

Agricultural, Social and Community Development in the Royal Project

Pongsak Angkasith

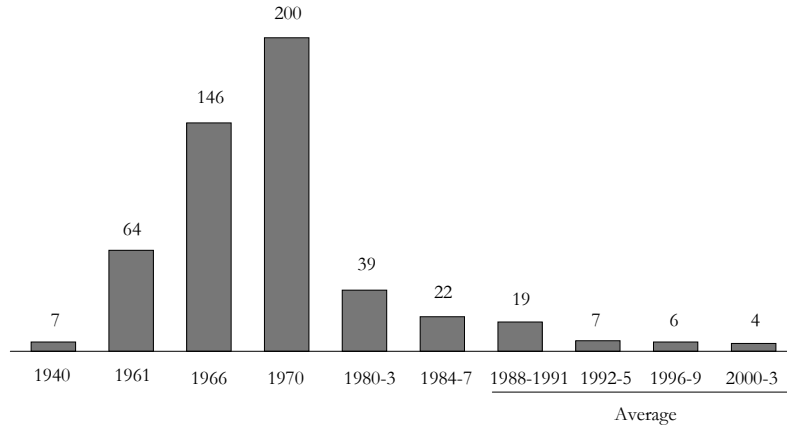
Development-lead opium replacement in Thailand

The Royal Project has established Development Centres in five provinces in the north of Thailand. Most of the development centers are close to the borders and up in the highlands. The lowest development center is about 700 metres above sea level, and the highest are 1300 metres above sea level, although parts of the areas may be as high as 1600m above sea level. These areas are remote and difficult to reach, and so the people who lived there used to cultivate opium.

I would like to present to you what we have achieved in the development part of the Royal Project. My presentation has been analyzed from our experience, and also at least three sources: the study of the socio-economic development by Chiang Mai University's team in Agricultural Economics from the Faculty of Agriculture; an evaluation of highland development in the Royal Project areas done by the Academic Service Centre of Chiang Mai University; and the Royal Project's annual reports. We have put this together and tried to analyze what we have achieved in development.

Since the beginning we have been thinking about how we could get rid of opium. Our development began with His Majesty the King's insight that fruit trees would be an alternative to opium poppy. His Majesty saw that there was the potential to exceed the income from opium by grafting improved varieties of peach onto local varieties. Underlying this was His Majesty's insight that the income from opium production was not high. This would have the benefit of inducing farmer-lead reforestation and preservation of the watershed, and would also allow the hill tribe to establish permanent residences. As you know, in the past the hill-tribe people practiced shifting cultivation. In some cases, entire villages would have to move when erosion had caused their fields to become infertile.

THAILAND ESTIMATED OPIUM PRODUCTION
TONNES, 1940-2004



His Majesty also saw that opium-farmers should not be treated as criminals. He instructed the police and the army not to try to destroy poppy fields until alternative crops had been introduced that produced a better income. This is the approach that we did in fact follow.

Considering opium production between 1940 and 2004 (see above), we see that the peak of production was about 200 tonnes in 1970 and from that year the production has declined quite rapidly. Between 2000 and 2003 the production was only about 4 tonnes per year. We are very happy to see this reduction in opium as it is a consequence of people having worked hard to develop alternatives.

The Royal Project's alternative crops

The fruit tree, flowers and vegetables, our three main products, are very popular and have a high return to the farmer, partly because the development section works closely with farmers. Farmers have to be part of our development projects: in order to introduce the new crops, they are trained, they study with us and learn from us, and we have to learn from them as well. Appropriate fruit trees have been selected to

grow in the highland. Farmers need to learn how to grow the many varieties of fruit trees introduced to the highlands, they need to learn how to transplant saplings, and have to invest some money of their own money (because we never give them for free- this is part of the concept of ‘helping them to help themselves’). Vegetables are becoming more and more popular as a crop, especially the newer varieties. Flowers are also becoming more popular because of their very high return, the drawback being that they need special and intensive care. Farmers growing flowers need more training than they do with any other highland crop.

In each area, farmers must choose their own crops to grow. With the support of our staff, farmers will choose crops that are appropriate for them and their needs. Royal Project crops extended up to now include

- *Fruit.* Apple, Grape, Kiwi, Papaya, Passion fruit, Peach, Persimmon, Plum, Pear, Raspberry, Strawberry
- *Vegetables.* Artichoke, Beetroot, Broccoli, Cabbage, Celery, Cucumber, Spinach, Pumpkin, Peppers, Turnip, Zucchini
- *Flowers.* Amaryllis, Aster, Bird of Paradise, Calla Lilly, Chrysanthemum, Heliconia, Gerbera, Liatris, Philaenopsis, Queen Protea, Ruscus
- *Herbs.* Angelica, Chamomile, Dill, Lavender, Italian Parsley, Mint, Oregano, Rosemary, Sage, Thyme, Taragon
- *Cereals and Beans.* Azuki Bean, Chick Peas, Corn, Kidney Beans, Linen Seed, Navy Bean, Rice, Sesame, Sorghum, Soybean, Wheat

