Maize in the Mae Chaem Watershed, Thailand
Upstream action to protect downstream farm systems

CONTEXT

Thailand is Southeast Asia’s leading producer of maize, which is heavily oriented toward providing feed for the poultry industry. Prior to the avian influenza outbreak of 2004, Thailand was the fourth largest exporter of poultry worldwide, generating over USD 2 billion in export receipts. Thailand’s maize production accelerated in the 1990s, primarily through contract farming arrangements, as it was introduced to Northwestern Thailand as an alternative cash crop to opium.

ENVIRONMENTAL RISKS AND IMPACTS

To enable communities in Mae Chaem to shift to alternative cash crops, the Thai government, with its development partners, facilitated improved production of maize and a variety of vegetables as well as better linkages between area farmers and traders who, in turn, deal with larger agro-processors. With increasing demographic pressures, farmers began making use of environmentally fragile areas deemed to be ‘underutilized’ and encroaching on forests. This land ‘extensification’ has contributed to deforestation, soil erosion and degradation, and overuse of agrochemicals and water pollution. Lack of coordination in water use has led to changes in local hydrology, affecting water flows for hydropower and contributing to downstream flooding.

INCENTIVES FOR MITIGATION

Northwestern Thailand serves as the catchment area for a number of the nation’s most important rivers including the Chao Phraya which supports the country’s most productive agricultural land, its supply of electricity, and economic and residential life in Bangkok. Changes in upstream hydrology, siltation from soil erosion, and pollution from heavy agro-chemical use in uplands areas thus impose high costs on the country. However, if environmental protection policies were to disrupt the livelihoods of upstream maize farmers, renewed opium production, reduced maize supply to poultry producers, and major social problems could result.

POLICY ACTION

Promoter of voluntary action

Civil society engagement with national and local government has led to promotion of better land management by generating innovative watershed planning and management organizations. The Tambon Administrative Organizations (TAOs), over 8,000 in total, have been given freedom to raise local revenues, issue local regulations, and formulate and implement development plans. Two NGOs, Raks Thai and the Royal Project Foundation, have played key roles in building the capacity of TAOs and oth-

Figure 1. Upland rice fields, Thailand. Photo credit: Raks Thai

Figure 2. Community meeting in Mae Chaem. Photo credit: Raks Thai
er groups. Raks Thai helped to develop and implement strategies for reducing deforestation by raising awareness of land rights and localizing some national regulations linked to watershed management. Data gathering, modeling, and open discussion at the local level, combined with decentralized control of defined micro-watersheds, has helped to improve the region’s environment. Raks Thai and CARE contributed to development of three-dimensional watershed maps, which have been used to facilitate agreement on land boundaries and to assign areas of responsibility to community groups and members in different parts of the watershed.

While the Royal Projects Foundation has developed and sought to promote a comprehensive organic system for horticultural production, the commercial success of this has been uneven over time. In relation to maize, there has been no comprehensive program introduced to promote more sustainable land use and production practices. The fragmented maize value chain and the very limited direct interaction between Mae Chaem farmers and the larger downstream animal feed and food processing companies has inhibited market-driven catalysts for more environmentally sustainable practices.

LESSONS LEARNED
Where supply chains are complex, commodities have low value, or market-based leverage for more sustainable practices is difficult to apply, opportunities for change may be found through decentralized multi-stakeholder platforms that address a variety of socio-economic and environmental challenges. In Northwestern Thailand, some progress has been achieved in land and water resources management through participatory processes emerging from empowerment of TAOs and the subsequent emergence of various civil society organizations. The success of these efforts required long-term support from government, NGOs, and development partners.

Figure 3. A monoculture of corn grown on inappropriate land, during harvest. Photo by Raks Thai.

This note is based upon the case study “Multiple Commodities in the Mae Chaem Watershed, Thailand” prepared by Tanja Havemann, which can be found in Steps Toward Green: Policy responses to the environmental footprint of commodity agriculture in East and Southeast Asia. This work was done as part of the Greening of Export Agriculture in East and Southeast Asia research program, coordinated by the World Bank. For inquiries, contact Steven Jaffee, sjaffee@worldbank.org. The findings, interpretations and conclusions expressed in this document do not necessarily reflect the views of the Executive Directors of the World Bank Group or the governments they represent. The World Bank Group does not guarantee the accuracy of the data included in this work.

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