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enhance economic gains. The two resultant benefits are therefore interdependent, not mutually exclusive.

BASIS FOR THE EGALITARIAN PRINCIPLE

The egalitarian principle refers to a belief in the removal of inequality among men. Webster's dictionary defines egalitarianism as a belief in equality in social, political, and economic rights and privileges. This definition seems to cover fairly accurately the position of those who are ardent advocates of land reform. The position is based largely on a value judgment with respect to the way things should be in society. While the principle by strict definition implies equality, in practice it is recognized to be a relative matter. It is doubtful whether even the most ardent reformers would suggest that equality in an absolute sense in economic or political terms is either possible or desirable.

Many of those who espouse the egalitarian principle of land ownership tend to feel economies of scale in developing countries are either not important or do not exist. Their prime focus is on breaking up the relatively large estates, and redistributing land from rich, politically powerful landlords, to the masses of impoverished people in the rural areas. The objective is to redistribute both the means of production and the political power to control policies affecting the recipients.

Doreen Warriner, describing land reforms in various areas of the world, states, "In all these countries, liberation from institutions now recognized as obsolete is the significance of reform . . ." (11, p. XIV). Peter Dorner, in discussing the theoretical aspects of tenure gives four major factors of importance limiting productivity: 1) The insecurity of tenants, laborers and sharecroppers in the system; 2) Rewards not paid in relation to efforts; 3) Lack of availability of resources including knowledge; 4) The impact of class structure and political power by landowners in rural communities. He argues, "If land reform has any meaning it must mean an improvement in the access route that rural people have to future income and security of such access" (12, p. 251). Furthermore, Dorner argues that "compulsion" will be necessary to bring about the new arrangements.

Similar egalitarian approaches to land reform have been supported by such groups as the United Nations Food and Agricultural Organization and the co-signors of the agreement at Punta del Este, in 1961. The latter included the United States and other American Republics, committing themselves to "programs of comprehensive agrarian reform leading to the effective transformation, where required, of unjust structure and systems of land tenure and use, with a view to replacing latifundia and dwarf holdings, by an equitable system of land tenure . . ." (9, p. 24).

Sufficient evidence is available in developing countries to demonstrate the stifling effects of land ownership arrangements favoring the few at the expense of the many. Incentives of the have-nots are minimized with control of the people and major resources of production remaining in the hands of a comparatively disinterested few. Political power rests with those in economic power and as a result policies to improve the productivity of the masses of rural people are not administered. Gains in productivity through technological improvements tend to increase the difficulty by widening the gap between the rich and the poor. Attempts to evolve significant reforms without disrupting the power base held in the land seem to be relatively futile.

Few countries have actually instituted effective land reform programs. While support has been indicated by various groups, and countries have passed legislation, the tendency has been to evade the real issue. This results from built up pressures, opposing reform, before action can be taken and is a significant reason why reformists insist on speedy action when the opportunity arises. Myrdal in reviewing the Asian situation maintains:

"In no country have reforms seriously cut into the position of the peasant-landlord group, and when governments have assumed a threatening posture, this politically powerful rural upper class—usually with non-resident landowners as allies—has managed to frustrate effective action. And in none of the countries of the region have reforms brought any direct benefits to landless laborers" (5, p. 1319).

A similar situation has existed in Latin America where, with the exception of Mexico, Bolivia, Cuba and more recently Peru, land reform has really not been effectively instituted.

ECONOMIES OF SCALE vs. THE EGALITARIAN PRINCIPLE OF LAND OWNERSHIP

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The question of economies of scale in relationship to policies of land ownership in various developing countries of the world has been the subject of heated debate for decades. In some respects the topic for this paper reflects the state of the situation with respect to opposing groups in the argument. There is an assumption that economies associated with size of operations and egalitarianism are incompatible. I wish to begin my discussion by challenging the implications in the title of this paper. In fact I would argue that the establishment of strong doctrinaire positions, in relation to problems of land ownership, has probably been the greatest limitation to reform of any meaningful kind in developing economies.

ECONOMIES OF SCALE

Economies of scale, is an economic terminology associated with analysis of how resources may be used most efficiently. Pure scale relationships refer to the situation relative to production when all factors are changes in the same proportion. If some resources are used in greater proportions than others, even though all are changed, the result becomes a mixture of returns to scale and proportionality. This is an area which tends to lead to much confusion in discussions about scale effects.

