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## **Background Papers for the United States Delegation**

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With the exception of PD-72, the opinions expressed by the authors are solely their own and are not intended as policy statements of the Agency for International Development and/or the United States Government.

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## INTRODUCTION

by

Antonio Gayoso

The World Conference on Agrarian Reform and Rural Development (WCARRD), convened by the Food and Agriculture Organization of the United Nations (FAO) for July 1979, offers a unique opportunity to revitalize semi-dormant awareness about the role of the land tenure system in impeding and/or stimulating broadly based economic development. For far too long, the role of the land tenure system has been overlooked or understated. Now, most donor nations have embraced the concepts of equitable growth and are convinced that increased and effective participation of the entire population of a nation in the economic and political processes is a critical objective to pursue, especially if increased levels of production and human welfare are to be obtained. It is important to identify the critical factors that impede such participation to permit the design of better programs and projects to implement agrarian reform policies. It is of equal importance to heighten perceptions of the costs and benefits, both short and long term, of land tenure reform and the circumstances under which such reform would be desirable.

The United States Government places a high priority on the need to be responsive to the needs of countries that decide to undertake agrarian reform programs. This attitude relies on findings generally supported by empirical analysis which show that an economic and social case for agrarian reform has already been made. Agrarian reform is defined

here to include changes in land tenure and provision of services and marketing. Inasmuch as small farms have been found to be as productive as larger farms and more labor intensive, a process of land tenure redistribution would not necessarily imply reductions in productivity (yields) and production in the medium to long term, although short term disruptions are likely to occur. Concurrently, it has been amply documented that tenancy insecurity is likely to result in the benefits of rural development investments going to those who control the use of land as a resource. Therefore, a reform process which assures control of the land factor by a large number of rural producers would tend to emphasize equity in the distribution of developmental benefits while not seriously threatening, and probably stimulating production and/or yields in the medium term. It is important to emphasize, however, that tenure security by itself can only result in guaranteed subsistence for the family which receives land. In order to increase production and productivity, the farmer needs access to production inputs, credit and technology. Also of importance are timely information on markets and access to marketing services in order to produce a cash surplus with which to purchase commodities which satisfy other family requirements. Security of tenure is, nonetheless, the most basic variable determining the extent to which benefits from one's work can be retained in the longer run. It serves, furthermore, to stimulate investment by the producer on permanent improvements to the farm.

For many theorists, a basic problem with past development strategies is that governments have consistently overvalued their currencies and subsidized domestic rates, thus en-

couraging processes which have resulted in increased displacement of small farmers and workers and the tenacious prevalence of poverty in the rural as well as the urban sectors in developing countries. Correction of these distortions, they contend, would permit not only accelerated growth but also a more equitable distribution of the benefits, even in the absence of land tenure changes. Experience suggests, however, that the solution of these distortions, while very helpful, is seldom -- if ever -- sufficient to significantly affect equity in the rural sector when a large degree of skew remains in the land tenure pattern.

A second reason for the controversial nature of agrarian reform is that it implies a drastic reorganization of society. As such momentous change must be implemented through the political process, progress towards more equitable forms of land tenure may be impeded to the extent that ownership of assets is reflected in political power. As a result, the political feasibility and the modality of desired land tenure reform vary among countries, and must ultimately be based on national decisions. Its execution, furthermore, is fundamentally a national responsibility.

Needless to say, agrarian reform is a subject on which there are still many differences among developing countries as well as between them and the industrialized countries. It is for this reason that the United States has chosen to distribute a number of documents which have been used extensively in the preparation of the U.S. Delegation to WCARRD. These documents provide background material and a focus for a discussion of the issues.

Professor Brown's paper, actually the overview section of a very comprehensive paper, succinctly and clearly discusses different dimensions of agrarian reform and rural development. In addition, it was felt that a retrospective look at United States rural development history would yield valuable lessons to increase our understanding and broaden our perspective of the nature of needed change in agriculture as a condition or a result of rural development. Professor Dorner's paper emphasizes some of the most momentous changes in United States agriculture and looks at some of their major implications. The essay on Women in Development is, in my view, an important reminder of how easily development professionals can forget or ignore major elements in the development process both on the supply and on the demand side. Indeed, the major role of women in agriculture and their status as equal targets in the development process have been grossly underplayed. The need for explicit emphasis is long overdue.

Finally, the best of good intentions are easily undermined by lack of appropriate implementing mechanisms. In the Agency for International Development, such mechanisms consist of the A.I.D. Policy Determination 72 (PD-72), a copy of which is included in this volume and A.I.D.'s Agricultural Development Policy Paper, distributed concurrently with these papers. These two documents constitute the policy framework within which the U.S. Government, through its bilateral foreign assistance programs, can offer effective support for agrarian reform and rural development programs. A.I.D.'s Agricultural Policy identifies five major

areas relevant to successful rural development and gives the highest degree of priority to asset distribution and access (land tenure and local participatory institutions). In addition, PD-72 carefully outlines the types of programs and projects in support of agrarian reform programs which A.I.D. will be able to consider and finance, if requested by developing countries.

The United States Delegation would like to share these thoughts and conclusions with other Delegations to the Conference in the hope that increased common understanding of agrarian reform problems will be achieved. Obviously, with the exception of A.I.D.'s Agricultural Development Policy Paper and PD-72, the opinions expressed by the authors is not necessarily that of either the Agency for International Development or the United States Government.

AGRARIAN REFORM AND RURAL DEVELOPMENT  
IN DEVELOPING COUNTRIES: AN OVERVIEW

by

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This paper represents solely the views of the author and it is not intended as a policy statement of the Agency for International Development and/or the United States Government.

AGRARIAN REFORM AND RURAL DEVELOPMENT  
IN DEVELOPING COUNTRIES: AN OVERVIEW

Since World War II the so-called backward areas of the world, many of which had been at an economic standstill for centuries, have been undergoing a remarkable transformation. Between 1950 and 1975, the gross national product per capita of Third World countries grew at an average rate of 3.4% per year (see Table 1). After 1960, their average rate of growth in gross domestic product surpassed the goals of 5% per year set by the U.N. for its first Decade of Development. This was faster than the industrialized countries had grown during any comparable period, and far exceeded the expectations of even the most sanguine planners and theorists.

Of course, these aggregate figures mask the continuance and sometimes even the accentuation of severe inequalities, both between countries and among sectors and regions. A World Bank study shows that nine countries, with about a fourth of the world's population (930 million) grew at an average per capita rate of 4.2 percent or higher, while a second group of nine countries with 220 million people averaged between 3 and 4 percent per year from 1950 through 1975. However, several countries, especially in South Asia and Africa, grew much more slowly (see Table 2). About a third of the people of the Third World live in countries that have enjoyed above average growth rates, but nearly 40 percent inhabit countries in which growth has averaged less than 2 percent per capita per year (Morawetz 1977).

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Similar disparities have appeared between regions and sectors within countries. In general, economic growth has been much faster in urban than in rural areas; industry has grown much more rapidly than agriculture. Growth within rural areas has also been marked by a dualistic trend; rapid modernization has occurred in relatively small enclaves capable of commercial and export-oriented agriculture; the benefits of science and technology have yet to reach the vast majority of peasant producers in most countries.

Nevertheless, global food supplies have, on the average, kept pace with population growth. Current estimates place the world food grain deficit at 25 million tons, which is only about 2 percent of average annual global production. Hunger and malnutrition are not basically a problem of supply, but of effective demand -- how to get purchasing power into the hands of the undernourished, and how to store, transport and distribute food. Even governments with strong commitments to egalitarian objectives have encountered major obstacles in their attempts to deliver food to low income groups, especially in rural areas (e.g., Sri Lanka). When surpluses are on hand, isolated communities may still not receive enough to meet minimum nutritional needs.

Most countries have made significant progress in the basic indicators of well-being. The number of the world's children in primary schools trebled between 1950 and 1970. Enrollment at the high school and university levels increased sixfold. In 1960 only about 40 percent of the adults in the Third World could read and write. By 1970 the proportion of literate adults had reached 60 percent (Morawetz 1977). Again, however, there has been wide diversity among countries. The maps of extreme poverty and illiteracy correspond almost exactly.

Life expectancy has improved almost everywhere during the past two decades. It now stands at 50 years in the less developed countries, and has increased as much there in the past 20 years as during an entire century in the industrialized nations. These advances are generally credited to sharply reduced rates of infant mortality, and, less importantly, to better control of communicable diseases, especially smallpox and cholera.

