

AGENCY FOR INTERNATIONAL DEVELOPMENT

SPRING REVIEW OF LAND REFORM

BACKGROUND PAPER 3

THE ECONOMICS OF LAND REFORM
IN LATIN AMERICA AND
THE ROLE OF AID AGENCIES

A.I.D. Discussion Paper No. 21
Reprint June, 1970

SR/LR/B - 3

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D. C.

Office of Program and Policy Coordination

A.I.D. Discussion Paper No. 21

THE ECONOMICS OF LAND REFORM IN LATIN AMERICA AND THE
ROLE OF AID AGENCIES

Dale W Adams

A.I.D. Discussion Papers are circulated for the information of the addressees and their staffs. These papers are intended to serve several functions: to improve knowledge of analytical studies, research results and assistance policies among Agency personnel; to encourage the careful recording and analysis of Agency experience and problems by persons currently engaged in them; and to share such experience and ideas with interested persons outside the Agency. These papers are designed to stimulate and serve as background for discussion. They represent the views of the authors and are not intended as statements of Agency policy.

August, 1969

NOTE

This paper was prepared while the author was on the staff of the Office of Program and Policy Coordination in the Agency for International Development. A number of people were kind enough to read earlier drafts of this paper and provide constructive comments. In particular, the author gratefully acknowledges the suggestions of Richard Bernhart, Karl Bode, Charles Breecher, Paul Clark, Harlin Davis, Peter Dorner, Nan Frederick, Robert Hubbell, Alexis Lachman, Glenn Lehmann, Robert McMillan, Ronald Tinnermeier, and Kelso Wessel. The usual disclaimers apply.

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction	1
II. Does Land Reform Cause Production Decreases?	6
A. Historical evidence.....	6
B. A priori assumptions.....	9
C. Does parcelization block modernization?..	12
III. Is Urbanization a Viable Alternative to Land Reform?	15
A. Will incomes decrease with increased output?	17
B. Should urbanization be accelerated?	21
IV. Is Colonization An Economic Alternative to Land Reform?	23
V. Summary and Conclusions	26
A. Summary.....	26
B. Conclusions.....	28
1. Focus more development policy on land reform.....	29
2. Facilitate land purchase.....	29
3. Improve land tax system.....	30
4. Provide research and educational inputs.....	31

The Economics of Land Reform in Latin America and The Role of Aid Agencies

I. Introduction

The "Alliance for Progress" at inception was aimed at a broad range of pressing problems in Latin America. With the assistance of various aid agencies some progress has been made. A number of Latin American countries, for example, now have significant industrial capacity, and most consumer goods can be produced in the region. Output of electricity is up more than 50 percent since 1961. Although shock absorbers still suffer, roads in Latin America have been substantially expanded and improved during the 1960's. Malaria and yellow fever are now practically eliminated, and the supply of drinking water vastly improved. Progress has also been made in regional economic integration and trade diversification. Big steps forward have been made in higher education, and the professional capacity of Latin American governments to manage their economies has also materially improved.

On the negative side, much less progress has been made in improving the lot of rural poor. There are, for example, 10 to 20 percent more children (ages 5-14) in rural areas not attending schools in 1969 than in 1960.^{1/} There has also been an increase in the number of rural poor of from 15 to 20 percent during the 1960's.^{2/} Despite massive migration to cities and colonization areas since 1960, 12 to 15 million more rural people in 1969 do not have access to a reasonable amount of farm land. Although some progress has been made in increasing total output, little or no improvement has been made on income distribution. In most of Latin America 10 percent of the landowners receive 1/3 to 2/3 of the total agricultural income.^{3/} Little change in this structure of income distribution has occurred during the 1960's.

1/ Estimated from U.S. House of Representatives, Committee on Government Operations, A Review of Alliance for Progress Goals, U.S. Government Printing Office, Washington, D.C. 1969, p. 38.

2/ Estimated from data in Inter-American Development Bank (IDB) Social Progress Trust Fund Eighth Annual Report--1968 (Washington, D. C.: IDB, 1969) pp. 333-380.

3/ United Nations, Economic Commission for Latin America (ECLA), "Agricultural Development in Latin America," E/CN.12/829, 12 February 1969, pp. 17-18.

Initially, a number of people assumed that land reform would be the policy cornerstone for easing rural poverty in Latin America.^{4/} Despite this early emphasis results have been disappointing. Parcelization of privately held land has only inched forward in areas where landownership problems are most pressing: Brazil, Central America, Chile, Colombia, The Dominican Republic, Ecuador, Paraguay and Peru.^{5/}

In spite of the stress placed on land reform by the Alliance, aid agencies (A.I.D., Foundations and other international agencies) have done little to encourage redistribution of landed property rights. A survey of A.I.D. activities, for example, shows a dearth of pressure in loan programs toward this end, little or no insistence on use of counterpart for land reform activities, only a trickle of technical assistance, and few U.S. funds allocated for this

^{4/} In the following discussion the meaning of land reform will be restricted to the redistribution of property rights in land--mostly privately owned--in areas where a good deal of infrastructure exists; and where such redistribution may result in parcelization, or joint ownership among small farm operators or landless workers. Colonization and land settlement, on the other hand, will denote settlement on lands which are usually public domain where little or no infrastructure exists.

