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Article 1

Agriculture's Long March in Asia

By **Taco Bottema**

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On Thursday 27 March 2008, ESCAP released the 60th Economic and Social Survey covering Asia and the Pacific. It is certainly noteworthy that a survey covering the region has been in existence for 60 years. It is even more noteworthy because in 2008 the Survey features agriculture and its role in the alleviation of poverty. The last time the ESCAP Survey covered agriculture was in 1964. The conclusion of the current Survey confirms, by and large, the established opinions in the development and agriculture development communities. This article considers the major conclusions of the Survey and also provides some running comments and questions on the current dynamics of Asia's agriculture.

Throughout the region, agricultural growth is stagnating. Table 1 shows the progressive reduction in growth rates of agriculture *vis-à-vis* non-agriculture over the last 40 years. Currently agricultural growth is estimated at 1.7 per cent per annum while other sectors – industries and services – consistently have higher growth rates. This trend is a universal one; it is a reflection of structural transformation. The research question concerns the growing involvement of agriculture in the wider process of economic growth.

Table 1 Agricultural and non-agricultural growth rates 1960-2003

(average annual percentage)

	Agriculture					Non-agriculture				
	1960s	1970s	1980s	1990s	2000-2003	1960s	1970s	1980s	1990s	2000-2003
South Asia	2.9	1.7	3.6	3.2	3.0	5.7	4.7	6.4	6.2	5.9
East Asia and Pacific	4.0	3.2	3.0	1.7	0.1	7.7	7.4	4.9	5.1	5.0
Europe	1.2	1.7	2.0	1.7	-0.8	6.0	3.5	2.6	2.5	2.3
North America	-	-0.3	3.2	2.7	-1.8	-	3.7	2.7	2.7	3.2

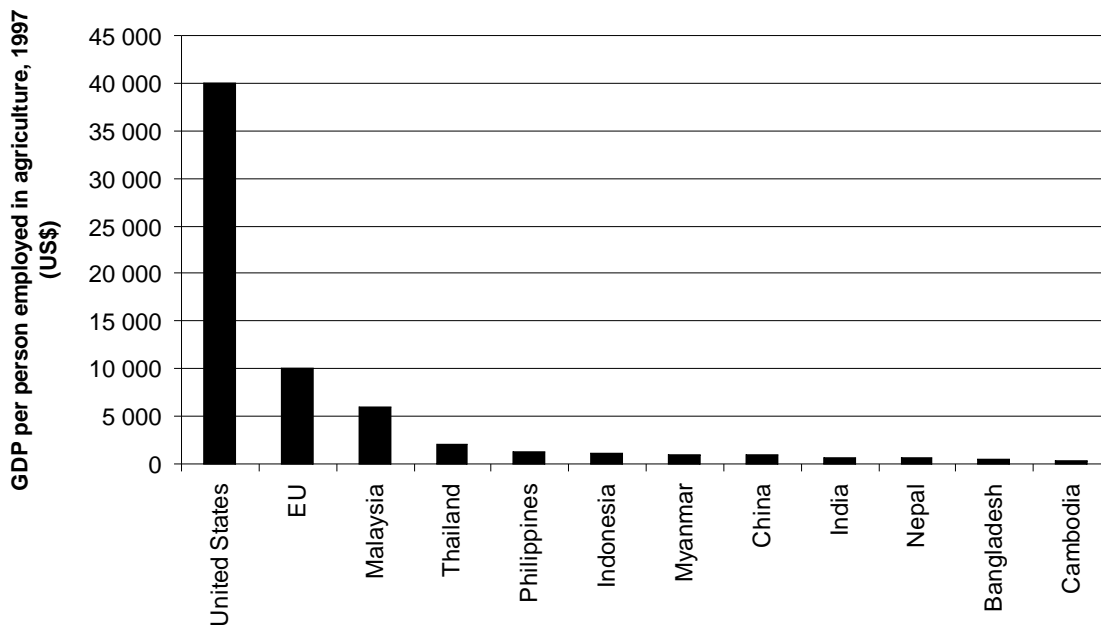
Source: Christiaensen *et al.*, 2006.



It is also well known that with economic growth the proportion of agriculture in GDP reduces. The key issue here is that through a process of underemployment, agriculture absorbs this proportion of labour resulting in very low labour productivity (Table 2). Currently labour productivity in the US reaches around US\$ 40,000 per annum, the EU some US\$ 12,000, followed closely by Malaysia at US\$ 8,000. Thailand's agriculture labour productivity now reaches US\$ 1,800 per annum, while the Philippines and Indonesia reach US\$ 1,300 and US\$ 1,100 respectively. China and India are at US\$ 800 and US\$ 700 per annum, Bangladesh and Cambodia realize US\$ 400 and US\$ 300 respectively.

necessity, also expanding infrastructure among other things. In the Republic of Korea and China land productivity still shows a strong positive trend, in Japan it has levelled out, while in Indonesia and India trends are weakly positive. It needs to be remarked that especially when it comes to land productivity, one needs to apply caution if the data are of a high aggregation level. In Asia one expects huge differences between irrigated and non-irrigated land, not to mention climate variability. Nevertheless the figures divulge something which can be called the 'Asian pathway' in agriculture development.