Despite these successes, poverty continues. The poorest in some of the less developed countries have, paradoxically, become worse off in absolute terms during this period of unprecedented growth. Household surveys in seven Asian countries (Bangladesh, India, Indonesia, Malaysia, Pakistan, the Philippines and Sri Lanka) have shown a clear trend toward a greater incidence of poverty, even in areas with fairly rapid rates of growth and relatively favorable land/man ratios. Case studies in other countries (Ghana, Morocco, Egypt) offer evidence that deteriorating conditions and declining incomes have not been peculiar to Asia (Griffin and Khan 1977). A World Bank study concludes that "countries in which many poor people have, or may have, become worse off include at least as many fast growers as slow growers" (Morawetz 1977).

The International Labour Office estimates that more than a quarter of the people on earth (1.2 billion) are "seriously poor," and that more than 700 million of them are destitute." In Africa, serious poverty is defined as less than \$115 per person per year; the corresponding level for Asia and Latin America is \$100 and \$180 respectively. People characterized as "destitute" receive roughly half these levels (ILO 1974).

In brief, the development experience of the Third World is marked by complexity and contradiction. As Morawetz puts it:

There seems to be a tendency for expectations to rise in step with development performance. 'Upper-limit' projections have been surpassed, almost unmeetable challenges have been met; yet everywhere there is dissatisfaction. It might be useful to bear in mind that first-round successes (health improvements, the Green Revolution) very often lead to second-round problems (population explosion, worsening of rural income distribution)....

Few today can maintain the optimistic hope that growth will automatically spread employment and income opportunities throughout the economy. It is now widely recognized that the typical pattern of development is, in its early stages, more likely to increase inequities and accentuate poverty (Ahluvalia 1976). The most widely accepted explanation of this apparent paradox is that development has relied too much on capital and not enough on the skills of labor.

While there is no consensus on these issues, and certainly no single model which fits all cases, discussions of strategies to achieve more equitable development generally reflect two major theoretical positions. One places emphasis on macroeconomic policies, especially those which affect the price of capital and labor. The other focuses on institutional changes and structural reforms. It is not possible to fully develop either of these views in this brief paper. Nor is it necessary or desirable to juxtapose them as mutually exclusive, antagonistic or incompatible. Their differences have more to do with priorities, emphases and sequences than with overall objectives. But these differences can be significant, especially with reference to agrarian reform as a major component of rural and overall development strategies.

### Factor Pricing

According to some theorists, the basic problem with past development strategies is that governments have consistently over-valued their currencies and subsidized domestic interest rates. These policies have encouraged large producers to import sophisticated technology by making capital "too cheap" for large-scale modern industrialists and commercial farmers.

By adopting these "cheap money" policies, the governments of less developed countries have perpetuated dualistic economies: a modern sector consisting of large-scale economic units employing capital-intensive methods co-exists with a traditional sector of small scale units employing labor-intensive methods. Scarce factors are available on excessively favorable terms to the larger units in the modern sector. Owners of large-scale enterprises can easily and cheaply obtain capital, and this encourages their preference for an advanced technology that was developed to meet the requirements of labor-scarce industrial economies. The impact on small-scale units in the traditional sector is strong and negative (Myint 1971).

Capital-intensive growth (whether fast or slow) has far too often led to a deterioration in the incomes of the poor. Displaced agricultural workers create a large rural proletariat which cannot be absorbed by urban industry or by an increasingly fragmented and depressed subsistence sector. The problem is aggravated by population growth, which translates into even more people competing for fewer jobs.

In industry, machines have displaced artisans and workers in cottage enterprises. Cheap manufactured products flooding domestic markets have driven out handcraft industries and further reduced income and employment among the poor. This

has been true for both urban and rural areas. Where tariff barriers have been applied to goods in general demand among the poor, the resulting inflated prices have further eroded real incomes.

Changes that create greater inequalities may also produce new stresses within low income groups. For example, some ethnic communities or other minorities may suffer particularly adverse effects. Economic and social changes inevitably affect family structures and the division of labor and responsibility between men and women. Women's earning opportunities (e.g., in cottage industry, agricultural production and marketing) are often taken over by machines or men. If women's social and economic conditions diminish accordingly, this has a negative impact on their well-being and that of their children. Reduction in the intake of nutritious foods associated with loss of income-earning opportunities can often be expected to affect women and children more severely than men. New opportunities which require migration or education or both also have a strong impact on families. When men join a migrant labor force to work in urban areas or other countries, families must adapt to their absence. Often, this can mean heavier burdens for women. In general, the trend toward centralization and specialization in economic activity works against women, whose ability to specialize and/or migrate is limited by family and household requirements (Stavis 1978).

This view of the typical development pattern, and of the reasons that it accentuates poverty, carries a corollary set of proposed remedies. Some of the most successful (Japan, South Korea, Taiwan, Israel and Singapore) have involved two major elements. First, factor prices were corrected. This

entailed significant currency devaluation to establish more realistic rates of foreign exchange and substantial shifts in interest rates on domestic loans to move them closer to world market levels. Protective tariffs for many items were also reduced. The net effect was to sharply increase the real cost of capital (especially sophisticated imported technology), thereby preserving incentives for labor-intensive development. Second, the conventional industrialization strategy directed at import substitution was abandoned (or greatly modified) in favor of export-oriented growth based on labor-intensive and skill-intensive products.

#### Structural Reform

Proponents of structural reforms generally express concern about growth that has been too capital-intensive and factor prices that are distorted. But they see these distortions as a reflection of underlying inequalities in the distribution of assets -- both physical resources and human skills -- in the society.

Inadequate theory is not blamed, nor are mistakes in judgment by government policy makers; the distortions are viewed as deliberately kept in place in response to intense pressure from politically and economically powerful groups which control much more than their share of the physical assets in the society and which thus benefit unduly from cheap capital and protective tariffs. If relatively small but extremely powerful groups benefit from conventional capital-intensive import substitution strategies, they can be expected to mobilize strong opposition to proposals which would make capital expensive. Re-distributive measures such as land reform would be equally repugnant to them.

A further argument of structural reformists is that even where realistic pricing policies could be instituted (e.g., in relatively egalitarian societies) these would not, by themselves, be adequate to resolve the problems of unemployment and poverty. Other structural reforms are seen as necessary to give the poor secure access to income opportunities, either through private ownership of assets or by membership in such institutions as cooperatives and communes which control property. Here the argument centers on the distribution of the social costs of modernization. As traditional structures (typically agrarian) break down, large numbers of people lose relatively secure niches in the deteriorating traditional economy and are unprepared to take advantage of new opportunities in the larger economy. Many of the jobs created by more realistic factor-pricing are beyond the reach of the rural poor. Peasants are not generally incompetent or non-adaptive; to the contrary, historical evidence suggests that rural people everywhere are remarkably resourceful and resilient. But they cannot acquire new skills and adopt whole new life styles overnight. They need time to prepare themselves (or, more likely, their children) to take advantage of opportunities in non-agricultural settings. They also need a secure base from which to seek those opportunities, exercising some discretion as to the timing of their move.

Without the security which derives from property (or access to property), poor people, especially the rural poor, are too easily pushed out -- or simply left out -- of the growing sectors of the economy. For some, even subsistence opportunities are lost. With secure access to land and water they are better able to take care of their minimum needs, even at low income levels, during the difficult period of transition from an agrarian

to an industrialized society. To the extent that assets translate into political power, redistributive reforms increase the ability of rural people to influence development policies at both local and national levels, and thus gain (or retain) an element of participation, discretion and choice in responding to the threats and opportunities of development.

The difference that assets can make to individuals and families in the shift from agrarian to urban-industrial societies has been apparent in the course of development in the United States. In the Midwest, where the distribution of assets has never been highly skewed, large numbers of people have made a relatively smooth transition from rural to urban life. For landless sharecroppers of the South whose opportunities were narrowed by mechanization of the cotton harvest, the transition has been much more traumatic. In both cases, farms (or operating units) were being enlarged and labor productivity was increasing rapidly. Some would argue that the basic difference was racial discrimination in Northern job markets. That discrimination played an important part is undeniable, but there was another difference. Emigres from the Midwest typically had high school or even college level training. They were members of property owning families which had exercised strong influence over state and local school systems. As workers on family enterprises, they had gained valuable experience which augmented their formal training. Southern sharecroppers (particularly black sharecroppers) had exerted no such influence over local policies. Neither did they have a secure base from which to seek and prepare for new opportunities. Most had fewer than six years of schooling, and outright illiteracy was not uncommon. Many found that attractive jobs in the North were as scarce as subsistence opportunities in their old communities.

