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LAND TENURE CENTER  
310 King Hall  
University of Wisconsin-Madison  
Madison, Wisconsin 53706

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Key Policy Issues for the Reconstruction and Development  
of Honduran Agriculture Through Agrarian Reform\*

by

Kenneth H. Parsons\*\*

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\*\*Emeritus Professor of Agricultural Economics and the Land Tenure Center, University of Wisconsin.

All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author and not necessarily those of the supporting or cooperating agencies.

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## I. Introduction

This is an attempt to state the key policy issues implicit in national programs for the reconstruction and development of Honduran agriculture by means of agrarian reform. I emphasize the problems of reconstruction and development for three reasons: because these aspects are frequently neglected or treated in doctrinaire fashion in reform programs which concentrate upon the acquisition of large land holdings and the righting of old wrong; because the ultimate test of any agrarian reform program must be in the effectiveness and performance of the reconstructed system rather than in the elimination of the defects of the old order; and because when one studies the experiences with agrarian reforms in Honduras, as I have recently done, it is the experience with reconstruction and development with which one is concerned.

This is not to minimize in the least the difficulties which an agrarian reform program in Honduras confronts in the acquisition of land for distribution to settlers, but these issues of acquisition are of a different order than those of reconstruction. Here I would note only that when one views the new agrarian reform law in its entirety it is not an attack on private ownership of farm land as such--the provisions for the permissible "retained" area are clear evidence on this point--rather, it is implicit in this law that the farm land to be retained in private ownership must not be merely hoarded, but must be used in ways to meet the criteria for the "social function of property." A thorough-going socialist or communist land reform program takes all agricultural land, for private ownership of such land is viewed as having no positive social function. In contrast, the agrarian reform programs so far adopted in Honduras, as I read the record, have been attempts to reduce somewhat the inequality of privilege and opportunity which has been inherited from the past, and which is now so severe as to stifle development, leaving great numbers of rural people in dire poverty,

and threatening the stability of public order. In sum, the points I would emphasize are those policy issues which the country confronts in establishing a system of agricultural economy which meets the general criteria laid down in the Agrarian Reform Law, Decree no. 170, 1975, where the general objective of the Honduran agrarian reform program is stated as being to transform the "agrarian structure into a system of ownership, tenure and exploitation of the land which will guarantee social justice in the country in addition to the incrementation of production and the productivity of the agricultural and fishing sector" (Chapter 1, Article 1).

In 1974-75 I studied the experiences with agrarian reform programs in southern Honduras; the findings of this research were published in a report, "Agrarian Reform in Southern Honduras."<sup>1</sup> In this analysis, which runs to some 170 pages of text, I report findings which have been derived largely from interviews with farm people who have participated as settlers in the agrarian reform programs running back to 1960. In this present statement of my interpretations of policy issues, which is a supplement to and not a substitute for the research report, I will not only take from this research statement the inferences for policy drawn therein--making them more accessible to the hurried reader--but I will also attempt to deal with the policy issues of reconstruction and development in somewhat more general terms, i.e., more nearly in the terms with which public officials and administrators must deal with issues.

## II. The Processes of Agricultural Development

Agricultural development during this century over much of the less developed world has concentrated upon improvements in the production of export crops,

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1. Land Tenure Center Paper No. 67 (March 1976).

(3.)

leaving the production of food crops to traditional ways of farming. This has been due in part to the fact that the less developed countries have hot climates and agricultural modernization has concentrated upon the production of "exotic" crops, frequently in enclaves, for export to the countries of the temperate zone. By contrast, in Europe, Japan, the northern USA and Canada, the modernization of agriculture was based largely upon the increased production of indigenous food crops with the surplus production, if any, available for export. All over the less developed world the need to modernize the traditional food crop economies is now becoming increasingly urgent, for the historic policies of country after country have left the increasing populations of these countries dependent upon a stagnant agriculture for their food supplies. Honduras is caught in this predicament and agrarian reform programs should give support to the modernization of the food-producing economy.