Table 2 Labour productivity trends in agriculture, 1980-2005



Source: ILO, 2007.

The message of these simple statistics is very clear. The global gaps in labour productivity are huge. It is very important to appreciate that the process of growth in labour productivity in the US took some 200 years. In Asia recent trends in growth of labour productivity are positive for China, the Philippines, Myanmar and also Bangladesh; but these countries are still at very low productivity levels.

Land productivities in Asia (around US\$ 1,050 per ha) are far higher than in the US (US\$ 700 per ha), but still lower than in the EU, which tops the list at around US\$ 1,375 per ha (Tables 3 and 4). Clearly, Asia is the big winner when it comes to pure growth over the last four decades. This largely reflects the impact of the Green Revolution, but by

Table 3 Land productivity by continent

	Asia	Europe	North America
Output per hectare (US\$)			
1961	370.60	615.04	374.79
1994	1 051.18	1 374.48	697.37

Source: FAO AGROSTAT Database, 2007.

It is very heartening that after the 2008 World Development Report's focus on agriculture, the most complete policy forum of the region – the Economic and Social Commission for Asia and the Pacific (ESCAP) – also devoted a chapter to the role of agriculture in development in its Annual Survey. The 2008 Survey proposes two strategic directions: revitalizing agriculture and facilitation of labour mobility towards other sectors.

By and large, these strategies fully recognize the long-term nature of the process of structural transformation. One of the key elements in shaping agricultural development policy is its complexity in combination with short and long-term interventions. This complexity starts with two groups of linkages: the connection between resources, farming and the non-farming economy at household and local level; and, the connection between local farming, local markets, inter-regional markets, national consumer centres and the export market.

The complexities are such that efforts to monitor and measure impact, especially if one distinguishes both short and long-term impact, require highly specific competence and knowledge, while donor organizations may shy away from the complexities and risks involved. Despite this many things have happened in recent years.

The general trend in Asia to strengthen local government and its mandate for local interventions

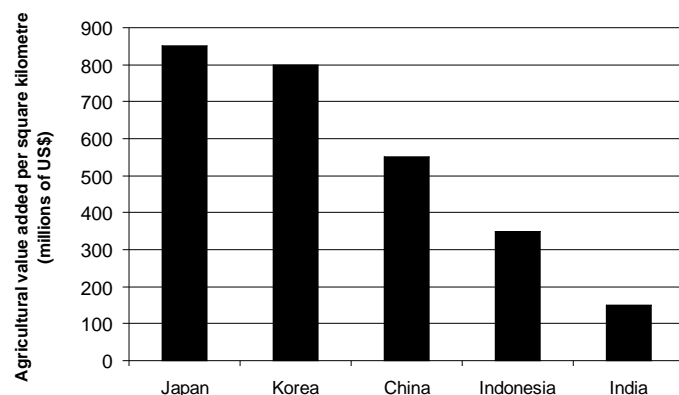
may have yielded a harvest in local initiatives; however, this still awaits careful analysis.

It is quite possible that a large number of successful local initiatives have occurred which have gone undetected. Literature on agriculture development is still somewhat compartmentalized, following the classic sub-sectoral distinctions such as food and feed crops, horticulture, silviculture, aquaculture, animal husbandry and floriculture.

It is well known that there are important synergies between the agriculture sub-sectors and it would seem important to bring these out with more clarity. Examples of synergy between animal husbandry and horticulture are classic and well known but there are increasing signs that there are similar linkages between ornamentals, animal husbandry and the production of secondary crops and organic farming especially of food and fresh produce. An important element for a process of learning from local experience is the availability of information at central points in the region. To some extent CAPSA's web-based resource, constitutes a beginning, but more is needed. CAPSA is now working towards setting up a shared web resource, together with its partner organizations throughout the region.

Taco Bottema

Table 4 Land productivity in selected countries, 1961-1994



Sources: Lee and Zepeda, 1997 and FAO AGROSTAT Database, 2007.

We all know that landholdings are highly fragmented in Asia, clearly the response has been and still is that land productivity increases, while labour productivity stagnates, or grows only marginally. The big question is where we are heading in Asia? Obviously more in-depth study is necessary. The question arises of an 'Asian labour and land productivity platform'. Follow-up research will need to be commodity-specific and really incorporate the cost side. But if one would venture an hypothesis it would have to be that land productivity still has growth options – especially at geographically favourable locations – while its growth effect on labour productivity may not necessarily be high.

