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Agrarian Reforms: a Framework and an Instrument of Rural Development

1. INTRODUCTION

The economic and social conditions in which peasants live are the principal feature of less developed countries. Rural underdevelopment is therefore one of the main problems in these countries. And before anything can be said about economic policies to overcome rural underdevelopment, economic analysis must be applied in order to explain this reality.

Land reform has been applied in several countries and there seems to be an agrarian reform project in almost every country. The question is, however, what can land reform really do for rural development.

The objective of this paper is to evaluate the effects of land reform in the changing rural economic situation. For this purpose, a discussion of the rural economy in various countries is presented. Then, in the light of this, a section is presented summarizing some hypotheses for explaining rural underdevelopment. In the context of these hypotheses, land reform is evaluated, not only as an instrument but also as a framework for rural development. The paper is based on the Latin American situation and experiences in land reform.

2. LAND TENURE AND RURAL POVERTY

All the existing empirical evidence asserts that poverty in less developed countries is more dramatic in their rural areas. In Latin America, a sample of seven countries during the decade of the sixties indicates that the mean money income of the urban population ranges from nearly two to three times the rural mean (see Table 1). The usual argument that differences in money income exaggerate differences in real income since cost of living is cheaper in rural areas seems to neglect two aspects of the issue. Firstly, the urban vector price is not greater (in the mathematical sense) than the rural vector price.

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TABLE 1. *Urban-rural mean income and inequality in selected Latin American countries*

	Year	Mean income urban/rural	Gini urban/rural	Gini rural	Gini Nation
Colombia	1964	1·7	0·98	0·56	0·58
Colombia	1970	2·3	1·28	n.a.	n.a.
Costa Rica	1971	2·2	1·22	0·30	0·37
Chile	1967	1·9	1·01	0·47	0·50
Mexico	1963	2·3	1·09	0·47	0·54
Peru	1961	2·7	1·03	0·48	0·62
Puerto Rico	1963	1·9	1·06	0·41	0·46
Venezuela	1962	3·0	n.a.	n.a.	0·44

Sources: Figueroa and Weisskoff (1976), Table 2.3; except Venezuela taken from CORDIPLAN (1964), p. 68.

The fact that there are many manufactures and urban products which are imported into the rural economy and which are more expensive in rural areas shows that adjustment for differences in cost of living is complex. Secondly, social overhead is concentrated in the cities so differences in money income underestimate the differences in standards of living due to the unequal access to services such as health, education, water system, electricity and so on.

But rural populations are not a uniform mass of poverty; on the contrary, the degree of rural inequality is significant. Gini coefficients shown in Table 1 validate this assertion. Also these data suggest that income concentration is lower in rural areas, and that countrywide inequality is always greater than rural inequality reflecting thus the importance of differences in urban–rural mean incomes. The logical consequence of these results is that rural population is under-represented in the upper tail of the countrywide income distribution, that is among the rich group who live in a poor country. On the other hand, rural population is over represented in the lower quartiles of national income distribution, that is among the extremely poor group who also live in a so-called poor country. Hence, poverty in Latin America is concentrated in its rural population.

Two implications can be derived from the existence of a significant degree of inequality within the rural sector. The first refers to economic theory, one needs to explain the mechanisms of rural underdevelopment, its low mean income and inequality in income distribution. The second refers to economic policy, it is not sufficient to be concerned with rural development projects, these projects must be selective if one wishes to reach the poor groups.

Agriculture is the most important component of the rural economy. To a large extent rural problems can be understood by examining the agricultural sector. Two sub-sectors have often been distinguished in the agriculture of most of the less developed countries, namely modern and traditional. The existence of a highly skewed distribution of labor productivity levels (value added per worker) among farms provides the usual criteria for that distinction. Data for Colombia in Table 2 illustrates the case. The source of the greater productivity in the modern sector is the concentration of most capital stock

TABLE 2. *Colombia: value added per worker and farm size, 1960*

Farm size (Hectares)	Value added per worker (1000 pesos)
– 3	1·67
3–5	2·08
5–10	2·71
10–50	3·47
50–200	5·35
200–500	8·61
> 500	15·07
Total	3·71

Source: Berry (1972), p. 406.

TABLE 3. *Farms with more than twelve permanent workers; labor and value of output in selected Latin American countries, 1962–1963 (proportions)*

	Farms	Labour	Value of output
Argentina	0·8	6	15
Brazil	4·7	21	36
Colombia	1·3	4	15
Chile	6·9	38	57
Guatamala	0·1	7	21

Source: CIDA data, taken from Furtado (1969) pp. 73 and 75.

in a small segment of the rural population, as can be seen in Table 3. Modern sector workers are better equipped than traditional sector workers.

Therefore, highly capitalized farms belong to the rural modern sector, and even to the modern sector of the country. Certainly, this is the case for most plantations, where capitalist social relations of production prevail. The other type of large estate is the latifundia, which must be included in the traditional sector on the criteria of value added, and where pre-capitalist social relations are dominant. A large proportion of the rural economy is constituted by subsistence farming – the minifundia – which is obviously a traditional sector.

There are two typical production arrangements in the economics of latifundio, which will be considered throughout this paper. First, part of latifundio land is given to peasants as subsistence plots and they must work on the latifundio land a number of days per week with no remuneration (share-laboring). Second, part of latifundia land is given to peasants and they must deliver half of the output produced on those plots and also work a number of days in the latifundia land (share-cropping).

The highly skewed distribution of productivity levels has clear influences on rural inequality. A significant proportion of agricultural output is produced in the modern sector. Table 3 indicates that this is the case in several Latin

American countries. In Mexico two thirds of the total value of agricultural output is produced in only 15% of the farms (Solis, 1970, p. 179). A high proportion of farm property income is also generated in the modern sector, but most of it is not rural income since landlords live in urban areas. On the other hand, labor income is greater in the modern sector relative to the income of small farmers.[1] All this picture implies that the peasants of the traditional sector are the largest portion and the poorest group in the rural population and, consequently, the most important social group at the base of the nation's income pyramid.

Highly capitalized farms are also unevenly distributed by regions within a country. This fact originates unequal regional development; areas where the latifundio–minifundio complex is dominant are generally more depressed regions.

