

ASIAN VILLAGE ECONOMY AT THE CROSSROADS: REPLY

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IN a recent issue of this journal, Mr. Hiromitsu Umehara developed a basic criticism [4] on a major thesis of our book, *Asian Village Economy at the Crossroads* [1]. It is our honor to receive comments from a distinguished scholar like Mr. Umehara who has accumulated empirical knowledge on rural Asia through a number of intensive field surveys in the Philippines. In this note we do not attempt to reply Mr. Umehara's comments enumeratively, but rather we try to clarify basic differences in our perspectives and to examine whether the differences are based on different viewpoints or different interpretations of empirical evidence.

Both Mr. Umehara and we share a common perspective that inequality in income distribution has been increasing in the rural sector of tropical Asia. However, we identify different causes of the growing inequality. It is our thesis that the growing inequality has been resulted mainly from strong population pressure on limited land resources, which has reduced the return to labor relative to the return to land, thereby widening the income disparity between landless and land owning classes. In this perspective the diffusion of new rice technology such as fertilizer-responsive, high-yielding modern varieties (MV) has the effect of counteracting increases in poverty and inequality, since MV technology raises the marginal product of labor while it is neutral with respect to scale.

In his review Mr. Umehara does not clearly state his position. However, it appears that he identifies modernization forces including diffusion of MV and development of capitalistic market system as the basic factors underlying the growing poverty and inequality. He argues that "it is impossible in reality for MV technology to be neutral with respect to farm size" [4, p. 347] because efficient use of MV technology requires a large amount of working capital to purchase fertilizers and other cash inputs, thereby its benefit being captured exclusively by large wealthy farmers; moreover the increased risk involved in the large application of cash inputs under the capitalistic market system increases the probability of small farmers to face financial crisis which forces them to sell out their land and slip down to the rank of landless laborers; thus, both large farmers and the agribusiness of supplying modern cash inputs gain from MV diffusion at the expense of small peasants.

Such argument is typical of neo-Marxists' criticism on the "green revolution." However, such criticism does not seem to stand in the face of accumulated evidence in the past. A large number of studies referred to in Chapter 3 of our

book show that, in general, there was no significant difference in the rates of MV diffusion and of productivity increase among farmers of different farm sizes and different land tenure classes; some of econometric studies also support the hypothesis of scale neutrality of MV technology. The same results were obtained from our village studies as advanced in our volume [1, Chaps. 5, 6, 8, and 9]. On what empirical grounds does Mr. Umehara refute the hypothesis of scale neutrality?

It is absurd if Mr. Umehara implies that agribusiness gained at the expense of small peasants. It is true that the share of output accruing to modern cash inputs increased relative to the share of land and labor with the diffusion of MV technology. But, the absolute income accruing to land and labor increased corresponding to yield increase, and farm operators' income after deducting all paid-out expenses including hired labor wages from output also increased in normal years as clearly shown in Table I for the province of Laguna, Philippines, known as a heartland of the "green revolution" (also see [1, Chap. 9] for the Indonesian case).

First of all, is there any reason for farmers to adopt MV if it is not profitable for them? Since the publication of T. W. Schultz's *Transformation of Traditional Agriculture* [3], it has been established that peasants in developing countries are rational resource allocators. It is just inconceivable that they adopt new technology if it only benefits agribusiness and does not benefit themselves. In fact, in places where the planting of MV was found to be unprofitable due to unfavorable environmental conditions, farmers shifted back to traditional varieties after they tried MV [1, Chap. 8].

Of course, MV technology is not a panacea to eradicate poverty and inequality. The strong population pressure that reduces the return to labor relative to the return to land has been aggravating the lot of landless laborers and marginal farmers who have little income-earning assets besides their own labor. Moreover, as Mr. Umehara correctly points out, the increased risk involved in MV adoption often resulted in farmers' financial crisis manifested by credit defaults and land rent arrears. However, the observation of such financial crisis for particular persons and in particular years is by no means evidence rejecting the hypothesis that both large and small farmers, on the *average*, benefited from new technology.

