Paper ID	155
Author(s)	Rikutaro Okada
Title	Forest Resource Management and Local Practices in Bangladesh: Case Studies of Two Villages in Tangail District

Abstract

In recent years, increasing deforestation in tropical regions has led to growing interest in forest management and agroforestry with the objective to preserve forests. Previous studies in Bangladesh have highlighted issues with government-led forest management systems and the effective use of plant resources by local communities in homestead woodlands, through indigenous technical knowledge. However, research on the distribution and utilisation of useful trees remains limited.

This presentation focuses on two villages with different geographic conditions in Tangail District. Based on these case studies, this presentation outlines how people in Bangladesh engage with their surrounding environment, and discusses ways to improve future social forestry activities. Field observations, geographic information system-based spatial analyses, and interviews with local residents were conducted during the 2023 monsoon season.

My findings revealed that the distribution of useful trees was significantly influenced by topography and flood risk. Non-native tree species, such as Acacia spp. and Eucalyptus spp., have been integrated into local practices and functions in diverse ways, including wood production, fuel production, and ornamental planting as roadside trees. Furthermore, these non-native tree species have undergone a ""localization" process, facilitated by traditional practices adapted to the environmental conditions.

Furthermore, this study identified problems with current forest management policies, such as inadequate community participation and protected areas designation challenges. These challenges hinder sustainable management, particularly in secondary forests such as Sal (Shorea robusta) forests, which require regular disturbances for ecological maintenance.

Keywords	Plants, Land, Humans, Community Forest, Agroforestry

Paper ID	087
Author(s)	Munira Nusrat
Title	THE EFFECTIVENESS OF WETLANDS IN REDUCING URBAN HEAT DURING THE PRE-MONSOON SEASON: A CASE STUDY OF DHAKA CITY IN BANGLADESH

Abstract

Dhaka, the capital of Bangladesh, has undergone significant land cover changes over the past few decades, driven primarily by rapid urbanization and population growth. Economic, urban, and population growth have exacerbated the decline in natural wetland habitats in megacities like Dhaka. Wetland ecosystems, crucial for human well-being, have been destroyed significantly in recent decades degrading other environmental resources. The historical development of Dhaka reflects a complex interplay of urbanization, socio-economic disparities, and environmental challenges since independence. The significance of wetlands in regulating temperature in Dhaka city is multifaceted, particularly in the context of urbanization and climate change and crucial in mitigating the urban heat island (UHI) effect, which has intensified due to extensive land cover change and

degrading ecosystems led to increased land surface temperatures (LST). Urban wetlands in Dhaka could serve as crucial nature-based solutions, providing cooling effects and mitigating the UHI phenomenon for the sake of local communities. Firstly, the study will explore the cooling mechanisms of wetlands in Dhaka city, their impact on urban heat, and the implications for urban resource management while aiming to unravel the cooling effect of wetlands in a mega city like Dhaka for heat stress mitigation in the pre-monsoon season which consists of the hottest months. Finally, it will recommend how efforts should be made to preserve them as a nature-based alternative for coping with sustainable and better local resource management.

Keywords	Land, Humans

Paper ID	247
Author(s)	Ai Sugie and Shakil Khan
Title	Water resource issues in the Teknaf Peninsula, Bangladesh: Changes before and after the influx of Rohingya refugees in 2017

Abstract

The Teknaf Peninsula in Bangladesh experiences continuous water shortages owing to topographical and geological factors. Water resource problems in the region have been exacerbated by the large Rohingya influx in 2017 and intensive upsurge of camps in the area. This presentation explores changes in water use and water management of the local population before and after the large Rohingya influx in 2017. It highlights the problems facing the current water management system and provides implications for building better water management systems. We intermittently conducted fieldwork in the Teknaf Peninsula since 2018, with the exception of the Covid-19 pandemic, during which we conducted water quality surveys and interviews with the Rohingya and host communities. The Teknaf Peninsula population has been using surface water, such as spring and pond water, as well as shallow tube wells, which are common in Bangladesh, for drinking water. However, since August 2017, the Rohingya population, which is larger than the host community, has lived densely in the camp, resulting in pollution of previously used surface water. The United Nations High Commissioner for Refugees changed its strategy from groundwater exploitation to surface water use , with filtered surface water supplied by a pipeline in the Nayapara Extended camp. Water supply points were created in the camps and water was provided at scheduled times during the day. However, the location of supply points and the unequal power relations between the host community and the Rohingya meant that some people did not have access to sufficient water.

Keywords	water use, refugee camps, host community, Rohingya, Bangladesh

Paper ID	078
Author(s)	Shota Yamada
Title	Changes in the Use and Management of Drinking Water Sources in the Southwest Coastal Region of Bangladesh: Perspectives from Local Communities, Development Assistance, and Natural Environment

Abstract

The southwest coastal region of Bangladesh is characterized by a harsh natural environment, of which drinking water is particularly a serious problem. The region has historically lacked suitable drinking water resources, which has been exacerbated by recent changes in the natural environment and socioeconomic conditions, leading to serious salinity problems in ground and surface water. However, the residents have adapted to and lived their

lives in response to the harsh natural environment. For example, rainwater has traditionally been used as a drinking water source during the rainy season and pondwater from land owning households has been offered for free during the dry season. In recent years, development aid agencies have installed pondwater filtration systems that require joint management, reverse osmosis equipment to filter underground water for sale, and large tanks that are used for harvesting rainwater. This implies that villagers must incur a financial burden to obtain drinking water or change the maintenance and management of natural water sources. Furthermore, it has been observed that new water supply facilities are inadequately maintained and managed, posing water quality degradation and environmental deterioration risks. Therefore, this study depicts changes in the use and management of drinking water sources in the southwestern coastal region of Bangladesh from the perspective of local communities, development assistance, and the natural environment, investigates problems, and explores solutions.

Keywords	Water, Humans, Salinity, Tradition, Technology