3. HYPOTHESES RELATING TO RURAL UNDERDEVELOPMENT

Underdevelopment in the traditional sector needs an explanation before any economic policy can be designed and, so far, such explanation has not been provided. Some hypotheses have been advanced but they need further empirical test to become theories of rural underdevelopment.

Four hypotheses will be reviewed here. Although they do not include all the existing hypotheses, they seem a helpful subset of hypotheses to start the economic analysis of rural underdevelopment.

3.1 *Traditional agriculture is inefficient*

This hypothesis says that by reallocating resources and changing the organization of production, with the same resources and technology, agricultural output – or market value of output – can be increased substantially. Traditional agriculture is therefore full of technical and economic inefficiency.

3.2 *Traditional agriculture is over-populated*

This hypothesis, due to Lewis and others, says that marginal productivity of existing labor in agriculture is either zero or below subsistence income. Since all the population get a share of output, the average income is lowered. The implication of this hypothesis is that an important fraction of the labor force should be transferred to other sectors of the economy; as a consequence, agricultural output would not decrease and average income would rise in the rural population.

The hypothesis of over population in agriculture has been challenged in Latin America. Professor Schultz, for instance, provided several cases in which agricultural output fell after some labor had been transferred to other sectors. This fact does not imply that overpopulation is not applicable in other regions of the world. As Professor Georgescu-Roegen argues: "The situation of most Latin American countries is not identical with that of the East European or Asiatic countries, although they all have this in common: they are underdeveloped. Although overpopulation is always accompanied by underdevelopment, it is neither a necessary nor the only cause of it. The

underdevelopment of Latin American countries may have other bases than overpopulation. Overpopulation, therefore, cannot provide the basis for a *general* theory of underdeveloped economies, but only those economic realities beset by it (Georgescu-Roegen, 1967, p. 372).

3.3 *Traditional agriculture is poor but efficient*

This is the well-known hypothesis due to Professor Schultz, according to which there is no economic inefficiency, nor overpopulation in the traditional units of production. Farmers base their decisions on marginal costs and returns considerations. Thus, "... the community is poor because the factors in which the economy is dependent are not capable of producing more under existing circumstances. Conversely, under these simplified conditions, the observed poverty is not a consequence of any significant inefficiencies in factor allocation" (Schultz, 1964, p. 48). Hence, economic policy should concentrate on modernization, for it is not possible to get more output from the existing resources and there is no incentives to accumulate more of these traditional factors given their very low rate of return return. In other words, "... in traditional agriculture the factors of production on which a community depends are expensive sources of economic growth" (p. 97). Thus traditional agriculture is poor because it depends on traditional factors, not because of allocative inefficiency. Hence, "Economic growth from the agricultural sector of a poor country depends predominantly upon the availability and price of modern agricultural factors" (p. 145).

3.4 *Traditional agriculture is exploited by the rest of the economic system through market mechanisms.*

Since traditional agriculture is connected to modern agriculture and the rest of the economy through the market mechanism, underdevelopment of the traditional agriculture cannot be treated in isolation from development in other parts of the economy and consequently nor even disconnected from the world economic system.

The latifundia and medium size farms, which provide the commercial part of traditional agriculture, are certainly connected to the rest of the economy through product markets. In this relation terms of trade keep real incomes depressed. Although landlords may find economic compensations through institutional control, workers are the most injured.

On the other hand, small farmers are also connected to the market. The common idea that they are self-sufficient, and outside the market – as some hypotheses on economic duality have tried to show – seems to overlook their resource endowments. In fact, with one or two hectares and some cattle it is almost impossible to have a self-sufficient family economy. Many commodities must be imported from the urban economy for which cash income is needed. To finance their imports, they must export goods and labor. If crops are too few to sell, livestock may be a source of cash income. The fact that seasonality in the agricultural production process creates a significant seasonal unemployment for such a small unit as a minifundia, means that seasonal

migration is another source of income. *Minifundistas* are so poorly endowed that generally their land has no irrigation; this fact increases seasonal unemployment since they have only one crop yearly.

Subsistence farmers seek jobs in medium size farms, in latifundia, in modern farms, as well as in urban activities (construction, mining). In all of them they usually face a segmented labor market. Their salary is lower than the salary obtained by permanent workers, by a larger margin that possibly productivity differentials may justify. The action of worker unions and minimum wage policies are responsible for this segmentation. Thus the surplus generated in these firms is created by permanent and seasonal labor; and yet surplus value is extracted in a greater proportion from subsistence farmers through lower wages. This mechanism can operate in this manner because seasonal salaries need not cover all the subsistence income of a small farmer because part of the commodities required for his support are obtained from his minifundian. Thus, contrary to the hypothesis of economic duality, minifundia are not disconnected from the economic system but an integral part of it.

Market mechanism works, therefore, against agriculture in general, with the possible exception of exporting farms. But it works particularly unfavorably for subsistence farms; they operate in product and labor markets and yet they get exploited in both. Price policies must then be designed so as to reverse this pattern. For instance, doubling the price that subsistence farmers get for their crops and doubling the salary they get on seasonal migration, and no change in other prices, would have a substantial effect on their income.

In reality, there are four components in the problem of rural underdevelopment: (a) the level of output and efficiency in production so as to reach the production frontier in agriculture; (b) accumulation and technical change, so as to increase the production frontier; (c) terms of trade and (d) income distribution. Each of these components may favor or impede rural development. To these components have been directed the hypotheses reviewed here. Hypothesis (1) and (2) are contradictory to (3). If traditional farmers make decision based on marginal costs and returns there cannot be a significant degree of inefficiency.

The exploitation through the market hypothesis is, however, complementary to all the others. That this is the case with the first two hypotheses is clear enough to deserve more comment. Compared with Schultz's hypothesis two aspects must be pointed out. First, to his contention that traditional farming is endowed with poor factors of production one must add that the market mechanism aggravates this initial inequality in the ownership of resources. Second, Schultz takes into account the market mechanism in his analysis of modernization, but he refers mainly to the space of factors of production. The trading of final commodities is the other component in the social relations through product markets; and, one must add, the relations through labor markets. For this reason, gains in output due to the incorporation of modern inputs, which in turn was stimulated by an appropriate policy of these factors, can be transferred to the urban economy through unfavorable terms of trade in consumption goods.