Mr. Umehara cites as an evidence of increased poverty of farmers a wide occurrence of land rent arrears in Central Luzon, which had seldom happened before. However, this phenomenon was caused by changes in land tenure system due to land reform. Under the *hacienda* system before the reform, land rent arrears were impossible for whatever destitution sharecroppers faced, because the rent was collected at the time of threshing harvested crops by large threshing machine (*tilyadora*) hired by *hacenderos*; if the residual after the rent payment did not meet tenants' subsistence, they borrowed money from *hacenderos*; thus, most sharecroppers in *haciendas* were almost like debt-bonded slavery. With the land reform, sharecroppers were converted to leaseholders (or amortizing owners) with a rent fixed at a low level. Thus, they can now capture all the benefit from increased production due to new technology. Although farmers' financial crisis

TABLE I
CHANGES IN FACTOR AND PERSONAL INCOME SHARES OF RICE OUTPUT PER
HECTARE IN THE LOWLAND RICE AREA IN LAGUNA, PHILIPPINES
(1966, 1970, and 1981 Wet Seasons)

| | 1965 | 1970 | 1981 |
|---|-------------|-------------|-------------|
| Farm surveyed (no.) | 157 | 152 | 100 |
| MV users (%) | 0 | 95 | 100 |
| Share tenants (%) | 91 | 82 | 6 |
| Paddy output (kg/ha) | 2,238 (100) | 3,100 (100) | 4,163 (100) |
| Factor shares (kg/ha) ^a | | | |
| Current input ^b | 140 (6) | 319 (10) | 739 (16) |
| Capital ^c | 182 (8) | 206 (7) | 739 (16) |
| Labor | 797 (36) | 1,005 (33) | 1,321 (29) |
| Land | 868 (39) | 1,062 (34) | 779 (17) |
| Operator's surplus | 251 (11) | 508 (16) | 1,035 (22) |
| Primary factor income (kg/ha) ^d | 1,916 (100) | 2,575 (100) | 3,135 (100) |
| Personal income shares (kg/ha) ^a | | | |
| Farm operator ^e | 592 (31) | 771 (30) | 1,357 (43) |
| Hired laborer | 473 (25) | 769 (30) | 1,027 (33) |
| Landlord ^f | 851 (44) | 1,035 (40) | 751 (24) |

Source: [2].

Notes: 1. Based on random sample surveys in respective years.

2. Figures in parentheses are percentages.

^a Converted to paddy equivalents by factor-output price ratios.

^b Seeds, fertilizers, chemicals, fuel, and irrigation fee.

^c Fixed capital services evaluated by market rental rates.

^d Output minus current input and capital.

^e Include imputed family labor wages, imputed rent of owner-operated land, and operator's surplus.

^f Exclude imputed rent of owner-operated land.

due to either crop failure or mismanagement is now not uncommon, there is no doubt that the lot of farmers, on the *average*, has improved considerably over the past two decades. Meanwhile, landless laborers have been left behind because they received no benefit from land reform and their gain from new technology in the form of increased labor demand was counteracted by increased labor supply from population growth. In our opinion this has been a major source of growing income disparity in the rural sector of the Philippines in recent years.

Another major controversy revolves around the present course of agrarian change. We identified two courses of agrarian change: One is polarization of peasantry into two distinct classes, large commercial farmers and landless proletariat, who are related through impersonal market; and another is peasant stratification in which peasantry is differentiated cumulatively into a larger number of peasant subclasses ranging from landless laborers to non-cultivating landlords, while they are tied one another in traditional patron-client relationships and even the landless laborers are not entirely alienated from the means of production and from the products of their own labor. In our observation some villages in tropical Asia are en route to polarization and others en route to

peasant stratification but, as of now, the movement toward peasant stratification seems relatively more predominant.

Mr. Umehara denies our contention that peasant stratification is more dominant, although he does not make it very explicit whether he considers polarization a more dominant trend. His criticism on this point focuses on the evidence that we have cited. First, he argues that the development of multistage landlordism through a practice of subtenancy contracts is exceptional and does not represent a general trend in the Philippines. We don't particularly disagree. Indeed, subtenancy contracts have been practiced so far in a rather small scale, because subtenancy is illegal by the land reform laws and, if a sub-lessee takes a legal action and proves that he is the actual cultivator of the land, he can obtain a formal title of leasehold tenancy by forfeiting his lessor's title. Therefore, subtenancy has been limited mainly to the contracts among relatives and close friends tied by mutual trust. Considering strong risk involved, it is not at all surprising that the incidence of subtenancy has not increased or even declined in some villages, as Mr. Umehara reports.

