

Research Proposal

**Assessing Adaptive Capacity To Climate Change Impacts: A Survey Of
Mabira Forest and Environs, Lake Victoria Basin**

**To be presented in Lushoto
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By

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Background

- The growing pressures from urbanization and population explosions are leading to heavy deforestation hence promoting a complexity of environmental problems like; global warming, droughts and floods.
- This has resulted into a decline in the ecosystems and threatened livelihoods (Tompkins and Adger, 2004) especially for the vulnerable (the poor and marginalized) people that are least able to adapt to the changing climate. (Levine, et al.,2011)

Statement of the problem

- Climate change and Climate variability, will increase the frequency and intensity of extreme weather events such as; droughts, floods, land slides and heat waves. For instance Uganda experienced seven droughts between 1991 and 2000. (Ugandan NAPA 2007)
- This has had an implication on agricultural output and on people's health.
- A need to examine how people's livelihoods could be adjusted to reduce vulnerability and enhance resilience to the prevailing and expected change in climate and its associated impacts.

Aim and Objectives of the study

Aim:

- To assess and build adaptive capacity to climate change impacts

Specific Objectives:

- To estimate the extent of forest loss to human activities between 1980 and 2012.
- To assess the climate change vulnerability in the study area, particularly in terms of the implications of forest loss and other induced stresses.

Objectives of the study contiued

- To assess the adaptive capacity of people to climate change.
- To build the adaptive capacity of people to Climate change.

Study area

- The LVB is located in the upper reaches of the Nile River basin and it occupies 251,000 sqkm (URT, 2001)
- Mabira FR covers 30,000 hectares (74,000 acres) with social, economic and environmental values. However it is facing major threats from the persistent encroachments. (Uganda NAPA 2007, UNEP, 2002)
- The population density of Mabira forest area is quite high, with some places having an average of up to 15,122 people /sq km in Parishes like Nakazadde Parish (BIOTA East Africa 2010)

Map for Mabira FR and environs



Significance of the study

- Significance: To identifying the policies and strategies aimed at changing people's behavior towards sustainable environmental management practices in order to reduce their vulnerability and increase their adaptive capacity to climate change related stresses.

Methodology

Objective 1.

- The period of 1980 has been selected as a benchmark. (between 1970 and 1986 the area of actual forest cover has been reduced by about 40 percent because of the unrealistic policies and poor monitoring, e.g . the freedom to settle anywhere policies of the 1970s, were taken by many farmers as official sanction for settlement in forest reserves.
- Geographical information system (GIS) will be used to measure the extent of forest loss.
- LANDSAT TM images of sampled areas during 1980, 1995 and 2012
- Post-classification will be used
- Supervised and unsupervised classification
- The NDVI will be used to analyze the forest cover changes

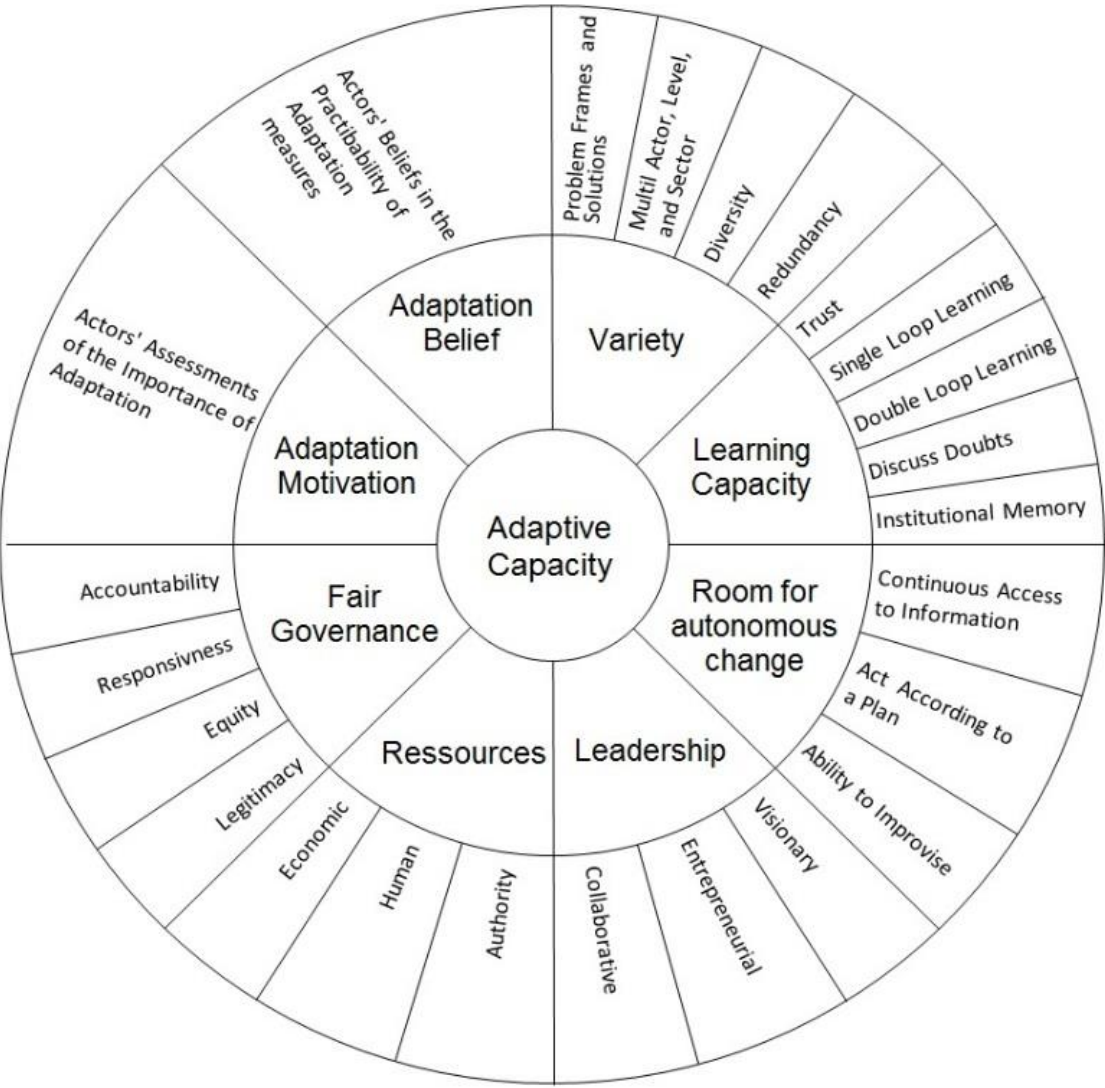
Methodology continues

Objective 2

- Thow and Blois; (2008)'s approach will be used to evaluate the implications of forest loss to human vulnerability on climate change induced stresses. (e.g carbon sequestration, food security, money or income)
- Secondary archive sources; e.g. from the Uganda Bureau of Statistics (UBOS) and Ministry of Health

Objective 3 and 4.

- The Adaptive capacity wheel



Adaptive Capacity Wheel