The situation of insecure tenants, sharecroppers, and landless farm workers in the Third World today is not unlike that of the Southern sharecroppers 25 years ago. The hierarchical and highly inegalitarian system of which they are a part is rapidly breaking down. Yet employment opportunities at acceptable income levels will not be real options for them until and unless they can acquire new skills.

The reformist argument is a call for state intervention, not to bolster or rehabilitate the traditional patron-client system, but to protect the interests of the weak as that system breaks down. In essence this means giving the rural poor more secure access to land, water and other assets.

Reformists also argue that more equitable distribution of assets can increase production and productivity by offering realistic incentives for effort, use of inputs, conservation of soil fertility, and long-term investments. Such incentives are usually inadequate in tenancy and share-cropping systems, as well as in many hacienda and plantation systems where owners have alternative investment opportunities in other sectors (or even other countries).

Thus, according to the reformist view, more equitable distribution of land and water not only gives peasants greater short- and medium-term security to insulate them from adverse changes (e.g., mechanization and land consolidation by landlords) but also mobilizes savings, investment, and what Raup has called "accretionary capital formation" (gradual improvement in on-farm infrastructure such as fences, terraces, small-scale irrigation works, simple construction, which can be accomplished with minimal outlays of cash, and large inputs of labor) (Raup 1967).

Without going further into the complexities of this view, it can be noted that relatively equitable agrarian systems based on family farms or communes can be highly efficient and productive. Such systems have been successful in Europe, North America, Israel, Mainland China and Taiwan, South Korea and Japan. Their success is, of course, highly dependent upon efficient and effective delivery systems for credit and agricultural inputs and for the transportation, storage and marketing of products. In some cases (notably in Latin America), efforts to develop adequate delivery systems have had limited success and reforms have indirectly stimulated new medium-sized entrepreneurship (e.g., Northwest Mexico and Eastern Bolivia). However, even when direct beneficiaries (those who received land) have not become the most efficient and productive farmers in the post-reform structure, they have at least been clearly better off than before.

By raising the incomes and purchasing power of the rural poor, agrarian reforms can also contribute to effective demand and help to reinvigorate local industries. Increments to upper incomes are likely to increase demand for sophisticated manufactures, especially imports. The poor will spend more of their added income on goods that can be produced with available local resources and entrepreneurial talent.

Those who oppose structural reform find one of their most telling arguments in the administrative burden of implementing the reforms and establishing the needed support structure. Because of economies of scale and because large farmers are supposedly better able to bear the risks of innovation and secure the necessary inputs and services, it is argued that they make more efficient use of existing resources and of additional

governmental investment in the agricultural sector. Again, however, the employment question arises. Clearly neither view offers a fully satisfactory solution which applies to all situations.

Where the politics of change are concerned, factor-price and reformist strategies face similar problems. As noted earlier, "getting the prices right" can threaten strong vested interests every bit as much as agrarian reform, and political opposition to either measure can be determined and forceful. But, according to the structuralist view, reforms which break up concentrations of power at the same time reduce opposition to subsequent complementary changes. This means that the factor-pricing and reformist strategies are not necessarily incompatible, and may in fact be mutually reinforcing. In this connection, proponents of reform note that most of the frequently cited factor-pricing successes (Japan, South Korea, Taiwan and Israel) have occurred where agrarian structures are relatively egalitarian and land reforms have been implemented.

There is empirical support for the view that agrarian reform makes it easier to adjust factor prices. The reverse sequence, however, appears to be less viable. According to World Bank figures, many of the countries which experienced rapid, equitably distributed growth between 1950 and 1975 began the period with relatively equal asset distribution (Morawetz 1977). By and large, these were the same countries that successfully adjusted factor prices to stimulate labor-intensive patterns of growth (Adelman 1974). According to the World Bank study, countries that experienced rapid, inequitably distributed growth began with sharply unequal distributions.

This suggests that the initial distribution of assets and incomes may be an important determinant of the trend in inequality. Such a hypothesis makes some intuitive sense. People who own assets -- whether physical or human capital -- are best placed to profit once growth begins. Furthermore, both historical and simulative evidence suggest that the most powerful determinant of income distribution is the underlying structure of the economy; once growth is taking place, it seems to be difficult to effectively redistribute income through the use of 'marginal' instruments such as taxation and public employment. These combined observations have potentially powerful implications: in particular, if equality is to be a short- to medium-term goal, it simply may not be possible to 'grow first and redistribute later'. Rather, it may be necessary to tackle asset redistribution as a first priority by whatever means are at hand. (Morawetz 1977)

Adelman's analysis of strategies for equitable growth places a great emphasis on factor-pricing, and on basic (as opposed to classical) education to prepare people for new employment opportunities. She points to the inadequacy of redistribution per se as a means to combat poverty, but concludes that to achieve rapid equitable growth, Third World governments should

reduce the vast disparities in wealth (particularly in land ownership); redistribute access to further wealth by imposing controls over the use of capital; and invest in a massive and broad-based educational effort... . the entire package -- resource distribution, massive education and labor-intensive growth -- must be adopted in that sequence to achieve rapid success. Incomplete versions of this program, such as land reform alone or education without labor-intensive growth, have not worked. (Adelman 1974)

### Strategies for an Imperfect World

The foregoing review of Third World experiences and development theories is necessarily brief and over-simplified. It is not intended to offer solutions, but rather to highlight problems and highly generalized alternative approaches to deriving policies. There is, of course, no consensus on these matters.

In any case, theories must be applied in an imperfect world in which policy choices are greatly constrained. Theoretical positions do not translate directly into policy alternatives. That is, policy decisions do not derive from comparisons of the relative merits of these positions. In the real world, the balance of political forces may compel governments to follow non-reformist strategies in dealing with problems of labor displacement, increased crowding in the traditional small farm sector and growing numbers of landless people. If these are so acute that they generate unrest or lead to strong alliances among pro-reform forces, governments may have little choice but to carry out land reforms and then contend with the need for infrastructure and delivery services for the reform sector.

As development theorists and national planners have become more aware of the widening gap between expectation and performance and of increasing disparities between rich and poor, there has been a shift in development objectives. Growth in gross national product is no longer accepted as an adequate indicator. Governments everywhere are increasingly engaged in a search for ways to reduce the proportion of the population living in poverty, to improve income distribution, and to increase employment and fulfill basic needs. Since the vast majority of the world's poor people live in rural areas, this concern has led to increased emphasis on agricultural and rural development, and

on agrarian reform as one measure for reducing poverty.

Changing Objectives: Redistribution With Growth

Unlike conceptualizations that guided the growth-oriented strategies of the past, current definitions of rural development by national governments as well as international bodies place balanced emphasis on productivity and equity. A 1975 World Bank document calls for "a strategy designed to improve the economic and social life of a specific group of people -- the rural poor. It involves extending the benefits of development to the poorest among those who seek a livelihood in the rural areas. The group includes small farmers, tenants, and the landless." (World Bank 1975) In recent years, formulations of rural development objectives and strategies have also tended to note the need for expansion of opportunities and enhancement of human capacities to exploit them. The United Nations Economic and Social Council has endorsed the following statement:

A primary objective (of rural development) should be to improve the quality of life of the rural poor. This implies the involvement of the rural poor in the development process and requires their participation in the decision-making process and the implementation of the decisions. It presupposes that the rural poor will gain increased economic opportunities through productive and remunerative employment, increased access to resources and equitable distribution of income and wealth. The mobilization of the energies and resources of the rural poor themselves emerges as the key factor in increasing both their productivity and their self-reliance. Such mobilization requires the formation, adaptation and strengthening of community structures, including organizations of the rural poor. (UN Economic and Social Council 1977, p. 8, brackets added).

In keeping with such statements, a working definition of rural development should: (a) distinguish between rural and agricultural development; (b) emphasize the need for enhancement of non-agricultural activities in rural areas;

and (c) specify some of the institutional changes needed for achievement of growth and equity objectives. Such a definition might read as follows:

Rural development is the creation and equitable sharing of increased social and economic opportunities in the rural sector of a society through such measures as re-distribution of assets, modification of inegalitarian and uneconomic legal and cultural institutions, investment in physical infrastructure and human skills, improvement of market relations, and political and social mobilization of the rural poor.