^{5/} In Colombia, for example, most of the 66,511 titles to land given by the Agrarian Reform Institute (INCORA) from 1962 to 1967 were on public lands, or de facto recognition of legal claims to land held by squatters. Recent activities in Chile, Colombia, and Peru may have somewhat brightened the outlook for land reform in Latin America.

purpose. From the late 1950's to mid-1968 A.I.D. and predecessor agencies have granted or loaned approximately 100 million dollars in the very general area of colonization and land reform in Latin America: roughly 30 percent for penetration roads into colonization areas; an additional 20 percent directly for colonization; another 30 percent for agricultural credit which has at least partially supported colonization or parcelization activities; and 20 percent for mapping, land titling, and land tenure research.^{6/} It appears that something over 70 million dollars of A.I.D. assistance has gone into support for colonization, and less than 30 million dollars into programs which might be interpreted as support for land reform.

Up until the first of 1969 the Inter-American Development Bank (IDB), through the U.S.-funded Social Progress Trust Fund, loaned approximately 30 million dollars in this general area, almost entirely for colonization. Even by combining A.I.D. and IDB financial commitments, the total outlay by the U.S. for colonization and especially land reform has been modest. The World Bank has also done little in this area.

^{6/} These figures do not include program loan counterpart funds which have gone into general budget support for agrarian reform activities. This has been significant in Chile and Colombia.

Why international agencies have shied from land reform is not entirely clear, but one frequently verbalized feeling is that parcelization cannot be economically justified. This paper will be concentrated on this topic, and as a result a number of other important issues will not be covered. For example, the vital role which land reform can play in socio-political development is not treated.^{7/} The possibility that the lack of interest in land reform is due to a "philosophical hang-up" (that private land-ownership is inviolable) is also not explored. Nor, is an attempt made to present comprehensive economic arguments for land reform. Rather, the following discussion will focus on the merits of several economic arguments often cited against land reform: (1) it decreases production, (2) urbanization is more practical than parcelization, and (3) colonization is more feasible than land reform. These criticisms are often used as justification for directing attention toward other development tools.

^{7/} For example, see Edward J. Mitchell, The Huk Rebellion in the Philippines: An Econometric Study, ARPA Order No. 189-1, The Rand Corporation, Santa Monica, California, January 1969. This study suggests that the Huk movement has been most successful among tenants, farm laborers, and migrant workers in the Philippines.

II. Does Land Reform Cause Production Decreases?

It is repeatedly asserted that land reform is synonymous with decreases in production.^{8/} Three types of arguments regularly surface in support of this assertion: (1) historical evidence based on the experience of countries such as Bolivia, Italy, and Mexico where land reform has occurred; (2) a priori assumptions about farm operating efficiencies following land reform; and (3) predictions that parcelization will block future modernization of agriculture.

A. Historical evidence

Recent studies of land reform and agricultural growth do not provide evidence that land reform has caused decreases in agricultural production. In Bolivia, for example, Clark reports that the "apparent decline" in agricultural output following land reform in 1952 was due to increased home consumption by farmers, disruption of marketing and transportation facilities due to the social

^{8/} E.g., P.B. Diebold, "How Planners Should View Land Reform," Development Digest, Oct. 1966, pp. 98-102; Montague Yudelman, Agricultural Development in Latin America: Current Status and Prospects (Washington, D.C.: Inter-American Development Bank, 1966) pp. 66-67; and Lawrence H. Berlin, "A New Agricultural Strategy in Latin America," International Development Review, Sept. 1967, p. 13.

upheaval, and the unseasonably dry weather experienced for several years following the reform.^{9/}

Even more positive results of land reform are reported in recent studies of Mexico by Dovring, Eckstein and Flores.^{10/} Most of the changes in landownership in Mexico took place during 1927 to 1939. Yet, as Dovring points out, in the 1934-38 to 1962-65 period, Mexican agricultural production more than tripled. He concludes that, "It would be difficult to show any other country, with acceptable agricultural statistics, that has maintained a similar rate of growth over a comparable stretch of years in modern time," and that it is very doubtful if agricultural output fell, even temporarily, in the 1925 to 1939 period. In addition, a recent ECLA study showed

^{9/} Ronald J. Clark, "Land Reform and Peasant Market Participation in the North Highlands of Bolivia," Land Economics, May 1968, pp. 153-172, also University of Wisconsin, Land Tenure Center Reprint No. 42. Imports to Bolivia of agricultural commodities were stimulated during 1953-55 by favorable exchange rates and price policy. Some of these imported commodities, especially wheat, were reexported: United Nations, Economic Commission for Latin America (ECLA), Economic Bulletin for Latin America, Oct. 1967, p. 79.