In formulating policies for agricultural development a distinction needs to be drawn between the economic growth of agriculture and the development of agriculture. The former, economic growth of agriculture is both more easily defined and more easily programmed than the development of agriculture, but the outcomes are likely to be very different in the lives of the farm people. Economic growth is measurable in terms of inputs and outputs, and within limits, even in physical terms. The way to achieve economic growth is to add needed inputs to the production process--mechanization, modern technology, fertilizer, pesticides, fungicides, hybridized seed--and the achievement of market and credit orientations of the farms as economic firms. This approach, if pursued systematically, runs the risk--in fact it is almost certain--of treating cultivators as mere labor power, as being essentially a part of the machinery or the livestock of the concern. Honduras needs more than an array of mindless campesinos if it is to become a modern economy. It should be possible to provide secure economic opportunities in

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farming to enough campesinos to enable them and especially their children to serve as entrepreneurs and an expanded middle class, which is so essential to national economic development. In this respect the agrarian reform law no. 170 seems particularly short sighted in the provision that "the contributions of the members of the enterprise shall consist essentially of personal work." Even the cooperative farms need to be so organized as to stimulate the growth of the campesino's capacity for self willed and responsible conduct. In fact the campesinos at least the better of them, already have such capacities, as judged by the people whom I interviewed, and this talent should be nurtured and given opportunity to grow. Thus the development of agriculture must include but go beyond the scope of economic growth, for it must be concerned not only with material out-put achieved at acceptable cost-return ratios, but also with the welfare, the status, and the dignity of farm people--and this entails changes in the structure of opportunities. In short, agricultural development is concerned with the development of the people, and the improvement in their economic and social well being, as well as with economic growth as measured in increments of production. Clearly the agrarian reform law 170, if taken as a statement of policy, is concerned with the development of the people, and the modification of the structure of opportunities as well as with economic growth.

Traditional agriculture is what economists call a two factor economy: it is labor applied to land, or more precisely it is the effort and energies of man used in the exploitation of the natural fertility of the soil (including such fertility as is regenerated through the bush fallow of land left to rest after a period of cultivation). Agricultural development takes hold in a country by modifying this traditional system. Thus the two bases, or foundations of agriculture, as traditionally practiced in Honduras are (a.) land as the embodiment of opportunities and (b.) the energies and abilities of the people who work the

land. These two aspects of farm economy are reciprocally inter-related in the operation and management of farms; but they are improved by different means. The dimensions of opportunities on the land are expanded by investment in land and community improvements, including irrigation and exploited more fully by improved cultural and cropping practices, including the adoption of improved varieties of crops, fertilization (if the cost return ratios warrant) and so on.

The traditional abilities of farmers are improved through education and example, but especially they are developed through responsible uses of abilities, and by access to secure and rewarding opportunities upon which to exercise and develop their abilities. It is this challenge to improve and develop the abilities of traditional farmers that agricultural development through agrarian reform must somehow meet--and which is at the same time the great opportunity of an agrarian reform program in Honduras.

If an agricultural development program denigrates the traditional skills of farm people, assumes that the people are "just what they are" and neglects what "they might become" through responsible self-willed conduct, programs may then concentrate on mechanization and the establishment of large-scale farms. But in so doing the potential abilities of people may be lost, at great social cost.

One of the interesting and helpful aspects of the emphasis upon cooperatives in the agrarian reform programs is that through cooperative efforts the latent abilities of the farmers may grow, at least in the early years of development. That depends of course on how the cooperatives are organized, and the kind of secure and differentiated roles that the members have. Historically there has been a great deal of cooperative effort in Honduras in the survival type of economies which farm people have worked out. As one studies the dynamics of land settlements, both historically and under the agrarian reform programs of