The Malaysian performance is suggestive of the perception that such a platform does not have to be much

“ The Survey also confirms that agricultural development is a powerful driver of poverty reduction and social equity. ”

lower – in labour productivity terms – than the European one; however, we have to take into account the fact that Malaysia's performance is based on rubber and primarily palm oil, the prices of which are partly a function (both on the cost and the demand side) of the rising cost of energy. The long-term question may really translate into the market response of agriculture, or the capability of farmers to shift crops in response to price incentives. Here in Asia, that question relates obviously to the capability of farming households to deal with the risks involved and restrictions on scale processes.

There are many voices indicating a need of a second Green Revolution through genetically modified seeds. While this could result in higher land productivity and reduce risks especially of pest and disease, a second stream of wonder varieties is not likely to improve labour productivity in the long run, if the trends in labour productivity during the Green Revolution are anything to go by. India, Indonesia and Thailand witnessed clear sustained growth in labour productivity in the 1980s, many other Asian countries did not show such distinctive positive trends. It is very important that we analyse the current impacts of the price increases of agriculture food and industrial commodities.

The Survey also confirms that agricultural development is a powerful driver of poverty reduction and social equity. A 1 per cent increase in labour productivity would reduce poverty for 2.4 million people. The poverty elasticities vary somewhat across the region but all available evidence points in the same direction.

There are perhaps six major reasons why agriculture is held back:

1. Inequality in land ownership and the dominance of micro farms lead to low labour productivity.
2. Lack of access to education and health reduces chances for more informed farming and better health, and chances to find a living outside agriculture.

3. Investment in rural infrastructure has been quite low in most countries in the region. It is well known that access to electricity and roads provide a tremendous boost for local processing and trade.
4. Macro economic policy has not led to stability everywhere; while currently there are strong inflationary pressures.
5. Rural and farm credit remains a major issue in most countries, although some quite innovative instruments are being tried out.
6. Finally, spending on agriculture R&D and extension has been consistently low throughout the region. The share of private agriculture R&D spending in Asia is around 8 per cent as compared to some 54 per cent in developed countries.

At the moment in Asia, in general, one can speak of supply-constrained economies and consistent investment in upstream infrastructure, roads, electricity, soft infrastructure, health and education is badly needed.

This Survey pinpoints two general strategies. The first strategy aims to revitalize agriculture, connecting the poor to markets, improving rural infrastructure and agricultural technologies, increasing capacity to adapt technology. The second strategy aims to facilitate migration out of agriculture. Connectivity is the main issue here as is education to empower the poor to enter the wider labour market. The two strategies are general but they carry a lot of implications for government and donors.

While there is consensus about the roles of hard and soft infrastructure in rural areas as a necessary condition to improve agriculture and, more generally, quality of life, the very fact that agriculture is a location-specific activity is of the utmost importance. In virtually all countries of the region the national level statistics hide very substantial differences and variations in resource conditions. In every country in the region a dynamic process of shifts in production centres is going on, based on ever continuing enlargement and concentration of urban demand. The key to success and making agriculture work for the poor lies in rational guidance of this process, while recognizing that the process is and should primarily be market driven. The generally increased importance of local governments as the prime local public sector investment partners may well prove to be the key in creating the condition for proper local development. Investments and policy attention from governments and development organizations have generally fallen, probably because of the long-term nature of improvement and the complexity of the interventions and the many linkages. This has caused tiredness and doubts about the effectiveness and feasibility of public intervention

in the sector. However, if pro-poor growth is to be achieved, renewed government and donor engagement in agriculture at the central and the local level is essential. The role of the private sector has always been essential, and is constantly increasing throughout Asia.

It is more than likely that the direction of Asia's agriculture will show the increasing influence of wider economic growth in myriads of geographical patterns. It is also quite likely that the labour and land productivities in the two major types of agriculture – irrigated and rainfed – will differ substantially, with land productivity being the main pulling factor in irrigated agriculture, while one may hypothesize that labour productivity has more potential to grow in rainfed agriculture.

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(References available upon request).

Land Economy for Poverty Reduction: Current Status and Policy Implications

By I Wayan Rusastra

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Introduction

The nature of poverty is complex, and its causes are diverse; therefore intervention to reduce poverty must be tailored to particular circumstances. There are at least four strategies adopted to assist households exit from poverty: agricultural intensification and diversification, increased farm size, increased off-farm employment and income in rural areas, and rural-urban migration or exit from agriculture (Dixon *et al.*, 2001; ADB, 2006). Farmland is the most important factor in exiting poverty as the agricultural sector is traditionally the dominant employer. Access to farmland is more crucial when off-farm employment and migration are not available.

Land policy is important but complex as it is country-specific, long-term in nature and politically controversial (Deininger, 2003). Land is a key asset for the poor, and provides a foundation for economic activities and non-market institutions. Land policy addresses structural issues through improving economic opportunities for the poor. The challenges for land policy options are: giving stronger rights to disadvantaged people; allowing transferability of land; and encouraging a rental land market for wide-ranging productive economic activities. To make land reform policy feasible and applicable, it should be carefully managed, supported and co-ordinated by high-level governmental institutions.