^{10/} Folke Dovring, "Land Reform and Productivity: The Mexican Case" Unpublished Manuscript, Dept. of Agricultural Economics, University of Illinois, Nov. 1966; Salamón Eckstein, El Marco Macroeconomico Del Problema Agrario Mexicano (Washington, D.C.: Pan American Union, 1969); Edmundo Flores, "Land Reform and The Alliance for Progress," Woodrow Wilson School of Public and International Affairs, Center of International Studies, Princeton University, Policy Memorandum No. 27, May 1963.

that rates of growth in agricultural production between 1950-65 in Bolivia, Mexico and Venezuela--countries which have carried out extensive land reform--substantially exceeded the average for Latin America.^{11/}

For Italy, Barbero and Shearer both report increases in agricultural production and rural employment following land reform.^{12/} In Venezuela during the first four years (1960-1964) following initiating of land reform activities farm output--excluding coffee and cacao--grew at an average rate of 6.3 percent annually, compared with a 3.8 percent yearly average during the preceding decade.^{13/} Additional studies have also indicated increases in agricultural output following land reform activities

11/ United Nations, Economic Commission for Latin America (ECLA), "Agricultural Development in Latin America," cited previously.

12/ G. Barbero, Land Reform in Italy: Achievements and Perspectives (Rome: FAO, 1961), p. 5; and Eric B. Shearer, "Italian Land Reform Re-Appraised," Land Economics, Feb. 1968, pp. 100-106.

13/ Eric B. Shearer, "Letter to the Editor," New York Times, September 10, 1967.

in Nepal, Taiwan, Japan, Yugoslavia, Egypt, Korea and Kenya.^{14/}

B. A priori assumptions

Those who argue on a priori grounds that land reform will decrease output often extend their argument on the following: that land reform (1) substitutes a lower quality management factor; (2) may reduce farmer access to credit, markets, and transportation; and (3) may reduce participants' access to new inputs.

A strong argument for land reform in Latin America, in my opinion, is that it can replace inefficient absentee management. Recent Comité Interamericano de Desarrollo Agrícola (CIDA) studies suggest that up to three-quarters of Latin America's best agricultural lands are operated by absentee owners.^{15/} A study

^{14/} Quentin W. Lindsey, "Budabari Panchayat: The Second Year After Reform," Land Reform in Nepal, published by Nepal Land Reform Department, May 1966; Raymond P. Christensen, Taiwan's Agricultural Development: Its Relevance for Developing Countries, USDA, ERS, Foreign Agricultural Economic Report No. 39, April 1968; Takekazu Ogura, (ed.) Agricultural Development in Modern Japan (Tokyo: Japan FAO Association, 1963); A.H.E. Nasharty, "Agrarian Reform in the United Arab Republic," Rome, Italy, World Land Reform Conference, United Nations, FAO, June 20-July 2, 1966; V. Stipetić and B. Milosavljević, "Agrarian Reform and Economic Development: Yugoslav Case Study," Rome, Italy, World Land Reform Conference, United Nations, FAO, June 20-July 2, 1966; J.A.E. Hong Cho, "Land Reform and Their Consequences in South Korea," unpublished Ph.D. Dissertation Indiana University 1964; Hans Ruthenberg, African Agricultural Production Development Policy in Kenya 1952-1965 (Berlin: Springer-Verlag, 1966).

^{15/} A summary of these studies is given in S.L. Barraclough and A.L. Domike, "Agrarian Structure in Seven Latin American Countries," Land Economics, Nov. 1966, pp. 391-424, also University of Wisconsin, Land Tenure Center Reprint No. 25.

of absentee landownership in one Colombian area, for example, showed that approximately this proportion of the cultivable lands are managed by part-time operators.^{16/} Much of the land in this area is owned by bankers, lawyers, merchants, priests, government employees, etc. Few of these people depend on agriculture for a major part of their income. Moreover, many hold the land primarily as an inflationary hedge, or for income tax evasion. Most owners spend only a small fraction of their time managing the farm operation. Few of the mayordomos hired to administer the farms are qualified to do more than guard the livestock, crops, and property. Landowners warp their production toward activities that can produce some net return under this weak management system. Similar conditions can be found throughout the rest of Latin America.

Some improvement in land utilization can result from share-tenant arrangements, but the inefficiencies in this system are also apparent: serious disincentives regarding long-term investments in land, insecurity, overutilization of labor, and economic blocks to use of variable inputs.

^{16/} D. W Adams and S. Schulman, "Minifundia in Agrarian Reform: A Colombian Example," Land Economics, August 1967, pp. 274-283, also University of Wisconsin, Land Tenure Center Reprint No. 47.