Proportionality changes can be effected in the short-run, whereas scale effects refer to long-run adjustments in which no factors are considered fixed. Firms are said to experience increasing, decreasing or constant returns to scale. Theoretically it is expected that firms will experience increasing returns up to a certain scale of operations, will pass through a constant returns phase and finally into decreasing returns.

Economies or diseconomies may result from internal factors either of a physical or pecuniary nature. Physical cost advantages arise mainly from indivisibilities associated with factors of production. As the size of firms increase, machines, labor and management, for example, may be used more effectively. Some internal market economies may result both in terms of purchases of factor supplies and in product sales as size increases. A major limitation resulting in diseconomies within the firm is often considered to result from management problems.

Certain types of external economies and diseconomies are also important. As firms increase in size, and volume of business, suppliers and/or processors and distributors may be able to perform their functions more efficiently and to pass on the gains in the form of higher product prices as well as lower factor prices. Costs of services such as roads, power, dams for irrigation, and education become cheaper per unit of product as volume increases with scale. In the same way however, diseconomies may ultimately result as firms start to bid prices up for resources that are relatively scarce.

Scale effects such as those listed above may well be observed in developing economies, but, there as elsewhere, they tend to become confused with proportionality changes which may be of much more significance. Schultz states, "An appeal to the concept of 'returns to scale' is as a rule barren because the transformation of traditional agriculture always entails the introduction of one or more new agricultural factors, and therefore it gives rise to a process in which the critical question is not one of scale but of factor proportionality" (7, p. 111). However, the fact that pure scale effects are not discernible should not be allowed to confuse the issue. Economies to size, which includes scale effects as well as proportionality changes, may be a less demanding terminology and help to reduce the confusion.

While there may be sufficient reason to believe the solution to the problems of the poor in traditional agriculture requires land reform, economic gains must also be realized. Farm sizes established by reform should be determined with intent to optimize the opportunity for economic gains in conjunction with political and social gains. As indicated above, economies are not likely to be found from size changes alone, but may result from provision of the opportunity to increase, improve and organize other inputs more efficiently. Opportunities to increase economic gains will help safeguard political and social gains, which in turn should make possible policies to further

SOME REFORM EXPERIENCES

Results to date in land reform have been varied. Usually, the egalitarian aspects are considered to have been achieved to some degree, where reforms have been carried through to effect significant real distributions of land. Social tensions have been relieved and some political power has been obtained over their own destinies. The economic effects are more difficult to estimate, however, and the conclusions are far from clear-cut.

Reform in Mexico

Mexico is often referred to as an example of success in terms of land reform. Reforms in Mexico have generally been given credit for setting the stage for policy changes which have contributed to significant growth in the economy.

The reform program in Mexico began about 50 years ago after the Mexican Revolution of 1917. Lands in large estates were distributed to the landless "peons," in a collective form referred to as the "ejido," which may be farmed collectively or individually. The original owners were allowed to retain up to 100 hectares. Though limited in size, original owners were permitted to select the area desired which resulted in relatively poorer lands being left for distribution. This of course, gave a disadvantage to "ejido" owners. In spite of legal limits on size of private holdings or original owners, rentals were permitted and in addition many families retained separate parcels of land in family members names, which have been operated jointly. Weckstein concludes, the efforts private farmers have made to overcome the legal size limits are a function of their desire to shift toward an optimum size (12, p. 406).

The "ejido" owners have been prohibited from selling, renting, or subdividing their property. Since the "ejido" land cannot be sold, credit cannot be obtained based on its value as collateral. Thus the law in effect limits both the amount of land and the capital available to operate these properties.

It is difficult to measure quantitatively the real effects of the Mexican reform on the country's development. The political, social and cultural effects have largely been assessed in a subjective manner. Productivity changes, which are measurable, are subject to varied conclusions as to causal relationship and/or magnitudes. Mueller's analysis indicates that productivity from the "ejidos," established through reforms, lagged behind private farms from 1940 to 1950 but from 1950 to 1960 the reverse situation developed. He concludes,

"This study has cast considerable doubt upon the prevailing Latin American view that the only positive contribution of the Mexican land reform was in the area of enhancing social mobility, while its economic effect was actually detrimental because a sector which was less productive than the rest of agriculture was inserted into the structure of agriculture" (5, p. 261).

