Agricultural Cooperatives (AC) Operations in Cambodia

Empowering local farmers to manage resources sustainably is undoubtedly daunting, especially for a developing nation such as Cambodia. In the past, such engagement has faced constraints due to civil wars. However, agricultural cooperatives were re-enacted to support farmers in enhancing agricultural production and creating job alternatives, empowering them to improve their socioeconomic status and self-reliance. In developing countries, smallholder farmers are motivated to engage in ACs operations for innovative decision-making processes for crop quality and risk management, technological transfer and adaptations, and long-run market power and networks. Farmers can even access market information, loans, and deposits saving from ACs.

Our IDRC Cambodian partners focused on the degree of participation, factors influencing local engagements in ACs operations and the constraints of AC operations to support local communities. With a cohort of 421 farmers in the Kampung Speu and Pursat provinces of Cambodia, household surveys were designed to consider how factors influence local engagement. The findings indicate local engagement in ACs operations is limited and associated with water access. Other major challenges include poor management, inadequate capital accumulation, unavailable loans, loan mismanagement, a lack of skills, high illiteracy levels, small share values, a lack of access to credit facilities, access to the competitive market and a lack of support from extension services

Major constraints such as the negative impact of climate change have caused difficulty in managing crops due to changes in water patterns; thus, ACs need to adequately plan which crops should be grown in dry or wet seasons. Despite having water resources, financial resources are a major hurdle, and this serves as a massive barrier to farmers who wishes to increase their productivity and is a challenge even to motivate farmers to participate in ACs.

Measuring the income contribution of farmers with the assistance of ACs takes work. However, it has proven beneficial, especially in developing nations. AC failures were recorded, too, mainly due to the unavailability of local capacity, lack of government support, and a stable legal environment. The current struggle is to establish regional cooperations with several development partners such as the Food and Agriculture Organizations (FAO), the Japan International Cooperation Agency (JICA), International Fund for Agricultural Development (IFAD), and the World Bank.

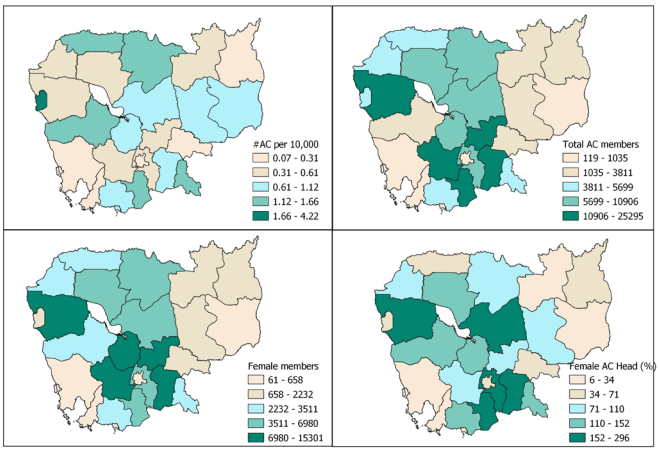

Figure 1: Number of ACs, board of directors and members by province (Nyda et al., 2022)

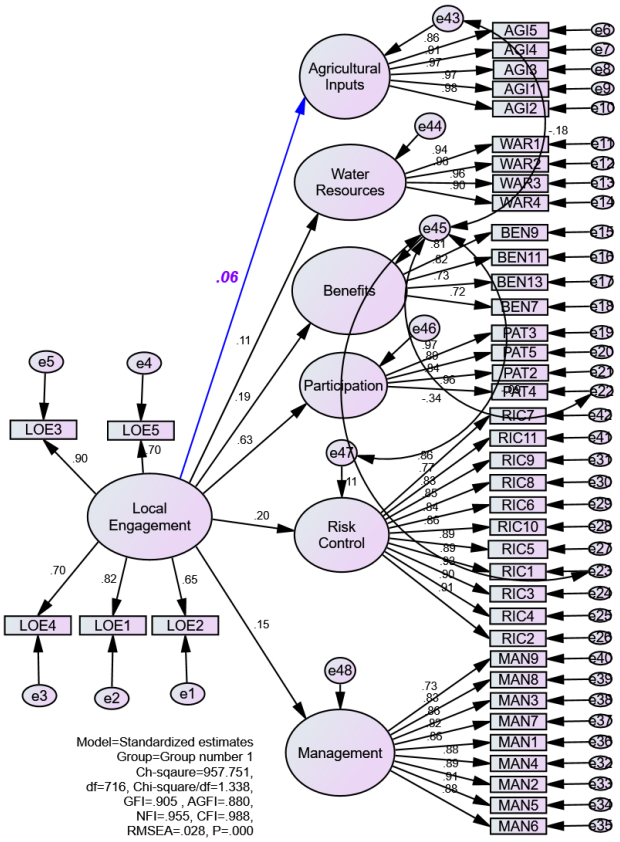

Figure 2: Structural Equation Modelling to assess AC Operations (Nyda et al., 2022)

