author:* Papama Yose

*Other author(s):* Prf. Gladman Thondhlana, Professor Gavin Fraser

*Affiliation:* Rhodes University

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Plastic pollution is a significant environmental problem globally, with adverse socio-economic and ecological impacts on ecosystems. Consequently, there has been growing traction in research on the adverse impacts of plastic pollution to develop more sound policies and interventions to redress the issue. However, compared to plastic pollution impacts on terrestrial ecosystems, the impacts of plastic waste on marine ecosystems are little studied and poorly understood. Further, in assessment of impacts, there seems to be much more focus on the economic impacts than on non-tangible impacts, which results in conceptual ambiguity and makes it difficult to obtain a more holistic understanding of marine plastic debris and potential interventions. Therefore, the proposed research aims to examine the impact of plastic debris on marine and the economy in South Africa from a marine stakeholders' perspective. The specific objectives are: (1) to develop a framework for assessing the impacts of marine plastics debris on the biophysical structure of marine ecosystems and well-being of stakeholders; (2) to estimate the economic impacts of marine plastic debris on marine ecosystem services in South Africa and to (3) examine stakeholder's views on marine plastic debris and its impacts on marine ecosystems and livelihoods in South Africa.



*Keywords:* Marine ecosystem services, Marine Services, Marine plastic debris, Marine plastic pollution, Marine plastic litter

*3. Type of submission: Abstract*

G. General sessions: G2 – Gender, ecosystem services and human welfare

## **Cultural ecosystem services and human well-being linkages within the Vhembe District, Limpopo South Africa.**

*Presenting author:* Lerato Malapane

*Affiliation:* University of Johannesburg, South Africa

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Biodiversity is threatened globally by anthropogenic impact such as climate change, landscape change, urbanisation, and unsustainable land use. This leads to the loss of ecosystem services in turn affecting human well-being. Healthy functioning ecosystems influences the sustainability of human well-being. For human well-being to thrive non-tangible benefits such as spiritual experiences, physical and mental health benefits, inspiration, aesthetic values, recreation, and ecotourism are needed and commonly classified as cultural ecosystem services. There is a steady recognition of cultural ecosystem services and their role in human well-being. Cultural ecosystem services and human well-being structures need to be simplified for better comprehension and assessment. The concept of human well-being is less understood leading to its complex nature as human well-being includes various components such as human needs, economic needs, environmental needs, and life satisfaction. The main aim of the study is to demonstrate the linkages between cultural ecosystem services and human well-being at the local level from the perspective of the rural community in Vhembe district, Limpopo province, South Africa. Data were collected through direct observations, semi-structured interviews and questionnaires that asked for ranking and scoring of both concepts. Human well-being within the study area is threatened by a combination climate change and human activities which lead to a decline in ecosystem services and functions. The study area has a spectacular landscape enclosed by a deep-rooted history, sacred forest, deep-valleys, and waterfalls and lakes shrouded in myth and legend. Sacred forests are protected by appointed clans as places for



ancestral worship, rain–petitioning rituals and traditional ceremonies and thus brings life fulfilment and satisfaction to the community.

*Keywords:* Cultural ecosystem services, Human Well–Being, Biodiversity, Global Environmental Change, Rural Communities.

*4. Type of submission: Abstract*

[G. General sessions: G2 – Gender, ecosystem services and human welfare](#)

## **An Assessment of the stakeholders'attitudes, farming practices and contributions towards landscape restoration of the upper Manafwa Watershed in Bushika Bukalasi and Bushiyi Sub Counties of Bududa district Eastern Uganda.**

*Presenting author:* Monica Evalyne Mutuwa

*Affiliation:* Kyambogo University, Uganda

*Contact:* evelynemonica1998@gmail.com

A landscape approach one that takes into account the whole landscape and the needs of stakeholders within it is widely considered one of the most effective responses to land degradation at the watershed level. Stakeholder involvement increases the probability of long–term success through trust, commitment, and personal investment; and they are most likely to get involved in the activities only if the benefits of their participation are clearly shown. This study was aimed at assessing stakeholders' attitudes, practices, and involvement in landscape restoration of the Upper Manafwa Watershed, Bududa District, with a focus on Bushika sub county, one of the areas worst hit by soil erosion and landslides. Previous interventions, being mainly top–down have failed thus the need to focus on the stakeholders for collaboration towards restoration of the landscape. A cross– sectional descriptive research design was done, and the key stakeholders were selected to act as respondents through the simple random and purposive sampling on key informants. Data was collected from interviews with key stakeholders, attendance of organized existing community activities in the Sub County, and direct field observations in the watershed. Concerning people's expectations on landscape restoration there is general agreement that there is need and urgency to restore the degraded landscape and that engagement of farmers should be paramount, with good communication for



passing on information to them. They are willing to learn and participate when given the knowledge from the leaders and NGOs. There have been no significant efforts towards landscape restoration. Rather individual households are undertaking actions towards conservation or prevention of further degradation of the landscape, with such activities as soil and water conservation through digging trenches and planting of indigenous trees and Napier/elephant grass among others. However, to ensure sustainable restoration of the landscape there is need for collaborative and integrated effort, where all the other stakeholders are working together. Considering innovations that should be invested in more, the respondents mentioned planting elephant grass as priority followed by planting indigenous trees. Landscape restoration will be sustainable when it begins with engagement of the stakeholders in the watershed. Involving the stakeholders will require establishing and considering their attitudes and practices so as to ensure their commitment.