The results of this study would suggest that given time, the initial productivity disadvantages associated with reform will be overcome. However, even if this is assumed, it cannot be categorically stated that reform was an economic success on these grounds. It could be that limitations of size based on reforms have reduced the potential of privately held lands to increase efficiency and that the ejidos, while showing increases in productivity may also be severely limited in terms of future gains.

Weckstein studied a sample of individual farms in Mexico, as contrasted to the aggregate analysis used by Mueller. He concluded, "Presumably ejidos are valued for some characteristic other than their efficiency, or they would not be retained (unless they had been established by error). A more desirable income and power distribution is probably the principal attraction they have to offer" (12, p. 407). Ardent supporters of Mexican land reform such as Edmundo Flores maintain that the redistribution of land and political power "... released and set in motion the multitude of complex forces to which Mexico owes its sustained rates of agricultural and industrial growth" (3, p. 7).

The Bolivian Case

A study was made by Melvin Burke, on the effects of land expropriations in an area of Bolivia near the border with Peru where reform had not taken place but where conditions had been similar. Burke's analysis indicated more labor intensive operations were developed on the Bolivian farms and that more small hand tools were used. Additionally newer homes and other constructions were observed on the Bolivian farms. More large equipment was

available on Peruvian farms but its existence was not considered to be influential with respect to production. The Peruvians handled much more livestock per worker and the quality was better. Market sales and resulting foreign exchange earnings were greater on the Peruvian estates. The conclusions however, were far from clear since production per unit of land was greater in Bolivia, on reformed areas, but much less per man. Burke states, "The findings of this study are that there exist no overwhelming advantages to any particular size of Altiplano farm under existing institutional and technological conditions" (1, p. 445).

Taiwan

The situation in Taiwan seemed to be more definitive. Here farm units were relatively small but with intense labor and low capital use. Many of the distributed lands, under Taiwan land reform, were from farms with less than 10 acres in size. Reforms limited rent below traditional payments. This plus improvements in areas such as credit, education and marketing helped to increase incentives and to improve the general production potential.

In Taiwan units of about one acre in size gave the highest yields and as size was reduced production rose. This added production resulted from double cropping practices, permitted by intense use of labor, increased use of fertilizer, and other technological improvements. Added incomes resulted in more savings and heavier capital investment, much of which has been spent on education and not in labor saving technology.

The conclusions by Anthony Koo, in his study on Taiwan, are that the situation there does not support the economies of scale argument. He suggests however, that the findings do not deny the importance of scale, but "... the optimum scale of agricultural output is difficult to define precisely because of the diversified conditions in many lands" (4, p. 77).

The Taiwan situation seems to demonstrate well the problem of defining the best size of units and on what basis to measure size. In Japan, India and other Asiatic countries, where labor can be used intensively and capital is short, the best size of farm would seem to evolve around the unit which can be handled by one person with a minimum of equipment or outside power. Even animal power which competes for capital and food can be too expensive, under certain conditions. As opportunities for labor relative to land increase, consideration should be given to aids to conserve labor and to shift the position of the scale curve in terms of lowest cost operations. Each case must be judged in relation to the existing situation which is one of the reasons why it is so important to retain flexibility in the reform laws.

The Brazilian Situation

Countries such as Brazil have entirely different types of problems, though the basic causes may be essentially the same. In Brazil as in most Latin American countries the largest part of the farm lands are held by owners of large estates. In 1960, there were 32,500 farms, about 1 percent of the total, with 44 percent of the land. Farms with 10 hectares or less represented 45 percent of the total farms and held less than 2.5 percent of the land. Many of the large units are extensive range type cattle operations with workers and sharecroppers growing cotton on small plots along with other crops. Sugar and coffee plantations also tend to be large.

The large estates tend to cultivate relatively small parts of their land. The small farmers, sharecroppers and others have less land but use it fairly intensively with almost no assistance other than the hoe and human labor. These units are extremely limited in their capacity to cultivate larger land areas even though they may be available. Capital is scarce and modern technology is used sparingly if at all. The farmers tend to be isolated from markets and receive little economic incentive.