Honduras,<sup>2</sup> the processes of agricultural development on the human side have been based very largely upon the formation of groups of settlers--relatives, neighbors and friends--who together sought out available land and established farms and communities. In such settlements the farmers no doubt did what they knew how to do: cultivate the land in the traditional manner. Their ways of adjusting to high risks of crop failure, ill health, etc., was to form alliances for sharing among themselves so that those temporarily without food would be assisted by the more fortunate or more industrious. Essentially these same processes of settlement which prevailed historically operated formally under Decree no. 8 in 1973 and 1974. However, these historic land settlement processes have seemingly come to an end under Law no. 170, for not only is the invasion of private land forbidden henceforth, the acquisition of land and its distribution to settlers will come about within the administrative machinery of this public agency for identifying and acquiring land which is surplus above calculated ceilings, and whatever land there is still in the public domain which is suitable for farming. Through such administrative procedures for the allocation of land, it should be possible to avoid the marked inequalities between and among settlements in the land allotments which the settlers received in the hectic days of agrarian reform under Decree no. 8. Among the asentamientos which I studied in southern Honduras those on the poorest land secured as a group of 8 asentamientos only 2.8 manzanas<sup>3</sup> of cultivable land per family, while the members of the asentamientos on the best land--that suitable for cotton, rice or cane--received an average of 6.1 manzanas of land per family. Members of the cooperative farms established by INW before Decree no. 8, also on cotton and rice land, received on the average almost

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2. Ibid., pp. 45-53.

3. 1 manzana = 0.7 ha.

10 manzanas of cultivable land per family.<sup>4</sup>

Even so, it would seem worthwhile as the agrarian reform program moves forward on programs for the distribution of land to campesinos to incorporate into the program some method of group self selection and organization such as functioned under Decree no. 8, to provide a social matrix within which individual settler families can continue the social practices of mutual support, and especially to ensure that the campesinos will enter into settlement projects acting upon their own volition. For it should be remembered that the needs for agricultural development in Honduras can be met only by the kind of willing and energetic participation of campesinos which lift these people from a passive endurance of a hazardous survival to the responsible and venturesome conduct of a self-willed people.

When viewed from the perspective of the farmer now engaged in traditional farming, the process of agricultural development can be considered as having two stages: the first stage is obtaining a secure opportunity to grow their own food crops. The lack of even this opportunity was the principal driving force in the invasions of land which have occurred in Honduras over the last several years. Through the programs of INA, a few thousand Honduran campesinos have secured the minimum opportunity--a chance to grow their own food. Virtually all the settlers whom I interviewed, both under the INA program and the farm allotment programs which preceeded them, plant their own milpa. That is, these people continued to practice the self-subsistence agriculture as they and their ancestors have done for centuries. This, in our judgment, is commendable, and these self-subsistence economies are worthy of major improvements--as subsistence economies. Whether or not the farmers can actually achieve more than this depends

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4. Ibid., Table 33, p. 78.

partly on their own efforts, but also such progress depends upon the quality and extent of land they have received--for the second stage involves market orientation--a production of surplus above family consumption.

As every farmer knows, economic progress by a farm family is much easier, is even made possible, by having enough good land to farm. Where these farm settlements did not get good land, and cannot get good land in sufficient quantity to engage in the recognized conventional cash crop farming characteristic of their area, they will have to adapt, have to be helped to devise some other kind of farming, or to remain subsistence farmers--hopefully with some supplementary kinds of employments.<sup>5</sup>

### III. What Kinds of Farms in Agriculture?

#### Individual, Cooperative or Something in Between?

The first agrarian reform programs in Honduras, undertaken in the late 1950s and early 1960s were designed to establish family, or small farms. By the late 1960s and early 1970s the emphasis in the agrarian reform programs had shifted to the establishment of cooperative farms. As the agrarian reform program is being re-organized under the new law 170, it would seem appropriate to consider anew the questions regarding the kinds of farming systems which should be promoted in the years ahead.

The general question for public policy in Honduras is what kinds of farming systems are most likely to give strongest support to agricultural development under the differing conditions of soil and climate which occur in Honduras. The variations are so great that it is to be presumed that among the several different kinds of farms which are possible some are better adapted than others to

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5. Ibid., pp. 113-15.