While some large farming units in Latin America are operated in a socially efficient manner, they are few in number. In many cases simply transferring landownership to share-tenants will substantially improve the quality of on-farm economic decisions. In other cases some training and supervision of new operators will be necessary. This assistance can and is being provided by current land reform programs. A review of available empirical studies on specific parcelization projects in Latin America fails to yield a single case where a change in management through land reform led to actual decreases in production.^{17/} In most cases employment increased, farmers' incomes went up, and production also expanded.

Transfer of landownership is not a panacea for rural ills in Latin America; in a few cases land reform can disrupt credit, irrigation systems, marketing and transportation channels formerly provided for or by the large landowner. Nevertheless, a review of the parcelization projects evaluated to date shows that these services can be very satisfactorily replaced and improved along with land reform.

^{17/} See, for example: Food and Agricultural Organization (FAO), and Instituto de Capacitación e Investigaciones En Reforma Agraria (ICIRA) Evaluación Preliminar de los Asentamientos de la Reforma Agraria de Chile, (Santiago, Chile: ICIRA, 1967); D. W Adams and L. E. Montero, "Land Parcelization in Agrarian Reform: A Colombian Example," Inter-American Economic Affairs, Winter 1965, pp. 67-71, also University of Wisconsin, Land Tenure Center Reprint No. 16; W. C. Thiesenhusen, Chile's Experiments in Agrarian Reform (Madison: University of Wisconsin Press, 1966); and a number of land reform case studies which are in process of publication by Inter-American Committee on Agricultural Development (CIDA) and the Land Tenure Center.

C. Does parcelization block modernization?

Additional arguments have emphasized that even if parcelization does not decrease near-term output, it will in the future seriously hinder agricultural modernization. It is further argued that large farms are more efficient than small units, potential economies of scale will not be realized if large units are parcelized, and additional fragmentation of parcelized units will follow.

Information assembled for A.I.D.'s "Spring Review of the New Cereal Varieties" held in Washington, D.C. in May 1969 showed that large numbers of small farm operators have been rapidly adopting new technology. These farmers have been quick to use new high yielding varieties of rice in Viet Nam and the Philippines. Likewise, small farmers have been the major factor in Thailand's and Kenya's recent sharp increase in corn production. The experiences in Japan and Taiwan have also been widely noted and documented. This evidence suggests that given assessibility and profitability smallness need not be a block to modernization or commercialization. As Long points out, large farms are usually only more "efficient" with respect to use of labor.^{18/} That is, output per unit of labor is high. In most LDC's when the opportunity

^{18/} Erven J. Long, "The Economic Basis of Land Reform in Underdeveloped Economies," Land Economics, May 1961, pp. 113-123.

costs of land, capital, and labor are considered it becomes obvious that output per unit of land, or per unit of capital are more relevant indications of "efficiency" than labor output.

In most cases mechanization, land, labor, and management are divisible inputs in agriculture. Currently, it is the exception rather than the rule that indivisibilities lead to substantial economies of scale on Latin American farms.^{19/} Where indivisibilities do occur, they often need not entail large landholdings. Cooperative landownership, contract rentals, joint land operation, cooperatives, and separation of the indivisibility from landownership are but a few of the ways of getting around this problem.

There is little doubt that over the next century many of the parcels currently resulting from land reform will be recombined by the market into larger units. Hopefully a large number of the second and third generation rural residents will have been sufficiently "capitalized" by that time to successfully integrate into the urban economy. In a number of cases land reform is the only policy tool available for helping to speed this human capitalization process.

^{19/} For example refer to: William R. Cline, "Prediction of A Land Reform's Effect on Agricultural Production: The Brazilian Case," Discussion Paper No. 9, Woodrow Wilson School of Public and International Affairs, Princeton University, May 1969, and Lester Schmid, "Relation of Size of Farm to Productivity" manuscript in process of publication, Land Tenure Center, University of Wisconsin. Contrast this with the opposite view held by David E. Lilienthal, "Postwar Development in Viet Nam," Foreign Affairs, January 1969, p. 328.

In summary there appears to be little reason why land reform should block future increases in production if appropriate collateral programs are also undertaken. There is also little evidence to prove the fable that land reform decreases production. Rather, it appears that carefully carried out parcelization can result in substantial increases in production. This can be expected for several reasons: (1) former share-tenants have incentives as landowners to apply more variable inputs, especially labor; (2) participants in land reform may have more incentives to improve their land resources than original owners;^{20/} and (3) new operators may use criteria for making production decisions which result in more output than was the case with part-time absentee operators.

In addition, land reform can substantially improve the distribution of rural incomes. This, in turn, can create more effective demand for industrial goods as well as agricultural commodities, draw rural people into the marketing system where economic policy can influence actions, and facilitate the human capitalization process in rural areas. One of the major restraints on further industrial growth in Latin America is the lack of purchasing power in the hands of rural poor.