The term agrarian reform also carries equity as well as productivity implications. For purposes of the present discussion:

Agrarian reform consists of modifying structures and institutions in the rural sector to provide more equitable and more secure access to land, water and other productive resources and services including agricultural inputs, new technology, extension, credit, processing, storage, marketing, transportation and mechanical equipment.

It may be useful to keep in mind a distinction between land reform (shifts toward more equitable access to land/water) and agrarian reform (changes in rights to land/water accompanied or followed by innovations designed to make the reformed sector more productive). Both include classic programs of land redistribution through abolition of tenancy or expropriation of large estates as well as land consolidation, settlement of unoccupied areas and tenancy regulation (i.e., rent ceilings and measures to increase security of tenure). Projects which do not require redistributive changes in the land tenure system (such as literacy training or investment in infrastructure) would correspond to the broader concept of rural development, rather than to agrarian reform. Provision of crop insurance or government intervention to improve the terms of trade for the rural poor would also be included under the broad rubric of rural

development since they would affect not only reform beneficiaries but also traditional small holders and rural people engaged in non-agricultural pursuits.

#### Reciprocal Relationships

Accepting the above definitions (rural development: movement toward a more productive and more egalitarian rural society; agrarian reform: more equitable access to land/water and associated services and inputs), one finds that the two concepts converge. In a very real sense, each can be seen as an extension of the other. However, to equate the two would be to rule out a broad range of developmental activities which are not primarily or directly redistributive in nature, but which can have important medium- and long-range impacts on rural poverty. Some development efforts (such as functional literacy programs) can clearly benefit the poor whether or not preceded by agrarian reform. Other policies (such as promotion of labor-saving technology) probably do more harm than good in highly inequalitarian settings.

The relationship between agrarian reform and rural development varies according to the circumstances of a given country or area. In most situations there is a good deal of potential complementarity, but it has often been obscured by conceptualizations which represent equity (reform) and growth (development) as incompatible. Even now there is a tendency to establish separate criteria for evaluating growth-oriented and poverty-oriented policies. Some poverty-oriented programs have been delayed or canceled for lack of clear evidence that they would benefit only targeted groups. Many growth-oriented projects are still being launched without due regard for their distributional impact. The net effect is too often a de facto reversion to strategies which seek growth and equity separately

and/or sequentially (i.e., first increase GNP and then take steps to alleviate poverty).

In practice, virtually every development effort has productivity and equity effects. The issue for U.S. assistance policy is not whether to emphasize one or the other, but how to enhance both. The Congressional mandate to meet basic human needs will not be fulfilled merely by shifting emphasis from one type of project to another, or reversing traditional approaches (i.e., equity first and then growth). Asset redistribution, however necessary or desirable as part of rural development strategy in a given context, does not always have automatic productivity benefits. By the same token, economic growth per se does not always meet the needs of the poor. Both production and distribution objectives must be assured by policy design.

In principle, virtually all countries now accept this view. In practice, of course, governments for the foreseeable future will continue to differ markedly in their determination and ability to pursue growth and equity objectives. Some countries have fundamentally transformed their economic and political structures in favor of the poor, often by revolutionary means. Others have adopted the rhetoric of equity and applied some palliatives without finding the will or opportunity to press reforms in a serious way. For example, they may have been preoccupied with national security, or dependent for their power upon groups that oppose structural change. Or they may simply have lacked clear ideological orientation favoring equity.

Between these extremes, in a large group of countries some positive changes are underway. Despite highly inegalitarian

economic, political and social structures, especially in rural areas, their balance of power is not such as to preclude incremental change. Organizations of the rural poor are (or have been) active or are in the process of formation. At or near the top of the hierarchy are civil servants, professionals, intellectuals, political leaders and others who are increasingly inclined to identify with the interests of disadvantaged groups. For a variety of reasons, they are committed (with widely varying degrees of intensity) to extending participatory roles and benefits to the poor. In these countries equitable growth is difficult, but probably not impossible. Equity-oriented elements may have to pursue their goals indirectly -- changing tax laws when they cannot yet redistribute assets; restructuring electoral systems where mass participation is impossible; enhancing tenurial rights where it is not feasible to abolish tenancy; promoting public works to provide employment benefits to those who cannot yet be given access to assets of their own; fostering programs of functional literacy for the rural poor; and generally working toward a more egalitarian society.

It would be neither feasible nor desirable to attempt to make a fixed list of countries in each of the above categories. In any case, they shift dramatically or gradually over time. The important point is that there are and will continue to be countries in which major equity-oriented initiatives are underway and others in which minor efforts will pick up momentum during the remainder of this century. These countries will need and deserve strong support from the international community.

It would be a mistake to over-estimate the role of external actors, be they single countries or multilateral agencies. Nation-states continue to have the sovereign right to choose not to carry out agrarian reforms or major rural development efforts. Without the invitation or consent of a host government, little if anything can be accomplished through external aid. However, it is just as clearly the right and the responsibility of external actors to make continuing judgments of the seriousness and viability of national programs and to allocate their support accordingly. This cannot be done in a rigid manner, nor along purely ideological lines. It will require careful and practical assessment of situations and circumstances, sometimes at local as well as national levels, to determine where equity-oriented programs are likely to be successful and where external assistance will, in fact, promote marginal (but lasting) benefits to the rural poor and not be lost or usurped for want of internal commitment and action to alleviate poverty.

#### Issues and Challenges

Development cannot be cost-free. Problems are inevitable. When governments and international actors succeed in solving one set of problems, they may simultaneously generate new ones. An inescapable fact of life for all development strategists is the complexity and imperfection of the world with which they must deal. Development involves shifts in rural-urban balances and in relations among relatively powerful and powerless groups. Accepting that some inequality is unavoidable, how much is appropriate? How much is tolerable? In most cultures, a strong system of values emerges to justify inequalities and to reduce frustrations and potentially

destabilizing dissent. But modernization brings new values which tend to erode the legitimacy of inequality. In most countries, economic development brings with it political pressure to reduce inequality. This is certainly one issue with which development strategists must deal.

Another inescapable reality is that no single policy can be universally beneficial. In terms of the issues slated for discussion at the upcoming World Conference on Agrarian Reform and Rural Development, six points stand out for special and systematic consideration:

(1) Agrarian reforms can benefit millions, but but typically do not, by themselves, solve the increasingly troublesome problem of landlessness. What other measures are needed, and how can they be made an integral part of any reform?

(2) Efforts to provide new technology, inputs, services and marketing facilities to smallholders have yielded marked improvements, but have thus far failed to reach millions of peasant producers. It has taken generations to build up effective service structures in developed economies. How can the process be accelerated in the Third World?

(3) Education and training programs have improved significantly, but clearly have a long way to go. How can costs be reduced, curricula made more relevant to the needs of the rural poor, target groups identified and reached?

(4) The development process affects family structures and changes the roles of men and women in ways that are little understood but are generally thought to be inimical to the status of women. How can these processes be better documented and adverse changes corrected?

(5) Non-agricultural enterprises in rural areas have not fared well as modernization has proceeded. What specific measures can governments take to arrest and/or reverse the dominant trend of "de-industrialization" of the countryside?

(6) Finally, and perhaps most importantly, conventional development appears to have reduced the real power of rural people over their own lives, and their ability to participate in decision-making at local, regional and national levels. How can governments achieve an appropriate balance between centralized and de-centralized authority, and foster institutions which enhance political participation and self-reliance among the rural poor?

In brief, what policies and combinations of specific strategies will minimize the problems of development without delaying or crippling its progress? This is the paramount challenge which will confront development strategists during the coming decade.

Table 1  
 GNP per Capita and Its Growth Rate, by Regions, 1950-75

Region	Population 1974 (in millions)	GNP per Capita		
		(In 1974 dollars)		Growth rate 1950-75 (in percent per annum)
		1950	1975	
Africa	384	170	308	2.4
China, Peoples' Republic of	820	113	320	4.2
East Asia	312	130	341	3.9
Latin America	304	495	944	2.6
Middle East	81	460	1,660	5.2
South Asia	830	85	132	1.7
Developing countries <sup>1</sup>	2,732	160	375	3.4
Developed countries <sup>2</sup>	654	2,378	5,238	3.2

Source: World Bank. Cols. 1,3: Data tapes, World Bank Atlas, March 1977. Col. 2: Estimated by applying growth rate of GDP per capita 1950-60 (World Bank, World Tables, 1966) to figures for 1960 GNP per capita (Atlas tapes, March 1977). Col. 4: Computed from Cols. 2 and 3. (Cited in Morawetz).