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particular situations. The policy of INA regarding the kinds of farms to be promoted should be consistent with the overall requirements for agricultural development of Honduras.

In our research efforts in southern Honduras we analyzed the experiences with different kinds of farms which had been established through agrarian reform programs, as far as our time and the experiences of settlers permitted. The oldest farm settlement scheme in southern Honduras is the Monjaras-Buena Vista Lotification, a small farmer scheme near Monjaras; we included this area in our study. We also interviewed the leaders or officers on approximately 60 percent of the cooperative farms in southern Honduras which were organized before the issuance of Decree no. 8 in December 1972; and we analyzed the experiences of a sample of the 31 asentamientos organized under Decree no. 8. Although we did not cover fully in this sampling the range of experience in Honduras, we do have a considerable variety.

The small farms were, of course, organized as individual family units. Among the 43 cooperatives and asentamientos studied intensively: the members on 4 of these asentamientos were also farming in wholly individual fashion--all of the crop land was assigned to individual families; the members of 11 of the asentamientos were engaged in mixed farming, with two kinds of mixtures--on two of them the crop land was all allotted to individual families, but they were attempting to start growing cattle on a group basis, while on the other 9 the crop land was farmed partly by individual families and partly on a group or communitarian basis, with one of these groups also growing cattle communally. The remaining 28 worked as groups on cooperative farms: all of the 12 cooperatives analyzed and 16 of the asentamientos organized under Decree no. 8. I report the details of this analysis in the Research Report; in this statement on policy I shall build on this analysis but also deal with some organizational questions in more general terms.

(A.) Individual Farms

The individual farms, particularly the small-scale individual farms, are the simplest kind of farm economy yet devised, particularly where the farm family owns the land and operates the farm--as is the case in the Monjaras-Buena Vista project area. Furthermore, such farms are close to the heart of both the experience and the aspirations of Honduran campesinos. The head of the family is the head of the firm, the entrepreneur, and the family both owns the land and provides most of the labor force. For reasons not wholly clear to me, this kind of farm is not looked upon with favor in Honduras as a model for agrarian reform settlements, apparently because somehow the modernization of agriculture is viewed as requiring large-scale mechanization, with strong preferences for export crops. The idea seems to be that these family farms are too small to modernize, that the farmers are not interested in adopting new methods of farming, that they are interested only in growing corn and beans, and so on.

Perhaps so, but in my study of the small farms in the Monjaras community I did not find it so. To be sure raising corn and sorghum is their major enterprise, but excepting the one-third who suffered the most severe damage from the weather--including the flooding associated with hurricane Fifi--some corn was sold. On three-fourths of the farms production for both sale and consumption was reported: of total production three-fourths was reported sold, one-fourth was consumed. About one-half of the farms reported growing cash crops other than corn or sorghum. Furthermore, most of these farmers enjoy their farming so much with the independence and security they have that they wish their sons to farm. This is not to say that these farmers have an idyllic existence, but that they do have the kind of interest and devotion to hard work which can serve as a foundation for agricultural development. In fact farms such as these meet the primary criterion laid down in Article 4, Law no. 170: "For the purposes of the preser

law, it should be understood that the Agrarian Reform proposes to unite in one person the three attributes of owner, entrepreneur and worker."

(B.) Kinds of Cooperation in Farming

It does not necessarily follow that this kind of individual farm economy which prevails in this community--and in many others in Honduras--should henceforth be the sole ideal or objective of the agrarian reform of Honduras. At least three modifications of this system or alternative kinds of economic organization of farming are worthy of consideration. Much depends upon what crop is being grown, and whether there are any genuine economies of scale in production.

