Options and limitations for enhancement of livelihoods in marginal upland areas of Java

Junko Goto
Independent Regional Planning Researcher,
4-9-25, Higiriyama, Konan-ku, Yokohoma, Japan

Introduction
The period of late 1990s is often viewed as a transition phase in the modern history of Indonesia. Hard hit by the currency crisis and drought of 1997, Indonesia tumbled into a political, social, and economic uncertainty after 30 years of dictatorship. After nearly ten years of neglect, agriculture is now getting more attention, but the road to agricultural development is not smooth (McBeth, 1998). Farming Systems Research (FSR) has a long history in Indonesia (Goto and Mayrowani, 2001). Starting as cropping systems research led by International Rice Research Institute (IRRI) during 1970s, the
1980s was a boom period for FSR. Several research efforts have been made to understand organization and function of integrated smallholder farming systems in different ecoregions of the country (Huszar, 1997).

In April 1995, Assessment Institutes for Agricultural Technology (AIATs) were established throughout the country (17 units in total) as part of research and development set-up of the Ministry of Agriculture. Responsibility of supervision of these Institutes was vested in Center for Agro-Socio-Economic Research and Development (CASERD). AIATs carry out applied research and support local government and farmers in their respective regions. Decentralization and regionalization became the leading concepts in FSR programs in the late 1990s.

Livelihoods in uplands

Portrayal of livelihoods presented here is based on a household survey undertaken in Sukamekar village, Cibinong District, Cianjur Regency during 1998-1999 period. During mid-1990s, southern Cianjur was identified as the target area for small farmer development because this area had been excluded in previous development programs that had benefited northern Cianjur. Northern Cianjur is well known for its high quality rice and vegetables. Southern Cianjur, in contrast, is characterized by hilly topography, poor soil and water conditions together with ill-developed infrastructure. Located far away from major consumption centers of Jakarta and Bandung, farmers in southern Cianjur grow rice and other food crops for subsistence, and clove, banana and durian (*Durio zibethinus*). Production of perishable fruits and vegetables demanded in market is, however, limited to the places connected by motorable roads.

Farmers in Sukamekar village was integrated with market in the year 1997 after the initiation of the Ministry of Agriculture’s small farmer programs called P2RT and SPAKU. P2RT was one of the major agricultural development programs of the Ministry of Agriculture during the 1990s. The program P2RT (*Pengembangan Pertanian Rakyat Terpadu* which means integrated smallholders agricultural development) aimed to provide guidance to small farmers to form cooperative groups and to optimize use of available resources to improve their well-being. The program SPAKU (*Sentra
Pengembangan Agribisnis Komoditi Unggulan which means agribusiness development center for superior commodity) tried to develop institutions and mechanisms favoring economic interests of farmers. Agribusiness development for small farmers was one of the most important concern of planners during 1990s and P2RT and SPAKU were considered to be complementary and often implemented together. This project in southern Cianjur covered 200 ha of agricultural land falling villages Sukamekar and Cikangkarent. Farmers selected banana as the key commodity for agribusiness development. Village roads were improved to enable automobile access, and farmers were organized so as to benefit from agricultural subsidies and information provided by the government. AIAT-Lembang was invited to support technology dissemination and to conduct assessment of banana-based farming systems (SUP-pisang project; AIAT-Lembang, 1997).

The banana project brought a significant change in this remote upland area. Earlier, villagers could earn daily at best Rp 3,000 (US $ 1 = roughly 3,000 Indonesian Rupiah in 1997; 10,000 in 1998) from plantation work. When this job opportunity ceased, many families resorted to sending women to work far away from home to earn money. Tenaga Kerja Wanita (TKW), a local phrase, literally means female work force. Saudi Arabia and Malaysia are two major destinations for Indonesian migrant workers (Hugo, 2002). Often not registered as overseas contract workers, these women are subjected to a high risk of exploitation and abuse. To improve the household income situation, the project encouraged farmers to adopt a systematic approach to produce banana and other commodities for marketing. According to the village chief at the time of our interview in 1998, selling banana brought farmer a daily gross cash income of Rp 7,000-10,000.