<sup>1</sup>If the Peoples' Republic of China is excluded, the line for developing countries reads: 1,912, 187, 400, 3.0.

<sup>2</sup>All OECD members except Greece, Portugal, Spain and Turkey.

Table 2

GNP per Capita and Its Growth Rate, Selected Countries, 1950-75

Country	Population 1975 (in millions)	GNP per Capita (In 1974 dollars)		Growth Rate 1950-75 (in percent per annum)
		1950	1975	
<u>Eight most populous countries</u>				
China, Peoples' Rep. of	820	113	320	4.2
India	610	95	139	1.5
Indonesia	132	103	169	2.0
Brazil	107	373 <sup>1</sup>	927	3.7
Bangladesh	79	105 <sup>1</sup>	103	-0.6 <sup>2</sup>
Nigeria	75	150 <sup>1</sup>	287	2.6 <sup>2</sup>
Pakistan	69	86 <sup>1</sup>	131	3.2 <sup>2</sup>
Mexico	60	562	1,092	2.7
<u>Nine fastest-growing<sup>3</sup> countries</u>				
Libya	2	786 <sup>4</sup>	4,675	7.4
Iraq	11	283	1,180	5.9
China, Rep. of	16	224	817	5.3
Korea	34	146	504	5.1
Iran	34	384	1,321	5.1
Hong Kong	4	470	1,584	5.0
Jamaica	2	376	1,185	4.7
Israel	3	1,090	3,287	4.5
China, Peoples' Rep. of	820	113	320	4.2
<u>Nine slowest-growing<sup>3,5</sup> countries</u>				
Rwanda	4	119	81	-1.6
Burundi	4	117	91	-1.0
Upper Volta	6	99	87	-0.5
Madagascar	9	195	180	-0.3
Central African Empire	2	202	212	0.2
Bolivia	6	244	290	0.7
Chile	11	596	700	0.7
Ghana	10	354	427	0.7
Honduras	3	272	322	0.7

SOURCE: World Bank (Cited in Morawetz 1977)

<sup>1</sup>1960.

<sup>2</sup>1960-75.

<sup>3</sup>Countries with population of one million or more.

<sup>4</sup>Real growth rates (and hence estimated 1950 GNP per capita figures) for oil exporting countries depend heavily on the choice of base years in calculation of constant price national accounts. For example, in 1950 prices, Libya's 1950 GNP per capita was probably less than \$100.

<sup>5</sup>Excluding Cambodia (growth rate, -1.4 percent), Viet Nam (0.5 percent), and the Lao Peoples' Democratic Republic (0.3 percent).

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RURAL DEVELOPMENT PROBLEMS AND POLICIES:  
THE UNITED STATES' EXPERIENCE

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This paper represents solely the views of the author and it is not intended as a policy statement of the Agency for International Development and/or the United States Government.

Rural Development Problems and Policies:  
The United States' Experience\*

THE SETTING

Rural Development in the United States occurred under a number of special circumstances, many of which cannot be duplicated elsewhere. Accordingly, the U.S. experience can serve only in a limited way as a guide for rural development efforts underway in other countries.

The United States was endowed with rich resources -- an abundance of fertile land, minerals, rivers and forests, and great open spaces. A relatively small indigenous population was eventually brushed aside by the European settlers. Land was the measure of opportunity, and the terms of access to it was the battleline of freedom. Land under cultivation increased about as rapidly as the total population. The hard realities of the frontier stimulated a re-assessment of old values and attitudes, and the replacement of those irrelevant to the circumstances with new life styles and new institutions for organizing human efforts (World Food Forum 1962).

Abundant land and a relatively scarce labor supply provided a near optimum environment for testing the liberal philosophies of the 18th century concerning private property, competition, freedom and democracy. Immigrants came in large numbers, especially after 1820. More than two million streamed across the Atlantic from 1820-50, and during the next ten years 2.6 million more arrived. From 1850 to 1920, immigration increased the U.S. population by over 31 million. These immigrants were uprooted but energetic people, well aware of the advantages of markets and

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\* The initial parts of this paper are an updating of my earlier publication "Problems and Policies of Agricultural Development: The United States Experience," in Raanan Weitz (ed.) Rural Development In a Changing World. Cambridge, Ma.: MIT Press, 1971.

trade. In addition to the skills they brought from their European homelands, the early settlers also adopted some of the crops and cultivation practices of the American Indians. As one historian has observed: "...it is not going too far to say that it was the union of American Indian and European farming that produced the beginnings of American agriculture and provided the essential basis for its ultimate development" (Edwards 1940, p. 174).

U.S. agriculture made significant contributions to national economic development. It provided food and fiber for a growing population and an increasing per capita demand. With the growth of industry, it released labor for non-farm employment. It earned large sums of foreign exchange and provided much of the domestic capital for many years (Owen 1966). Through the 1790s, tobacco ranked first on the list of American exports. Later, cotton became the predominant export, representing 61 percent of all exports in 1860. After 1860, grain exports became dominant, especially wheat and corn, while meat and animal products came to rank third in importance (Edwards). The farm people provided a growing market for their manufacturing and service industries.

Although there were many favorable circumstances in the development of U.S. agriculture which are non-existent in most of the currently developing countries, some broadly relevant lessons can be gleaned from that experience. U.S. agriculture was transformed from a largely self-sufficient system to one highly productive and deeply interdependent with the rest of the economy. In this respect, the United States has traveled the road over which all nations must pass as they seek accelerated growth and broad-based economic development. Of special

significance, perhaps, are the experiences on the broader issues of general rural development and the problems and policy responses resulting from this transformation of agriculture.

This analysis illustrates only a few highlights of this transformation process. With an agricultural sector as large and diverse as that of the United States, it is difficult to deal briefly with developments over an extended historical period. There are wide climatic variations between regions; large differences between types of farming, size of farms, and systems of land tenure. In view of this diversity, averages and trends need to be interpreted cautiously.

The following section presents some measures of growth and changing sources of farm output over time. Statistical measurements pertain primarily to the past fifty years for which fairly reliable and consistent data are available. The discussion of major changes in sources of growth in output is followed by an examination of the major public policies (and their sequence) and the group action of farm people as they helped shape the agricultural transformation. A special section is then devoted to a discussion of the economic and social forces underlying the rapid changes that occurred in agriculture and in rural America in the past 40-50 years. The concluding section deals with some of the problems resulting from this transformation and special government efforts to deal with them.

#### CHANGING SOURCES OF FARM OUTPUT

##### Three Sources of Increasing Output

The expansion of farm output in the United States, as in all agricultural systems, was for many years governed by increases in the traditional production factors -- labor and

land. Growth in farm population and expansion of cropland remained the major factors for increasing farm output until near the beginning of World War I (USDA Production Research Report No. 36, 1960). Farm capital was of course being created and accumulated during this long period -- livestock herds were built up; buildings, fences and drainage systems were constructed; farm-produced animal power -- numbers of horses and mules -- grew apace.

From 1830 to 1860 a number of inventions and improvements were introduced -- the forerunners of the mechanical-engineering developments that would later revolutionize U.S. agriculture. The mechanical reaper, the mechanical raker and binder attachments, the steel plow, the grain and the corn drills, and the threshing machine were among the key developments in farm mechanization during that period. It will be noted that these are basically labor saving innovations (although the steel plow and the planting machines had a major effect on crop yields as well). This was a reflection of the factor endowments in America -- abundant land and a short supply of labor. After this period, food scarcity and potential famines were no longer accepted as inevitable.

Gross investments in agriculture (for improvements to land and buildings, implements and machinery, harness and saddlery, and livestock inventory changes) increased from \$51 million (all measured in 1910-14 dollars) in 1800, to \$190 million in 1850, and to \$631 million by 1900 (USDA Agricultural Economics Report No. 28, 1963). It is of significance for development policies to realize that much of this capital accumulation was brought about through the direct efforts of farmers themselves -- converting their own labor into capital structures. It is also

of interest that the fluctuation of farm product prices and the attendant changing prospects for profits from farming did not, contrary to common assumption, greatly influence this capital growth process. Between 1870 and 1900, for example, prices paid to farmers were generally declining, yet real capital formation proceeded at a faster rate during those years than any subsequent period (Tostlebee 1957).