^{20/} See Philip M. Raup, "Land Reform and Agricultural Development," in H.M. Southworth and B.F. Johnston (eds.) Agricultural Development and Economic Growth (Ithaca, Cornell University Press, 1967) pp. 267-314, for further discussion of this topic.

III. Is Urbanization A Viable Alternative to Land Reform?

The make-up of development programs in Latin America indicate a good deal of frustration with regard to what-to-do about rural poverty. As suggested earlier land reform has been largely bypassed as an alternative solution. Most A.I.D. programs, for example, imply urbanization as the major means of resolving rural poverty. Some emphasis has also been placed on modernization of agriculture without structural change, with hopes that benefits will filter down to rural poor.^{21/}

A number of students of development have argued in favor of urbanization as the best solution to rural poverty, e.g., Currie, Higgins, Berlin.^{22/} In many respects Currie's views are representative and include many of the attitudes held by officials of international agencies. He proposes that agrarian problems be resolved by placing more emphasis on urbanization, industrialization, rural to urban migration, land consolidation and farm mechanization.

21/ For a review of the agricultural policy of the Alliance see: W. Thiesenhusen and Marion Brown, Survey of The Alliance for Progress: Problems of Agriculture, a study prepared for the Subcommittee on American Republic Affairs of the Committee on Foreign Relations U.S. Senate, Dec. 22, 1967, also University of Wisconsin, Land Tenure Center Reprint No. 35.

22/ Lauchlin Currie, Accelerating Development (New York: McGraw Hill, 1966); Benjamin Higgins, "The City and Economic Development," in The Urban Explosion in Latin America: A Continent in Process of Modernization, ed. Glenn H. Beyer (Ithaca, Cornell Univ. Press, 1967). pp. 117-155; and Lawrence H. Berlin, in article cited previously.

Unlike many critics of land reform who associate parcelization with decreases in production, he assumes that small farm operators can substantially increase output. He argues that the following problems confront agriculture in many less developed countries (LDCs): (1) the sector faces a price inelastic aggregate demand schedule for its commodities, (2) there is a lack of effective demand for agricultural production; underconsumption rather than lack of production is the major problem, (3) there are too many human resources in agriculture, (4) agricultural incomes are low and poverty is widespread in rural areas, and (5) small farmers are unable to compete with large operators in dynamic commercial markets. Thus, agricultural development programs which substantially increase production in LDCs will decrease total farm income, and the poor in agriculture will be no better off, and most likely worse off after additional production has forced prices down. He therefore places little faith in stimulation of agricultural output as a means of eliminating rural poverty.

As an answer to these problems he proposes that LDCs emulate the experience of the developed countries such as the U.S., where massive rural to urban migration, increases in farm size, and substitution of mechanization for labor have characterized agricultural changes. He

goes on to suggest that LDCs focus their agricultural development policy on telescoping this experience into a short time period. He concludes that an anti-parcelization program is necessary: movement of large numbers of "marginal farmers" to the city, combining their small parcels into larger units, and fully mechanizing agriculture.

It seems to me that this type of analysis includes a number of questionable assumptions.

A. Will incomes decrease with increased output?

Will an increase in agricultural output necessarily result in decreases in net farm income? Although this has generally been true in the U.S., a number of rather important qualifications should be included when analyzing LDCs. Some of these qualifications are: (1) a major portion of the rural population in LDCs is seriously under-nourished. A substantial increase in output can be consumed by producers without affecting market price. (2) Additional production for export would have little or no impact on the domestic price levels. (3) Likewise, increasing production of certain agricultural goods which can substitute for imported products will have little impact on prices. As an aside, Chile and Colombia are both major importers of

agricultural goods which they also produce. In total, Latin America imports more than one-half billion dollars worth of agricultural products from third countries.^{23/} (4) Although the aggregate demand schedule for agricultural commodities in LDCs is price inelastic, some important products have relatively high price elasticities of demand. Some of these products are labor intensive, and can receive early developmental emphasis on small farms: milk, various other animal products, fibers, vegetables, fruits, edible oils, tobacco, and sugar. In a short time major increases in production of commodities such as these can be absorbed without significant changes in market price.

In addition, although most observers would agree that aggregate demand schedules for agricultural commodities in LDCs and DCs are both price inelastic, there are substantial differences in their magnitudes. Unfortunately, estimates of price elasticities are generally not available. Estimates of income elasticities are available, however. Since income elasticities for necessities such as agricultural products are closely related to the absolute values of price elasticities (where the overall substitution effects are small) they do give some indication of the relative magnitudes of price elasticities. In the U.S., for

^{23/} United Nations, Economic Commission for Latin America (ECLA), "Agricultural Development in Latin America," cited previously, p. 21.

example, income elasticities for basic agricultural commodities cluster around .2 or less.^{24/} In contrast similar elasticities in many LDCs cluster around .6 or more. This is suggestive that the aggregate price elasticities may be of the same order. What this means is that, other things equal, a given percentage increase in agricultural output in LDCs will have much less impact on price and thus on gross farm income than would be true in DCs.

