

CLIMATE CHANGE FACT SHEET

The effects of climate change in Viet Nam and the United Nations (UN) responses

The Vietnamese Ministry of Natural Resources and Environment (MONRE) has applied global climate change scenarios to Viet Nam with support from the UN and other partners. The global scenarios are taken from the Fourth Assessment by the Inter-governmental Panel on Climate Change. These are different global socio-economic scenarios associated with certain levels of future greenhouse gas (GHG) emissions, reflecting more or less severe climatic changes.

KEY HIGHLIGHTS INCLUDE:

Temperature and Rain Fall

- An average annual temperature rise in Viet Nam by 2100 of approximately 2.3°C; if the temperature rises by 1°C, the number of heat waves increases by 100 to 180 per cent, while the number of cold surges decrease by 20 to 40 per cent.
- Climate change will increase annual total rainfall everywhere in Viet Nam. In the wetter months, the probability of extreme rainfall events and flooding will also increase, especially in northern regions with increased risks of landslides in mountainous areas. With increased rainfall in June to November in Vietnam there is an increased risk of river flooding. River floods are already being exacerbated by deforestation in the upstream reaches of these rivers.
- In contrast, during the dry months, average rainfall will decrease by approximately 20 per cent, especially affecting the southern regions including the Mekong Delta. Decreasing rainfall in dry months will lead to increased drought risks, which is also because of higher temperatures that increase evapotranspiration.

Mean Sea Level Rise

- Rising sea levels have been observed over the past decades along the coasts of Viet Nam. Viet Nam's own planning parameter is a one meter rise in mean sea levels by 2100; without major action such as dyke reinforcements and improved drainage, a one meter rise in mean sea levels along the coast of Viet Nam would cause an estimated threat of inundation of 5.3 per cent of Viet Nam's total land area.

Climatic Disasters

- Viet Nam is ranked 13th of the 170 countries deemed vulnerable to the impacts of climate change over the next 30 years and is one of the 16 "extreme risk" countries.
- Viet Nam experiences an average of 6 to 8 typhoons annually and the possibility of gradual intensification of tropical storms and typhoons exist. Damage potential from tropical storms and typhoons appears to increase as a result of increasing population density in exposed areas and higher value economic infrastructure in these areas.
- Much of Viet Nam's 3,200km coastline is or should be protected by mangrove forest as it mitigates against the impacts of typhoons and storm surges. However, Viet Nam has 5,000km of river dykes and 3,000km of sea dykes that need expansion and reinforcement.

Costs of Climate Change: Infrastructure

- Without investment in greenhouse gas emissions mitigation to avoid dangerous climate change, the Asian Development Bank (ADB) predicts that by 2100 the potential losses caused by climate change to Indonesia, the Philippines, Thailand and Viet Nam may be as high as \$230 billion (or 6.7 per cent of annual GDP projected in 2100).
- Based on studies of several sectors of the Vietnamese economy, a World Bank assessment of the economics of adaptation asserts that climate change affects the poorest people

mostly, and that appropriate adaptation actions can help avoid the impacts on the poorest. The adaptation measures proposed are mostly “no regret” actions such as increased agricultural research, development and extension; expansion of irrigation for rice and other crops; and maintenance and upgrading of sea dykes and flood defences to protect urban areas and high value agricultural land, especially in the Mekong and Red river deltas.

Migration and Climate Change

- It is likely that a large number of people will have to move due to climate change and environmental degradation. Viet Nam ranks 6th among countries in the world with the highest proportion of its population living in Low Elevation Coastal Zones; as a result of a one meter mean sea level rise, 10.8 per cent of the Vietnamese population could be affected- the highest percentage among the countries analysed.

Forests

- The total area of mangrove forests reduced from 400,000 ha in 1943 to less than 60,000 ha in 2008. Mangrove cover should however expand rather than contract, because mangroves are protecting dykes, land and people from the impacts of typhoons and storm surges, and are important for marine biodiversity and local livelihoods.

Agriculture

- According to the Ministry of Agriculture and Rural Development (MARD), there are 1.6 million ha land of cultivation in the coastal areas in Viet Nam, of which paddy land is 0.9 million ha. Sea level rise will severely affect the cultivable land in coastal areas; with nearly 1.1 million ha (70 per cent) threatened by sea level rise of one meter, of which more than 930,000 ha is in the Mekong Delta, the country’s “rice basket”.
- The Mekong Delta “is a densely populated region that accounts for half of the country’s rice and even more of its fisheries and fruit products. By 2030, rising sea levels in the Delta- where four million people live in poverty- would expose 45 per cent of the land to extreme salinization and crop damage, with rice productivity falling by 9 per cent. Projections indicate that Viet Nam’s gains over 15 years in reducing poverty, as well as solid progress towards achieving the Millennium Development Goals, would be significantly affected”.
- The combination of mean sea level rise, saline water intrusion, higher temperatures, and droughts puts pressure on total agricultural production, the incomes of farmers, local and national food security and rice exports; ADB has estimated that climate change effects could hit rice and coffee production in Viet Nam from as early as 2020.

Climate Change Adaptation Action supported by UN- Viet Nam

- Training, seminars and workshops to raise awareness and cooperation;
- Research on vulnerabilities and adaptation options and community based adaptation projects;
- Climate change projects between the UN and the government; including working with MARD on strengthening institutional capacity for disaster risk management;
- Working with MPI to strengthen capacity for integrating sustainable development and climate change into national social and economic plans and investment planning;
- Working with ADB on climate proofing of infrastructure planning and development in Viet Nam to increase the resilience of the economic infrastructure; and
- Programme funded by UN-REDD which provides financial incentives to local communities to preserve forest and contribute to GHG emissions reductions.