The three first hypotheses derive economic policies that are in some sense technocratic. The exploitation through the market hypothesis calls for policies that are more economical to apply (require less investment) but involve social conflict, such as redistribution of power, because price policies are designed to conform with the "national" development strategy of the ruling classes.

In the following sections, all these hypotheses are related to land tenure systems. Land reform is then evaluated as a means to attack rural underdevelopment.

4. AGRARIAN REFORM AS AN INSTRUMENT OF RURAL DEVELOPMENT

4.1 *Income redistribution*

Inequality of incomes in agriculture is substantial. Gini coefficients shown in Table 4 of several countries in Latin America confirm this view. Since this inequality is explained in part by the unequal distribution of land, agrarian reform is expected to have a tremendous impact on raising the income of the poorest groups in the rural population.

TABLE 4. *Mean income and inequality in agriculture in selected Latin American countries*

	Year	Mean income Non-agr./agr.	Gini coefficient agriculture
Argentina	1961	1·31	0·48
Brazil	1970	2·73	0·43
Brazil	1970	3·51	0·53
Chile	1967	1·89	0·40
Colombia	1960	n.a.	0·58
Colombia	1970	2·10	0·43
Mexico	1963	1·98	0·50
Puerto Rico	1963	1·70	0·41

Source: Figueroa and Weisskoff (1976), Table 5 and Berry (1972), p. 403.

But, how much income do agrarian reforms transfer? In the first place, in all Latin American countries the value added per worker in agriculture is very low compared to other sectors, yet this is the most important single sector from the employment point of view (see Table 5). This aspect of the economic structure sets limits to an important redistribution effect. Even if workers were to receive *all* the agricultural income, their income levels per worker would still be very low.

TABLE 5. *Agricultural labor force and value added per worker as a proportion of national totals in selected Latin American countries, 1970*

	Labor force	Value added/worker
Bolivia	65·7	0·26
Brazil	44·2	0·34
Colombia	44·4	0·66
Chile	21·6	0·34
Ecuador	55·9	0·45
Mexico	39·2	0·26
Peru	45·1	0·42
Venezuela	25·1	0·31
Andean Group	41·5	0·40

Source: Andean Group, JUNAC (1974), Tables D-6, AE-1, AE-1f Brazil, Mexico, ILO. *Anuario de Estadísticas del Trabajo* Capítulo I-A and *América en Cifras*. Tomo 4.

The fact – shown in Section 2 – that mean income in urban areas is nearly two to three times the rural mean is already an indication that more equality around a lower mean does not have a tremendous effect on poverty. Data for the agricultural sector yields the same conclusion. As Table 4 shows, non-agricultural mean income is also nearly two to three times agricultural mean income. Therefore, land reform implies more equality around a low mean income. From the outset, land reform shows a limited capacity to solve rural problems.

The income redistributed through land reform refers not to all value added but mostly to property income. For Peru some estimates indicate that between 20–24% of agricultural income is property income. This structure is unlikely to be far different in other countries. Most of property income originates in the few modern agricultural farms. Property income per worker in the latifundia may not be very high, – as shown for the Peruvian case[2] in Table 6 – although the appropriation of this income by one person (or family) gives the impression of a large property income per worker.

TABLE 6. *PERU: income by sectors, 1970 (1970, US dollars per worker)*

	Modern	Traditional	
		Urban	Rural
Percentage of labor force	21·6	33·1	45·3
Values added	3590	810	600
Property income	1070	80	90
Labor income	2520	730	510

Source: Webb (1973), Table 6.

On the other hand, not all land is subject to transfer; usually agrarian reform programs do not affect the so-called medium and small size farms

conducted directly by owners, even if they use permanent workers. In Mexico by 1967 a total of 54 million hectares of land had been transferred since 1916; this is almost a third of the total 1960 agricultural land. In the case of Bolivia only 13% of the total land existing in 1950 had been transferred in ten years (1953–1963) of agrarian reform. Another figure given by the 1964 MNR congress is 5·4 million hectares which implies 17%. (In this figure 16% is arable land, 31% pastures and 50% non-arable). In Peru this proportion for the period 1963–1976 is also 30%, although it is programmed to reach to 10 million hectares by the end of the program in 1977, which will raise this percentage to 43%. In any case, these three countries where land reform has been massive involve a transfer of only a part of total agricultural land (see Table 7).

With respect to beneficiaries the conclusion is very similar: only a fraction of the agricultural labor force receives land. In Mexico 44% of the peasants are beneficiaries of the land transfer; in Bolivia this proportion is only 20% of the 1950 agricultural labor force, and in Peru close to 20% (see Table 7). The target in Peru is to benefit 400,000 families which would raise this percentage to 27%.[3]

The limited reach of land and labor force involved in land reform programs clearly implies that only part of agriculture property income is redistributed. If land is going to be expropriated, then the price of land has to be deducted from the income transfer. Actually if compensation to landlords for the expropriated land is correctly calculated there will be no redistribution of income at all; in this case land reform would be a process of land ownership redistribution only, a compulsory process of massive buying and selling of land with state intermediation.

TABLE 7. *Land redistribution in Mexico, Bolivia and Peru*

	Mexico		Bolivia		Peru	
Land (Millions of hectares)						
Total	(1960)	169·1	(1950)	32·7	(1972)	23·5
Transferred	(1916–1967)	54·1	(1953–1963)	4·4	(1963–1976)	7·0
Agriculture labor force (Thousands of families)						
Total	(1960)	6,000	(1950)	672	(1972)	1,500
Beneficiaries	(1916–1967)	2,640	(1953–1963)	133	(1963–1976)	280

Sources: Mexico: L. Solis (1970), p. 155; Franco (1974), p. 155.
Bolivia: A. García (1965), p. 417 and 1950 Census.
Peru: Official reports and 1972 Census.

For a better understanding of what has been said it would be useful to examine a specific country. The author did a study in which it was shown that in Peru income redistribution through land transfer amounts to 1–2% of national income. Property income is 20–24% of total agricultural income, but because the annual payment for the compensation of expropriated land amounts to 6% of agricultural income, transferable property income is between 2–3% of national income, since the agricultural share was 18% in the 1966 national income. The proportion of land transferred is 43% which

implies that income redistribution must be between 1–2%, as stated before (Figueroa, 1975, pp. 167–170).