Studies of Northeast Brazil have concluded the larger farms have not taken advantage of opportunities to be more efficient in the use of labor or other inputs. In fact,

"small farms cultivated a larger proportion of their land, they had more capital per hectare, generally used pasture more efficiently, had lower investment per capita, lower incidence of use of fertilizer and a higher proportion of farms using only hand labor. However, yields per hectare of various crops were not different and the small farms reported values of land higher than larger farms" (8, p. 41).

FLEXIBILITY OF REFORM MEASURES

In order to realize economies of size of farm operations, it must be recognized that each country has different characteristics and must be considered as a separate case. In addition, it must be recognized that different types of farm enterprises require varying amounts of resources. Where labor is cheap and plentiful in relation to land as in Taiwan and Japan, more labor intensive practices will be necessary. Where land is more plentiful as in many Latin American countries it will likely be desirable to consider at least minimal forms of mechanization to increase the capacity of labor. "In general, the need is for flexible agrarian reform policies. Doctrinaire and ideological solutions are not appropriate, not only because conditions vary from country to country, but also because the policy needs of a given country vary over time" (10, p. 16). If flexibility is not maintained, diminishing returns are likely to be experienced from land reform programs and it will become necessary for additional drastic action to eliminate the new set of restraints.

Neither egalitarian nor scale effect emphasis are liable to pay dividends if other reforms are not instituted on a simultaneous basis. If land is redistributed, generally the new owners will need such services as credit, technological assistance and improved marketing arrangements. In the initial stages of reform of land ownership, production is likely to fall under the best of conditions. Without policies to support increased productivity the satisfaction gained from pursuing egalitarian objectives will soon be dissipated and the potential for development in general will be stifled.

POPULATION PRESSURES

One of the big problems with land tenure reform in all countries, including those like Brazil, is the continuing pressure of population on land. Land units may be divided into economic sizes but soon get redistributed as families grow without opportunities to obtain other land or employment. Properties become further subdivided as the man-land ratio increases, and the pressure increases for higher rents with subsequent lower returns to the workers. Mexico overcame this problem by legislation forbidding inheritance to more than one member of the family and not permitting sale or lease of the property. While this resolved one type of problem it incorporated severe rigidities by limiting the farm units from adjusting to changed conditions, either in terms of more intensive labor use or in terms of obtaining efficiencies of size if the opportunity were to arise. The problems of population growth and its effects further emphasizes the need for broader reforms than mere land distribution.

CONCLUDING REMARKS

There seems to be little doubt that there are important egalitarian reasons for reform of land ownership and control in developing economies. The effects may range from elimination of conditions of serfdom to other improvements in social, political and economic status of a majority of the population in the countries concerned. The evidence appears to be overwhelmingly in favor of the hypothesis that living conditions for the masses have limited potential to improve without such reform action. Production increasing technologies generally seem to increase the gap between the rich and the poor. As long as the minority of wealthy own the land, control the political machinery and dictate the destinies of the rural communities, change will be slow if observable at all.

Reforms, however, should not focus on egalitarian principles alone. The improvements attained are likely to be short lived, if economic gains are not given equal consideration. Nor should the emphasis focus on issues revolving around such things as economies of scale. It is much more important to have an understanding of economies of size, which include efficiencies associated with changes in factor proportionality. These are likely to be much more significant and if these relationships are understood there will be less likelihood of arriving at rigid policy decisions precluding long-run adjustments to change.

Undoubtedly, inefficiencies in resource use exist because units are either too large or too small. In the first instance excess resources are available in terms of the firms capacity or desire to use them while in the second case too few resources are available to permit efficient use of factors such as labor. It is of major importance however, to recognize that size is a relative term and should be kept flexible to meet the needs or conditions under which changes are being made as well as expectations for the future.

Finally, it is important that reforms in terms of land ownership or tenure arrangements be made in conjunction with programs of reform of a more general nature. Unless other conditions are changed, to improve incentives and to

provide the opportunity for increased productivity and efficiency, resulting in economic gains to participants in the reform program, it is unlikely to succeed. In fact with land reform programs alone, productivity can be expected to decline, some forms of services normally provided by the traditional landlord will be cut off, and the small gains of an egalitarian nature will appear of minor consequence.

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