(1) There are crops which can and should be grown in an industrialized type of farming, where the strongest case can be made for group farming: this is the case where the technology is complicated or sophisticated, where economies of scale are important, and where specialization and division of labor is both possible and productive. (2) It is also possible, as has occurred in a number of countries, that farming be organized with a combination of small holdings worked individually, with the remainder of the land--even most of the land--worked collectively, with the ownership of the crops similarly divided. (3) There are many kinds of cooperation in farming which entail the cooperative efforts of individual farmers working together on those aspects of farming in which group effort is rewarding, but leaving final responsibilities and most of the initiative and decision-making to individual farmers who own the crops grown on their land. These alternative forms cannot be considered exhaustively in this brief note on policy, but some comments on the alternatives can be made.

(1) Cooperative Associations of Independent Farmers

Beginning with the simplest kind of cooperative effort--which is the most common kind of farmer cooperation practiced today, at least in the developed economies--farmers join cooperatives as independent farmers to cooperate in doing

things together which they can not do, or can not do so well individually, such as securing credit, marketing of products, buying fertilizer or other supplies, and, less frequently, owning machinery which is too expensive for individual farmers to own. An independent farmer joining in any one of such cooperative activities incurs certain obligations as well as the correlative advantages. If credit is secured cooperatively, each farmer may be required to buy stock in the cooperative association equal to 5 percent (a common figure) of his loan. He is responsible for paying his own debts; if his neighbors default on their loans his stock may be forfeited, but his losses for other farmers' defaults are limited under such arrangements to 5 percent of his capacity to borrow from the association. If the cooperative is a marketing cooperative, the members agree that they will patronize the cooperative to sell their crops or their supplies. If someone refuses to do so, and sells or buys outside the co-op, he is usually liable for liquidated damages equivalent to the loss incurred by the cooperative through the loss of the business of the particular farm.

In such ways the independent farmer remains independent while realizing the advantages of group action. The economic and legal status of the individual farmer is safeguarded--he cannot be financially ruined by dishonest officers of the cooperative--and his survival and economic progress depend upon his own efforts.

This type of cooperation would seem to be promising among the small farmers such as I interviewed in the Monjaras area where a diversified farming is practiced; it might not be equally useful if a more industrialized kind of agriculture is warranted by the kind of crops grown.

## (2) Communal Farming

By communal farming we mean group farming in which the members associate themselves together to pool their labor and work their land in common. Someone

is elected to be the manager or, as more usually happens where such a system endures many years, some one is appointed by overriding authority to take charge and "run" the collective. The crops grown belong to the group. The members share in the net proceeds according to their contributions, usually labor power. Where members have land of their own this too is pooled, as in the sugar-cane growing cooperatives in the Monjaras area established by small farmers who own their land. In such a case there may be a "share" to land as well as to labor.

In the cooperative farms and asentamientos of southern Honduras formed by the assignment of land to groups by INA, the common practice is to pay wages to the members according to hours worked, as loan funds permit, and if there is a surplus to distribute this is paid as a dividend on the same basis.

Although no mention was made by the leaders of any of these associations of any variations in the scale of wages paid to members according to the quality of the skill exercised, it is the near universal experience, so far as I know, for such communal organizations to pay at higher rates than ordinary labor, the workers acquiring special skills, such as mechanics, machine operators and specialists in animal care and breeding. This problem is ahead for most of the cooperative farms in southern Honduras because they are still practicing a rather simple kind of farming where mechanized work is hired.

The very nature of the agricultural production processes imposes limitations on the possibilities of the cooperative organization of agricultural production. In this it differs in major ways from manufacturing industries. Agricultural production is by means of economic systems which are based upon and must be made consistent with biological processes. This means not only that production processes take time, in accordance with the habits and requirements of nature, but that the farmer must adjust to the vagaries of weather as well as the other requirements of nature. This means, in turn, that agriculture cannot--particularly

where dependent on natural rainfall--be based upon extensive control of the physical processes of production; farmers accept and adjust to nature. This stands in stark contrast to urban-based industries which are based upon chemical and mechanical processes under the control of man. Thus it follows that whereas production processes in industry can be done simultaneously, in agriculture the processes are sequential. An automobile can be wholly made, literally, in a few minutes if the plant is large enough to have a multitude of activities going on simultaneously in different places. This is the real basis for the minute specialization and division of labor which characterizes much of urban industry. In agriculture instead of specialization the farmer does a succession of tasks from planting to harvest. He is a "jack of all trades." Instead of division of labor the farmer practices a combination of crop and livestock enterprises, so that crops having different labor requirements can grow side by side, not all requiring the same intensity of labor at the same time. This necessity of sequential rather than simultaneous production processes means not only that there is little opportunity for specialization and division of labor, but it also means that there are very limited economies of scale.