The Peruvian case provides a clear example of what land reform can do for raising standards of living in rural populations through its redistributive effect. All this effect depends on the economic structure of a country, and this structure in Latin American countries is not the most favorable for substantial redistributive effects. The Mexican experience leads to a similar conclusion: "The redistribution impact of land reform modified income distribution and was quantitatively very small since the agricultural share, towards 1930, was 15% of national income" (Solis, 1970, p. 154).

On the other hand, income redistribution through land reform does not occur over-night. In Mexico, it took half of a century, in Bolivia ten years and thirteen years in Peru, although the rate of expropriations was not uniform during these years.

An income transfer to the poorest groups of the society, however small, would represent an important impact of land reform on poverty. However, land reform is usually segmented. The principle: "land for those who work on it" leads to giving the more productive land to workers of the modern sector who are not at the base of the rural income pyramid, leaving the more traditional farms (of low productivity) to the poorest groups. Hence, the more depressed regions where agriculture is traditional get the smallest fraction of income redistribution. This has been particularly the case in Peru: modern sugar farms and coastal haciendas have been given to the workers (wage-earners) of these units, whereas for the sierra region beneficiaries, specially for the southern sierra which is the most depressed region, traditional latifundia are transferred; and most subsistence farming areas receive no land at all.

Clearly the most depressed rural areas will not experience substantial increase in standards of living as a consequence of land reform. In these areas traditional agriculture is dominant and therefore there is no important property income to be transferred. Yet those workers benefited by the reform receive traditional factors of production.

The segmented redistribution scheme associated with land reform is evidently of little impact on traditional agriculture. Redistribution through land reform is redistribution of poverty. However, what is true for a part need not hold true for the whole. For example, this would not be the case if income from the top percentiles of the nation were transferred to the poorest 30–40% of the rural population, this would have a tremendous impact on their income over-night. Land reform – and any sectoral reform for that matter – will not do this job.

The common argument that market size for industrial goods may be increased substantially via land reform and contribute to industrialization does not follow from the economic structure of most underdeveloped countries.

4.2 *Level of output*

Are the distinct land tenure systems efficient ways of organizing production? If the answer is in the negative, land reform will have a positive effect on the

level of agricultural output with existing resources and technology. Land tenure would then explain in part rural underdevelopment.

For plantations there is no question about their allocative efficiency; with land reform this efficiency may be affected significantly if they are fragmented.

Schultz's hypothesis of poor but efficient applies to subsistence farmers. Although he does not make it explicit, it seems that these farmers will remain efficient under different land tenure systems. However, Schultz does not consider the case of latifundia. So, it seems necessary to analyze some features bearing on the efficiency of the latifundian system.[4]

(1) There may exist little land within latifundia which would be put to work once property is transferred to peasants.

(2) The monopsony that latifundia imposed in labor, through "captive communities", implies less employment and output compared to the more competitive labor market that would emerge with land reform as labor mobility would be increased by this reform. Nevertheless, if large estates prevail some degree of monopsony will continue even if there is a transfer of ownership; the new owners (peasants) will be employers of the non-beneficiary peasants, as in the case of forming cooperatives in the expropriated farm.

(3) In the feudal-type of system where the peasant has to give half of the crop produced in the plot which the landlord allows him (sharecropping), the peasant considers as its revenue only half of the actual product price which leads him to produce less than in the situation of land ownership.[5] With land reform he gets that ownership and also gets total revenue (which is equivalent to an increase in product price), so production in the plot will be increased.

(4) There is no incentive for peasants to work hard in the latifundia, since they are somehow forced to work, whereas they may be very efficient in working the plots given to them. Thus, by changing the latifundian system output may also be increased.

One may argue that the size of minifundia, is anti-economical and they are even more inefficient because they are fragmented in many parcels. This may be true in many cases. But in others one must look at the geographical context. For example, fragmentation in the areas with high altitudes (like the sierra of Ecuador, Peru, Bolivia) is a way to have vertical control over different ecological levels. This vertical control over ecology becomes very important because it allows the peasant to have access to complementary resources (maize-land, barley-land, potato-land, and natural pastures as one moves from the valley towards the highland) in order to gain more self-sufficiency. Additionally, this vertical control over ecology plays an important role in reducing the risk in agriculture by means of a diversified choice of portfolio which includes different crops and micro-climates of various types. A land reform that rearranges these holdings structure and pays no attention to this problem may disrupt an economic organization of subsistence farming without replacing it by a superior system.

For the countries which have experienced a significant land reform there is no clear evidence of its impact on production. The *pure* land ownership

redistribution effect is not easy to evaluate since many things change simultaneously.

To sum up, from the previous analysis there are indications that the latifundian system impedes attainment of a higher level of output, even with given resources and technology. So, land tenure does explain, in part, rural underdevelopment. The inefficiency hypothesis is applicable in this case.

4.3 *Capital formation*

The very first problem of capital formation that arises in the application of a land reform program is the possibility of an immediate decrease in the capital stock. Landlords may react to expropriation by selling and dismantling the existing equipment, installations, cattle, forest, etc., given the gradualness in the procedure of expropriation. This has been a clear case in Peru where many farms that were transferred to peasants had no capital goods except a house (with no doors and windows) and the land. No reference to this problem appears in the literature on land reform in Mexico and Bolivia, but one may guess that the pattern must have been very similar.

The effect of land reform on the rate of savings is another aspect to consider. Schultz's hypothesis is that savings are very low in traditional agriculture. In modern agriculture savings may be higher, but they are invested outside agriculture also. Landowners usually have a diversified portfolio. There seems to be no evaluation of this problem in countries where land reform was applied. In the case of Peru, the cooperatives are obliged to distribute any surplus, after provision for amortization, agrarian debt and social benefits as follows: not less than 10% to the Reserve Fund, not less than 5% to the Education Fund, not less than 10% to the Social Security Fund and not less than 5% to the Cooperative Development Fund. The total of these funds must not exceed 70% of the surplus. The balance is distributed among members. However, not less than 25% of this distribution will be capitalized in the form of savings and the rest paid in cash or in kind.