Output increases will also have less price impact due to the fact that the demand schedule in most LDCs for agricultural commodities, although price inelastic, is shifting rapidly to the right. This is, of course, caused by (1) the population explosion, (2) high average and marginal income elasticities of demand for agricultural commodities among a large part of the population, and (3) rapid growth of industries requiring raw materials from agriculture. It had been estimated that the demand for agricultural commodities in Latin America will be 80 percent higher in 1980 over 1968 levels without any improvements in income distribution.^{25/}

^{24/} United Nations, Food and Agricultural Organization (FAO), Agricultural Commodity Projections For 1975 and 1985, Vol II. (Rome: FAO, 1967).

^{25/} Inter-American Development Bank, (IDB) Agricultural Development In Latin America: The Next Decade (Washington, D.C.: I.D.B., 1968), p.59.

It is also necessary to focus on net farm income rather than gross income. For example, it is plausible to assume that aggregate agricultural prices may be lowered somewhat by increases in output, and that gross farm income might not increase, yet have farmers realize more net income because of lower costs of production. The crux of agricultural development is reducing costs of production through structural changes, development of new technology, better combinations of inputs, and improving general operating efficiencies so that farmers can realize more net income despite lower relative prices.

With well planned development programs there is a greater capacity percentage wise for farmers in LDCs to tolerate decreases in agricultural prices than is true in DCs. That is, conditions are such that a greater proportional decrease in the average costs of production of agricultural goods can be realized in LDCs than is possible in DCs.

From the above analysis it does not appear to necessarily follow that increasing agricultural output in LDCs would necessarily result in lower net incomes to farmers. On the contrary, given the nature of the aggregate demand schedule in LDCs, its movement to the right, and the potential for major improvements in cost decreasing techniques, it is likely that net incomes of small farmers can be substantially increased. This in turn will cause rural people to eat more, have better diets, and spend more money on products produced by domestic industry.

B. Should urbanization be accelerated?

Some studies have suggested that the rural-to-urban migration in LDCs is quite selective, that a large proportion of the "best quality" human resources are already flowing into the cities, and that the so-called "marginal farm family" does not make up an important segment of this flow. Aside from programs of coercion aimed at forcing people out of rural areas, could the migration process be substantially accelerated in LDCs without sharply lowering the quality of individuals entering the urban area? Could an illiterate small farm operator of advanced age, and poor health make an economic contribution in an urban center? Also, what adverse effects would the loss of still more of the better quality people have on the agricultural sector?

In addition, can a Latin American country finance both urbanization and farm mechanization? Each of these activities require a large foreign exchange component. This need alone would likely strangle a large scale urbanization program. Most Latin American countries find themselves strained to more than capacity to provide foreign exchange needed for current modest rates of industrialization.

Some people are also too optimistic about the capacity of the industrial sector in Latin America to absorb rural labor. Only between

10 and 15 percent of the work force in Latin America is currently occupied in manufacturing.^{26/} Over the 1948-61 period industrial employment only expanded at two percent per year.^{27/} As Domike points out, factory production in Bolivia was worth twice as much in 1966 as in 1950-54, but industrial employment actually declined over that period.^{28/} Even if industrialization in Latin America accelerates it is doubtful if increases in manufacturing employment can be pushed much above an annual rate of one percent of the total labor force. Since training of rural migrants can be very expensive, much of the industrial machinery currently being imported by LDCs requires only small amounts of skilled labor. It is likely that near future industrial labor requirements in Latin America can be met conveniently with only the natural increase in urban population.^{29/}

^{26/} United Nations, Economic Commission for Latin America (ECLA), "The Process of Industrialization in Latin America," Statistical Annex, UN, ECLA, January 1966.

^{27/} Fred Dziadek, Unemployment in the Less Developed Countries, AID Discussion Paper No. 16, Office of Program and Policy Coordination, June 1967, p. 2.

^{28/} Arthur L. Domike, "Industrial and Agricultural Employment Prospects," unpublished manuscript, IDB/FAO, Washington, D.C., Nov. 1967.

^{29/} William C. Thiesenhusen, "Population Growth and Agricultural Employment in Latin America with Some U.S. Comparisons," Land Tenure Center, University of Wisconsin, Paper in process of publication; Gunnar Myrdal, "The United Nations, Agriculture, and the World Economic Revolution," Journal of Farm Economics, Nov. 1965, pp. 889-899.

A number of people are also too optimistic about the possibilities of replacing rural labor with machines. Again using Colombia as an example, can substantial increases be made in mechanization of major agricultural exports: coffee, livestock, bananas, sugar cane, tobacco, and even cotton? Aside from the use of automatic cotton pickers, I doubt it. Can much of Colombia's agricultural land which lies along steep mountainsides be mechanized more than presently? Can absentee farm operators be induced to adopt crop enterprises requiring mechanization when their management systems often block this alternative?