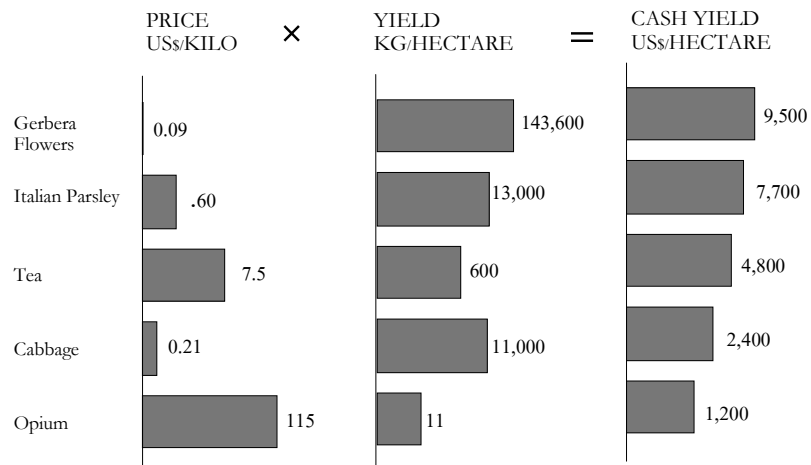
We have also extended forest products, shitake mushrooms, tea and coffee. Reviewing the cumulative number of crops introduced to date, most of the crops introduced have been vegetables, flowers and temperate fruits (see below). Herbs are becoming more important, and these are being introduced to farmers because they have very high potential, but farmers need training in their cultivation.

Crop category	Period of extension						
	1969-1973	1974-1978	1979-1983	1984-1988	1989-1993	1994-1998	1999-2004
Vegetables	0	0	21	30	37	42	62
Fruits	1	4	9	11	13	13	16
Herbs	0	0	0	0	0	9	19
Temperate flowers	0	0	2	9	14	21	25
Beans and cereals	1	1	1	1	4	5	11
Mushrooms	0	0	0	0	0	0	1
Forest products	0	0	0	4	4	10	10
Pot plants	0	0	0	0	0	0	7
TOTAL	2	5	33	55	72	100	151

Table 1: Extension date of Royal Project Crops, 1969-1973

The return from many Royal Project crops is better than the return from farming opium. You will see that the price of opium, per unit of weight, is much higher than the price of other crops (see below). The price of opium is at least \$100 per kilo, whereas lettuce here sells at the equivalent of just over twenty cents per kilo. But if we look further and calculate the yield per hectare, we see that the yield of the opium poppy is very low: in South-East Asia, one hectare yields around 11 kilos of opium, 11,000 kilos of lettuce or 143,000 kilos of flowers. Allowing for these very large difference in yield, we see that the income per hectare from growing opium is not especially high: only \$US1,200 per hectare in this example, compared to \$US9,500 from growing Gerbera flowers.

CASH YIELD OF OPIUM AND SELECTED ROYAL PROJECT CROPS

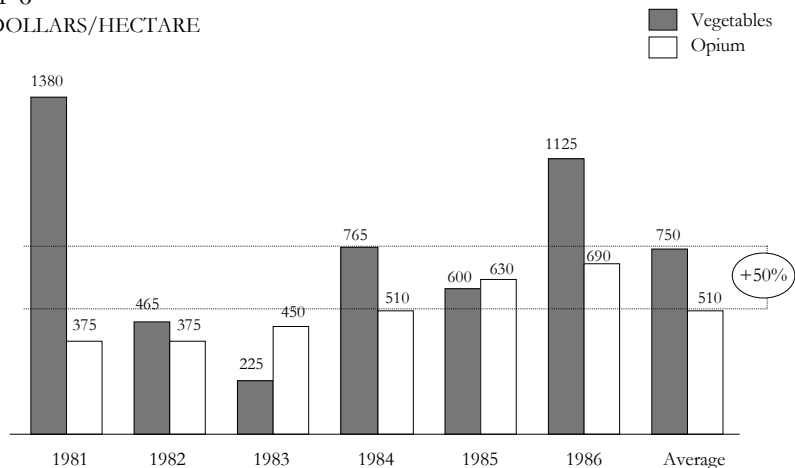


These superior returns were available to farmers in the Royal Project even before we acquired our modern infrastructure, such as refrigerated trucks. In the development centre of Mae Hae, for example, according to our estimates, farmers were able to earn 50% more from growing vegetables than they could from growing opium from 1981 to 1986 (see below).