These provisions show that self-financing of investment and expenditure on social services are promoted by the Peruvian agrarian reform law. However, a cooperative's surplus depends on the wages the members decide to assign to themselves.

The agrarian debt has the effect of reducing the saving rates of the new units. Again, in the case of Peru, 3,600 millions of soles has been paid in cash for equipment, installations and cattle and 12,000 millions of soles has been paid in bonds for the land; that is, the total value of expropriation amounts to 15,600 millions of soles (almost 300 millions of American dollars). As this amount should be repaid in 20 instalments by beneficiaries, annual payment is around 800 millions of soles of 1970–1971; this amounts to 1971 public investment in agriculture. Since the State pays to landlords for the expropriated land, which in turn the State will collect from peasants, the landlord is allowed to use these funds to invest in industry, not in agriculture, not in rural industrialization. The agrarian debt is then a mechanism to transfer investment funds from the rural to the urban economy.

In Mexico, as it is known, land reform was not paid for. In Bolivia's case

compensation was not applied, either. But some peasants actually paid landlords for the land they acquired. On the other hand, peasants usually paid the direct costs of expropriation. In the majority of cases this expenditure was quite high, particularly when landlords' appeal to courts created a complicated legal battle (Dorner, 1974, p. 179). Hence, even in this case, land transfer was not free for peasants, thus reducing the capacity to accumulate in the new units of production.

In any case, given the relatively small income redistribution impact of land reform, the effect on increasing rates of savings may be of little significance. In other words, the effect of land reform on savings and accumulation depends on the amount of income redistributed to peasants and their propensities to save. In China, for example, land reform redistributed between 15–30% of national income, on the first round, among the peasant population. This proportion is much more significant than the experience in Latin America, and the transfer occurred in a relatively short period (1949–1952). Government then intervened, through tax and price instruments, to capture much of this income and redirect it toward capital accumulation. This policy played a major factor in raising the ratio of gross domestic capital formation to GNP from 7·4 percent in 1931–1936 to 24% in 1952–1957 (Reynolds, 1975, p. 420). Reynolds reminds us that this was also the case with Japanese government Strategy in the early Meiji period, when diversion of income from the previous landed nobility into government channels helped to raise the national savings rate. Compare the case of Peru, where these ratios were 23–24% between 1950–1967 but decreased to 18% in 1968–1973 which was a period of massive land reform.

4.4 *Modernization*

The fact that traditional agriculture is dependent on traditional factors of production which are very expensive sources of growth, as Schultz's hypothesis goes, needs to be related to land tenure systems. Since a significant increase in agricultural output will come from the introduction of new factors of production – the lack of which explains poverty in traditional farming – one needs to consider the effect of land tenure systems on supply and demand for those modern inputs. Moreover, since the availability and price of modern agricultural factors will not be significantly affected by land reform it is the demand side of the problem which needs a closer examination.

In general, the latifundian system does not favor the introduction of new factors of production. This is clearly the case when half of the output must go to the landlord, all the costs being met by the farmer. This system does not favor the accumulation in new factors of production since the farmer gets only half of the additional output whereas he incurs in ***all*** the additional cost; hence, the incentive to the farmer to accept or not to accept a new factor is only half of the true profitability. That is "Tenure arrangements . . . that determine how landlords and farmers share costs and returns can block the acceptance of factors that would be highly profitable under more appropriate arrangements" (Schultz, 1964, p. 168).

The latifundista himself has no incentives for using modern inputs because most of them are land-savings innovations and land is the more abundant

factor in the latifundia. Moreover, land is the basis of the landord's power and they try to make it a scarce factor. As de Janvry (1974) puts it: "since monopoly of the land is the basis of the social power of these elites, in the domain of technology only those changes that are not substitutes for land will be fostered" (P. 17).

The latifundia system therefore does not favor the diffusion of modern inputs and thus contributes to rural undervelopment. Land reform will have an important positive effect on the introduction of new factors of production. Since the factors of production that land reform transfer in the traditional sector are traditional factors, the increase in the propensity to accept modern inputs is a very remarkable effect of land reform. This is not to say that modernization depends entirely on land reform, nor that this is the most important factor for it. The relative importance of land reform for developing new inputs may be very low compared to, for instance, factor endowments if one considers that technical change is induced by them. What land reform does is to help the diffusion of modern factors of production, while the effective modernization of agriculture depends on other variables.

In summary, the arguments presented in this section lead to the conclusion that land tenure systems, in particular the latifundian system, explain to a certain extent rural underdevelopment because they lead to inefficiency in the organization of production and they do not favor the acceptance of modern inputs. By changing the latifundian system the incentives are greater for increasing output and for the modernization of traditional agriculture, but the actual use of modern inputs will depend on their availability and prices, as well. Finally, the effect of land reform on income redistribution is very modest, given the economic structure of Latin American countries. This effect, in turn, sets limits to a significant increase in the savings rate. Therefore, land reform as an instrument for overcoming rural undervelopment has very limited reach.

5. LAND REFORM AS A FRAMEWORK

If land reform alone cannot help to develop the rural economy, complementary policies are called for. Moreover, land reform provides a favorable framework to carry out those complementary policies that are needed for a more significant rural development.

Before land reform, large landowners were the main beneficiants of rural development projects. With land reform, landlords are eliminated from the rural social map and the reach of the benefits of projects will be much larger. Besides, some projects that were inconsistent with the old social system may now appear as a possibility. The extent to which government uses the new framework in the direction of favoring rural population will also show the real nature (and purpose) of a government applying land reform.

5.1. *Expansion of agricultural frontier*

The fact that land is a very scarce resource is brought out most clearly when land reform cannot provide sufficient land for all peasants. For landless

peasants it is possible to augment land supply through irrigation programs and through colonization; for peasants with insufficient plots improvements in the water management system will be an advisable policy.

In Mexico, in fact, after the massive land reform that took place in the period 1934–1940, a process of road construction and irrigation began. "At the end of the thirties and during the first half of the forties the agricultural situation was critical; the latifundian system of production being destroyed it was necessary to assure an efficient functioning of the new system of production. This pushed expenditures in irrigation high. The irrigated land was given in property to farmers in plots of 5–100 hectares, which were the orign of the present commercial agriculture" (Solis, 1970, p. 160).