Guanchias is reported to be a very successful cooperative farm venture (which unfortunately we did not have time to study as we had hoped). There probably are other crops which are equally suitable for collective farming. But just because a cooperative farm succeeds in growing bananas it does not follow that all kinds of farming are equally suitable for cooperative organization.

It may be argued also that mechanization of production requires a larger scale of farming than the 5 and 10 hectares of land visualized as the permissible size of small farms in Law no. 170. There are at least two offsetting considerations here. The machines can be adjusted to the size of the farm, as the Swiss and Japanese have done. When this is not feasible, the hiring of machinery used

on smaller farms can serve as an alternative and a simpler form of economic organization. It should be noted here that the overriding need in Honduras is for the development of types of farming which are both labor intensive and increase production per manzana, at least on the better lands.

But the point about cooperative farming which worries me the most is the fear that the management and control of these cooperatives will fall into the hands of the literate "fast talkers" in the group, who may be unscrupulous as well. One does not spend much time in the countryside until he hears of cases where the person in control of these cooperatives made off with at least part of the proceeds of the sale of the crop or some other act which is indefensible on principle.

The conclusion which emerges from this kind of scrutiny is not that cooperative farms--organized as communal economic ventures--should be avoided. The faith in and hope for communal farming is so pervasive, at least among intellectuals, that they clearly deserve to be considered as one of the possible ways to organize Honduran agriculture under the agrarian reform program.

Rather I would suggest that the promotion of cooperative farms be judged on their merits, and be judged in comparison with alternative kinds of farming according to their efficiencies, productivity, and promotion of well being and rural tranquillity over time. For one thing, communal farming may be a very good, even the best, way in which landless campesinos can escape from their present plight with poverty and insecurity and gradually become accustomed to more modern kinds of farming. This could be wholly true and still lead to situations in a few years time where some modification of the communal system is necessary to maintain peace and harmony in the group.

## (3) Mixed Systems

(a) Small holdings for self cultivation with group farming of the surplus land. Cooperatives combining individual and group farming are found in both Russia and China. They are essentially retreats from a thorough-going communal organization of agriculture. These countries--the two most important communist countries of the world--after decades of revolution and turmoil have arrived at common arrangements where the workers on the collective farms are allowed to have their own house and a small holding of land. Both the house and the land are "theirs," and the crops grown on the land belong to those who grow them.

In China, after decades of revolution the system of village economy which has resulted resembles very much the traditional Chinese village. The individual family lives in its own house, which the family may have occupied for generations and has its own family garden. The land not so used is farmed by the village commune. Similarly the labor in the family not used in the house and garden is available for the communal labor force, which may be employed on the communal village farm or in a small industry in or nearby the village. As recently characterized by a long-time student of Chinese agriculture--now with FAO, after several visits to China as a Pakistani planning official--"Commune members generally live in their own house, which is gradually being improved and rebuilt with the assistance of the commune; and they own small private plots on which they grow vegetables or raise poultry and pigs".<sup>6</sup>

In Russia, also after decades of Marxian inspired revolution, the general lay-out of a vast number of the collective farms combines large fields which are cultivated and harvested collectively, with small holdings nearby which the

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6. Sartig, Aziz, "The Chinese Approach to Rural Development," International Development Review 15(1973): 3.

workers on the commune farm individually and privately. These private holdings have produced much of the vegetable supplies and animal protein consumed in the cities. By a recent account: "The Soviet Union permits collective farmers to cultivate small private plots in their spare time and sell the produce for their own profit. These plots account for a mere 4 percent of the land under cultivation in the USSR, yet by value, they produce a fourth of the country's food."<sup>7</sup> These individually farmed plots in Russia are much larger than mere household gardens, as is evident in the commercial importance of the production in the retail markets.

