Economy and Environment Program
for Southeast Asia
22 Cross Street #02-55
South Bridge Court
Singapore 048421

Phone : (65) 6438 7877
Fax : (65) 6438 4844
E-mail : hfrancisco@idrc.org.sg
Web site : www.eepsea.org

The Economy and Environment Program for Southeast Asia (EEPSEA) was established in May 1993 to support training and research in environmental and resource economics across its 9 member countries: Cambodia, China, Indonesia, Laos, Malaysia, Papua New Guinea, the Philippines, Thailand, and Viet Nam. Its goal is to strengthen local capacity for the economic analysis of environmental problems so that researchers can provide sound advice to pollcymakers.

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Is Organic Tea the Best Brew? – An Assessment of Options for Vietnamese Tea Production

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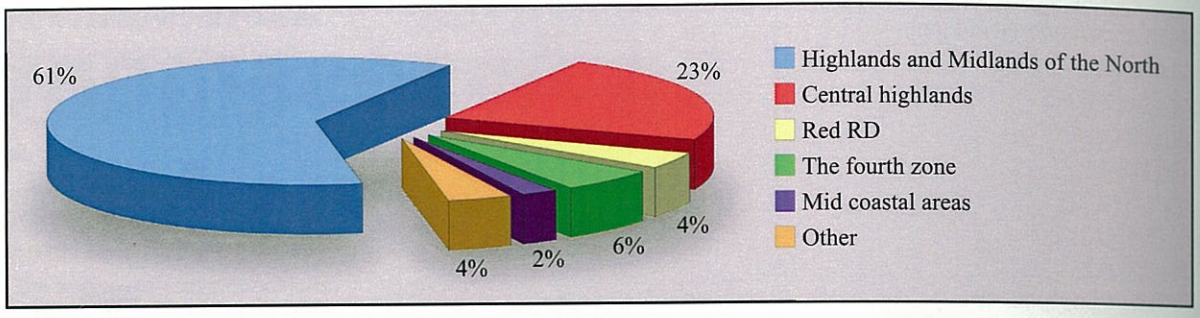
This study from Vietnam shows that a switch from conventional to organic tea productions would bring real environmental, health and economic benefits for the country's farmers and its society as a whole. In particular, the amount of agrochemical residue and waste produced by tea production would be reduced. Farmers would also be able to enjoy a better livelihood as they could command a premium →

A summary of EEPSEA research report, 2008-RR8 'Transition to Organic Tea Production in the Thai Nguyen Province, Vietnam: Economic and Environmental Impacts' by Mr. Nghia Dai Tran, Department of Natural Resources and Environmental Management, University of Hawaii, Manoa 1910 East-West Road, Room 101 Sherman Lab, Honolulu, HI 96822, USA.
E-mail: Phone: 808-956-7518 Fax: 808-956-6539
Email: nghia@hawaii.edu

"a switch to organic tea

Tea production areas in Vietnam



Source: Phuong and Trung 2004
Notes:
(1) Red RD = Red River Delta
(2) The fourth zone is commonly known in Vietnam as consisting of three provinces: Ha Tinh, Nghe An and Thanh Hoa.

price for their organic tea products. The study therefore recommends that organic tea production is the best method for farmers to adopt.

The study, which was carried out by Mr. Nghia Dai Tran, from the University of Hawaii, finds that there are a number of technical and economic challenges that confront farmers making the switch to organic production. It therefore highlights the fact that clean tea production (which has a less strict environmental management regime) can offer an interim approach that still brings higher quality standards and profitability for tea growers.

There are a number of ways in which the government can promote clean tea and organic tea production. Support from governmental agencies and NGOs in the form of technical training and on-farm monitoring is vital. The government can also create a market mechanism to guarantee a premium price for organic tea products.

Tea in Trouble

In Vietnam, tea production is mainly concentrated in 14 northern mountainous and inland provinces. The total planted area reached 122,700 ha in 2006. Tea from Vietnam is exported to more than 59 countries. The export price of Vietnamese tea is approximately USD 1.02 per kilogram or about 50% less than the average export price of tea products of other nations. The two most important factors that contribute to the poor price of Vietnamese tea are low product quality and the lack of a brand name for the product.

From an environmental point of view, conventional tea production has a number of significant negative impacts. Agrochemical use in conventional tea production is very high and tea growers have little knowledge and understanding about the dangers of pesticides and how to use them safely. Given the environmental and economic challenges facing Vietnam's tea industry, there is a strong belief among many economists and environmentalists that conversion to organic production (which totally prohibits the use of any synthetic agrochemicals) would have a positive impact on the environment, tea growers and society in general. Not only would such a switch reduce the health and environmental impacts of pesticide use, it would also allow Vietnamese tea producers to capitalise on the rapidly growing market for organic tea - a market that is being fuelled by publicity about the health benefits such tea provides.

Is Organic the Way Forward?

In his study Mr. Tran compares the social, environmental and economic performance, and impact, of organic and conventional tea farming methods. He also assesses the performance of clean tea production – an approach that minimizes the use of pesticides and other chemical inputs and adopts Integrated Pest Management (IPM) for pest and disease control.

The effectiveness and profitability of the three production methods are assessed, as are the factors that influence the adoption of the different

productions brings real benefits."

approaches by farmers. A Cost Benefit Analysis (CBA) is used to determine and compare both the private and social benefits of the organic, clean and conventional tea production methods.

