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# Land Settlement Policy, Agricultural Income and Farm Organization in Thailand

A Case Study of Khuan Phumiphol and  
Lamnamnan Land Settlement Projects



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## Summary

Land settlement has been an important agricultural policy instrument in Thailand since the 1930s. Its main objectives have been: to raise agricultural production and income of the rural poor, to create nuclei of development, to generate employment and a more balanced tenure system in agriculture, to prevent the migration of young farmers to urban areas, and to relocate evacuees from dam construction. In many schemes implemented by the government, these objectives were not or only inadequately achieved. To improve settlement policies the question as to the reasons for the generally poor performance of settlement projects is of prime importance.

In analyzing the performance of two settlements programmes in Thailand, Khuan Phumiphol and Lamnamnan land settlements, and identifying requirements and possibilities for improving farm organization, cropping pattern and income of the rural population, this study is intended to contribute to a better formulation of settlement policies.

Five-year data, 1979-1983, of continuous farm activities of the same 50 respondents in each settlement were monitored by the Asian Institute of Technology (AIT) and were mainly used in this study.

The main findings of the study are that land quality in combination with the size of allocated farm land and off-farm income possibilities are the determining factors for the success of settlement programmes. In addition, agricultural support services, in particular initial land clearing, agri-

cultural extension and credit are of prime importance.

The analysis was organized in two parts: first, the review of the situation of settlers' farm organization, factor endowment and constraints and second, the analysis of possibilities for improving income and organization of the settler farms.

The results of the situation analysis of the settler farms are:

- Due to too small allocation of farm land the income of the Khuan Phumiphol settlers was mainly obtained from off-farm work followed by income from crops and livestock; Lamnamnan settlers received most of their income from crops, and off-farm work and very little from livestock.
- Throughout the study period the household income of settlers in both schemes showed an increasing trend. The increase in income was from two sources: crops and off-farm work. The increase in income from crops resulted from expansion of farm size and increase in yields from the main crops (wet rice, groundnut and soybean in Khuan Phumiphol; and wet rice, maize and mungbean in Lamnamnan).
- A comparison of the settlers with other farmers in the same region of northern Thailand showed that the average farm size in Khuan Phumiphol was smaller, while in Lamnamnan it was larger. But household income and per capita income of settlers in both schemes were still lower than the average of the region.

Since income received from farming was insufficient to support a settler's family, the possibilities for improving settlers income were examined under three aspects: one, the

situation of the best households (the top 10 per cent in terms of household income) was analysed and compared with the average settler households; two, organization and performance of the best farms (the top 10 per cent in terms of farm income); and three, the possibility of introducing new cropping patterns in the regions were reviewed.

The comparison with the best households showed that, the higher household incomes were obtained from off-farm work, i.e. more hours worked, and higher wage rates received for skilled work.

The analysis of the performance of the best farms showed that they were superior because they cultivated more land and raised more livestock. Their crop yields and prices obtained for crops and livestock were also higher.

In introducing new cropping patterns, two possibilities for improvement were examined: cultivation under rainfed conditions and the introduction of irrigation. Linear programming was employed to find optimal changes. In order to ascertain possibilities for improving the farm productivity of different groups of farmers, three different basic farm models were constructed to represent the initial allocated farm size, the average size of settlers and size of the best farms.

- Rainfed models show a high potential for increasing farm income among all groups of farmers both in Khuan Phumiphol and Lannamnan by growing mainly fruit-trees (cashew and tamarind).
- The situation is similar for irrigated models. The introduction of irrigation shows high economic viability, both

in terms of its benefit-cost ratios, which are greater than 1, and the substantial increase in farm income.

From the above results, it can be concluded that there are three possibilities for improving the income of settlers.

- 1) Through more off-farm work. At the policy level, this requires providing for off-farm employment possibilities in settlement areas. However off-farm employment may prove difficult because farmer skills are not compatible with the types of off-farm work available. It also needs to be pointed out that the country now has an over-supply of unskilled labour.
- 2) Through better farm management and marketing. The improvement of settlers' present productivity requires extending the application of improved varieties, as well as raising producer prices through more efficient marketing, particularly through formation of cooperatives and local farmers' organization.
- 3) Through improved cropping pattern. The most effective change in the cropping pattern requires introducing fruit-trees, i.e. cashew and tamarind. However, there are two constraints in implementing these changes:
  - Settlers' knowledge and marketing services: to introduce these new crops an intensive agricultural extension service is needed as well as the provision of marketing for these products. It will also require maintaining minimum prices to farmers, at least initially.
  - Liquidity during the gestation period; the cash flow in the first 4-5 years of implementation, when the trees are not fully bearing is insufficient. One pos-

sibility is to create off-farm work in the settlement areas or nearby; the other is to bridge the gestation period with a loan until farmers achieve full development and can rely on their improved farm income to meet their living expenses and debt service.

In conclusion, the study shows that successful settlement policy depends on the following factors:

- allocated land size and quality;
- initial capital for land clearing and operating;
- development of suitable cropping patterns;
- infrastructure and agricultural support services, particularly extension, marketing and credit;
- with population growth and rising income expectation, also providing off-farm employment opportunities becomes very important.