Development projects and rural economy

Our survey of fifty-one households in the year 1998/99 (Table 1) revealed that the smallest farm measured 0.04 ha and the largest one 3.32 ha. On average, a farmer operated 0.20 ha of lowlands split in 1.35 plots, and 0.72 ha of uplands in 2.06 plots (Figure 1). Average land holding of surveyed households (0.92 ha) is slightly larger than the national average (0.8 ha in 1993 Census). Farmers owned
about 81% of lowland and 85% of upland of the village. Most farmers owned sheep (4.3 heads household\(^{-1}\)) and chicken (7.1 household\(^{-1}\)). Water buffalo is used for land preparation for rice because a hand tractor is not only too expensive but also too difficult to operate in small, irregular, terraced and scattered fields. Farmers in the study village brought buffalo on rent from a farmer who owns and operates buffalo.

Table 1. Basic features of surveyed households

<table>
<thead>
<tr>
<th></th>
<th>SUP co-operator (14 households)</th>
<th>Non-co-operator (10 households)</th>
<th>P2RT co-operator (27 households)</th>
<th>Average of all categories (51 households)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upland area under cultivation (ha)</td>
<td>0.80</td>
<td>0.38</td>
<td>0.81</td>
<td>0.72</td>
</tr>
<tr>
<td>Family size (number of individuals)</td>
<td>4.14</td>
<td>3.1</td>
<td>4.22</td>
<td>3.98</td>
</tr>
<tr>
<td>Household expenditure (’000 Rp month(^{-1}))</td>
<td>378</td>
<td>286</td>
<td>367</td>
<td>354</td>
</tr>
</tbody>
</table>


Lowlands requires about 40% of total labor input. Land preparation in rice fields is usually the task of men and planting/weeding of women. Hired labor was used to a greater extent in lowlands compared to uplands (Figures 1 and 2). *Gotong royong*, the traditional system of mutual help (labor exchange without payment), was no longer practiced. Rp 5,000 were paid as daily wage to men and Rp 4,000 to women. Lowland farming was important for achieving local production based food self-sufficiency (it provided nearly 2/3rd of family requirement), while upland farming was largely for income. The average rate of commercialization was 78.9% in upland farming, while it was 15.1% in lowland (Figure 3). Among upland crops, banana was the most dominant and rewarding crop.

An average family has 4 members indicating dominance of nuclear families. A few cases of older couples residing with grandchildren were found. The parent(s) of these children were working away from home. Monthly expenditure per household amounted to Rp 354,000. This level was well above (higher than) the poverty
Figure 1. Annual labor input in lowland cultivation by an average household (n=35). HOK (hari orang kerja) means “man (woman) days engaged.”

Figure 2. Annual labor input in upland cultivation by an average household (n=51). HOK as in figure 1.
line at the time of the survey in 1998. More than half of the surveyed households had some earnings from local non-farm occupations or remittances from family members working away from home.

Small farmer typology

Based on the survey results, we realized that focusing solely on market-oriented farming was certainly not an ideal solution for every household to improve its income. There were other means of household sustenance. In order to understand these means, we developed small farmer typology based on income from farm and non-farm activities (Figure 4):

A. farming households relatively well-to-do and progressive (n=5)
B. farming households poor but subsistent (n=6)
C. farming households barely subsistent (n=28)
D. part-time farming households with a steady non-farm income (n=8)
E. farming households well-to-do with remittance incomes (n=4)
Barely subsistent farmers represented more than 50% of families and were further classified based on per capita rice produced at home and income from sale of upland crops:

C-1. small multiple job holders: almost no rice produced at home, earning cash and/or rice by working as agricultural laborers, spending a small amount of money for farming their own land and selling upland crops (n=8).

C-2. small to medium size starter farmers: with some rice production in upland and/or lowland, no or very little off-farm income, spending a lot of money for farming their own land with a poor record of sale of upland crops (n=12).

C-3. medium to large scale farmers: more than sufficient production of rice for self-consumption, a high level of farm production and an equally high level of farm cash expenditure (including payment for non-family labor), some such farmers record a large cash deficit (n=8).
Table 2 shows the key indicators and distribution of each farm type. The overall average per capita annual rice production was 170 kg. This amount of dry unhusked rice equals 100 kg of milled rice, which could be enough to meet the family need given the availability of other food crops such as corn and cassava. Relatively better-off farmers belonging to types A and E stated above had a large reserve of rice for home, while those categorized as C-1 farmers had none. There were a good number of small farmers who took part in this development project. This could be a good relief for agricultural program officers afraid of a possibility of government projects favoring large and progressive farmers only. There were two sources of income from outside the region: remittances and sale of cash crops. Almost all types of households benefit directly from crop sales. Income should somehow be redistributed from wealthier households to others, because quite a few relied on local wage jobs (farm and non-farm) as their major means of survival. In addition, some farmers held part-time non-farm jobs as carpenters, motorbike drivers, tailors, or local clerks.

