World Food Programme

SAVING LIVES
CHANGING LIVES

PHILIPPINES CLIMATE CHANGE AND FOOD SECURITY ANALYSIS

Study

Executive Summary

Understanding key risks and vulnerabilities through the analysis of climate-related impacts on critical value chains and livelihood groups is vital for identifying the most appropriate policies and programmes that WFP, the Philippine government, and partners can implement in support of resilient food systems and achieving Zero Hunger.

As such, the Climate Change and Food Security Analysis (CCFSA) was spearheaded by the World Food Programme (WFP), the Alliance of Biodiversity International and the International Center for Tropical Agriculture (CIAT), in close collaboration with key government stakeholders that include the Climate Change Commission, Department of Agriculture, Department of Social Welfare and Development, Department of Tourism, Department of Labor and Employment, Department of Interior and Local Government, Food and Nutrition Research Institute, Department of Science and Technology, the Philippines Atmospheric, Geophysical and Astronomical Service Administration, and the Zero Hunger Task Force.

As a robust study that aims to provide a better understanding of the range of impacts that climate change will pose on food security, nutrition, and livelihoods in the Philippines, the CCFSA utilizes the Consolidated Livelihood Exercise for Analyzing Resilience (CLEAR) as its analytical framework. The CLEAR approach has been developed by WFP's Regional Bureau for Asia and the Pacific, and to-date, it has been implemented in nine countries in the Asia-Pacific Region as part of WFP's capacity strengthening program to national government partners. The CCFSA study with its rich database and insightful analyses will also serve as valuable inputs to the country's National Climate Change Action Plan and the work of the Zero Hunger Task Force.

According to the CCFSA study, the top 3 climate-related risks for food security in the coming decades are:

i) increased rainfall variability, frequency and severity in many parts of the country affecting rice and annual crops livelihood zones;

ii) rising mean temperatures that will be conducive to the spread of crop diseases and increase incidences of drought, which could in turn affect crop productivity in areas where rice and annual crop types are cultivated;

iii) extreme weather events like super typhoons which could impact agricultural and fisheries production due to the destruction of crops and fish catching/storage facilities from high wind speeds and inundation.

Key outputs of the CCFSA include:

i) the first-ever Livelihood Zones Map available at the city and municipal level for the whole country;

ii) a database of 71 indicators including crop suitability data based on medium- and long-term climate projections for key types of crops, a climate risk index for selected natural hazards, socio-economic indicators and rural-urban dynamics.

Technical Working Group:

Alliance

Photos on page 1: International Center for Tropical Agriculture (CIAT)/M. Mamon

The Livelihood Zone Map has been developed covering nine (9) major zones and 74 unique subzones in the country. These serve as a base map of dominant economic activities at the city and municipal level.

The overlay of these livelihood zones, crop suitability, hazard index and socio-economic data at the city and municipal level, as made possible through the CCFSA, can provide national agencies and provincial governments with important data-driven insights to inform the design of tailored climate change adaptation and mitigation measures. In addition, the Livelihood Zones Map is flexible enough to accommodate additional datasets, for example alternative livelihoods at the city and municipal, thereby making it a vital tool for the promotion of livelihood diversification and resilience against climate-related risks in the country.

