**5. Socio-economic Implications: Impact on Forest-dependent Communities**

In Bangladesh, forest-dependent communities—especially those living near the Sundarbans, Chattogram Hill Tracts, and buffer zones like Lawachara—are facing severe socio-economic challenges due to climate change. These communities rely on forests for income, food, and traditional practices. However, rising temperatures, erratic rainfall, salinity intrusion, and extreme weather events are rapidly degrading forest ecosystems, directly affecting the livelihoods, food security, and social structures of millions. As forests shrink and resources dwindle, these communities are pushed into cycles of poverty, forced migration, and cultural disintegration—posing a serious threat to sustainable rural development and national resilience.

**Livelihoods and Economic Dependency**

Rural and indigenous communities across Bangladesh—particularly in forest-adjacent areas like the Sundarbans, Chattogram Hill Tracts, and Lawachara—depend heavily on forest ecosystems for both timber and non-timber forest products (NTFPs) such as honey, bamboo, medicinal plants, fuelwood, and wild fruits. These resources play a vital role in sustaining rural economies, with NTFPs contributing up to 19% of annual household income and around 27% of households relying on them for direct cash earnings. However, the intensifying impacts of climate change—including cyclones, salinity intrusion, and erratic rainfall—are reducing the availability and regeneration of forest resources, leading to significant income loss, especially among poor and female-headed households. A 2025 study revealed that climate stress has severely disrupted forest-based livelihoods in several southern villages, forcing many families to abandon traditional forest activities and shift to unstable alternatives like shrimp collection or unskilled labor. Women and youth are particularly vulnerable in this transition, often trapped in low-paying and insecure jobs. Historically, forests have served as a critical safety net for marginalized populations by offering supplementary income. Households can be categorized by their forest dependence: most dependent (≥Tk. 54,000/year), moderately dependent (Tk. 24,000–54,000/year), and least dependent (<Tk. 24,000/year). Agriculture remains the dominant occupation (37%) in these communities, followed by NTFP collection (18%), timber extraction (18%), and day labor (15%). In response to these growing threats, adaptive livelihood strategies are emerging. Floating gardens, or baira/dhap, are being increasingly used in flood-prone districts like Pirojpur, Jashore, and Barisal, allowing landless families—especially women—to grow vegetables and maintain year-round income and food security. Women-led adaptation plans are gaining momentum in coastal zones, promoting agroforestry, skill development, and small enterprises. Tree planting campaigns and community-based agroforestry are further enhancing income and climate resilience, with initiatives like BRAC’s “Amar Bon” restoring forest landscapes and supporting household economies. Despite these positive developments, sustained policy support, capacity building, and investment are crucial to scale these innovations and ensure the long-term economic resilience of forest-dependent communities.

**Food Security**

Forest ecosystems are deeply linked to food security in Bangladesh. Communities rely on forest-based foraging and agriculture to meet subsistence needs. However, climate change is degrading forest and adjacent agro-ecosystems. In the Sundarbans, for instance, saltwater intrusion has made rice fields and freshwater fishponds increasingly unproductive (Islam et al., 2024). Forest degradation also limits access to wild foods during lean seasons or after natural disasters.

A 2024 MDPI review reports that floods, droughts, and salinity have led to a 7–10% decline in national agricultural productivity. This has impacted rice yields and reduced the availability of safe, nutritious food. The situation is worse in forest-adjacent southern and northern districts, where ecosystem decline, coupled with climate shocks, exacerbates food insecurity.

To address this, a 2025 policy brief from ICCCAD recommends climate-resilient food systems such as salt-tolerant crops, community agroforestry, and diversified diets. Given that over 70% of Bangladesh’s land is under agriculture (FAO, 2023), the vulnerability of this sector to climate variability has critical implications for national food security.

**Migration and Social Disruption**

as climate change continues to degrade forest ecosystems and undermine forest-based livelihoods, internal migration is emerging as a significant coping strategy—especially among youth and working-age males. In many forest-adjacent regions of Bangladesh, including the Sundarbans and Chattogram Hill Tracts, rising sea levels, saltwater intrusion, and recurring cyclones are rendering agricultural land unproductive and reducing the availability of non-timber forest products. These environmental pressures are pushing communities to migrate to urban centers in search of alternative income sources.

This migration, however, often results in deep social disruptions. Families are split, with men leaving behind women, children, and elderly members who are left to manage shrinking household resources. The loss of able-bodied workers also creates labor shortages in rural areas, weakening traditional practices and forest-based economic systems. Studies from southwestern Bangladesh highlight how climate-induced livelihood stress is directly linked to increased rural-to-urban migration, often leading displaced families into urban slums without adequate shelter, food, or healthcare (Banu & Rahman, 2023).

By 2013, climate change had already displaced an estimated 6.5 million people in Bangladesh. The International Organization for Migration (IOM) projects that by 2050, this number may reach 13.3 million—with many coming from ecologically vulnerable zones near forests and coasts. Migration from these areas is not merely driven by poverty; it is increasingly a response to environmental displacement and loss of land and livelihood due to climate variability.

Moreover, climate-induced migration is not only an environmental or economic issue—it is a deeply social one. The breakdown of community structures, erosion of traditional knowledge systems, and rising urban poverty are leading to a cascade of socio-economic problems. Migrants often face marginalization in cities, while those who remain in the villages experience increased vulnerability, reduced social support, and psychological stress.

In summary, climate change is reshaping the demographic landscape of forest-dependent regions in Bangladesh. It is driving both voluntary and forced migration, which, in turn, is reshaping rural livelihoods, weakening social resilience, and creating new challenges for sustainable forest management and rural development.

**Traditional Knowledge and Adaptive Practices**

Forest-dependent communities possess rich indigenous knowledge systems—ranging from herbal medicine and selective harvesting to agroforestry and water conservation. Ethnic groups like the Khasia and Garo practice integrated agroforestry, growing lemon, betel leaf, and pineapple under forest canopy, which enhances soil fertility and resilience. In Lawachara, local people use terracing, rainwater harvesting, and mulching to manage water and protect soil during extreme weather (Rufford Foundation, 2023).

Adaptations in the coastal zones include floating gardens (baira/dhap), which allow for vegetable cultivation in flood-prone areas—recognized by FAO as a Globally Important Agricultural Heritage System. Raised bamboo platforms (macha) and vegetable bag cultivation also help communities adapt to flood and salinity. Additionally, sustainable NTFP harvesting and community-based forest management are helping maintain forest resources and traditional ecological knowledge (TEK), even under climate stress.