The U.S. farm population reached its peak of about 32.5 million people during the depth of the depression in 1933. Actually, the farm population was fairly stable from about 1900 to 1940, varying between 30.5 and 32.5 million. Cropland harvested reached its highest acreage in the early 1930s. A major source of increased farm output available for human consumption during the period from about 1920 and through the 1940s was the shift in the type of power used by farmers. Tractors and trucks replaced horses and mules at an accelerating rate through the 1920s, 1930s and 1940s. Large amounts of cropland, labor, and other resources were released from raising feed for draft animals to the production of products for human use. The direct effect of mechanization accounted for half the increase in farm output from 1920 to 1940 (See Table 1). This shift in the type of power continued to be an important source of increase in farm output in the 1940s. However, after 1940, increases in crop yields became the dominant source, followed by increased production per livestock unit. After 1950, these two sources accounted for practically all of the increase in farm output.

Thus, three distinct but overlapping periods of U.S. agricultural growth, each characterized by a different major source of output expansion, can be identified: (1) expansion of cropland, farm labor and animal power up to about 1920;

(2) displacement of animal power with tractors and trucks from 1920 into the 1940s; and (3) increased production per crop acre and per animal unit after 1940. The first stage was based on land, human and animal power. This is the traditional system of agriculture that evolved over the centuries, and still characterizes large areas of the world. The second stage was based on the tractor and mechanical power, while the third was based on developments in chemistry and genetics, and in many applied fields of the agricultural and social sciences. And accompanying these changes was the increasing sophistication and managerial competence of farm men and women in putting together, for individual farms, all the components of productive and profitable systems. It was during these latter stages of development that the agricultural sector became increasingly interdependent with the non-agricultural sectors.

TABLE 1: Sources of Increased Farm Output in the United States

	Percentage Distribution of Increases			
	1919-21 to 1938-40	1939-41 to 1948-50	1949-51 to 1958-60	1959-61 to 1980 (a)
Reduction in farm produced power	51%	22%	10%	0%
Change in crop production per acre	34	37	87	73
Change in cropland used	-4	15	-28	-13
Change in net livestock production	19	26	31	40
Change in total farm output	100	100	100	100

Source: Raymond P. Christensen, William F. Hendrix, and Robert D. Stevens, How the United States Improved Its Agriculture, ERS Foreign-76, U.S.D.A., Washington, D.C., March 1964.

(a) The projections in Table 1 were made in the 1960s. Developments since that time call for a revision. The decline in cropland has been reversed, and by 1977 was near the peak level reached in the early 1930s (Table 2).

The major source of increased output during each stage was, of course, operative in other stages as well. The shift to mechanical power declined in importance after 1940 and ceased to be a measurable source of farm output after 1960. Increased production per crop acre and per livestock unit (as well as increased number of breeding units, which together make up the change in net livestock production) became increasingly important over the past forty years. Except during World War II (and again since 1970 -- see Table 2), crop land used had a negative influence because acreage was being withdrawn from production, largely as a result of government farm programs. According to projections in Table 1 (and substantiated by developments since 1960 shown in Table 2) changes in crop production per acre continues to be the most important source of increased farm output as it has been since the 1940s. The increased use of fertilizers, improved varieties, insecticides, extension of irrigated acreage, herbicides, improved tillage, and increasingly efficient farm management are the underlying factors boosting crop yields.

Table 2: Agricultural Input and Output Trends in the United States, 1910-14 - 1977

CROPS: (1967=100)	1910 -14	1920 -24	1930 -34	1940 -44	1950	1955	1960	1965	1970	1975	1977 (a)
Cropland Used for Crops	99	107	112	109	111	111	104	99	98	108	111
Principal Plant Nutrients Used	7	7	8	16	29	44	53	79	115	126	158
Crop Production per Acre	56	56	52	65	68	74	89	100	102	112	116
<b>MAN HOURS:</b> (1967=100)											
Man Hours Labor Used for Farm Work	333	333	322	293	218	185	141	110	88	75	70
Farm Production Per Man Hour	13	15	16	23	34	44	65	89	115	152	173
<b>TOTAL OUTPUTS &amp; INPUTS (1967=100)</b>											
Farm Output	44	49	52	66	74	82	91	98	101	114	121
Production Inputs	89	97	97	102	104	105	101	98	100	100	103
Productivity (b)	50	50	53	65	71	78	90	100	102	115	118
<b>NUMBER OF MACHINES (000)</b>											
Tractors (excluding steam and garden)	9	377	995	1861	3394	4345	4688	4787	4619	4469	4402
Motor Trucks	6	258	894	1193	2207	2675	2834	3030	2984	3032	3044
Grain Combines	1	4	61	271	714	980	1042	910	790	524	535
Corn Pickers & Picker-Shellers	0	10	50	129	456	688	792	690	635	615	605
Pickup Balers	0	0	0	18	196	448	680	751	708	667	615
Field Forage Harvesters	0	0	0	0	81	202	291	316	304	255	270

(a) Data for 1977 are preliminary  
(b) Output per Unit of Input

SOURCE: Changes in Farm Production and Efficiency, 1977; U.S. Department of Agriculture, Economics, Statistics and Cooperative Service Statistical Bulletin No. 612.

### Consequences of a Changing Input Mix

The changing input mix and the accelerated output expansion since 1910-14 are evident in the data shown in Table 2. These developments, especially since 1940, have resulted in fundamental changes in the structure and organization of farming. As noted earlier, the farm population reached its peak of about 32.5 million people in 1933 at which time it represented 25.8 percent of the total U.S. population. By 1960 (27 years later) the farm population had declined by more than one-half to 15.6 million or 8.7 percent of the total population. In the following seventeen years (by 1977) the farm population declined by another 50 percent (from the 1960 level) with only 7.8 million people representing 3.6 percent of the total U.S. population (Current Population Reports No. 51, 1978).

From 1935 to 1970 there was a net outmigration from the farm population of 32 million people -- an average of over 914,000 per year. The largest net outmigration occurred during the 1940s and 1950s. This outmigration declined in the 1960s and from 1970-1976 annual average outmigration from the farm population was 262,000 (USDA Handbook of Agricultural Charts, 1977). Farm numbers have shown a similar pattern of decline while the average size of farm has grown. In 1935 farm numbers were at their all-time high -- 6.8 million, averaging 155 acres per farm. Farm numbers (with average acres per farm in parentheses) for later years were: 1950, 5.6 million (213); 1960, 3.96 million (297); 1970, 2.95 million (373); 1977, 2.75 million (383) (Farm Numbers 1970, 1977).\* Some farms were eliminated

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\* Average size refers to operating not to ownership unit. Many farmers expand the size of their operations through land rental. This may be a temporary expedient, and the land so rented may later be purchased. In other cases, farmers who expand their land base may rely on the rental of one or more neighboring farms or parts of farms for extended periods.

from the statistics over the years as a result of changes in the census definition of a farm. But the great bulk of the decline represented land sales to other farmers who combined this land with existing farms and thus created ever-larger units. By the late 1950s more than half of all farmland purchases in the United States were for farm combination and enlargement. Farm enlargement was more pronounced in the specialized grain and cotton areas than in the areas of mixed crop and livestock farming. For example, in 1935 the average size of a farm in Wisconsin, the principal dairy state, was 118 acres or 76 percent of the U.S. average size. By 1977, Wisconsin farms averaged 191 acres -- only 50 percent of the U.S. average.

Dramatic increases in labor productivity (farm production per man hour shown in Table 2) were registered after 1950. These increases were also generally higher in the specialized crop production areas. Increased mechanization and higher yields are the main sources of this growing output per worker. With the decline in farm numbers and the increased size and capacity of machines, the number of major machines and tractors on farms has in recent years also declined.

#### Commercialization of Farming

The developments outlined also signify an increasing commercialization of farming in the United States. In 1820 each farm worker produced farm products for him/herself and four others. It took 100 years to double this to eight by 1920. The next doubling occurred in slightly more than thirty years (16 by 1952) and the figure more than doubled again in the following twelve years (33 by 1964). Currently each farm worker produces farm products for more than sixty people (the total number of people employed solely or primarily in U.S. agriculture in 1977 was 3.5 million) (Current Population Reports No. 51, 1978).

Additionally, of course, 107 million acres of the 343 million acres harvested in 1977 were devoted to the production of farm products for export (USDA Statistical Bulletin No. 612, 1978), offset only in part by farm imports.

