



MALAWI UNIVERSITY OF SCIENCE AND TECHNOLOGY

THE ROLE OF THE MALAWI UNIVERSITY OF SCIENCE AND TECHNOLOGY IN RESILIENCE TO DISASTERS

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MALAWI UNIVERSITY OF SCIENCE AND TECHNOLOGY (MUST)

- The Malawi University of Science and Technology (MUST) is a Public University and was established under an Act of Parliament (Act. No. 31 of 2012)- published on 21st December 2012.

The Ndata School of Climate and Earth Sciences (NSCES)

- It is one of the four Schools at MUST.
- As its name suggests, the School focuses on Earth and Climate Sciences.
- Its **Mandate** is to provide training to both undergraduates and postgraduates, do research and outreach services in Earth and Climate Sciences for Socio-Economic growth and Sustainable Development of the country.

MALAWI UNIVERSITY OF SCIENCE AND TECHNOLOGY (MUST) CONT'D

- The overall strategic outcome of the School is to ensure that there is an Increased Number of Experts, Research & Outreach services in Climate and Earth Sciences including CLIMATE CHANGE AND DISASTER RISK MANAGEMENT in the country.
- Thus Ndata School of Climate & Earth Sciences (NSCES) under MUST incorporates disaster management modules in its programmes in addition to a full BSc in DRM.
- NSCES believes that this will encourage a culture of reducing risk, mitigating the impacts of disasters and increased resilience.

RATIONALE FOR THE PRESENTATION

1- To show what MUST is doing in the issue of RESILIENCE in general & SEISMIC RESILIENCE in particular. Term Resilience originates from Latin *“resilire”* or *“resiliens”* meaning “leaping back’ or “recoil”. Term first used in 1620s.

2- To show success

3-To discuss the challenges we are facing.

4- To discuss the way forward

BSc IN DISASTER RISK MANAGEMENT

- Four year programme
- Disasters such as earthquakes, droughts, cyclones, floods, storm winds, landslides, tsunamis, emerging infectious diseases and pests such as locusts often occur at the least expected time.
- Globally most of these disasters are increasing in severity, frequency and destructiveness. Climate change effects are expected to amplify over 90% of these disasters. In most cases, the poor are the most affected whenever disasters occur as they do not have the resources or any other means to cope and rebuild.

BSc IN DISASTER RISK MANAGEMENT

Cont'd

- From the foregoing, it is imperative that there should be deliberate efforts to develop specialized capacity in the field of Disaster Risk Management in Malawi equipped with applicable understanding of the nature of disasters and their socio-economic impact on societies.
- This human capacity will be key to the provision of disaster management services including: detection, early warnings of emerging disasters, mitigation, resilience, recovery and reconstruction.
- Furthermore, these specialists will play a key role in advising government and other stakeholders on appropriate response to disasters i.e. policy issues.

BSc IN DISASTER RISK MANAGEMENT

Cont'd

Educational Aims of the Programme:

The program intends to produce graduates who will be able to:

- Demonstrate academic, technical and managerial skills in all areas of the disaster risk management cycle.
- Analyse technical, institutional, socio-economic and cultural problems associated with disaster impact, intervention and risk reduction.
- Assess information relevant to disaster risk management pertaining to planning, coordination, analysis and recovery from disasters.

BSc IN DISASTER RISK MANAGEMENT

Cont'd

- Make critical decisions during disasters whilst being culturally sensitive, ethical and compassionate.
- Demonstrate competence in reducing and managing disasters.
- Analyse information relating to early warning systems.
- Apply critical thinking at all phases of the disaster risk cycle.
- Develop mechanisms for Resilience to disasters.

“COMMUNITY VULNERABILITY AND RESILIENCE” MODULE

- Offered in THIRD YEAR
- This module provides knowledge of local-level community-based vulnerability assessment with a focus on methods to rapidly assess vulnerability at the local level.
- Furthermore, students will be equipped with skills necessary for building and/ or enhancing resilience as a way to manage disaster risks.

“COMMUNITY VULNERABILITY AND RESILIENCE” MODULE Cont’d

Intended learning outcomes

By the end of this module, students will be able to:

- Explain the concepts of vulnerability and resilience
- Discuss vulnerability’s role and importance of resilience in disaster risk management
- Explain the types, components and principles of vulnerability and resilience.
- Assess measures and activities which enable shifting from vulnerability to resilience.