Such outcomes in the two most important communist countries, after decades of centralized authority and turbulent revolutions, are deeply significant. These concessions of private economy to the peasant people demonstrate the necessity of recognizing the traditional attitudes of the peasants and honoring their beliefs and attitudes, if the country is to have their willing and energetic participation in the economy. These concessions also recognize how dependent a nation becomes upon the skills, wisdom, and sense of fitness of the campesinos.

(b) Group farming with individual ownership of the crop. In Egypt the land reform program allotted the land taken from big land owners to the peasant cultivators in a way that subordinated the tenure of land to the technology of farming. The land reform program divided the land of the village into three fields (also referred to as rotations), on which 5 crops are usually grown in three years (That is, the land being irrigated, is double cropped two years out of three.) Each recipient of land was allotted land in each of three fields--with allotments of not more than one or two acres, approximately one manzana in each field. Some tasks are done under village management for the entire field--as deep plowing for

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7. Time, 14 July 1975, p. 41.

cotton, dusting pesticides or irrigation. As one sees the crops growing they run continuously as if under one ownership, but the field may belong to a hundred different owners. The cultivation and harvesting of the crop is the responsibility of the owner of the land, who is required to meet high standards of cultivation; otherwise the village management has authority to have the crop cultivated and charge the cost against the value of the crop. The farmer owns the crop grown on his own land.

This manner of making the tenure of land subordinate to the technological requirements of farming has in recent years been extended to much of the Egyptian Delta; since the land is owned in small tracts--and this ownership is defended fiercely--the consolidation of farming operations into a few big fields in each village was achieved by negotiated exchanges of land among the peasants. It has evidently been accepted among the peasants for at least some crops because of the substantial increases in yield and decreases in labor requirements which have resulted from the rationalization of the land use patterns.

(c) Comments. These few remarks on various kinds of cooperative endeavors in farming may at least suggest with some concreteness the importance of provisions which define clearly the status of the farmer in a cooperative undertaking. There are deep inter-connections between the ways in which a farmer's claims to land are defined--what lawyers call equitable interests--the economic and legal status of the participants in the cooperative and the physical lay-out of the whole settlement. The surest way to induce the energetic and willing participation of farmers is to design settlement projects in such a way as to ensure that a farmer can reap the rewards of his own efforts. Farmers who own their land know where they stand in relation to other persons. The land is his as is the crop grown on it. If an independent farmer joins a cooperative of any kind both his rights and his duties therein can be defined with precision. The same kind of

security status may be possible in any cooperative, but so far as I know the arrangements have yet to be worked out in Honduras.

As one attempts to relate these different experiences in cooperative farming to the agrarian reform programs in Honduras two points stand out: It should be possible to institute highly productive cooperative programs--in credit, marketing, and possibly machine ownership--for the small farmers in Honduras, as exemplified by the small farmers in the Monjaras area. One wonders why so little effort has been put into this, in contrast to the strong efforts made by INA to establish cooperative farms.

Secondly as one studies the experience of the asentamientos and cooperative farms in southern Honduras, it would seem quite simple and feasible if there are to be cooperative farms to assign to each individual family as its own, not only enough land for a house and household garden--as is explicitly provided for in Law no. 170--but also enough land for the family to grow some corn. Land so used for food crops can have and probably will have a higher value of product per manzana than in any other use, particularly if appropriate extension programs are mounted. Also such an arrangement would not only go far to meeting the basic needs of the campesinos for land to grow their own food crops--a need which spurred these people on to invade lands--also it would go far to protect the chance of survival of hard-working families, giving them some security from the possible mismanagement by officers, and the indolence of their neighbors.

#### IV Increasing Employment in Agriculture

Recent programs of agrarian reform, particularly those under Decree no. 8, had a basic purpose of settling underemployed labor on underutilized land in the hope of increasing both employment and production in ways which enhanced the dignity and well being of the settlers.