It should be pointed out that in 1981, the centre had been open for just two years. Moreover, most of the modern infrastructure that you now see in the Royal Project, such as the refrigerated trucks and pre-cooling systems, were not installed until 1989. So these returns do not depend on modern post-harvest systems.

CASH YIELD OF VEGATABLES AND OPIUM AT MAE HAE
1981-6

US DOLLARS/HECTARE



This has driven enormous income improvements in Royal Project Development Areas. We think that the average annual income of a hill-tribe household in 1969 was around \$US95. According to our last survey in the year 2000, the average family income was about \$1,500 per year. The average lowland farmer in Thailand earns about \$2,160 per year, but the top quartile of the Royal Project farmers were found to earn about \$2,700 per year on average. Of course, some farmers in the top quartile earn more.

The Royal Project's Marketing Activities

Much of the produce of Royal Project farmers is bought by us and sold to customers through our marketing division. Some of this is sold directly to wholesale customers and some through our Doi Kham stores. It should be mentioned that farmers enter into annual, voluntary agreements to sell produce to us, and we facilitate micro-credits to finance production under these agreements. Farmers are free not to make these agreements, and to sell surplus to other buyers as they wish.

We see that within the marketing division, as in the Project as whole, vegetables are currently the most economically important crop (see below). In percentage terms, in 2003 the revenues of the marketing division were around \$3.4 million, 75% from vegetables, 12% flowers, 12% from fruit and 4% from coffee. We expect that coffee, of which we produce about 250 tonnes per year, will become more and more popular as the quality improves. We also consider herbs to have a lot of market potential.

Type	1997	1998	1999	2000	2001	2002	2003
Vegetables	555	1,278	1,557	1,743	1,830	2,217	2,517
Fruit trees	177	192	209	244	230	239	138
Flowers	143	206	296	389	383	364	407
Herbs	9	14	13	23	24	29	28
Saplings	2	3	0	22	16	6	9
Coffee	133	38	73	133	162	266	135
Mushrooms	19	21	25	20	25	33	74
Field crops	-	16	24	30	41	33	33
Others	54	38	30	64	24	39	27
TOTAL	1,092	1,805	2,226	2,669	2,735	3,226	3,368

Table 2: Revenues of Royal Project Foundation Marketing Division, 1997-2003, \$US, thousands

Social and Community Development

Now we can summarize some of the social improvements in the Royal Project development areas. We surveyed development officers and farmers, to find how Royal Project development areas compare with other areas, and with themselves three years before. Comparing Royal Project development areas with areas outside the Royal Project, we found

- the number of households having an annual income greater than \$375 per person is greater
- the level of migration out of development areas is less
- the number of communities self sufficient in food production is greater
- the number of communities with food surplus is greater
- the number of communities with access to clean water is greater
- literacy rates are greater
- the number of households with easy access to health care is greater
- the number of children receiving standard vaccinations against childhood diseases is greater
- the number of married women aged between 15 and 40 using birth control is greater

As well as helping farmers to grow and sell new crops, we also carry out community development activities. We are

- providing primary school education
- providing secondary schooling through a primary school extension scheme
- offering scholarships and offering adult education
- helping communities to set up their own community-based programs for the treatment of drug-addiction
- empowering minorities, for example through women's groups and young mothers' groups

- providing non-formal training in areas such as handicraft, tourism and career development
- developing community-based organizations such as agricultural co-operatives and forest-management groups

As part of our research, we have worked with farmers and development officers to try to measure the level of community development in the Royal Project since 2002. Based on interviews and surveys, we found that the consensus was

- farmers' groups have become stronger
- the participation of farmers in management and production planning has increased
- the level of capital accumulated by farmers has increased (decreasing their dependence on external credit sources)
- the level of overall education has increased
- the level of non-formal training has increased
- the participation of the community in the treatment of drug addiction has increased

Environmental Conservation

Another of the Royal Project's objectives is environmental conservation. Activities here include: reforestation through fruit tree cultivation and other crops that can grow as trees like coffee; soil conservation through mechanical structures like terracing and through the use of Vetiver grass; farmers' management of the forest and the watershed. We also work extensively on keeping water on the highlands, especially during March and April, by training farmers in building check-dams and conserving water.

Conclusion

In conclusion, the goals of the Royal Project's socioeconomic development plan are sufficiency, security, safety and sustainability, in respect of which we follow in His Majesty the King's foot-steps. In pursuing sufficiency we hope to enable farming families to be self-sufficient in terms of food production and income generation. In terms of security, we aim to preserve highland biodiversity and the integrity of the highland watersheds. In pursuing safety we hope to achieve peace and stability through development-based poverty alleviation. In sustainability, we hope to achieve our other goals while preserving precious environmental assets.