Based on this background a study on land economy was initiated. It aimed to analyse the status of the land economy in the last two decades using the data from the Indonesian agricultural census from 1983-2003, and to establish the future direction of land policy dealing with the problems faced by marginal farmers in improving farm household income and welfare.

Current status of land economy

This section consists of four inter-related subjects including agricultural land conversion, agricultural land distribution, small farm household and land size, and the land-derived agricultural income required to support household needs.

Increases in the proportion of small-scale farmers would have an impact on the land distribution gap and could lead to rapid agricultural land conversion. For farmers with restricted off-farm employment, limited access to land will seriously affect the capacity of agricultural income to support household expenditure; and this leads to a decrease in the farmer's welfare.

Land conversion and land use planning

In the first decade (1983 to 1993), the conversion of agricultural land reached 1.280 million hectares (Table 1). The majority was in Java where it reached 1.015 million ha or 79.3 per cent, and most of this (68.3 per cent) was in agricultural wetland (Anonymous, 1996). In the next decade, 1993 to 2003, there was insignificant change in the total amount of land conversion, 1.264 million ha mainly executed in Sumatra (92.3 per cent). According to Nasoetion (2004), the total agricultural wetland conversion in Java for the period 1998 to 2004 increased, 23,600 ha per year or 61 per cent of the total converted land in the region.

cent (Table 1). The widening trend of agricultural land conversion is alarming for planners and practitioners involved in agricultural development because it takes place on productive agricultural land and/or in regions that had good agriculture and rural infrastructure, and also because of the high cost of new agricultural land development outside Java.

Analysis of agricultural land conversion should be complemented with the land utilization data of the national balance sheet. In the National Land Use Planning that was proposed by the National Land Agency (*Badan Pertanahan Nasional/BPN*) it was pointed out that the land allocated for environmental sustainability is 191 million ha including an allocation of 35.4 per cent for a 'conservation zone' and 64.6 per cent for a 'cultivation zone' (BPN, 2001 *in* Silalahi, 2006). In reality, 18.4 per cent or 12 million ha of the land in the conservation area has been exploited while 57.7 per cent or 71 million ha in the cultivation zone has not yet been developed.

Agricultural landholding distribution

The Gini ratio index used to determine the distribution gap of landholdings, ranges from 0 to 1.0. The index value indicates the width of the distribution gap, with a threshold level of 0.50 (less than 0.5 indicates the gap is low, greater than 0.5 indicates the gap is high) (Oshima, 1976 *in*

Table 1 Total of agricultural land conversion in Indonesia, 1983-2003 (hectares)

Region	Converted land			
	1983-1993 ¹		1993-2003 ²	
Java	-1 015 420	(18.7)	-387 142	(8.8)
Bali and Nusa Tenggara	-147 946	(12.2)	+35 293	(3.3)
Sumatera	-252 210	(4.4)	-1 166 895	(21.5)
Sulawesi	+134 693	(8.2)	+412 064	(23.2)
Kalimantan	-30 557	(1.4)	-95 357	(4.4)
Maluku	+21 717	(5.7)	-48 369	(12.1)
Papua	+9 455	(5.7)	-33 734	(19.2)
Indonesia	-1 280 268	(7.7)	-1 264 140	(8.2)

Source: Raw data from Series J3 of Agricultural Census 1983, J3 of Agricultural Census 1993, 2003, Central Bureau of Statistic (CBS), Jakarta.

Notes: ¹ Figure in parenthesis is the proportion of land conversion with respect to the total agricultural land for 1983 in these regions.

² Figure in parenthesis is the proportion of land conversion with respect to the total agricultural land for 1993 in these regions.

The proportion of land conversion with respect to the total agricultural land in these two decades increased from 7.7 per cent to 8.2 per cent. These results indicate that during the last decade, 1993 to 2003, the conversion rate of agricultural land outside Java was relatively high; for instance in Sumatra it was 21.5 per cent, Papua 19.2 per cent and Maluku islands 12.1 per cent. However the conversion ratio in Java decreased from 18.7 to 8.8 per

cent (Rusastra and Sudaryanto, 1999). In the three decades from 1973 to 2003 the land distribution gap consistently widened, with the Gini index increasing from 0.5481 to 0.7171 (Table 2). The distribution gap of landholdings was determined by the comparison of the Gini ratio of the household land size. A small average landholding (less than 0.10 ha) is a source of distribution inequality. The land distribution gap in Java, that generally started in 1993, was

wider than outside Java, which started in 2003 (Gini ratio > 0.50).

Table 2 Gini ratio of agricultural landholding distribution (total wetland and dry land) in Indonesia, 1973-1993

Description	Java	Off-Java	Indonesia
Without land size < 0.1 ha			
1973 ^{a)}	0.4371	-	0.5368
1983 ^{a)}	0.4557	0.4684	0.4925
1993 ^{b)}	0.2810	0.3123	0.4995
2003 ^{c)}	0.3001	0.4036	0.4046
Total household			
1973 ^{a)}	0.4479	-	0.5481
1983 ^{a)}	0.4901	0.4786	0.5047
1993 ^{b)}	0.5588	0.4774	0.6432
2003 ^{c)}	0.7227	0.5816	0.7171

Source: ^{a)} Agricultural Census 1973 and 1983 (Santoso, 1985 cited by Sayogyo, 1988), Central Bureau of Statistic (CBS), Jakarta.