Susceptibility to Emerging Hazards

The IDRC project successfully conducted the 2022 SEADPRI Forum on 23rd December 2022 in partnership with the Institute Geology Malaysia (IGM) and the Geological Society of Malaysia (GSM). Project members presented on emerging climatic risks such as NATECH, Sea Level Change, and Inundation in Kuala Selangor. The impact of emerging climatic hazards on pollutant mobilization across the industrial areas was assessed by characterizing ground conditions. At present, total metal content shows no correlation between the proximity to manufacturing industries (potential point sources) and elevation profile to the concentration of total metals in the soil samples. Subsidence records between November 2017 and May 2021 reveal a substantial impact along residential areas, coinciding with the locations of coastal flooding.

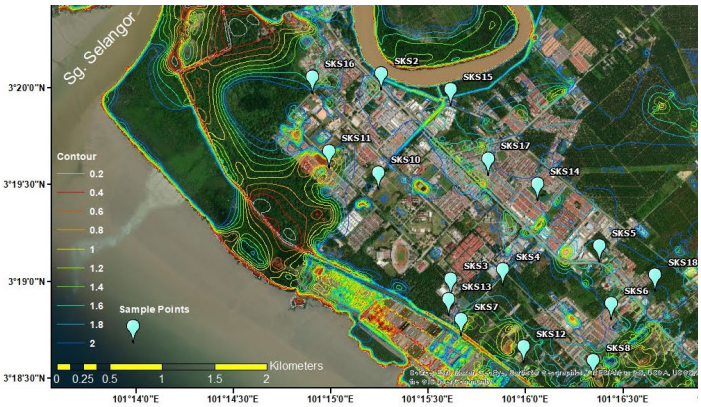

Figure 1: location of sample points in Kuala Selangor (Nurul Syazwani Yahaya, 2022)

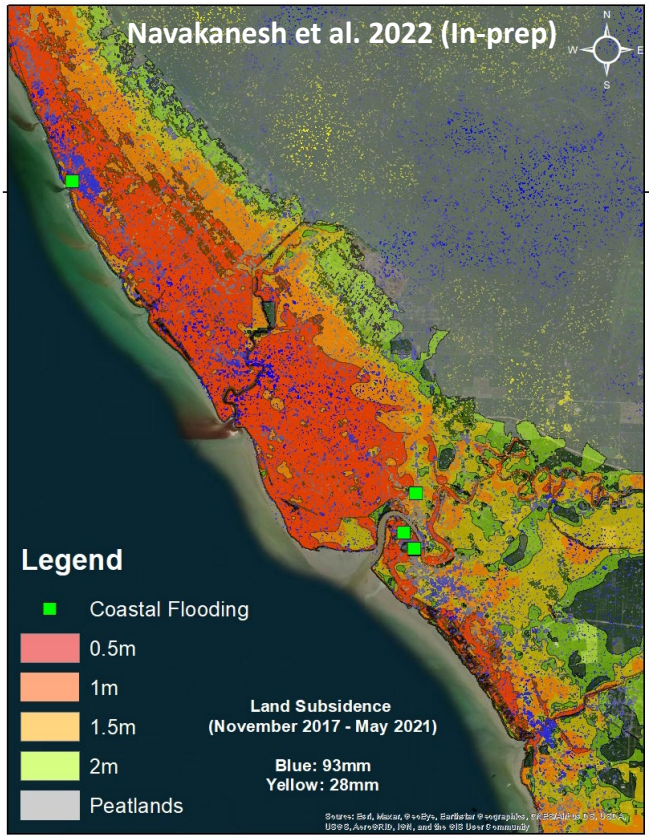

Figure 2: Coastal Inundation and Subsidence change along Kuala Selangor (Navakanesh et al., 2022)

In response to the plausible impacts of emerging climatic risks, adaptation measures such as informed planning, development of early warning systems, maintenance of drainage in vulnerable areas, risk pooling, and relocation can be implemented. Investment in remote sensing techniques, expertise in advanced geospatial assessment, and practicing better data acquisition will ensure more areas susceptible to coastal hazards are identified.

The role of the geologist to prevent and manage emerging climatic risks is necessary, especially for those who are registered with the Board of Geologists Malaysia. The involvement of the scientific community and administrative authorities will reflect a better adaptive strategy against such inevitable forces of nature. The IDRC project will continue strengthening collaboration between scientists, local communities, and decision-makers.