The organization of the asentamientos of the agrarian reform program in southern Honduras encouraged the cooperative form of farm organization through which the land would be used mainly for annual crops rather than for ranching. This shift from grazing to cropping multiplied the number of persons per 1,000 manzanas of land. One of the consequences of these shifts in land use is that the settlers are now planting crops which are more susceptible to damage by drought than the grasses and other range vegetation which they replace. Southern Honduras is a drought-prone area and recent seasons have suffered unusual shortages of rainfall. The crop losses are of arresting proportions, particularly when a family becomes economically dependent on a few manzanas of land, such as have been allotted through the agrarian reform program. Judging from our survey, something like one-half of the 1974 rice crop was lost through drought, and in August 1975 the first season (primera) corn crop in southern Honduras was devastated by a tropical storm.

It is to be noted, however, that the systems of farming being established, particularly on the asentamientos and cooperative farms on the better lands in southern Honduras, do not have major potentials for employment creation as they are now being farmed. The production of both cotton and rice, and to a lesser degree other crops, is substantially mechanized. There are very few oxen on these settlements; excepting farmers on the poorer land (who evidently prepare the soil by hand), seed preparation is mostly mechanized. Cotton is seemingly dusted for pests by an airplane, and is picked by hand: picking requires much labor in season. For the rice crop (upland rice) both the seedbed preparation and the harvesting are mechanized, mostly by hired machinery, although some of the groups are acquiring their own tractors and equipment. There are other tasks in rice growing--particularly weeding and the scaring away of birds from the ripening grain--which do require considerable labor in season. I would judge

that the economic feasibility of borrowing money to hire machinery and to pay wages to the members of these groups during the growing season to be repaid out of the proceeds of the sale of the crop, is yet to be established.

The pressing need for employment by persons living in southern Honduras will almost certainly require that in the future more attention be given to ways of increasing employment in farming by the agrarian reform programs than has been the case so far. Efforts will need to be directed to at least two problems. One is the fullest possible development of the irrigation potentials of this area. The other is the intensification of production, particularly of food crops, on the smaller holdings of land.

Considering the latter problem first, one place to concentrate efforts to increase labor-intensive food crop production would surely be among the small farmers on good land, such as is the case in the Monjaras area. If the settlers on the asentamientos and cooperative farms had individual plots of their own of any size the production of food crops on these lands might be enhanced by the same programs which are designed to aid the independent small farmers.

There are no doubt some crops which could be grown in southern Honduras as substitutes for the present crops, even the traditional variety of corn; there are new, recently developed varieties of corn of very high protein content which are reportedly adapted to this area and acceptable to consumers. This new high protein corn is almost as rich in protein as meat, and requires only a modest supplementation by vitamins and minerals to make a completely balanced diet. This sort of substitution would be eminently worthwhile even if there were no increases in employment.

The general point to be made, however, is that agricultural development programs, including those sponsored by INA, should make a determined effort to introduce cropping systems in southern Honduras which increase both production and

employment per manzana of land. The operative theory of agricultural development so far accepted by INA seems to be to push sugarcane wherever irrigation water is available, and large-scale mechanized farming elsewhere. This is not enough.

Individual farmers themselves can do something to improve their farming systems, and some are trying in the Monjaras area to use their land more intensively; but guidance and assistance on such adaptations must come from research and extension people who really understand both the theoretical possibilities of substitute crops and cropping systems as well as the practical limitations of such innovations. This sort of knowledgeable professional personnel seems to be in extremely short supply in Honduras, and will probably remain so until the bright children from the farm homes have opportunities to go to school at all levels and become the eventual "change agents" in rural Honduras.

Increases in crop production and employment through intensification of agriculture eventually depend upon the availability of water, and this in turn virtually requires public programs for the development of irrigation. It may be anticipated with considerable confidence that the development of irrigation, and the equitable distribution of the rights to use water, will be as controversial as land reform itself