^{b)} Agricultural Census 1993, Central Bureau of Statistic (CBS), Jakarta.

^{c)} Agricultural Census 2003, Central Bureau of Statistic (CBS), Jakarta.

Rusastra *et al.* (2007) provide figures on the Gini ratio of the land distribution by type for the period of 1993-2003. These are: (a) the Gini ratio of wetland versus dry land in Java is relatively similar, and there is no improvement over time; (b) the Gini ratio of wetland outside Java significantly decreased from 0.7154 to 0.4784 while the dry land remained constant at 0.5700; (c) even though, in 2003 the wetland holding distribution outside Java improved, its Gini ratio was 0.4784, approaching the threshold level 0.50; (d) in general, the distribution gap of wetland and dry land in Java and off-Java was high, as its Gini ratio was greater than 0.50. There is no clear indication whether agriculture wetland with higher productivity will have a higher Gini ratio index. Both wetland and dry land markets have great demand and the scarcity of land is relatively similar.

Small farmer and land size

A descriptive analysis on the growth of three categories, agricultural household, household landholding, and small farm household with landholding less than 0.50 ha, is presented in Table 3. In the last decade, the national proportion of the household landholding (with respect to farm household) decreased from 98.71 per cent to 95.22 per cent while the percentage of small farm household increased from 52.66 per cent to 56.20 per cent. The annual growth rate of the small farm household was higher than the household landholding: 2.39 per cent versus 1.73 per cent per year. The population of marginal farmers with land size less than 0.50 ha substantially increased from 10.8 million to 13.7 million households.

Table 3 Proportion and trend of landholding and small farm households with respect to agricultural household Indonesia, 1993-2003

Description	Java	Off-Java	Indonesia
Agricultural Census 1993 (1 000 household)			
• Agricultural household	11 671	9 116	20 787
• Household landholding	11 564	8 954	20 518
• Small-farm household	8 067	2 737	10 804
• Percentage of household landholding w.r.t. agricultural household (%)	99.08	98.22	98.71
• Percentage of small-farm household w.r.t. household landholding (%)	69.76	30.57	52.66
Agricultural Census 2003 (1 000 household)			
• Agricultural household	13 965	11 614	25 579
• Household landholding	13 377	10 979	24 355
• Small-farm household	9 990	3 698	13 687
• Percentage of household landholding w.r.t. agricultural household (%)	95.79	94.53	95.22
• Percentage of small-farm household w.r.t. household landholding (%)	74.68	33.68	56.20
Annual growth average (%)			
• Agricultural household	1.81	2.45	2.10
• Household landholding	1.47	2.06	1.73
• Small-farm household	2.16	3.05	2.39

Source: Agricultural Census 1993 and 2003. Angka Nasional Hasil Pendaftaran Rumah Tangga. Central Bureau of Statistic (CBS), Jakarta (2004).

In Java, the existence of marginal farmers was more apparent than outside Java, the proportion increased from 69.76 per cent to 74.68 per cent with an annual growth rate of 2.16 per cent per year. Although its percentage in off-Java is lower, the growth was faster with the rate 3.05 per cent per year. In 2003, the populations of these groups in and outside Java were 9.99 million and 3.70 million. For farmers with limited availability and access to off-farm employment and income, agricultural-derived income will not be sufficient to fulfil their household needs. Most of them are sensitive to external economic shocks and frequently experience vulnerability and food insecurity in their life.

Rusastra *et al.* (2007) also illustrated the descriptive analysis on food crop household by land size category for the period of 1983-2003 that provides a strong indication of land fragmentation. These indications are: (a) the average of landholding at the national level decreased from 0.99 to 0.79 ha; (b) the condition of the farmers with land size 0.10–0.49 ha: the occupation of agricultural land reduced from 10.12 to 4.46 per cent and the average landholding decreased from 0.27 to 0.09 ha; (c) the status of the farmers with land size more than 2.0 ha: the population less than 14.9 per cent, the occupation of agricultural land is approaching half of the total land while the trend of the total occupation decreased from 49.47 to 46.41 per cent, and

the land size average decreased from 3.62 to 3.26 ha; and (d) in contrast, the population of the group of farm households with land size less than 2.0 ha was around 89.0 per cent in 2003, the land occupation only 54.0 per cent of the total agricultural land. In general, this evidence indicates the inequality in land distribution amongst the farmer groups; in addition, serious land fragmentation would lead to poverty and insufficiency to support farmers' welfare.

