



Viet Nam

DOES THE LARGE-SCALE FIELD MODEL IMPROVE HOUSEHOLD WELFARE AND REDUCE POVERTY IN VIET NAM'S MEKONG RIVER DELTA?

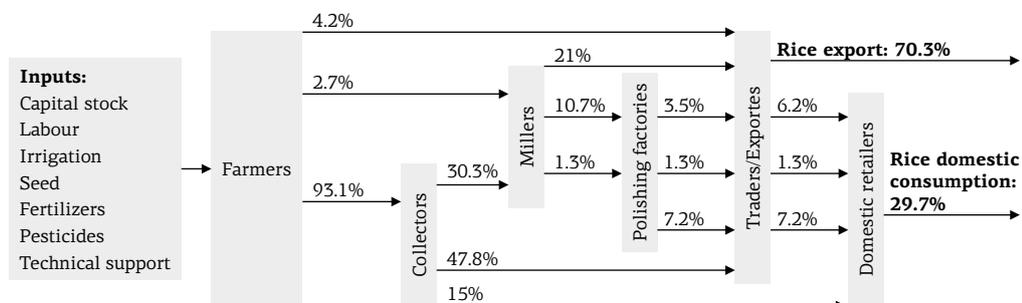
CONTEXT

Since 2006, Viet Nam's rice exports have soared, and in 2011 Viet Nam surpassed Thailand to become the world's largest rice exporter. Even though one would expect higher rice exports to directly benefit rural households at all levels of well-being, most rice producers in Viet Nam are still poor, living on less than \$2 per day.

In the last five years, the Vietnamese government has experimented with a number of price policy instruments aimed at ensuring a minimum rate of return of 30 per cent for farmers who are engaged in growing paddy. The main instrument has been minimum farm gate prices ("floor prices"), set above the average production costs, and minimum prices for exports, based on the price of rice on the world market. These policies, however, have not proven successful because only 4.2 per cent of paddy rice that was sold directly from farmers to exporters benefited from floor farm gate prices (Figure 1). The rest was

mainly bought by collectors, who operate in the informal sector, at lower than floor prices, due to the lack of enforcement measures. Consequently, the benefits of the remarkable increase in exports have not accrued to the households who actually grow the rice.

Figure 1 Viet Nam's rice value chain, 2010

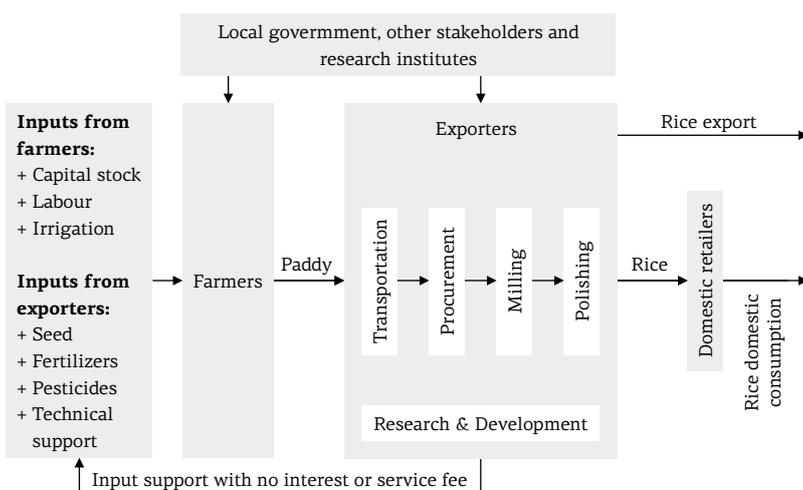


Source: Vo and Nguyen (2011).

In response to this situation, local authorities in the Mekong River Delta have designed and are currently piloting a set of policy measures under a project called Large-Scale Field Model (LSFM). The model was first implemented by the An Giang Plant Protection Joint Stock Company in the 2010–2011 winter-spring crop season, using 1,000 ha of large-scale fields in the An Giang Province (Dao *et al.*, 2013). The LSFM (Figure 2) is a value chain upgrading project involving farmers and exporters. It aims to: (a) set up a large-scale field for the cultivation of rice to make it easier to increase productivity and reduce production costs, and (b) bypass the intermediaries between farmers and rice exporters (collectors,

millers and polishing factories) so that farmers can sell paddy directly to exporters. Exporters would provide farmers with support previously supplied by the intermediaries; their participation in the project would secure them a stable supply source of high-quality paddy grain for exports. Assuming that the rents previously captured by intermediaries would be transferred to farmers, the LSFM should, in the short term, lead to an increase in the farm gate price of paddy. This price would further increase in the longer term, assuming that the exporters would be able to negotiate a better price in international markets if they could offer paddy of higher quality produced under the LSFM project.

Figure 2 The LSFM – A value chain upgrading intervention



Source: Authors, based on the case of An Giang Plant Protection Joint Stock Company (Dao *et al.*, 2013).