The statistics on labor productivity in U.S. agriculture should be interpreted with some caution. Included in the calculation is labor time used on the farm in the production of farm products. But since many of the input producing as well as the product processing and marketing functions have been transferred to off-farm industries, farming becomes increasingly specialized in the transformation of purchased and non-purchased inputs into raw farm products in need of further processing, packaging, storage and distribution. If all labor time directly engaged in these agricultural support activities were included, the increases in labor productivity would be less dramatic. However, the figures shown accurately reflect the increasing commercialization of farming.

This increasing commercialization is also evident in the fact that non-money income from farming constitutes a declining proportion of total gross farm income. In 1910-14, the value of farm products consumed directly in farm households, plus the imputed value of farm dwellings, represented 22 percent of gross farm income exclusive of inventory changes. In 1940 this still represented 19 percent. But this declined steadily and by 1977 this non-commercial (non-money income from farming) source of income represented less than 10 percent of gross farm income (USDA Statistical Bulletin No. 609, 1978). This proportion would be even lower had it not been for the sharp rise (more than doubling between 1972 and 1977) in the imputed value of farm dwellings.

All farmers, however, did not benefit from increased labor productivity and commercialization. Operators of smaller farms found high levels of mechanization uneconomical. And income from off-farm sources has become more important for all size classes, and is now the principal source of income for farms selling less than \$20,000 worth of farm products (See Table 3). In 1960, 21.1 percent of all farms (those with annual sales of \$10,000 or more) received 72.4 percent of the total cash receipts from farming. By 1977, given the inflation that has occurred in this period, 18.9 percent of all farms (those with annual sales of \$40,000 or more) received 78.2 percent of all cash receipts (See Table 3).

Part-time or dual income farming has become more important. In 1960, only farmers in the lowest sales category (1,849,000 farms or 46.6 percent of all farms) had off-farm earnings that exceeded their realized net farm incomes. However, the next size category had income from off-farm sources almost equal to net farm income. Again inflation (and real growth in farm size over the period) makes direct comparisons difficult. However, by 1977, farmers in sales categories up to (but not including) \$20,000 representing 69.2 percent of all farms had off-farm incomes substantially exceeding incomes from farming (See Table 3). The number of small farms continues to decline. However, part-time farming (farm families with dual sources of income) continues to increase.

Table 3: Number of Farms and Farm Family Income by Value-of-Sales Classes, 1960, 1970 and 1977 (Values in Current Dollars)

VALUE-OF-SALES CLASS & YEAR	NUMBER OF FARMS (000)	FARMS (%)	CASH RECEIPTS FROM FARMING		INCOME PER FARM FAMILY BY SOURCE			
			% Dist. Gov.	Pay/Farm (\$)	Realized Net Farm Income (a) (\$)	Off-Farm Income (\$)	Total (\$)	% Off-Farm is of Total (%)
<b>All Farms:</b>								
1960	3963	100	100	177	2806	2140	4946	44
1970	2949	100	100	1260	4797	5899	10696	55
1977	2706	100	100	672	7439	11596	19035	61
<b>Sales Under \$2500:</b>								
1960	1849	46.6	5.8	54	506	2732	3538	77
1970	1173	39.8	2.8	235	902	7437	8339	89
1977	958	35.3	1.2	71	1518	15077	16595	91
<b>\$2500-4999:</b>								
1960	617	15.6	7.1	131	1931	1848	3779	49
1970	423	14.3	3.4	608	1696	6184	7880	78
1977	304	11.2	1.4	243	1508	14559	16067	91
<b>\$5000-9999:</b>								
1960	660	16.7	14.7	218	3212	1574	4786	33
1970	402	13.6	6.5	1015	3235	5450	8685	63
1977	302	11.2	2.7	374	2696	12179	14875	82
<b>\$10000-19999:</b>								
1960	497	12.5	21.1	320	5095	1258	6353	20
1970	390	13.2	12.3	1754	5856	4190	10046	42
1977	311	11.5	5.4	579	4987	9466	14453	65
<b>\$20000-39999:</b>								
1960	227	5.7	18.5	489	8080	1678	9758	17
1970	326	11.1	19.5	2583	10405	3359	13764	24
1977	321	11.9	11.1	1280	9993	6956	16949	41
<b>\$40000-99999:</b>								
1960	90	2.3	15.5	856	17274 <sup>(b)</sup>	2177 <sup>(b)</sup>	19451 <sup>(b)</sup>	11
1970	178	6.1	22.1	4056	17319	3949	21268	18
1977	348	12.9	25.6	1770	18502	6011	24513	24
<b>\$100000 &amp; over:</b>								
1960	23	0.6	17.3	1304	-	-	-	-
1970	57	1.9	33.4	9263	40543	7614	48157	16
1977	162	6.0	52.6	2204	38310	9636	47946	20

(a) Realized net farm income is before inventory adjustments. Realized net farm income is gross farm income less current production expenses, depreciation, taxes, and interest actually paid. It includes other farm income (machine hire and custom work and recreation earnings since 1964) as well as the value of farm products consumed directly in the farm household and the gross rental value of the farm dwelling. It represents payment for operator and non-paid family labor, capital investments (including land) and management. No interest has been imputed for owned capital.

(b) In 1960 the highest sales class for which off-farm income was reported was \$40,000 and over.

SOURCE: Farm Income Statistics, USDA Statistical Bulletin No. 609, Washington, D.C., July 1968

## FARM POLICIES IN HISTORICAL PERSPECTIVE

The preceding section emphasized several sources of growth and productivity in U.S. agriculture. In the present section we will briefly look at public policies and the collective action underlying them. Any condensed historical sketch of this kind can indicate only a few landmarks in this development. Likewise, such a brief account may also make the process appear more rational and orderly than was actually the case.

Since the scope and nature of agricultural policies changed as the national economy developed, it will be useful to view this history as comprised of three somewhat distinct (though overlapping) periods. Policies of the first period, after independence and through the 1860s, emphasized land distribution, settlement and tenure. From the 1860s through the 1930s, agricultural policies were directed to the provision of services which would convert the farmers' raw stake in the land into valuable market opportunities. Finally, beginning in the 1920s and continuing in modified form to the present, the policy emphasis has been on production adjustment, farm price policy, and the maintenance of farmers' purchasing power relative to other groups in society.

### Land Policy

The early explorers for England took possession of the land of the North American continent in the name of the King. Three distinct procedures stand out as ways in which this land was passed on to farmers in the Colonial Period (Edwards 1940).

One method provided large land grants, corresponding to the English manorial system, to "friends of the King" and other influentials. But since land was abundant and people could not

easily be prevented from moving onto frontier lands, those who had the initiative for adventure to the colonies did not voluntarily settle on feudal holdings. In the course of the Revolutionary War, some of these large estates were confiscated and divided; others, in the South, were later transformed into plantations to be worked by slave labor.

Another method was the headright system -- the granting of 50 acres of unoccupied land to immigrants landing in Virginia. This was based on the view that any person who ventured to America acquired thereby a share in the Virginia Company. This system remained the principal means of acquiring land in the Southern Colonies throughout the seventeenth century. Persons with a headright grant could locate and settle on any part of the unappropriated public domain. The system was much abused (the headright claim being made for servants and even slaves), and it, too, provided the means for some to accumulate large tracts of land.

A third and distinctive method of land disposition was the New England system. The leading New England Colonies were established by trading companies which received extensive grants of land from the Crown and served as, or evolved into, governing bodies. Grants of land to individuals were rare; instead, a sizeable block of land, usually a traditional township, was granted by the governing authorities to a group of people who had petitioned for it. The group formed its own institutions and divided the land in an egalitarian manner, consistent with each family's needs and ability to use the land. This system had a very important influence on the development of national land policies during the nineteenth century, and had important social and political consequences as well. It developed habits of group

action and afforded a compact social life. It facilitated the ideal of a Biblical Commonwealth and a Puritan Theocracy. The town meeting, at which plans for land distribution were worked out and the officers chosen, was a vital factor in the evolution of democracy in America (Edwards 1940, p. 176).

After the Colonies won their independence, the debates over land settlement and means of distribution occupied much of the time of the political leaders of the new nation. The conflicting ideas concerning the means of settlement and land disposition were distilled in the constitutional debates that preceded 1789. By the time the new constitution was sent to the states for ratification, it seemed clear that the new country was to be a nation of small farmers. Several key land ordinances were adopted by the Continental Congress. New states were to be formed in the territories lying west of New York, Pennsylvania and Virginia, and the land was to be surveyed ahead of settlement (Raup 1972).

