

Challenges of the Integrated Water Resources Management (IWRM) Implementation in Myanmar

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8 Challenges of the IWRM Implementation

1. Institutional Fragmentation

- Lack of Coordination
- Weak Governance Structures

2. Political and Legal Barriers

- Political Will
- Legal Frameworks

3. Financial Constraints

- Funding Gaps
- **Capacity Building**

4. Data and Information Limitations

- Lack of Reliable Data
- Monitoring Challenges

5. Stakeholder Involvement

- Public Engagement
- Conflicting Interests

6. Transboundary Issues

- International Cooperation
- Conflict Potential

7. Climate Change and Environmental Pressures

- Unpredictable Water Availability
- Ecosystem Degradation

8. Social and Cultural Barriers

- Resistance to Change
- Equity and Access Issues

The issue of my interest based on my own experience

Poor drainage system in some area
which is one of the factors of
flooding

Capacity Building Development

- Individual
- Institutional
- Societal



My contribution to improve the situation

I am contributing as a speaker and participants at knowledge sharing seminar, technical training and workshops as a capacity building development.

Knowledge sharing seminars and trainings related with water sector are holding at Fed.MES as a Secretary of Water Resources and Water Supply and Sanitation Technical Divisions.

I am also contributing to Myanmar National Building Code-2024, 5D (Drainage)

Challenges of the Integrated Water Resources Management (IWRM) Implementation in Myanmar

- **Founder** of Climate Action Lab Myanmar-CALM
- **Advisory Board Member:** Falling Walls Engage Global 2024, Science Competition in Germany
- **Falling Walls Lab Myanmar 2023 Winner**, Global Science Competition In Germany, Breaking the Walls of Inaccessible Climate Tech
- **Max Thabiso Edkins (MTE) Climate Ambassador**, Global Youth Climate Network (GYCN), 2023
- **YSEALI Alumni** - Academic Fellowship on Environmental Issue Spring Cohort 2022 , University of Montana
- **Youth Member** at Myanmar Climate Action Network(M-CAN)
- **Co-Chair** of Youth Task Force- UN Decade on Ecosystem Restoration(UNDER)
- **B.Sc Botany** with a specialization in Environmental Science, **University of Yangon, 2019**



8 Challenges of the IWRM Implementation

- 1. Institutional Fragmentation (Lack of Coordination; Weak Governance Structures)**
- 2. Political and Legal Barriers (Political Will ; Legal Framework)**
- 3. Financial Constraints (Funding Gaps ; Limited Investment in Capacity Building)**
- 4. Data and Information Limitations (Lack of Reliable Data; Monitoring Challenges)**
- 5. Stakeholder Involvement (Public Engagement; Conflicting Interests)**
- 6. Transboundary Issues (International Cooperation; Conflict Potential)**
- 7. Climate Change and Environmental Pressures (Unpredictable Water Availability; Ecosystem Degradation)**
- 8. Social and Cultural Barriers (Resistance to Change; Equity and Access Issues)**

The issue of my interest based on my own experience

Challenge: Climate Change and Environmental Pressures

Water and Climate Crisis



Climate Change is All about Water.
Unpredictable Water Availability
Ecosystem Degradation



Too Much Water- Flood



Too Little Water-Drought



Deforestation, pollution,
and unsustainable land
use can damage the
water cycle.

The issue of my interest based on my own experience

Lack Data and Information Limitations

- Existing data are not connected and not well-mapped, **Connecting the dots and building cohesive narratives are essential.**
- Finding new strategies for solutions instead of **existing data or resources**
- Real time data are not easily available that hinders **Data-driven decision making** - science makes policy and we need reliable data to make effective policy
- **Knowledge must be accessible to local communities**, empowering them to make decisions and lead initiatives

Public Engagement

- **Communication Strategies** (Research and Academia, NGO, CSO, INGO, UN, Public, Business Sector and Government)
- Solving water issues, for instance, requires a transdisciplinary approach that integrates social science, technology, and hydro ecology, **bringing together experts and building multistakeholder collaborations.**
- **COMMUNICATION CAN HELP to INFORM PEOPLE ABOUT HOW AND WHY TO TAKE ACTION-** For both Water and Climate Crisis



India's civil society-led campaign, Million Wells Campaign Social and Cultural Barriers

- **Participatory and inclusive approaches to policy making.**
- **Resistance to Change:** In some areas, traditional water management practices are deeply ingrained, and shifting to an IWRM approach might face resistance.
- **Localized, ground-up approaches-** can address community-specific environmental concerns by leveraging traditional knowledge and local solutions.
- **Vibrant Civic Spaces** and ensuring good internet connectivity are essential for promoting community-based Climate adaptation

My contribution to improve the situation

My **role** in the Water and Climate crisis?

3 As - Advocacy, Activism and Academic Research

I work on these

Right to have a safe climate for future generation

Right to access clean water, breathe clean air



CALM- Climate technology accessibility
– climate education, information and communication strategies



Climate Change and Flood Risk Management Research in collaboration with Victoria University Wellington, New Zealand



Participation at Myanmar Climate Action Week (M-CAW) 2024
Empowering Youth for Innovative and Gender-responsive in Water Security and Climate Actions

3 Zero House Global Meet Up 2: Myanmar Panelist
"Catalyzing Climate Action through Youth-Led Initiatives"

Thank you for your Time and Attention!