SHORTFALLS

- In my opinion, in the whole world of DISASTER RISK MANAGEMENT, RESILIENCE is perhaps the most important theme. The module therefore needs to be very much strengthened. In fact perhaps have two modules. RESILIENCE (1) and RESILIENCE (2). In addition, MUST is also working towards strengthening research and outreach activities on RESILIENCE.
- A CENTER FOR CLIMATE CHANGE AND DISASTER RISK MANAGEMENT IS BEING ESTABLISHED. The Centre will focus on research and outreach activities.

DEFINITION OF RESILIENCE

DEFINITION OF RESILIENCE:

- Resilience thinking draws on several academic fields including structural engineering, biology, sociology, psychology ecology etc.
- Due to this variety of understanding of resilience, several challenges have arisen. Development of common frameworks for explaining the concept and operationalizing it has become very difficult.
- Most researchers agree that Resilience is a very complex construct and its definition depends on individuals, families, organizations, cultures, societies etc.
- Most of the proposed definitions of resilience include “a concept of healthy, adaptive, or integrated positive functioning over the passage of time in the aftermath of adversity” (Southwick, 2014).

RESILIENCE RESEARCH

- Most pressing questions in Resilience Research include:

1- How to define Resilience.

2-What are the most important determinants of Resilience? Need for a multiple level perspective of analysis that may include genetic, epigenetic, developmental, demographic, cultural, economic and social variables.

3-How are new technologies informing the science of Resilience?

4-What are the most effective ways to enhance Resilience?

5- Theories, Frameworks, Models and Tools for Resilience

Theories, Frameworks, Models and Tools for Resilience

MUST thru the NSCES is doing research for developing FRAMEWORKS, MODELS AND TOOLS for understanding and enhancing RESILIENCE.

- Several institutions and researchers globally are working on the above.
- For example UN-Habitat has developed what is called “**CityRAP Tool**” for resilience research and enhancement. The tool focuses on URBAN GOVERNANCE, PLANNING AND ENVIRONMENT, INFRASTRUCTURE AND BASIC SERVICES, ECONOMY AND SOCIETY and DISASTER RISK MANAGEMENT.

Theories, Frameworks, Models and Tools for Resilience Cont'd

- Our research at MUST is showing, for example, that the UN-Habitat Tool, though used in several African countries, has some rather serious limitations.
- Some of the observations include: The Tool seems to be weak in terms of showing INTERCONNECTEDNESS, WHOLENESS, INCLUSIVITY of the different parts.
- So MUST is striving hard to find FRAMEWORKS, MODELS AND TOOLS of RESILIENCE that are specifically tailored for Malawi then Africa and Globally.
- We believe that the best tools/models/frameworks which MUST is working on will have to show how the different parts of the model or tool are interconnected.

Theories, Frameworks, Models and Tools for Resilience Cont'd

- Resilience needs to be looked at from a **HOLISTIC APPROACH (SYSTEMS APPROACH)** i.e. Systems Theory. “The whole is greater than the sum of the parts”. Indeed from a “**WHOLENESS PERSPECTIVE**”
- So both the **STAKEHOLDER THEORY AND SYSTEMS THEORY** are important in constructing the **RESILIENCE MODEL, TOOLS AND FRAMEWORKS**.
- The capacity to resilience in humans is distributed among many interacting systems. One can look at Resources, Social Resources including cultural issues, Personality, demographic, Biological factors etc.

Theories, Frameworks, Models and Tools for Resilience Cont'd

- Three Deadly sins to avoid in RESILIENCE RESEARCH:
 - (i) Don't be **conceptually** hazy in terms of how we articulate resilience in settings that we are not familiar with;
 - (ii) Don't be **empirically light**, there is need to seek evidence of resilience in a broad range of contexts;
 - and (iii) Don't be **methodologically** lame with respect to how we measure resilience especially in situations where cultural goals and cultural resources are less familiar to us (Panter-Brick & Leckman, 2013).

CONCLUSION

- RESILIENCE is key to survival and success of a country, an organization or an individual.
- MUST needs to step up even further her research, training and outreach in RESILIENCE.
- The establishment of the CENTRE FOR CLIMATE CHANGE & DISASTER RISK MANAGEMENT at MUST will help a lot in the RESILIENCE work.
- Further the introduction of short courses and postgraduate courses (Diploma, MSc & PhD) will assist the situation even more
- COLLABORATION WITH ALL OF YOU IS VERY IMPORTANT!!!!!!

CONFUCIUS (551-479 BC)

- **“If you think in terms of a year, plant a seed; if in terms of ten years, plant trees; if in terms of 100 years, teach the people.”**
- **“Our greatest glory is not in never falling, but in rising every time we fall”.**

zikomo



OBRIGADO!!

GRACIAS!!

MERCI BEAUCOUP!!

Большое спасибо

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