In Bolivia the choice was colonization; "Colonization was an integral part of the Bolivian land reform. Actually, colonization completed the reform which was carried out in great scale in the highlands and traditional valleys. The government's target was to place 100,000 families during the decade 1962–1971 in the colonization area. By 1970 only 30,000 families had been settled. This limited number of families indicates the failure of colonizations programs in absorbing the increase in rural population" (Dorner, 1974, p. 177–178).

In Peru, irrigation projects are of large size (which in most cases include energy). By 1975 the cost of irrigation schemes in progress amounted to close to one billion dollars, 90% relating to only three projects; these large projects are on the coast. For small irrigation projects in the sierra financial efforts are very small. All these projects will improve the water management in 223,000 hectares and in 100,000 hectares of new land; all this within 12 years. In terms of colonization the efforts have been less intense, as only 18,000 families have been settled on 400,000 hectares in the jungle area during the land reform period.

Given the limited reach of irrigation and the concentration in large projects, technological dualism will be reinforced in the rural economy. Relatively few families will benefit from these projects. Solis has illustrated this tendency for the Mexican case very clearly: the irrigation projects applied after land reform (cited above) helped to reinforce technological dualism. He adds: "It can be thought that land reform objective is to increase equality in income distribution; but this seems not to be the case. On the contrary, it is possible to say that land reform originated a set of dynamic forces, creating a commercial agricultural sector with high productivity where income increased considerably with respect to the technologically stagnant substistence agriculture" (Solis, 1970, p. 149–150).

The effect of large irrigation programs is not only to increase income disparities within the rural economy, but the concentration of development in certain regions. More developed regions tend to improve while more depressed regions are confined to the direct impact of income redistribution associated with land reform. This effect, as was argued before, is not substantial. Thus, irrigation programs concentrated in large projects tend to reinforce uneven regional development.

In sum, large irrigation projects are inserted in the growth pattern of the

entire economy, which has a very limited absorptive capacity. That is, as resources are concentrated in a small proportion of the population and – given the capitalist rules of income distrubution – income is bottled up in this small segment of population; policies for income redistribution or for more spread in investment are called for in order to remedy the consequences of technological dualism.

5.2. *Policies for modernization*

It was suggested before that land reform may increase the demand for modern factors of production in traditional agriculture. But actual modernization depends upon the availability and price of these modern factors. Professor Schultz (1964) has made this point very clear: "The suppliers of these factors in a very real sense hold the key to such growth. When they succeed in producing and distributing these factors cheaply, investment in agriculture becomes profitable, and this then sets the stage for farmers to accept modern factors and learn how best to use them". It is also an inducement to increase savings and to develop institutions to provide credit for financing investment in such factors" (p. 145). The contention derived in the previous section is that with land reform there will be a shift in the demand for modern factors which will increase acceptance in a larger proportion for a given supply conditions. Schultz's argument is directed to shifting the supply conditions as well.

Therefore, the processes by which new agricultural factors are to be supplied becomes of tremendous importance. However, much of what can be done in order to affect supply conditions depends on decisions outside of agriculture. If anything, it requires a considerable government expenditure to be invested in supplying new agricultural factors (dams, irrigation canals, roads) and also in improving the capabilities of the farmers to use modern inputs (credit, extension research). Also import policies must be taken into account, since an important proportion of modern inputs (new seeds, new breeds, fertilizers, agrochemicals) are imported.

In spite of its great need, as a complementary policy, public investment allocated to agriculture is usually low compared to the needs for modernization. In Peru, less than 10% of public investment has gone to agriculture during 1960–1975 of which almost half has gone to irrigation projects; in the 1975–1978 Plan, 75% of public investment in agriculture will go to irrigation projects, which are very large projects in the coast. To improve water management in the sierra region (the more depressed region of Peru) where most agriculture is not irrigated has a very low priority. Only 0.6% of the public investment in agriculture is allocated to research, which has even decreased from the 1971–1974 Plan where this proportion was 2.3%. All this occurs in a country where land reform is massive compared to historical standards.

The same problem applies to credit. The banks created to provide credit in a land reform framework have had limited coverage. The Mexican *Banco de Crédito Ejidal* covers only a minimum fraction of *ejidatarios*, with even a tendency to diminish from 30% in 1936 to 16% in 1940 and 14% in 1959. Those *ejidatarios* that get no credit from the Bank must obtain it from intermediaries to whom they must sell their crops. (Franco 1974, p. 157). In Peru,

the *Banco Agraio* gives priority to farmers benefited by the land reform, which means that credit is still directed mainly to coastal modern cooperatives. According to 1972 Census only 7% of Peruvian farms obtained any credit from this bank.

A recent study on the peasants of the Bolivian *altiplano* shows that 44% of the peasants get technical assistance, 10% by potato seed and only 41% use the variety that government favors as the most efficient ("Sani Imilla").[6] Also 35% use insecticides and/or disinfectant and 48% use fertilizers, but all these elements are used in insufficient quantities to have optimum results (Urioste, 1975, p. 128, 178). All this picture of 1974, corresponds to a period after land reform had taken place. In Peru, the 1972 census showed that 4% of the farms received technical assistance, 19% used fertilizers, and 24% bought seeds.

The effort needed to supply new factors of production to a substantial segment of the farmers seems considerably above the existing resources and priorities in most Latin American countries. And because of this, subsistence farmers will be the last to incorporate modern factors of production, which means that technological dualism, with all its consequences, will still prevail. Land reform *per se* can do little to change this pattern.

5.3. *Price policies*

Another complementary policy to be considered in the context of land reform is price policy. Agricultural relative prices can influence in two ways the land reform inpact on traditional farming. First, gains obtained through income redistribution may disappear in thin air or may be increased substantially, depending on price policies. Second, incentives to adopt modern technology are made higher with land reform, but the acceptability of a package of modern inputs, water and agricultural services can be increased further if more favorable prices for agricultural products accompany that package. Thus, an appropriate set of prices may increase substantially the initial limited impact of land reform. This set of prices may never come because it is inconsistent with the priorities and patterns of development desired at the national level.