The question is not how common the subtenancy contracts are, but why the subtenancy contracts have been increasing in some villages even in a small scale despite the legal prohibition. An economic condition should be sought to the divergence between the actual rent paid to original landlords and the economic rent or the marginal product of land that has increased cumulatively under the land-reform regulations on land rent. If land rental market is competitive without such regulations, there should be no difference between the actual and the economic rents, hence there is no incentive for tenants to subrent their holdings. Results of our factor-share analysis that show subtenants' share of land being equal to the production elasticity of land, while that of leasehold tenants being much smaller, represent a strong evidence in support of our hypothesis [1, Chap. 5]. Data in Table I are also consistent with the hypothesis; as share tenants were converted to leaseholders under the land reform programs, operators' surplus increased at the expense of landlords' income share.

However, even though the economic incentive exists, there should be a sociological condition to reduce the risk involved in subtenancy contracts. We would argue that the subtenancy contracts have been considered legitimate among villagers and, therefore, reduced the risk of sub-lessees' taking legal actions against the contracts, because subtenancy is consistent with traditional village-community moral principles such as work and income sharing. Therefore, it is probable that the incidence of subtenancy has been relatively more common and increasing in the villages of old settlement where the community is more cohesive and the community principles have been well established than in the villages of recent settlement where the community ties were less well developed. Our hypothesis is partially supported by comparison of two villages in Laguna [1, Chaps. 5 and 6].

The other evidence we cited for peasant stratification is the changes in rice harvesting contracts that have the effects of strengthening patron-client relationships between farmer employers and landless laborers. Mr. Umehara's criticism

on this point focuses on the interpretation of a shift from the *tilyadora* system (hand cutting for a fixed cash wage and mechanized threshing) to the *hunusan* system (hand cutting and hand threshing for a share of output) in Central Luzon. First, he criticizes our methodology of data collection and insists that our data are too crude to conclude that the shift to the *hunusan* system has been common. We admit that our sample is not very large relative to the area covered. Yet, the broad trend revealed from our sample is so clear and regular that one can hardly doubt if it might be an outcome of sampling error. In addition to the interviews with farmers, we made maximum efforts to check the results with various people such as village and municipality officials, agricultural extension workers and ex-*hacienda* managers. To be scientific, Mr. Umehara should base his criticism on quantitative evidence from a survey to cover an area as wide as ours.

Second, Mr. Umehara denies our hypothesis that the shift from the *tilyadora* to the *hunusan* system was mainly based on land reform resulting in the demise of *hacienda* and that farmers' adoption of a crop-share contract (*hunusan*) for harvesting is partly explained by farmers' preference for establishing themselves as legitimate patrons to landless laborers in the village community. Mr. Umehara argues that the shift was primarily based on changes in the technical conditions of rice production due to improved irrigation and MV adoption. Undoubtedly those changes were the basic forces underlying the shift from machine threshing to hand threshing, as we have pointed out ourselves. However, the fact that none of respondents in our survey shifted from the *tilyadora* to the *hunusan* system before their tenure status was changed by land reform, even though the technical conditions had changed earlier, provides a strong evidence in support of our hypothesis that the demise of *hacienda* emancipated tenant-farmers from the contract imposed by *hacenderos* to thresh their crop by *tilyadora* machines, thereby enabling them to shift away from *tilyadora* (see [1, Figure 4-5]).

Whether the shift to the *hunusan* system reflects farmers' preference for establishing themselves as legitimate patrons to poor laborers is more difficult to resolve on quantitative data. However, if Mr. Umehara denies our hypothesis, he should be able to explain why farmers adopted the *hunusan* (crop-share) contract for harvesting labor instead of the fixed daily cash-wage contract. Under the traditional *tilyadora* system, crop cutting was done by cash-wage laborers. In the *hunusan* system everybody is allowed to participate in harvesting any farmer's crop and receive a certain share of the output. Why did farmers in Inner Central Luzon abandon the traditionally-practiced cash-wage contract and introduced the new crop-share contract that is more congruent with the community principles of work and income sharing? Mr. Umehara should explain this question in order to refute our hypothesis.

Although we have observed more cases to suggest a trend toward peasant stratification than toward polarization, we are not entirely sure whether peasant stratification has been a really dominant form of agrarian change in tropical Asia as a whole. Nor are we at all sure in which direction agrarian change will swing in future. In order to resolve this critical issue, we are most anxious to further exchange ideas and information with experts in field research like Mr. Umehara.

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