

MY PRESENTATION

1) Motivation:

Ever since I finished my Master's degree in environmental studies, I have always been inspired by efforts and initiatives to use the available natural resources sustainably. I have witnessed uncontrolled mining enterprises, increasing rates of deforestation, growing demands for ecosystem services but little concern for the integrity of the ecosystems which continue to provide these services. In the recent times, I have focused my attention on freshwater ecosystems in the Great-Lake region of East Africa, and I have been saddened at their diminishing capacity for resilience. Something must be done and urgently at that! At the moment, I am under the impression that the human communities living in and around this region are largely to blame for the deteriorating conditions of these ecosystems and a solution could be found among these communities that would enable them to continue to benefit from the ecosystem services without jeopardising the ecosystems' capacity for resilience. It is from this perspective that I am motivated to research on available solutions to avert and/or mitigate the effect of the impact the unfavourable human activities are causing on these ecosystems. Studying the past human-environment relationships, and examining the state of human need at present, I am inclined to believe that a sustainable solution could be searched for. Have there been researches in the past for solutions to these problems. Yes. But it is evident from the deteriorating condition of the ecosystems that either these solutions have not been enough or they have not hit the target squarely. My research seeks first to find out what have been the suggested solutions, if any, and why they have not been effective. My focus therefore will be how to make the available solutions effective or find other solutions that may bring the desired results. This search forms the basis of my motivation and research.

2) Research questions:

- i) Why has the condition of freshwater ecosystems in the Great Lake regions of East Africa continued to deteriorate?
- ii) What kinds of deterioration are taking place and what is the rate of deterioration?
- iii) What could be the likely causes?
- iv) Are these causes natural or are they human or both?
- v) Might these causes be mitigated? How, who, when and where?
- vi) Is there anything being done or has been done so far? What have been the successes or failures? Is there any progress?
- vi) What definitive action needs to be taken? This action should be time bound, evaluable and replicable. It should also have immediate benefit to both the freshwater ecosystems and those that depend on them for services.

3) Literature Review:

I have been reading and reviewing mainly books and publications based on scientific research and findings about freshwater ecosystems first in other parts of the world, then in Africa and finally

in East Africa's great lakes basin. For those in other parts of the world, I have focused on chapters and articles that focus on the concepts of identifying, assessing and monitoring the impact of human activities on the freshwater ecosystems. Granted, impacts will vary from place to place depending on the human population, type of the ecosystem and the climate of the region, but, as some authors have already observed, the conceptual frameworks once established in one region can be used and applied in other regions and produce specific results for the specific data used. So what the articles by these authors have done is to provide tools that allow assessment and management of human impact on natural environment. For instance how to assess salinization-altering flows, organic pollution and effects of introduction of exotic species (of animals and vegetation) on native species.

The literature I have so far selected on freshwater ecosystems in Africa is more specific. It focuses on riparian ecosystems. This is because while I will be focusing later solely on the freshwater lakes ecosystem, research has shown that freshwater lakes are able to remain fresh only because they have inlets and outlets that counterbalance the effect of evaporation. One of the reasons, for instance, why a number of lakes in the Great East African rift valley are saline is because they lack major outlets since they are in a great depression. Hence most of the water loss goes by evaporation, leaving mineral deposits in the lake which make the water saline over time. Freshwater lakes depend heavily on the streams that flow in and out of them. As the literature on the rivers and streams indicate, inlets and outlets of lakes are necessary parts of lakes ecosystem. Lake Victoria has three major instreams and one main outlet – River Nile. Hence data on the impact of human activities on rivers and specifically on the rivers draining Lake Victoria will be crucial in providing the true picture of the condition of the lake. Thankfully, there exist much data on South African rivers which expose the problem affecting the integrity of these rivers. I have reviewed at least a few articles and books that develop conceptual framework of addressing these problems such as use of “polluter pay” principle and legislation of enforceable land-use constraints. There is no need of reinventing the wheel, but it will remain to be established in my research how such like policies would be applicable in my case.

The last phase of my current literature review brings me closer home to articles and books discussing cases of freshwater lakes in East Africa – Kenya, Uganda and Tanzania. Among a few books and book chapters that I am reviewing, I have landed on a seminal work by two authors, J. L Awange and Abiero Ong'ang'a, who offer a comprehensive coverage of the environmental issues – challenges and opportunities – facing Lake Victoria. Thiers is empirical data, analysis, some interpretations, observations and suggestions. While they observed critical issues ranging from poverty of the human communities living around the lake to the degradation of the lake due to over-exploitation of its resources, they do not offer concrete solutions beyond suggestions of possible measures that may be taken by governments and environmental agencies. They do well, however, to offer valuable information about the status of the lake and of the lives of the people that depend on it. Other literature in this line explore social-ecological issues relating to freshwater lakes in one or other country in East Africa. They bring out important aspects of the relationship between human society, culture and natural systems. For instance, the case of Lake Jipe in Tanzania which exposes weaknesses in the enforcement of government policies that ought to protect natural systems from poor land-use practices. I hope to use such data to corroborate the data that I will eventually collect which will be specific to Lake Victoria.

4) Methods and Data Sources:

I intend to collect some of the primary data through face to face interviews and use of questionnaires. This kind of data is meant to support, correct, add new and/or disapprove the already existing data that is found in the researched literature. As I have already observed in the literature review, there is a lot of literature about Lake Victoria that provide various kinds of data about the lake and its people. Some data claims to provide basic information while others propose solutions to perceived problems. But the fact that environmental problems continue to haunt the lake is an indication that either some vital data is missing, incorrect or not enough. Hence the reason to search for existing both primary and secondary data while preparing to collect fresh data from the people whose lives directly depend on the lake's ecosystem.

5) Results and Predictions:

At the moment I can only make the prediction that the solutions to the environmental problems affecting Lake Victoria are likely to be found among the human communities living around the lake rather than the East African governments, corporate groups, national and international environmental agencies.

6) Conclusions:

I am in my initial stages of my research and therefore unable to make any tenable conclusion at the moment.

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