The intervention of government and private sector in promoting small-scale farming as a driver of growth and poverty reduction should consider the current debates on the potential of small farms (Hazell *et al.*, 2007). In terms of efficiency, small farms typically use land intensively and employ a lot of labour. Relating to equity and poverty reduction, small farms are preferred to large. On the other hand, external economic shocks affect both small and large farms. But other developments may pose more severe challenges for smallholdings. New technologies requiring more capital inputs, mechanization, or high levels of education, may disadvantage smaller farms. More worrying are the implications of changes to marketing chains. Supermarket operators are becoming increasingly important in parts of the developing world. Supermarkets impose very strict standards for the quality, consistency, and timeliness of supply.

The existence of agricultural land-derived income

The capacity of land-derived agricultural income to support the household needs is presented in Table 4. In the last two decades, 1983 to 2003, there was an indication of the decrease in the farmers' livelihood. The proportion of households who have sufficient farm-derived income dropped from 59.4 to 49.3 per cent while the percentage of the farm families who have insufficient or far from sufficient income substantially increased from 37.9 to 47.4 per cent. In 2003, the proportions of households in and outside Java that had insufficient or far from sufficient land-derived income to support their needs were 53.8 per cent and 39.9 per cent. This information specified that necessary efforts should be made to increase the households' income through land-based or non farm-derived income.

The household income structure in Indonesia for 2003 indicated that 60.5 per cent of income was from farm activities and 39.5 per cent was from non-agricultural sector (Rusastra *et al.*, 2007). Balisacan *et al.* (2002) found that there were huge differences in poverty change, sub-national economic growth, and local attributes such as terms of trade regime, schooling, infrastructure and access

to technology. The welfare of the poor responded quite strongly to overall income growth, in which the poverty growth elasticity is 0.7, due to the high contribution of agricultural growth. To improve the status of the welfare of the rural poor, a focus on agriculture and rural development is necessary while at the same time maintaining the growth of the non-agricultural sector.

Table 4 Proportion of household with respect to income from agricultural land in Indonesia, 1983-2003 (%)

Year	Region	Category of land-derived agricultural income to support household needs			
		More than sufficient	Sufficient	Insufficient	Far from sufficient
1983	Java	2.44	58.54	34.65	4.37
	Off-Java	2.92	60.26	32.71	4.11
	Indonesia	2.68	59.40	33.68	4.24
1993	Java	2.96	56.02	35.77	5.25
	Off-Java	3.50	61.87	30.49	4.14
	Indonesia	3.21	58.77	33.29	4.73
2003	Java	3.03	43.21	44.14	9.64
	Off-Java	3.62	56.48	34.19	5.71
	Indonesia	3.30	49.31	39.57	7.89

Source: Central Bureau of Statistic (CBS), Jakarta: Agricultural Census 1983 (Series I), 1993 (Series D1) and 2003 (Series C).

Future policy direction

There are at least four agricultural land-related problems. For instance: (a) rapid land conversion to non-agricultural uses especially in productive agricultural land; (b) high inequality in land distribution in and outside Java; (c) the existence of land fragmentation, decreasing land size, significant increase in the proportion of marginal farmers; and (d) insufficient land-derived agricultural income to support household needs. The future policy for responding to these problems should be based on the previous descriptive analysis and current literature review on the relevant subject.

Strategic policies for preventing excessive land conversion should consider the following options (Kasryno *et al.*, 1996, Pasandaran *et al.*, 1998, and Silalahi *et al.*, 2006): (a) to develop high-value agricultural commodities in Java due to the high demand for and scarcity of land; (b) to improve the existing capacity and utilization of irrigated land and irrigation infrastructure; (c) to establish and improve regional land planning and utilization; (d) to develop regulations and law enforcement, zoning and incentive systems; and (e) to develop new agricultural land outside Java.

Land policies dealing with the decreasing land size and inequality in agricultural land distribution need to consider the following options (Rusastra *et al.*, 2007): (a) to support

land consolidation especially in regions with improved infrastructure and access to non-agricultural employment; (b) to support land transferability (land rental) through developing agricultural commodities with better comparative advantage; (c) to encourage the internal land consolidation among farmers, complemented with improved access to part-time employment in urban areas; and (d) to stimulate and develop the agribusiness partnership between the private sector and farmer groups in rural areas.

Appropriate approaches for decreasing the number of marginal farmers and improving the agricultural land-derived income are basically related to the improvement of access of the small farmers to agricultural land. UNU/WIDER¹ indicated that there are many alternative paths of access to land for marginal farmers, including formal and informal as well as spontaneous and heavily regulated pathways (Janvry and Sadoulet, 2001). The potential for community titling exists where communities have a sufficient level of social capital and leadership to manage the resource efficiently. Access to land through rental contracts (share arrangements in particular) can be effective under the condition of extensive market and institutional failures. On the other hand, formal registration and titling are essential if land is scarce and valuable, and local social capital is no longer sufficient to guarantee property rights and land trades.