Although organic tea production is not a new technology, conversion to organic tea production requires strict compliance with organic production requirements. This is risky for tea-growers. The study therefore looks at how the government could assist farmers to make the switch to more environmentally friendly methods of tea production. In particular, an assessment is made of possible market incentives and of the impact of a tax on tea produced in the conventional way.

Vietnam's Tea Growing Heartland

The study was carried out in the Thai Nguyen Province. This is one of the first provinces in Vietnam to be selected by the International Global Changing Institute (IGCI) project (funded by the New Zealand government) which aims to convert tea production to the organic method. The province accounts for 13.8% of the total tea-growing area of the country.

Representative organic tea farms, conventional tea farms and clean tea farms were chosen for the study. These were selected from four representative communes in two of Thai Nguyen's tea-producing districts (Dong Hy District and Thai Nguyen City). In-depth surveys and a panel discussion were used to collect information from 180 tea-producing households.

One of the positive impacts of organic tea production is the reduction of pesticide pollution. To investigate this issue, soil, water and tea samples were collected from the participating farms to determine the quantities of agrochemical residues they contained. The samples were sent directly to the laboratory center at the Thai Nguyen University of Agriculture and Forestry (TUAF) for analysis soon after they were taken from the fields.

Organic A Clear Winner

The results of the study show that organic tea farms in Thai Nguyen Province are very efficient and profitable. The results also show that organic tea production yields high social benefits (with a Net Present Value of 2,946,536 thousand VND over a thirty year time period). Organic tea production also contributes substantially to the reduction of agrochemical residues in farm soils and water and in the tea products they produce. It was found that, after one year of organic production, chemical residues in water and tea products fall to zero.

Clean tea production is less efficient and has a lower benefit to society than its organic counterpart. However, it performs significantly better than conventional tea production. It is also more likely to be adopted by farmers than organic tea production, even without the help of outside support or premium prices.

It is clear that premium pricing is one of the most significant reasons why farmers change to organic tea production. When the price of organic tea is about 20% higher than the regular market price, farmers are more likely to make this switch. The impact of a premium price policy scenario was found to be about 90% more effective at encouraging farmers to adopt organic tea production than a tax on conventional

Agrochemical residues in tea-cultivated soil in Tan Cuong Commune

Common name of pesticide	Health hazard rating[a]	Residue concentration level (ppb)			
		March		October	
		Conv'l	Organic	Conv'l	Organic
2,5 Dichloraniline	Toxic, 3	6.8	7.8	4.3	2.0
2,3 Dichloraniline	Toxic, 3	6.2	6.0	5.7	2.0
Propanil	Moderate	0.0	2.3	0.0	0.0
Fenobucarb	Moderate	2.0	0.0	0.0	0.0
Diocacarb	High	0.0	0.0	1.0	0.0

Note:
(1) [a]:Health hazard rating according to European Union Commission Directive 2001/59/EC.
(2) Conv'l = samples taken from a conventional tea farm

tea production.

The other factor that encourages farmers to switch to organic farming is outside support such as technical training and government extension services. It was found that if outside support and premium pricing were removed, then farmers would not adopt the organic tea production method.

Stepping Stones to Organic Tea Production

Given the socio-economic conditions in Thai Nguyen Province, the results suggest that organic tea production should be the production alternative of choice. However, the difference in benefits provided by organic and clean tea production is small, while clean tea production is more attractive to farmers. This suggests that both organic tea and clean tea production should be prioritised over conventional tea production in the short run. Moreover, introducing clean tea production as an intermediate alternative will help prepare tea farmers as they move towards organic tea production.

However overall it is clear that, in the long run (30-year period), organic tea production is the best production method because it satisfies both the needs of individual tea producers (in terms of income security) and society (in terms of a having a safer environment).

How the Government Can Help

There are a number of ways in which the government can promote organic tea production. Support from governmental agencies and NGOs already plays an important role in encouraging farmers to switch to organic tea production. It also plays a significant role in enabling tea farmers to participate in clean tea production. Technical and extension services (technical training, on-farm monitoring, non-pesticide pest control training, etc) should therefore be expanded and improved. Other forms of support, including helping farmers to market organic tea products, subsidizing certification costs, and providing organic farm inputs should also be considered.

It must be acknowledged that such technical support programs, by themselves, may not be enough to ensure the sustained growth of organic tea production in Vietnam. One form of government intervention that would help farmers make a sustainable switch to organic production is the creation of a market mechanism to guarantee a premium price for organic tea products. There is already a niche for organic tea products in the domestic market. Raising awareness of the health and environmental benefits of organic tea would help expand this market. Making product labelling mandatory would also help, as would quality control certification. Both would help ensure a more profitable domestic price for organic tea products in the long run.

An Organic Future for Vietnamese Tea

It is clear that organic tea production represents an environmentally and economically desirable outcome for Vietnam's tea production industry. However, more research is necessary. Research needs to be expanded to other tea growing areas of Vietnam, so that the current findings can be tested more fully before they are applied at the national level. Higher-yielding, higher-quality tea varieties that are more resistant to pests and diseases need to be developed. Such work would contribute to cost reductions in pest and disease control and would encourage organic tea production in Vietnam.

Due to time and resource constraints, Mr. Tran's research focused primarily on the supply side of organic tea production. The 'demand side' of tea production is therefore another area for future research. Such work could answer questions such as: 'How much would consumers be willing to pay for organic tea products in domestic markets?' And 'what marketing schemes could organic tea producers utilize in order to expand their market share domestically and globally?' It is vital to find answers to such questions if the benefits of organic production are to be maximized and its benefits enjoyed across Vietnam.

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