It should be obvious that I have serious doubts about accelerated urbanization as a viable solution for agrarian problems in Latin America. Likewise, I have serious reservations about depending on the "filter-down effect" through rapid industrialization for elimination of rural poverty in Latin America. As suggested earlier, this process has not shown much beneficial rural "fallout" to this point. It appears to me that rural poverty must be largely resolved in rural areas, and that urbanization will only offer substantial help in the distant future.

IV. Is Colonization An Economic Alternative To Land Reform?

Some have held that colonization of public land is a better economic alternative than land reform in Latin America. It is often argued that abundant "free" land is available, and that its development adds to the production base. A number of Latin American countries have emphasized

colonization in early stages of their agrarian reform. Accordingly, during the late 1950's and early 1960's the U.S. supported this type of activity with loans and technical assistance. A.I.D. Missions in Bolivia, Brazil, Paraguay, Ecuador, Costa Rica, and Colombia have paid a good deal of attention to frontier settlement. Other countries have experimented with new settlements largely on their own impetus. As mentioned earlier, the Inter-American Development Bank has also stressed colonization through loans from the "Social Progress Trust Fund."

Unfortunately, only a few detailed studies have been made of colonization in Latin America.^{30/} To some extent the paucity of research indicates the hardships associated with work in these frontier areas. Despite some bright spots, the research done paints a picture of frustration in resettlement projects.^{31/} Health conditions, for example, are generally very bad. Transportation is usually a bottleneck

^{30/} A list of some studies on colonization in Latin America can be found in: Special Operations Research Office, The American University, A Selected Inventory of Latin American Agricultural Colonies with Annotated Bibliography, (Washington, D.C.: American University, 1965).

^{31/} For example see Ronald Lee Tinnermeier, "New Land Settlement in The Eastern Lowland of Colombia," unpublished Ph.D. Dissertation Department of Agricultural Economics, University of Wisconsin, 1964, also University of Wisconsin, Land Tenure Center Research Paper No. 13: Servicio Técnico Agrícola Colombiana (STACA) Ministerio de Agricultura, A Colonization and Land Utilization Program for Colombia (Bogota: STACA, 1960); Federico Herero, "Costs and Income Levels in Land Distribution and Settlement Projects," paper presented to The Seminar on Land Reform and Economic Development at the Inter-American Development Bank, Washington, D.C. November 3, 1965; Jose Monge Rada, Estudios de Costos de Colonización, USAID La Paz, Sept. 1963; Antonio Giles and others, Contribución al Planeamiento Para La Consolidación de la Colonia Repatriación: Paraguay (Bogotá: Centro Interamericano de Reforma Agraria, 1966); Kelso Lee Wessel, "An Economic Assessment of Pioneer Settlement in The Bolivian Lowlands," unpublished Ph.D. Dissertation, Department of Agricultural Economics, Cornell University, June 1968.

for a number of years after the start of the project. Soils, climate and diseases often sharply limit agro-economic possibilities. Basic infrastructure such as schools, marketing systems, etc. are almost always seriously lacking. A large number of colonists also abandon their parcels. It is very difficult to get technicians to work in these areas, and projects are often administratively abandoned. Settlers usually find that clearing land is very time consuming as well as expensive.

With these types of problems the production and income of settlers increase very slowly, and it is next to impossible for them to repay credit or obtain additional funds and technical help necessary for expanding production. Sketchy information suggests that capital investments in colonization are of at least the same magnitude, and generally larger, than for most parcelization projects when computed on a per family or per hectare basis. Furthermore, many frontier lands are found to be largely settled, or the land is of too poor a quality to be put into crops. These factors have discouraged some decision makers from pushing colonization activities.

A few rural poor in Latin America will continue to settle themselves in spontaneous colonization areas, and at least minimal assistance should be provided to them. It is clear to me, however, that large scale colonization activities will offer little help in

resolving rural poverty.^{32/} Better results can be achieved by assisting rural people in their present setting.

V. Summary and Conclusions

A. Summary

The preceding discussion has pointed out that land reform was the principal component in the Alliance for Progress aimed at easing rural poverty. Despite this original emphasis little land reform has been carried out, rural poverty continues to grow, and current development activities largely ignore rural poor. The absence of active support for land reform by aid agencies has been an important factor in explaining the slow progress on these issues.

Three economic arguments appear to underlie the lack of encouragement for land reform by aid agencies: (1) land reform is held to be axiomatic with decreases in production, (2) urbanization is thought to be a better alternative for resolving rural poverty than land reform, and (3) it is often felt that colonization is more practical than land reform. The bulk of the paper evaluates these arguments.

^{32/} New jungle clearing machinery recently tested in Peru may be able to alter somewhat the economics of large scale colonization projects. These machines can knock down and crush heavy jungle at the rate of one hectare per hour. Trees up to 5 feet in diameter can be handled. Mechanized clearing would make colonization projects quite capital intensive, but the reduction in production lag time may partially offset this disadvantage.