In the case of Indonesia, there is no strong indication of land polarization, but land fragmentation does exist. In fact, 11.3 per cent of farm households occupied 46.4 per cent of agricultural land with an average land size of 3.3 ha per household. This size is appropriate and could reasonably lead to an increase in agricultural productivity, and support household needs. The proper strategy for promoting the marginal farmer's accessibility to land is to implement land distribution programmes (land allotment) instead of land redistribution. The evidence revealed that there are about 71 million ha of land in the cultivation zone that have not been exploited and can be developed and distributed for the benefit of marginal farmers.

Conclusion

The main problems faced by the farm households are high inequality of land distribution, decreasing land size, an increasing proportion of small farmers, and insufficient land-derived agricultural income to support household needs. Proposed policy options dealing with these issues are: (a) to give priority to agricultural and rural development, agricultural diversification, agricultural land consolidation, informal and formal activities in rural areas, and integration of rural-urban economies; (b) to develop and enhance a land tenure system (rental contracts or share arrangements) and informal land markets for better land accessibility for marginal farmers; and (c) to implement land distribution programmes that are complemented with effective agricultural and rural development.

The following arguments can be made both for and against small farms: efficiency, equity and poverty reduction, the application of new technology, and the existence of new marketing chains. Where there is no indication that supporting small farmers will have significant benefits, governments should encourage and support them to move into non-agricultural activities. Where small farms can provide benefits, the policy support should: (a) ensure a stable economy, provide public goods, good governance, and intervene in food and credit markets; (b) encourage farmers to follow market demand and improve their marketing; and (c) provide inputs and services to small farmers that are co-ordinated by all actors involved in agribusiness. ■

(References available upon request).

¹World Institute for Development Economics Research of the United Nations University (UNU-WIDER) is the first research and training centre of the United Nations University (UNU), established in Helsinki, Finland in 1984. UNU-WIDER undertakes applied research and policy analysis on global development and poverty issues.

Field Survey for Biomass Study

This project is a research collaboration between Japan International Research Centre for Agricultural Sciences (JIRCAS) and CAPSA aimed at analysing the impacts of bio-ethanol development. In February and March 2008 two field visits were carried out to collect information on the development of ethanol production from related offices in Lampung Province, Sumatra, Indonesia and to interview cassava farmers regarding the production of cassava for feedstock for ethanol processing. North and East Lampung were chosen as the sample study sites because at least one company in each of the sites will produce bio-ethanol using cassava as its feedstock. In each site, 30 farmers joining in partnership with the company are chosen as the cassava farmer sample.

The company in East Lampung asks the farmers to grow *Mukibat* variety, while the farmers in North Lampung are asked to grow *Kasertsart* variety. Some farmers in North Lampung, however, grow Thailand variety. The differences in varieties will allow comparison in yields, costs and returns by cassava varieties in analyses that will be carried out later. The most important issue in this regard is the extent to which farmers can increase cassava yield in order to support bio-fuel development that will be required to meet the national target of mixing 10 per cent of ethanol in gasoline (E-10) in 2010. Without a significant increase in yield, the increasing demand for cassava as the feedstock will create the need for more land, and this will have impacts on agricultural prices, food security, and the environment. ■

Land Policy for Poverty Reduction: Promoting Accessibility of Land for the Landless and Marginal Farmer (LANDPOL)

Farmland is the most important factor in exiting poverty and provides a foundation for economic activities and non-market institutions. The main issues related to agricultural land are decreasing land size, high inequality in land distribution, and insufficient land-derived income to support household needs (see Article 2 in this issue). Policy support to strengthen the rights of disadvantaged people and to improve their access to agricultural land is important. In view of that, a study, Land Policy for Poverty Reduction: Promoting Accessibility of Land for the Landless and Marginal Farmer (LANDPOL), has been initiated and designed to comprehensively analyse the accessibility of land for the landless and marginal farmers in respect to poverty alleviation.

This study is collaborative research between CAPSA and the Indonesian Center for Agricultural Socio Economic and Policy Studies (ICASEPS) and is funded by the Food and Agriculture Organization - Regional Office for Asia and the Pacific (FAO-RAPA). The duration of the study is from 2008 to 2009. It is one of four studies that are incorporated in the FAO-RAPA project in Indonesia, titled Pro-Poor Policy Formulation, Dialogue and Implementation at the Country Level: Indonesia.

The detailed objectives of the project are: (i) to conduct an analysis on current agricultural land policy that relates to accessibility to land for marginal farmers; (ii) to analyse the impact of current land policy on land accessibility and the effectiveness of agricultural land utilization; (iii) to formulate a comprehensive policy design for improving the accessibility to land and effective land use for landless and marginal farmers; and (iv) to implement a pilot project using the selected policy design including monitoring and evaluation, and identification of pre-conditions and a strategic plan for its replication.