In Peru, price policy has become even more discriminatory in the years of massive land reform. Import subsidies on food that compete with domestic agricultural products, subsidies to gasoline but not to fertilizers, price control on food, are among the package of measures used during 1972–1975. At the same time land was being redistributed. From this and previous sub-sections one can conclude that complementary policies have not accompanied land redistribution in Peru. Official pronouncements indicate that these policies will come after the process of redistribution is completed.

Complementary policies were not provided in the case of Mexican land reform either, as one reads in Solis' (1970) study: "Although the majority of rural population was not favored with public investment or credit, nor could make use of modern technology, they received land freely instead" (p. 179). In Bolivia the pattern has been similar: "The principal areas in which sufficient attention was not paid refers to the creation of new services

and institutional arrangements so that peasants could exploit their plots more efficiently, for instance: extension services, credit, supply of fertilizers, pesticides, new seed varieties, and irrigation systems and transportation. Moreover, price policies and institutional arrangements to sell production surplus were also needed" (Dorner, 1974, p. 180).

5.4. *Rural industrialization*

Given the seasonality in the agricultural production process, there exists in the rural economy an important feature of seasonal unemployment. This unemployment is more important in the case of subsistence farmers. The use of this off-season time is diverse and depends on the land tenure system. "Captive communities" have to work for the landlord's amenities and social position; in the latifundian system seasonal unemployment is consumed as services. For "non-captive communities" an alternative is off-farm migration into segmented labor markets. But all subsistence farmers utilize part of the seasonal unemployment in rural activities: craftsmanship, construction, repairs, and so on, which are of relatively low productivity. These potential services of labor could be utilized in a more productive manner by means of establishing complementary activities in the same region. Land reform also provides a favorable framework for that.

Complementary activities to agriculture must be taken to mean processes which have a seasonality just opposite to that of agriculture or processes which have no seasonality, when one may start and end at the process whenever one pleases. That is, the rural economy must be a mix of processes in *parallel* with processes in *line,* in the terms of Professor Georgescu-Roegen, if idleness is to be avoided in a given rural economy. Processes which exactly match in seasonality are rare and this is why it is excluded as an alternative.

These complementary activities may include (i) exploitation of new resources, like mining, forestry; (ii) improvement of resources, like terracing, reforestation; (iii) more processing of products, like dairy products, wool, wood; (iv) some services, like repair of machinery and (v) industries which may operate efficiently on small scale. Most of these activities imply rural industrialization.

Landlords have had little interest in developing these new activities, so with land reform more resources may be put into production. But, again these rural complementary activities may be limited by the financial capacity of the peasants benefited by land reform and of the State. In both cases, rural investment will be restricted unless national priorities are modified, and in this respect government may not be interested in rural industrialization either.

Yet, rural industrialization is an important component in any rural development program. Industries which can operate efficiently on a relatively small scale and producing not only for farm use, would have an important impact on rural development, particularly because it is a better economic alternative to off-season activities.

6. SOME CONCLUSIONS

Rural poverty is the most important component of the poorest social groups in most less developed countries, where susbsistence farmers are at the base of every national income pyramid.

Land reform has been a major rural policy in several countries and attempts as well as projects to change land ownership exist in almost every country. However, when the average labor productivity is very low in agriculture – as is the case in most countries – the impact of land reform on income redistribution and capital formation is very modest. Therefore, given the present economic structure no significant solution to rural undervelopment can come by attacking the problem within the rural sector alone. Yet, this is what agrarian reforms pretend to achieve and this is why they show no important effects as an *instrument* for rural development. Although it is necessary, land reform does not seem to be a sufficient condition for rural development.

Changes in land tenure originate a new institutional *framework* in which complementary policies may be inserted. This new framework is clearly more favorable for a greater impact of rural projects. In particular, the elimination of rural elites opens the way to new projects which were inconsistent with those elites, and the reach of a given project is much more widespread since the role of those elites as principal beneficiaries has also been reduced with land reform. In addition the incentives to increase production and to incorporate the use of modern technology are much higher in the farms once the latifundian system has been modified. In sum, land reform as a framework shows great possibilities for more significant rural development.

However, much of the complementary policy lies outside agriculture. The allocation of public investment, price policies, credit policy, import policy are all important complementary policies and yet they are subject to exogenous decision making with respect to agriculture. That is, policies favorable to agriculture cannot be chosen arbitrarily; they must be drawn from a feasible set given by national objectives and priorities of the ruling class. For instance, price policies favorable to agriculture are inconsistent with incentives to industrialization. Land reform cannot change the "national" priorities and patterns of development, unless national political power is also redistributed.

If land reform has a limited impact as an instrument of rural development and if exogenous decision making does not favor the needed complementary policy to get a more substantial improvement in the rural population situation in a land reform framework, what are the real objectives of agrarian reforms conducted by ruling classes? and for that matter what can sectoral reforms achieve in a market economy where technological dualism prevails?

These questions are difficult to answer, but they are legitimate questions in the light of the results presented in this paper.

NOTES

[1]If capital–labour ratio is higher in the modern sector one could expect that relative return to labour is also higher in this sector; moreover relative return to capital should be higher in the traditional. However, this is not the case because traditional agriculture is largely endowed with traditional capital which consequently has low returns, as will be discussed in the next section.

[2]Webb's definition of rural traditional sector includes many modern plantations, for only sugar farms are included in his modern sector. Hence, the 90 dollars of property per worker must be much less under the concept of traditional agriculture used here.

[3]For Chile until June 1972, 600,000 hectares of irrigated land – 33% of total irrigated land – were transferred to 60,000 peasants of 760,000 agricultural labor force (Arroyo, 1973, pp. 5, 16).

[4]On peasant's economic behaviour Schultz's hypothesis will be assumed in the rest of the paper.

[5]The argument can also be developed without reference to market prices. The only condition is that marginal cost and returns be evaluated by peasants.

[6]Another problem of diffusion of new varieties of seed is that usually they are more suitable for urban consumption than for peasants' consumption. New varieties are sought as elements of solving urban consumption problems and not peasants'. This is also a reflection of urban strategy of growth.

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DISCUSSION OPENING – B. Dasgupta, *India*

An underlying assumption in Professor Figueroa's paper is that there is incompatability between redistributive aspects of land reform and production. In India, at least, empirical evidence does not support this. There is evidence that inputs used in large-scale farms are not always indivisibles and therefore arguments of large-scale economics on large farms are not always valid. The comparative advantage of large-scale farmers lies in their social and economic advantages which give them access to best quality inputs.