It was pointed out that there is little empirical evidence to substantiate that land reform causes either short term decreases in production, or lags in long term modernization of agriculture. It has been shown that small farmers will rapidly adopt profitable new technology, and that in a number of cases land reform has been associated with substantial increases in output. A modest amount of appropriate planning and project management can overcome most production-decreasing factors associated with land reform activities.

It was also argued that accelerated urbanization in Latin America offers little hope for rural poor, and that it is not a viable near-future alternative to land reform. It was pointed out that, unlike most developed countries, increased agricultural output in LDCs will, in most cases, improve farm income. Moreover, a policy of urbanization, industrialization and farm mechanization would put intolerable pressure on the scarcest factors in LDCs: foreign exchange, and planning and managerial skills. It is also doubtful if faster industrialization can provide jobs for a large number of rural poor. Policy attention should, therefore be directed at increasing agricultural output and rural income -- with a good deal of attention to income distribution -- rather than trying to resolve rural poverty in the cities.

The experience to date with colonization in Latin America strongly suggests that frontier settlement can offer only minimal relief for rural poverty. Colonization projects have been very costly, and colonists often have faced an extended period of wretched living conditions.

B. Conclusions.

The various arguments cited against land reform by personnel in aid agencies can be interpreted as proxies for widely held views that this is a sensitive internal problem which must be treated by the individual countries themselves. Parenthetically, it is not clear that land reform is an issue greatly more sensitive than fiscal policy or foreign exchange management, both of which are importantly influenced by aid agencies. While I readily agree that the impetus for land reform must come from within a country, I also feel that aid agencies can, in many cases, make or break this effort. Lack of commitment by aid agencies to this issue may be almost as important in explaining the stall in land reform in Latin America as landowners' resistance.

An additional reason for aid agencies by-passing land reform is that decision makers have not seen many practical means with which to attack the problem. While this paper does not attempt to detail a complete strategy, the following may be suggestive of ways in which aid agencies might stimulate or assist land reform actions.

1. Focus more development policy on land reform: In a number of cases aid agencies have indirectly discouraged land reform by promoting competitive activities. This has been especially true of colonization projects, irrigation activities, and some agricultural credit programs. These efforts may divert public attention from land reform, tie up public funds, and also monopolize administrative talents. If land reform is to be accomplished, emphasis on competitive activities must be reduced.

International aid agencies could also assist by more direct tying to land reform of programs which could be complementary. Funds for supervised credit to small farmers, for example, might be largely restricted to land reform participants. In addition, self-help performance in land reform might be one of the points required in order to receive certain foreign assistance.

2. Facilitate land purchase: It has been suggested that aid agencies might play a role in land reform by assisting in the financing of land purchases or expropriation. Most discussion has revolved around providing guarantees for bonds issued as compensation for expropriated or purchased land. This might include a system of value-linking in order to protect

the purchasing power of the bond's principal against inflation, or it might include guarantees against default by the issuing country.^{33/}

These types of activities would make bonds more palatable to the large landowners.

A more direct approach would be to help finance part of the costs of land purchases. This might include use of direct loans, use of special drawing rights, use of counterpart funds generated by non-related foreign loans, and use of Public Law 480 local currencies. It would probably be undesirable for foreign funds to be a major part of the money used to pay for land purchases. Some direct participation might be desirable, however.

3. Improve land tax system: Still another approach would be to focus on substantially improving the land taxation system in countries where land reform is an issue. Effective taxation would decrease the value of holding land for non-productive purposes, and make it a bit easier for governments to acquire land. This, however, should be viewed as a complementary activity rather than a substitute for land reform.

^{33/} For example see Roy L. Prosterman, "Land Reform in Latin America: How To Have A Revolution Without A Revolution," Washington Law Review, Oct. 1966, pp. 189-211; and Stanley Please and L.E. Christoffersen, "Value-Linking of Financial Contracts," unpublished manuscript, International Bank for Reconstruction and Development, Washington, D.C., January 1969.

4. Provide research and educational inputs: In some cases a period of training will be required in order to assist farm workers to become successful owner-operators. This becomes more important as land reform moves beyond share-renters to assist the landless. There are a number of ways in which aid agencies might help in this training process.

International agencies might also assist with more policy oriented research on land reform topics. This should be tied with periodic conferences where policy-makers and researchers can share information. As an aside, AID has financed some research on land reform, but little attempt has been made to integrate research findings into policy decisions. The International Cooperation Administration (ICA) sponsored a conference in Chile on agrarian reform during the early part of 1961. AID has not followed up with any similar effort. Aside from some attention from FAO, aid agencies have not formally discussed land reform since the "Alliance" began.

If land reform cannot be a major tool in easing rural poverty in Latin America, quick attention must be given to thinking and implementing new approaches to this problem.