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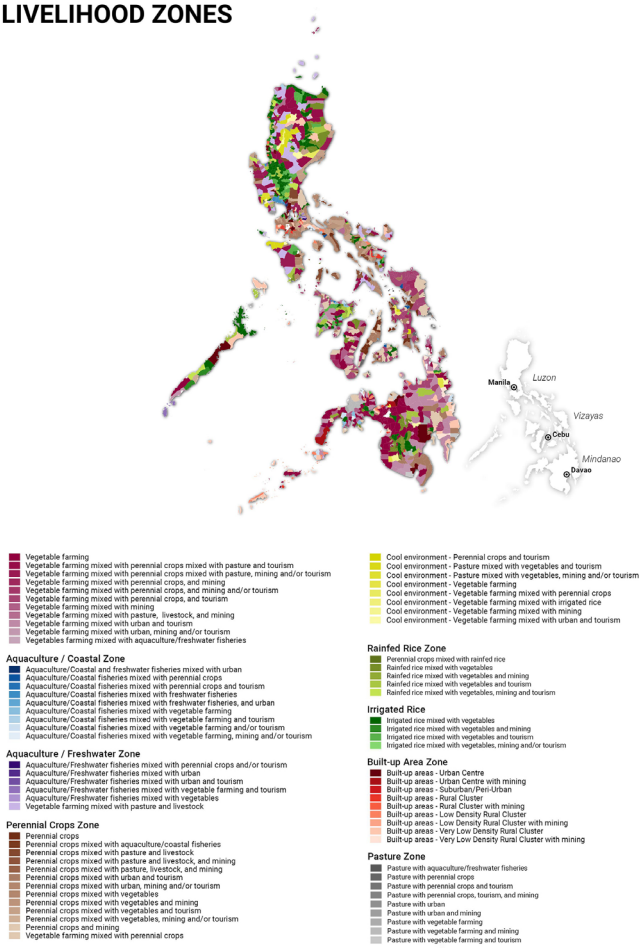

In terms of the types of livelihoods that will be most vulnerable to the impact of climate change, the report highlights that:

- livelihoods focused on the production of rice, vegetables and perennial commodity crops will be the most exposed to flooding risks, particularly in the Pangasinan and Nueva Ecija provinces, Pampanga and Bulacan, Maguindanao, Cotabato, Sultan Kudarat, and South Cotabato provinces.
- coastal communities dependent on fisheries and aquaculture in Visayas and Mindanao are projected to be affected by sea-based hazards such as sea level rise, storm surge, and saltwater intrusion.
- inland rice production areas in Mindanao are projected to face increasing drought risk.
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- pasture and livestock zones in the provinces of Apayao, Abra, Kalinga, Mountain Province, Ifugao, Benguet, and Nueva Vizcaya, will be at risk of heat stress and other climate-related hazards due to projected ambient temperatures of 30 °C or more by 2050.
- livelihoods that depend on rice and vegetable production will be most susceptible to disease outbreaks due to the projected changes in rainfall patterns and the creation of hotter and more humid conditions by 2050.

Other key model projections of the CCFSA study include a steady increase in the national production and yield of agricultural crops like rice, vegetables, roots and tubers by 2050, while for maize production and yield increases are expected be lower due to a projected reduction in productive agricultural land. In terms of crop production, the model analysis indicates that, in the Philippines, cereals – particularly maize - exhibit vulnerability to climate change, whereas vegetables, roots and tubers exhibit relative resilience.

Overall, climate variability and hazards are projected to continue having a substantial impact on agricultural, livestock, and fishery supply chains that will significantly vary at the local and regional level and is expected to affect all aspects from production to distribution to consumption across both urban and rural sectors. This in turn affects the availability, affordability and accessibility to nutritious food, particularly for the most vulnerable, poor and marginalized populations. Both the urban and rural poor that are already afflicted by indicators of food and nutrition insecurity will be the most vulnerable, particularly rural families whose livelihoods are almost exclusively dependent on agricultural income, and urban populations that spend the greater part of their household income on food.

Going forward, WFP will work closely with the Philippine government and partners to identify and co-develop the most appropriate policies and programmes to implement in order to prepare for climate risks, respond to climate-related disasters and adapt to longer-term climate change. This next step will also include working with provincial and local government actors, also given the Mandanas-Garcia Ruling. This will enhance their collective awareness and capacity to integrate these climate risk data and analytical insights into their planning processes to help address future climate-related impacts on communities' food security and livelihoods.

To access the full study, please visit:
https://bit.ly/CCFSA_WFP

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