The project is divided into three main activities: (i) Phase I: analysis of the current policy and programme; (ii) Phase II: policy formulation; and (iii) Phase III: policy implementation. Policy analysis will focus on the review and assessment of the existing land policy and programmes related to the access of marginal farmers and landless people to land. The study will use a qualitative approach through extensive and in-depth interviews in individual or focus group discussions with major stakeholders and key informants who are involved in national and regional land policy formulation and implementation. The study will be done in a participative way to involve the various stakeholders and determine their concerns. The main output of the analysis will be basic recommendations for formulating policy. The number and sites of pilot studies will be determined after consideration of the policy design that is adopted and the various socio-economic conditions that are considered necessary for the sustainability of the project.

The expected output is the formulation of integrated land policy dealing with land accessibility for landless and marginal farmers. It can be itemized as follows: (a) performance and prospects of agricultural land policies and programmes to improve the land accessibility for the landless and marginal farmer; (b) technical, economic, social and institutional policy support options to enhance the effective use of land and to improve the welfare status of the marginal farmer; (c) comprehensive land economic programme formulation supported by policies to improve access to and effective use of agricultural land; and (d)

implementation of a pilot project on land policy and strategic policy support for its replication.

Several meetings were organized by ICASEPS in January and February 2008 to discuss and strengthen the research proposal and project summary. The study is presently in the first phase, finalizing the research proposal and other related research plans for implementing policy analysis. ■

Analysis of Survey Data in ECOIN¹ Project

The survey data of the 167 farm households in the study village in Majalengka Regency, West Java Province, Indonesia, were analysed during October to November 2007. The results showed that non-farm income plays an important role in the household economy in the study village. It was also suggested that the farmers that rely on rice and vegetable production as a major source of income hope to develop their current agricultural production and to get more income from agriculture. These farmers showed their interest in technological improvements such as the application of new varieties as measurements for the farm development. On the other hand, due to the restriction of land and irrigation water, it is difficult to diversify their crops by introducing new crops that have larger water requirement. Therefore, in order to improve their farm economy, it will be necessary for the farmers to maintain their current cropping pattern while introducing new technologies which improve productivity. The results also showed that the farmers who get less income from agriculture have a preference to expand rice production through land procurement. It seems to be controversial but the supplemental information collected during the interview survey showed that the major purpose of their rice farm expansion is supposed to keep land as an asset. The survey results were presented in the annual meeting of the Agricultural Economics Society of Japan, 27-28 March 2008 at Utsunomiya University, Utsunomiya, Japan. ■

Visit by Professor Ivan Buddenhagen

On 17-18 March 2008, Prof Ivan Buddenhagen of the University of California, Davis, founder of the blood disease-resistant budless banana, *kapok*, visited CAPSA to discuss further implementation of the Blood Disease Project in Kalimantan, Indonesia. He also had a chance to meet Dr. Sobir of the Tropical Fruit Research Centre of IPB (Bogor Agricultural University) and Mr. Hariyadi of the Indonesia-Netherlands Association (the donor agency). ■

New Publication



The Impact of Support for Imports on Food Security in Indonesia

By I Wayan Rusastra, Togar A. Napitupulu and Robin Bourgeois, 2008. CAPSA Working Paper No. 101, xii, 58 p., ISBN 978-979-9317-69-8.

This study on the impact of import support on food security was conducted in eight developing countries – including Indonesia – that were facing food insecurity and were recipients of subsidized exports and food aid. In Indonesia, the analysis of import flows in comparison with overall production and consumption data led to the selection of the three import substitute commodities for the focus of this study, soybean, sugar and milk. The objective of the study was to provide an analysis of the national impact of export support measures on food security, by taking into account their impact on the producers and consumers of the three commodities under consideration. ■

¹ECOIN = Impact Analysis of Economic Integration on Agriculture and Policy Proposals toward Poverty Alleviation in Rural East Asia.

Palawija News

CAPSA's research newsletter is published three times a year and is distributed free of charge to interested individuals. To have Palawija News delivered by email please contact library@uncapsa.org, or to download, please visit www.uncapsa.org.

Authors are invited to contribute articles on socio-economic aspects of recent good practice in research and development related to secondary crops, food security, rural poverty alleviation and the agricultural sector in Asia and the Pacific.

The word limit for articles is 2500. Contributors are asked to first submit a concise summary of their article by email to library@uncapsa.org.

Palawija – derived from Sanskrit, this is the common term for secondary crops in Indonesian and traditional Malay languages.

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CAPSA

The Centre for Alleviation of Poverty through Secondary Crops' Development in Asia and the Pacific (CAPSA) is a subsidiary body of UNESCAP. It was established as the Regional Co-ordination Centre for Research and Development of Coarse Grains, Pulses, Roots and Tuber Crops in the Humid Tropics of Asia and the Pacific (CGPRT Centre) in 1981 and was renamed CAPSA in 2004.

Objective

CAPSA promotes a supportive policy environment in member countries to enhance the living conditions of rural poor populations in disadvantaged areas, particularly those who rely on secondary crop agriculture for their livelihood, and to promote research and development related to agriculture to alleviate poverty in the Asia and Pacific region.

By Airmail