Youth Connect

Youth Community Resilience to Climate Change in the Mekong Delta (Y-CoRe)

Building a set of indicators to assess vulnerability due to the impact of salinity intrusion – A case study in Ben Tre Province, Viet Nam

Project background

Saline intrusion has caused numerous serious consequences in the Mekong Delta, especially for coastal provinces. If sea levels were to rise by just one meter, 45 per cent of land in the Mekong Delta would be affected by salinisation, and approximately 85 per cent of residents would require agricultural support. Given this urgent situation, assessing vulnerability to saline intrusion is critical. With seed funding support, the research team was able to implement activities including the development of an assessment index and evaluation of vulnerability caused by saline intrusion in Ben Tre province. This project provided valuable scientific data to assist policymakers in land-use planning in response to saline intrusion, both specifically for Ben Tre and more broadly across the Mekong Delta.

Project objectives

The general objective of the project was to develop a vulnerability index to assess the impacts of saline intrusion, with a case study in Ben Tre Province, Viet Nam.

The specific objectives were to:

- identify current water-related hazards and risks in the study area
- calculate vulnerability indices for each farming model affected by saline intrusion

- analyse the potential relationship between household vulnerability and surrounding socio-ecological factors, including land-use practices, water infrastructure, transportation systems, and household economic conditions.

Project overview

The project carried out the following activities:

- conducted farming household interviews
- analysed and calculated the social vulnerability index
- identified key variables for the vulnerability index.

Outstanding outcomes

The results identified distinct agricultural farming models in Ben Tre province, each associated with a specific vulnerability index consisting of 10 variables, including: 1) Main labourer; 2) Typical flooding pattern; 3) Drought evolution from 1990 to present; 4) Satisfaction level with information sharing; 5) Information sharing within the community; 6) Training level; 7) Access to loans; 8) Loan adequacy; 9) Year of saline intrusion; 10) Average flood depth.

These indicators were tailored to each farming model, allowing for accurate vulnerability assessments. Since each model exhibits different levels of resilience and adaptation to saline intrusion, appropriate mitigation and adaptation measures must also vary. From this, the research team was able to evaluate the vulnerability levels for various agricultural models, helping local farmers identify effective strategies to mitigate the impacts of saline intrusion and ultimately increase their agricultural income in Ben Tre Province.

Team member's information

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