



Environment for Development

RESEARCH BRIEF

February 2024

More and better resources are needed to help female farmers adapt to saltwater intrusion

Based on the EFD Discussion Paper entitled “Gender-differentiated determinants of rice farmers’ choice of strategies to adapt to salinity intrusion in the Mekong Delta, Vietnam” by Dang, L.H., Pham, T.T., Pham, T.H.N & Pham, K.N.

Research questions: What factors affect male and female farmers’ choices of adaptive measures to saltwater intrusion?

Key Messages

- Saltwater intrusion has been increasing and impacts agricultural production and farmers’ lives in the Mekong Delta, Vietnam.
- Farmers have been using different adaptive measures to adapt to saltwater intrusion.
- Female farmers have more barriers in response to saltwater intrusion since they are often poor, vulnerable, and have fewer opportunities to access resources than males.
- Many demographic, socioeconomic, and farming characteristics, institutional conditions, and salinity-related variables influenced female farmers’ choices of adaptive measures.
- Female farmers are more responsive to changes in influential social and natural factors while male farmers lack the desire to change.
- Extension services, educational opportunities, training on adaptation, social networks, and associations are required to help female farmers better adapt to saltwater intrusion.

Background and Methodology

Sea level rise and saltwater intrusion are among the most significant impacts of climate change in the Mekong Delta, Vietnam. The degree of salinity has been increasing and saltwater has intruded

further inland. Farm households have employed many adaptive measures such as converting paddy land into aquaculture, rice-shrimp production, mixed cropping, restructuring crops and cultivation models, using salt-tolerant

rice varieties, growing alternative cash crops, and innovative water management practices.

Female farmers are commonly related to food production and adaptation to climate change. However, they are often poor, vulnerable, and lack resources. Male and female farmers differ in education, land ownership, access to credit, and other services so they respond differently to saltwater intrusion.

We, therefore, aimed to identify factors affecting male and female farmers' choices of adaptive measures and suggest mechanisms to enhance farmers' adaptation to saltwater intrusion in the Delta.

The research sites include Tien Giang, Ben Tre, and Soc Trang, three rice-producing provinces in the Mekong Delta. We randomly selected 274 male and 156 female farmers in Dong Thanh, An Binh Tay, and Chau Khanh communes for the survey. Each commune is in one of the above provinces. We used a multivariate probit model to identify factors affecting male and female farmers' choices of adaptive measures.

Results

Farmers have used different measures to adapt to saltwater intrusion, but they have faced lots of difficulties.

Most farmers perceived saltwater intrusion to be worsening in their areas. The most commonly used adaptive measures were:

- Changing from rice to other crops
- Saving rainwater for daily use
- Digging ponds for water storage in the garden
- Reducing the number of rice crops per year
- Seeking other income sources
- Purchasing agricultural inputs on credit

Farmers have faced the following difficulties in adapting to saltwater intrusion:

- Lack of capital (80%)
- Lack of labor (57%)
- Lack of access to technology (49%)
- Difficulties in selling rice (e.g. low prices offered by traders) (50%)
- Lack of information about adaptive measures (41%)
- Other reasons (4%)

Male and female farmers differ substantially in the factors affecting their adaptation. Female farmers have fewer opportunities for adaptation since they have limited access to different resources.

Almost all factors (except rice farm size), including demographic variables, socioeconomic and farming characteristics, institutional conditions, and salinity-related variables, have influenced female farmers' choice of adaptive measures. Among male farmers, rice farm size, the number of family members and the farmer's participation in extension services have not affected their choices of any adaptive measures.

Female farmers have been facing particular difficulties concerning capital, labor, and information access. They seem to be more responsive to changes in influential social and natural factors, while male farmers lack the desire to change. However, limited resources prevent female farmers from taking adaptive measures, while male farmers have better opportunities for adaptation.

Policy Implications

Female farmers need help and encouragement from local authorities to join more training on adaptation strategies to saltwater intrusion, educational opportunities, and local networks and associations to obtain more information and support in adaptation.

Farmers should team up and meet regularly with a facilitator. In those meetings, they observe, ask, and learn how to manage their farms. Those activities can enhance farmers' knowledge of farm management and access to information and resources. Local authorities should widen extension activities and encourage female farmers to join to promote new technologies, upgrade the skills of farmers, and speed up the implementation of adaptive measures.

Local authorities should provide female farmers with technical support, credit facilities, adaptation funds, and job opportunities to increase their abilities to adapt to saltwater intrusion.

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