

37th UNU Global Seminar Student Report by Erdoo Paula Awai

1. Introduction



Erdoo Paula Awai is a MEXT PhD recipient studying at the Graduate School of Sustainable System Sciences at Osaka Prefecture University, Japan. Her research focus is on nature-based solutions for simultaneous water purification and food production. Erdoo is passionate about biodiversity and local community development. She has attended several UN Nations meetings and conventions on biodiversity and related issues. She described the UNU Global Seminars as a high-level opportunity to learn from experts and interact with young people while sharing diverse ideas and opinions about our world.

2. Keynote Speech Summary

I was most interested in the keynote speech given by Prof. Daniel Murdiyarto, “Wetlands Matters for Climate Change and Biodiversity”, as this relates directly to the challenges my country is currently experiencing. Prof. Murdiyarto provided a detailed and succinct description of wetlands and their role in climate change mitigation and adaptation including conservation of biodiversity.

What do we know about wetlands (peatlands and mangroves)?

Prof. Murdiyarto described wetlands (peatlands and mangroves) as natural assets that are currently threatened by human activities. These deforested and drained peatlands which are caused by human induced fire events increase large emissions of carbon monoxide and dioxide causing pollution and other environmental and economic impacts. For example, the cost of disaster from a peatland fire event is about USD 90 billion. Furthermore, the decomposition of peatlands increases the continuous oxidation of peatland organic matter leading to more pollution. Mangroves, also referred to as blue carbon ecosystems, are among the most threatened habitats in the world. Human activities such as over-harvesting for timber, conversion of land for agriculture, tourism, and coastal development, have a negative impact on mangroves. Mangroves act as buffers maintaining the integrity of coastal regions and provide protection from storms. They are also home to wildlife, are retainers of carbon, nutrients, sediment, and pollutants, and provide tourism opportunities. Mangrove deforestation contributes to about 200 million tonnes of CO₂ emissions and leads to loss of biodiversity and ecosystem services. The loss of wetlands ecosystems increases the vulnerability of terrestrial areas to floods, and coastal areas to sea level rise and storms. Thus, wetlands are an important part of the solution in climate change mitigation as they stabilise and protect nature and people.

How to use wetlands for climate mitigation and adaptation?

Investing in wetlands conservation and integrity can contribute to adaptation and mitigation of climate change and halt biodiversity loss. This can be done by restoring and rehabilitating wetlands with native species to maintain its functions and benefits for people and nature. The water table of peatlands can be raised using the blocking canal method to reduce oxidation of peatland organic matter, and wetlands conservation areas can be extended.

Why does it matter for people?

Wetlands are a major source of ecosystem services for people. They provide the following:

1. Accumulate 20 times more carbon stock than any other ecosystem, which can influence both local and global climate.
2. Peatland species, such as the *metroxylon sagu* palm, grow only in waterlogged areas and act as important buffers during extreme weather events.
3. Provide habitats for many kinds of species, boosting biodiversity, and increasing human connectivity to nature.
4. Wetlands species are sources of food and energy.

3. Group Discussion Summary

My group looked at how climate change affects Tuvalu's biodiversity, water, and education with regards to achieving the SDGs.

Tuvalu is a small island nation in the West Pacific, barely 3 meters above sea level with a total land area of 26 sq km. Tuvalu contributes nearly zero anthropogenic GHGs emissions, yet it is experiencing the negative impacts of climate change at a very high level. Increasing frequency and intensity of natural disasters such as tropical cyclones, sea level-rise, and coastal erosion, have caused severe damage in the country including biodiversity loss, and the destruction of infrastructure and livelihoods. On the other hand, prolonged droughts led the country into a major water availability crisis in 2011 since Tuvalu depends primarily on rainwater for fresh water supply.

The climate change impacts are forcing many Tuvaluans to migrate to other countries. 3,500 Tuvaluans have migrated to New Zealand (approximately 25% of the entire Tuvaluan population), contributing to the loss of human capital.

Tuvalu is working hard to avert the eminent impact of climate change through programs and international partnerships. The government has made reforms in education curriculum to address Technical and Vocational Skills Development (TVSD) in relation to climate change hoping to build capacity and increase resilience. Tuvalu's National Biodiversity Strategies and Action Plan (NBSAP) has addressed all the SDGs in building synergies between indigenous and local knowledge (ILK)

and modern scientific knowledge (MSK) as a basis for finding the right combinations of “soft” and “hard” interventions needed to promote sustainable development.

4. Overall Feedback

The seminar was an opportunity for me to hear diverse ideas from participants — a world view of young people’s collective thoughts about climate change and its impact on nature and humans, especially in the local context. Group work was very important as it deepened my knowledge while strengthening networks for future partnerships. I encourage future participants to read seminar materials prior to the seminar and freely share their ideas.