Land reform offers much scope for improvements of income of the poorest group – the landless labourer – and those with very small holdings – by giving them access to land. This further tends to reduce unemployment.

There is already serious unemployment in the urban sector and, therefore, rural unemployment must be solved in the rural sector. As the author argues, land reform destroys the traditional village power structure and therefore gives the deprived access to inputs, thus reducing the comparative advantage of the richer landlords.

It follows from these facts and arguments that the reasons underlying the lack of success of land reform programmes in improving the conditions of the poor rural people were political. Politicians viewed reforms as necessary political manouvres. Politicians did not have the will to confer benefits to the poor. He therefore felt that land reforms could be an effective instrument for improvements of the rural poor. The paper concentrated too much on the analysis of obstacles and not enough on the effectiveness of the instrument and means of increasing it.

DISCUSSION OPENING – S. Sawada, *Japan*

The Land Reform in Japan, a conspicuous feature of the immediate aftermath of World War II, may have some lessons for this discussion.

The Land Reform, in the sense of giving farmers ownership of their farmland was almost completely carried out for arable land throughout the country during the period 1945–1949. The rented arable land was compulsorily bought by the Government, and sold to tenant farmers who had cultivated the land. Even the arable land owned and cultivated by owner-farmers was bought and sold by the Government within a certain limit if the cultivating area was over about 3 hectares per farm for the most part of the country. Each landlord was allowed to keep only about 1 hectare

of rented land; except land of absentee landlords whose land was all bought and sold. Thus, the area of rented arable land decreased from about 46 per cent in 1945 to about 10 per cent in 1950 The number of tenant farmers, including those having a tiny area of their own land, decreased from about 47 per cent of all farmers to only about 9 per cent during the same period. Besides such a drastic change of ownership, the terms of tenancy were placed under strict legal restrictions in favour of tenant farmers. Thus, the rent of paddy decreased from 40–50 per cent of the yield, paid in kind, in the prewar period to 4–7 per cent, paid in money, around 1950. Such a drastic reform was carried out under a strong leadership of the occupation army.

About a quarter of a century has passed since the Reform took place. What is the present situation? The number of owner-farmers, including those renting small area of land beside their own land, stood at about 90 per cent of all farmers in 1950. They have remained as they were up to now, though slightly decreased in number in terms of households, due to the absorption of labour from other industries. Their farms have remained as small in scale as ever. The average scale of all farms was a little smaller than 1 hectare at the time of the Reform. Now, it is a little larger than 1 hectare. The number of farms of over 2 hectares is about 3 per cent of all farms.

However, the growth rates of Japanese agriculture and its productivity in the postwar period, excluding the early convalescent period, were really large, comparing with those of the prewar period. According to the estimates of Hayami and others, the growth rate of real output of agriculture was 3.6 per cent per annum in the period, 1955–1965, compared with 1.6 per cent in the period, 1880–1935. Such a high rate as 3.6 per cent was never seen in any ten-year period since the abolition of the feudal system in 1868. How was productivity? The compound growth rate of the productivity of total inputs was 2.7 per cent per annum in 1955–65, compared with only 0.69 per cent in 1880–1935. (Hayami and others: *A Century of Agricultural Growth in Japan,* 1975) The yield of paddy rice per hectare increased by about one third, and attained the level two or three times that of other countries recently. A tremendous number of machines began to be used on farms along with the absorption of labour from other industries. The number of power-tillers was less than 10,000 in the prewar period. Now, it increased up to over 3 million. Small tractors and combines began to be used widely, too. These several years transplanting machines diffused throughout the country, and made farmers free from the toilsome labour of transplanting. Biological and chemical technologies also advanced greatly.

Some critics have insisted that the Land Reform lessened the mobility of the ownership of arable land, making small farmers stick to their own farm land, and accordingly hampered the formation of large and efficient farms. It might be true. However, the growth rate of output and productivity increased remarkably in the postwar period as stated above. The theory putting "large" and "efficient" as equal does not seem to apply to the development of Japanese agriculture. In this sense, Japanese agriculture seems to be treading on a "unimodal" (B. Johnston) path of development.

Some other critics argue that for some years after the Reform, the levels of income and livelihood went up side by side, and accordingly investment in their own farms could not occur sizably from their own savings. It might be true during the decade just after the Reform. I think, however, it was not the case for the subsequent period. It has been said that land reform in less developed countries brought first the increase of farmers' food consumption through income effect. (T. W. Schultz) It was really the same for Japanese farmers regarding the increase of consumption, including other items than food. I would say that such an increase of consumption itself must have had a close relationship to the elevation of productivity through giving vitality and willingness to improve their farms further.

It should be noted that the Land Reform was never the sole factor in the development of agriculture in the postwar period. Particularly, the manufacturing industries played a great role in development, providing agriculture with many advanced kinds of inputs, creating demand for agricultural products, and absorbing much redundant labour from agriculture. Agricultural policies, centring on those for rice production and marketing, must have also had a large effect. However, it should be noticed that such external factors could have directly effected agriculture through the Land Reform. In many countries, the largest problem of Land Reform is not in the difficulty of finding merit in the Reform, but in the difficulty of decision-making towards the Reform. Even in Japan, it could be carried out only at the time of struggle for existence.

RAPPORTEUR'S REPORT – W. Nguyo, *Kenya*

Part of the discussion focussed on the distinction between land reform and agrarian reform which included other ameliorative measures, such as improvements to the infrastructure and supply of inputs. Agrarian reform was seen as an essential adjunct to land reform if the benefits of the latter are to be realised. It was felt that the author did not draw the distinction clearly enough – but the author subsequently rebutted this. Moreover, it was arguably contradictory in, on the one hand, giving little credit to land reform in improving rural incomes and on the other, seeing it as facilitating introduction of innovations.

The possibilities of the co-operative operation of land, not owner-operation, after land reform, were also noted.

In his final comments the author emphasised that the first part of the paper sought to give a factual account of Latin American land reform experience – which indicated that politicians' expectations of it are rarely realised.

Overall, discussants' differences between themselves and with the author seemed to underline sensitivity to the balance of emphasis which individuals thought appropriate in this important emotive subject.