Conclusions

In promoting upland crops for marketing, AIAT officers found that it was difficult to keep villagers focused on upland crops once the busy ‘rice’ cycle began. Lowland rice occupied a very important position in securing food self-sufficiency. Most villagers were not much concerned about the necessity of soil and water conservation for sustainable farming in the uplands. Realistically, options for these households to improve their income and livelihoods are not many. One may choose one of the following: (a) become a successful market-oriented farmer (small but progressive); (b) have a stable part-time job in or near the village (skill required); (c) earn significant income by sending a family member away from home; (d) earn income from miscellaneous sources in or near the village; (e) stay self-content, subsistence-oriented, producing enough to eat at home.

Should we, researchers and extensionists, feel powerless and lost, because there were only a few good candidates for market-oriented farming? I would argue that diversity in livelihoods, although difficult to understand and rationalize, is a strength and safety net in marginal hill areas. Income from cultivation of banana and chili
Table 2. Characteristics of farm types

<table>
<thead>
<tr>
<th>Type</th>
<th>Rice at home (kg/person)*</th>
<th>Total farm production ('000 Rp)*</th>
<th>Upland commercialization rate (%)</th>
<th>Family size (persons)</th>
<th>SUP cooperator</th>
<th>Non-cooperator</th>
<th>P2RT cooperator</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Progressive</td>
<td>282.7</td>
<td>7,314</td>
<td>86.3</td>
<td>5.4</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>B. Subsistent</td>
<td>251.3</td>
<td>2,796</td>
<td>84.9</td>
<td>3.5</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>C-1. Multiple job holder</td>
<td>3.8</td>
<td>274</td>
<td>77.7</td>
<td>4.0</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>C-2. Starter farmer</td>
<td>92.4</td>
<td>555</td>
<td>34.1</td>
<td>4.0</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>C-3. Local employer farmer</td>
<td>251.1</td>
<td>2,593</td>
<td>76.4</td>
<td>4.3</td>
<td>3</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>D. Part-time farmer</td>
<td>130.7</td>
<td>1,826</td>
<td>51.1</td>
<td>3.4</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>E. Rich with remittance income</td>
<td>385.4</td>
<td>3,046</td>
<td>68.4</td>
<td>3.5</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Average (Total)</td>
<td>169.7</td>
<td>2,152</td>
<td>78.9</td>
<td>4.0</td>
<td>(14)</td>
<td>(10)</td>
<td>(27)</td>
</tr>
</tbody>
</table>

Source: CASER-JIRCAS collaborative farm household survey, 1998; * farm production from September 1997 until August  
Note: Upland commercialization rate = upland crops marketed (in values)/ upland total production (in values) x 100.
boosted the local economy, although profit making from crop sales was an uphill struggle for traditional subsistence farmers in a remote place. Responding to our questionnaire, 90% farmers remarked that they were not satisfied with their farming system. Reasons for their dissatisfaction included: (a) high and rising prices of inputs viz., fertilizers, chemicals and seeds; (b) poor harvest because of pest and diseases; and (c) low prices of farm products (Figure 5). Because of continued recession and oversupply, farm gate price of banana declined sharply during the first half of 1999. Prices of chili and other cash crops also plunged.

![Figure 5. Reasons of farmer dissatisfaction. Note: Respondents gave ranks to the options (reasons) provided in the question. There are eleven reasons provided. To show the overall ranking in a simple graph, the scores of 51 respondents added first, then subtracted from 500 (because the largest sum was 460). The graph shows the top nine reasons.](image)

It is hard for the late-starters located in remote villages to compete in market. Farm input prices are going-up, while commodity prices are getting depressed. Lack of capital, knowledge and experience delimits economic benefits to small farmers. A more labor-intensive upland operation (for a better quality product) is not realistic because of diversion of labor to secure food security in lowlands and high cost of non-family labor. Even though a successful migrant worker might bring back good fortune to his/her family, it means shortage of labor required for farming and related activities as well as a big risk for the family.
Local people are very often well aware of the options and limitations better than anybody else. A government project may open a new option, but its adoption by people is determined by a variety of factors. It is often reported that farmers follow guidance as long as subsidies last. Researchers and extension workers should not be disappointed when they observe that not everybody is a progressive farmer. Instead, such diversity in livelihood may be viewed as a strength and safety net in marginal areas.

References