*Keywords:* stakeholders, landscape restoration, attitudes, practices, involvement, watershed, farmers, collaboration

*5. Type of submission: Abstract*

[G. General sessions: G2 – Gender, ecosystem services and human welfare](#)

## **The Impact of Climate change on wetland services provided to local communities in the eastern Free State, South Africa**

*Presenting author:* Johanes Amate Belle

*Affiliation:* University of the Free State, South Africa

*Contact:* belleja@ufs.ac.za

Wetlands provide important ecological services to many communities but are also very sensitive ecosystems to external shocks. The current anthropogenic climate change has affected wetland services globally. Local communities all over the world rely on wetlands services to provide and sustain their livelihoods, and to improve community resilience to multiple climate related hazards. The Free State Province in South Africa is mostly rural where agriculture; both crop and animal farming is the dominant livelihood activity. The rural communities including the farming community rely on wetlands services but these wetland services are increasingly affected by





climate change. This article therefore looks at the actual and potential effects of climate change on wetlands services, and how this in turn affects the livelihood and resilience of selected rural communities in the eastern Free State Province of South Africa.

The study adopted a mixed method and used both primary and secondary data. The quantitative data was analysed using the SPSS while thematic analysis was adopted for qualitative data.

The findings were that the local community rely heavily on wetlands services, especially provisioning and regulatory services for their livelihoods and to mitigate the impact of recurring climate related hazards in the area; especially droughts and floods. Unfortunately, climate change has affected the hydrology, soil and vegetation of many wetlands. Climate change has also exacerbated other factors that have resulted in wetland degradation in the study area. While pockets of positive climate change impacts on wetlands were reported in a few isolated communities, the majority of the impacts were negative. The main recommendations were that the local community improve on their adaptation strategies. Secondly, the government of South Africa needs to do more to assist the local communities in their adopted adaptation strategies and to intensify the rehabilitation of degraded wetlands in the study area.

*Keywords:* Wetlands, Ecosystem services, Climate Change, Livelihoods, South Africa

*6. Type of submission: Abstract*

[G. General sessions: G2 – Gender, ecosystem services and human welfare](#)

## **Linking Ecosystem Services to Livelihoods in Southern Africa**

*Presenting author:* Themb'alilahlwa Mahlaba

*Other author(s):* Samantha M. Wisely, Kathleen Alexander, Lin Cassidy

*Affiliation:* University of Eswatini, Eswatini

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While there is agreement that ecosystem services provide critical life support to mankind, local communities can be disengaged from the process of decision-making. Central to the notion of ecosystem services is the concept of sustainability where the need is identified and linked to improved resource stewardship. How do we move from concepts, which are often seen as hand



waving by natural resource users and policymakers, to concrete valuation appreciated at the level of the household, community, and policymaker?

*Keywords:* Ecosystem services, community, valuation, Livelihoods

*7. Type of submission: Abstract*

[G. General sessions: G2 – Gender, ecosystem services and human welfare](#)

## **Gendered innovation in response to water stress and environmental degradation in South Africa’s drought stricken rural communities: A case study**

*Presenting author:* Felix Kwabena Donkor

*Other author(s):* –

*Affiliation:*

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A core theme in the sustainable development goals is the need for robust knowledge production to inform policy and forging of robust partnerships to drive sustainable development. In an era of wicked problems, one area where this has become urgent is in the water–environment nexus given that the most vulnerable in society are often most dependent on these resources and are faced with limited options. Moreover, this comes with implications for realising the Leave No One Behind Agenda and necessitates novel approaches to effectively and sustainably address the challenges attributed to environmental degradation characterised by pollution, excessive waste and resource exploitation. This study explores the complex linkages between gender, innovation and the Sustainable Development Goals (SDGs) in the context of South Africa’s 100 year record drought. It sheds light on the importance of gendered innovation, giving insights on the positive impacts of gendered innovation or the negative consequences when gender is not considered. Moreover, it contributes to the debate on the impact of using a gender lens to promote gender equality in society; and explores how governments can facilitate inclusive development. The case studies will also aid in informing policymakers, academic planners, both male and female scientists, media and civil society on the importance of gender equality to advance science, technology and innovation for



development, at national, regional and global levels. Ultimately, as climate projections indicate increased severity on land-based livelihoods, the importance of innovation in building resilience and enhancing productivity cannot be overemphasised.

*Keywords:* innovation, gender, sustainability, resilience, traditional knowledge, orthodox science. land-based livelihoods