FOCUS Vietnam — Farmer Options for Crops Under Saline conditions

Australian Centre for International Agricultural Research

Australian Aid

Determinants of adaptation strategies to saline intrusion among upland-crop farmers in a coastal province in Vietnam

Tran Thi Thu Duyen[1], Huynh Viet Khai[1*], Paul Kristiansen[2], Michael Coleman[2], Le Thanh Sang[3]

Introduction

Soc Trang, a coastal province within the Mekong Delta, is particularly susceptible to climate change and sea-level rise (Tamura et al., 2018). Farmers in this province face numerous difficulties and challenges in cultivating crops under these unfavourable conditions, with Long Phu and Tran De districts bearing the brunt of saltwater intrusion. Upland crops may offer an alternative option for farmers to adapt to these challenges.

Aim: *to explores farmers' adaptation strategies in response to saline intrusion in Soc Trang province, aiming to propose solutions that enhance their ability to cope with this environmental stressor.*

Methodology

Using collected data through in-person interviews with 204 farmers in Long Phu and Tran De districts of Soc Trang, Vietnam, a multivariate probit model was used to investigate adaptation strategies employed by farmers in Soc Trang in response to saline intrusion.

Results

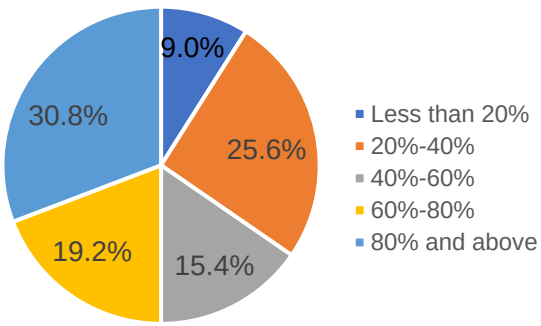

Figure 1. Percent of crop impacted by salinity

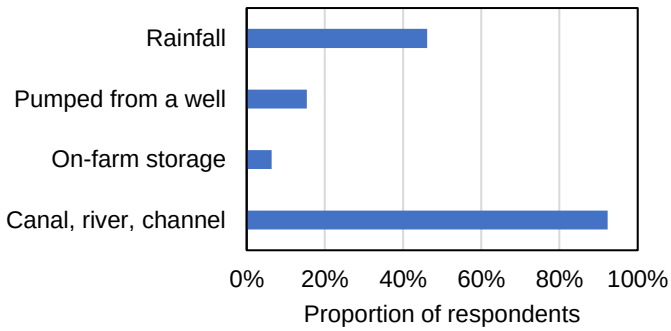

Figure 2. Irrigation water sources

Table 1. Salinity impacts

Salinity impacts on-farm	Frequency	Percentage
Decreased yield	66	84.6
Loss of income	52	66.7
More work to maintain productivity	44	56.4
Changes made to dry season crops grown	5	6.4
Changes to allocation of work for men vs women	4	5.1

Table 2. Adaptation to salinity and effectiveness (rating: 1-7)

Changes made to adapt to salinity on-farm	Frequency	Percentage	Effective-ness
Start business to diversify household income	20	25.6	5.9
Increase off-farm work	16	20.5	6.0
Grow different crops in dry season	10	12.8	5.7
Grow different varieties of same crop in dry season	5	6.4	3.8

Conclusion

- 38% were aware that their fields were affected by saline intrusion. Salinity reduced crop productivity and ultimately farmer income.
- Farmers implement some strategies to minimise losses, include conducting business operations to diversify household income sources, increasing the amount of time worked off-farm, and changing crop types/crop varieties.
- Factors influencing adaptation choices: Off-farm income, well access, and water quality influence the choice of adaptation strategies. Farmers with diverse income sources and access to wells are more likely to adopt various strategies. Younger farmers are more likely to increase off-farm work and start new businesses.

[1] School of Economics, Can Tho University, Campus II, Xuan Khanh, Ninh Kieu, Can Tho, Vietnam
[2] School of Environmental and Rural Science, University of New England, Armidale NSW, Australia
[3] College of Agriculture, Can Tho University, Campus II, Xuan Khanh, Ninh Kieu, Can Tho, Vietnam
* Corresponding author email: hvkhai@ctu.edu.vn