In this context, the main question that our analysis tries to answer is what effect the implementation of the LSFM project would have on household welfare and poverty reduction. Another question

of interest considers which of the main rice producing regions in Viet Nam – the Mekong River Delta or the Red River Delta – would be more suitable for the project. Two complementary questions

Does the Large-Scale Field Model improve household welfare and reduce poverty in Viet Nam's Mekong River Delta?

then concern the potential side effects of the LSFM: Could national food security be compromised if the LSFM results in an increase in rice exports, and would the paddy price increase in the

Mekong River Delta affect, through a price transmission mechanism, the price of rice in other parts of the country? Our study aims to answer these questions and recommends a policy option that could help improve the welfare of rice producers.

METHODOLOGY AND DATA

Our analysis shows that the LSFM will affect household welfare through the increase in the farm gate price of paddy (direct effect). This change in the paddy price will then result in changes in prices of other goods and services in the economy, which, in turn, will also affect household welfare (indirect effects). Finally, the LSFM may also affect household welfare through changes in the productivity of rice farmers and through changes in production costs.

We assume that LSFM implementation would result in increases in the farm gate price of paddy, which would vary according to the different scenarios we devise. We then use the input-output model to estimate the effects of the increase in these prices on prices of products and services other than paddy. The 2007 national input-output table published by the General Statistics Office of Viet Nam provided the data for this part of the analysis. The changes in

productivity and production costs are also assumed to vary according to different scenarios.

Next, we estimate the impact of price changes on household welfare using the approach introduced by Deaton (1989). This approach measures the change in the welfare of a household as a producer and a consumer of a good when the price of that good changes, as well as the effect of changes in wages on household welfare. For this step, data were obtained from the 2010 Viet Nam Household Living Standards Survey.

Finally, to examine the price transmission effects (side effects) of the LSFM, we calculate the impact of the changes in the domestic rice price in the Mekong River Delta on the domestic rice price in the Red River Delta. For this step, data on prices were obtained from the Information Center for Agriculture and Rural Development.

FINDINGS

The methodology described above is used to simulate three different scenarios for rural areas in the two main rice-producing regions in the country. The baseline scenario assumes a 1 per cent increase in the paddy price in both the Mekong River Delta and the Red River Delta, to compare the effects on both regions. The short-term scenario considers an increase in the paddy price of 9.9 per cent owing to a shorter value chain, a production cost reduction of 14.1 per cent and a productivity increase of 14 per cent. The long-term scenario implies an additional increase of 11.4 per cent in the price of paddy compared with the short-term scenario, due to the increase in the export price of rice. The latter two scenarios apply to the Mekong River Delta only.

The results of the baseline scenario suggest that the welfare effects of the LSFM would be negative for all rural farmers in the Red River Delta but positive for middle-income and rich households in the Mekong River Delta. Consequently, farmers in the Red River Delta might not benefit from the paddy price increase. For this reason, the LSFM project should target farmers from the

Mekong River Delta rather than those from the Red River Delta.

The short- and long-term simulations therefore focus only on the Mekong River Delta. Results suggest that the implementation of the LSFM would increase the welfare of households by 4.1 per cent of initial income in the short term and 4.9 per cent of initial income in the longer term. The LSFM would also reduce poverty rates by approximately 0.55 per cent among the 10 per cent poorest households in the short term and 0.42 per cent among the 20 per cent poorest households in the longer term in the Mekong River Delta region.

Finally, according to Jaffee *et al.* (2012), the potential increase in the volume of rice exports would not compromise national food security. Given the current low level of productivity, the expected output would be far in excess of national food security needs. The estimation results also suggest that an increase in the farm gate price of paddy following the implementation of the LSFM in the Mekong River Delta would not increase the domestic price of rice in other parts of Viet Nam.

POLICY RECOMMENDATIONS

The results of our analysis show that farmers from the Mekong River Delta should be given priority for application of the LSFM.

The estimations of the welfare and poverty reduction effects of the LSFM in the Mekong River Delta also suggest that to ensure the government objective of a 30 per cent minimum rate of return for rice farmers, the LSFM might be a better policy option than setting floors for export prices and farm gate prices of paddy.

The effects of the LSFM would not only improve household welfare in the region but also foster Vietnamese rice exports. As state-owned exporters may have fewer incentives to implement the changes proposed by the LSFM project, private exporters would likely be better candidates to lead its implementation. Successful implementation of the LSFM would however require some level of competition among Vietnamese rice exporters and hence access to the rice export quota.

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This brief draws on a study titled “Household welfare and pricing of rice: Does the Large-Scale Field Model matter for Viet Nam?” prepared by the authors for the UNCTAD Virtual Institute book titled “Trade policies, household welfare and poverty alleviation: Case studies from the Virtual Institute academic network” available at: <http://vi.unctad.org/tap>. The views expressed in this brief are those of the authors and do not necessarily reflect the views of the United Nations Secretariat.

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