Scan and Connect
with me to get to know more about
**Current Environmental and
Climate Change activities**

NAME Shar Thae Hoy



Challenges of the Integrated Water Resources Management (IWRM) Implementatin in myanmar



Hnin Phyu Sin (Joint M.Sc in Environmental Risk and Human Security)

Research Assistant at the University of Bonn (Current)

- *Former DAAD EPOS scholarship Recipient*
- *Former YSEALI Academic Fellow*
- *Former Regional Ambassador of Tunza Eco-generation*
- *Former Young Water Professional at National Water Resources Committee*

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The issue of my interest based on my own experience

1. Data and Information Limitations

- **Lack of Reliable Data:** Effective water management requires comprehensive data on water quality, quantity, and usage. In many areas, this data is incomplete or outdated.
- **Monitoring Challenges:** Setting up and maintaining monitoring systems can be costly and complex.

2. Climate Change and Environmental Pressures

- **Ecosystem Degradation:** IWRM requires balancing human needs with ecosystem health, but deforestation, pollution, and unsustainable land use can damage the water cycle.

My contribution to improve the situation

“Unveiling Ecological Resilience amidst Flood Susceptibility in Ayeyarwady Delta Region, Myanmar”

Major Barriers are:

1. Political instability,
2. Lack of law enforcement,
3. Weakness of collaboration within sectors and stakeholders,
4. Limited information,
5. Technology and human resources, and
6. Lack of financial capability

Suggested must-first prioritized sectors: Educational, Informational and Behavioral“.

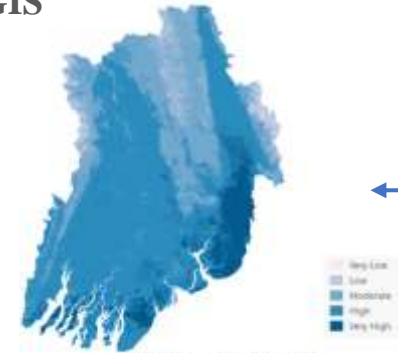
Should apply „Active Adaptation Management Strategy“

04 Adaptation Options

Qualitative Narrative Literature Review referring IPCC adaptation strategy

01 Flood Susceptibility Analysis

AHP-GIS

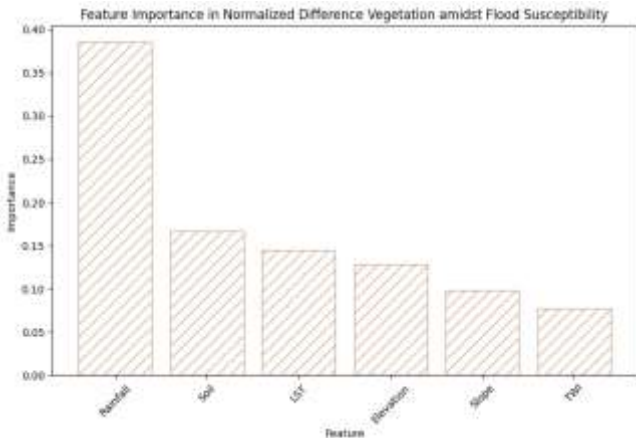
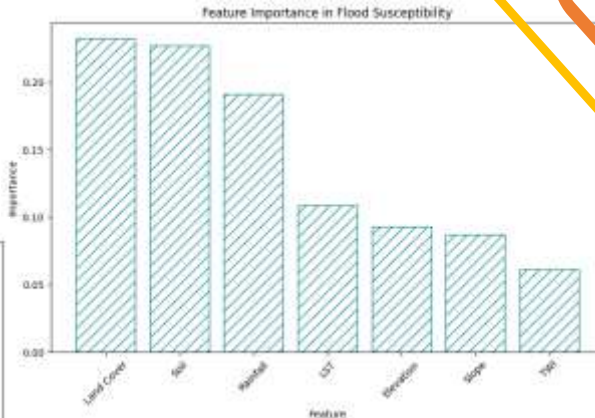


1. Elevation
2. Slope
3. Precipitation
4. TWI
5. LST
6. Land Cover
7. Soil Type



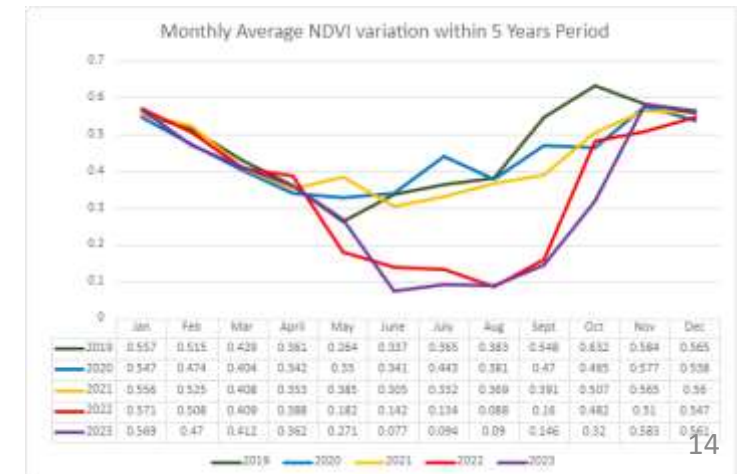
02 Insights into Ecological Resilience

Satellite-derived NDVI



03 Predicting Features Important

Random Forest Regression Algorithm



Thank you for your Attention!