The Land Ordinance of 1785, developed under the leadership of Thomas Jefferson, the great champion of owner-operated family farming, laid the foundation for the Federal land system. Although this ordinance was a bundle of compromises and a number of its provisions were later modified, it provided for a system of rectangular surveys and outlined general and specific policies governing disposition of public lands. The rectangular survey provided for marking out land into townships six miles square, each to be divided into thirty-six sections of one mile square containing 640 acres, each capable of being further divided into 320, 160, 80 and 40 acre units. The land units thus surveyed and systematically numbered were to be registered in the name of the owner. In the case of disputes over boundary lines, it is relatively simple for a surveyor to establish true boundaries

since the engineering plan provided a grid of base lines from which all lands would be measured. These surveys spread the regularly patterned lines over the public lands all the way to the Pacific. Over five million farms were marked out on the public lands between 1800 and 1900 (Carstensen 1975).

However, while the procedures were being developed for the orderly disposition of the public lands, settlers were moving out into the frontier. These "squatters" had no legal status or title to the land they farmed. The Pre-Emption Act of 1841 provided a procedure for legalizing their rights. Anyone who had improved such land and owned no more than 320 acres elsewhere could obtain title to 160 acres by paying the minimum price of \$1.25 per acre (Hibbard 1965).

The increasing flow of immigrants, the restless "discontents" of the growing labor force in the Eastern areas of the country, and leaders following the ideas of Jefferson continued to press for a more liberal land policy of homesteading and free land to the cultivators. But there were marked regional conflicts over these questions of land policy. Eastern farmers feared the competition of the growing produce coming from the westward settlement. The manufacturing establishments were afraid of losing labor and having to pay higher wages. And the Southern states felt threatened by a free land policy lest it undermine the slave system which was concentrated in the cotton producing areas of the South. The Homestead Act of 1862, which provided full title to 160 acres of public land after five years of residence and evidence of improvements, was passed only after many years of debate. It was not until the secession of the Southern states over the slavery issue that there were enough

votes in both houses of Congress to get this measure passed.

The Homestead Act did not achieve all that its proponents had hoped. Its fundamental weakness was its complete inadaptability to the region to which it applied (Hibbard 1965). The principle of the small homestead was valid in the Eastern and Midwestern areas of the United States where rainfall was more adequate. By 1862, however, these areas were already largely occupied and the great bulk of the lands open to homesteading were in the more arid western regions where annual rainfall averages from 10 to 15 inches. Effective land utilization required dry farming, grazing, or intensive cultivation with irrigation. However, 160 acres was too much land for irrigated farming, while it was too little for dry land farming or grazing. There was also graft and corruption, accumulation of large tracts of land by speculators who then sold the land at profit to small farmers, and the General Land Office which supervised disposal of the public domain did not have the organization, the personnel, or the backing to ensure careful and honest administration (Edwards 1940, p. 223). Furthermore, a number of policies ran counter to the general principle of free homesteads. Much of the available land continued to be sold -- by government, by railroad companies who had received large land grants and by the states.

Contrary to general belief, more land was homesteaded in the decades after 1900 than before. Although the frontier as a continuous line of settlement came to an end around 1890, vast tracts of scattered public lands of inferior quality remained open. The Homestead Act was modified on a number of occasions to shorten the residence requirement and to make it possible to obtain larger tracts -- 320 and 640 acres in some

cases (Edwards 1940, p. 226).

Despite some of these shortcomings and problems, the Homestead Act stood as a symbol of American democracy to native-born and immigrant alike. And although the debates over land policy and farm size were continuous from independence until the enactment of the Homestead Act and beyond, it is clear in retrospect that a serious question never existed about the outcome. "The pace of westward expansion was too rapid, government on the frontier too weak, and the endowment of desirable land too great to permit its enclosure and concentration in large units and few hands" (Raup 1972, p. 130).

This, however, was not uniformly the case in the Southern states. Cotton for domestic use had for many years been grown in the Southern Colonies. Soil and climate favored the short-staple variety, but hand separation of the seed from the lint was a slow and costly process. The cotton gin, invented by Eli Whitney, solved this crucial problem. Upland or short-staple cotton became the dominant commercial crop in the South and the basis of its economy. Cotton expansion revived the moribund institution of slavery since the growing of cotton was well adapted to unskilled, supervised gang labor. Cotton, slavery and the plantation exercised considerable influence over the political, social and economic structures of the South (Edwards 1940, pp. 209-210).

In terms of numbers, the large majority of farmers in the South operated small and intermediate size farms. Up through 1860, less than half of the farms had slave labor. Even of the slaveholding landowners, more than half owned 10 or fewer slaves. But although the small farmer was more truly

characteristic of Southern landholders, the two percent of planters who owned large estates with more than 50 slaves loomed large economically, politically and socially. It was this small but influential group which manipulated the levers of political power and social control. Not until the Civil War overthrew the planter aristocracy did the small farmer begin to come into his own (Edwards 1940, p. 213).

After the Civil War and abolition of slavery, a system of sharecropping was developed in the cotton plantation areas. The abolition of slavery actually left the landholding system intact. The land reform that could have subdivided the larger units into family-owned farms was never carried through. Thus the only practical course open to many of the plantation owners was to operate their holdings as nearly as possible as they had before. Likewise, the freed slaves had little alternative but to continue to seek their livelihood in farming. But since they possessed no land (and the large landowners undoubtedly found it more difficult to supervise the free labor on a large scale) the sharecropper system of tenancy came into existence. While this represented a major reform, the sharecroppers remained very poor, without political power and with little security. A further major transformation of this system occurred with the rapid mechanization and the widespread use of the mechanized cotton picker almost a century later (as discussed in a succeeding section of this paper).

The production relationships of the plantation economy of the South (as in a number of areas in the world today with a dualistic structure within their agricultural sectors) did not lead to balanced economic development. The concentration of landholding income and political power provides much of the explanation for regional and structural dualism: a staple

export economy existing alongside, but not sharing in, the development of technological advancing industrializing sectors. The large-scale plantation in the South was a response to the increasing demand for cotton. And slavery produced a pattern of skewed income distribution which could not support the mass markets necessary to the development of local consumer goods production. "Seigneurial consumption was not likely to be a substitute for the broad markets that could have made it profitable in the South to manufacture consumer goods more sophisticated than the most elemental of subsistence wares. Also, seigneurial display that rested upon consumer debt, whether the debt was held within the South or by northern financiers, was inconsistent with growth, as 'productive' or at least producers' debt would not have been" (Conrad and Meyer 1964, pp. 228-229). Even for decades following the Civil War, since land ownership was not redistributed, these major income inequalities persisted, the mass-consumption base did not expand, and industrialization in the South was long delayed.

The land policies of the United States did not end with passage of the Homestead Act and the Civil War. But the major thrust and focus of these policies did change. Near the end of the nineteenth century, conservation became a heated issue. Most of the better lands had been settled. The timber from some of the best forest lands in the northern lakes states was being cut. In 1891, the Forest Reserve Act was passed by Congress giving the President authority to designate some of the public forest lands as permanent reserves. Vast areas of land were withdrawn to remain in the public domain. Shortly after the turn of the century, several significant laws were passed to assist and encourage the development of irrigation in the arid regions of the West. Although the conservation consciousness

created by President Theodore Roosevelt during the first decade of the century subsided during the First World War and the 1920s, the 1930s, under President Franklin Roosevelt, saw a rekindling of the movement with significant enactments to promote soil conservation and improved management of the Western range lands.

And land policy questions continue, though the issues change. The sketch given here has shown their evolving nature and the modifications made to meet the problems encountered at particular stages in the economic development of the United States. This evolution has been characterized as occurring in four somewhat distinct though overlapping stages: (1) disposition, (2) withdrawal, (3) conservation, and (4) intensive management (Clawson and Held 1957). In the early years disposition of land, settlement, and land tenure were key issues. Near the turn of the twentieth century, when the country was largely settled, withdrawal of land for public management became an issue of major importance. An increased consciousness of wasteful resource use and unsustainable exploitation led to the encouragement and support for conservation measures on both private and public lands. Within the past 40 years growing emphasis has been placed on the intensive management of the public lands to increase and to sustain their productive capacity in a multiple of uses: timber, grazing, recreation, wildlife and water conservation.

#### Service Policies

Life on the frontier was difficult. There was a pressing need for more efficient transportation systems to move farm products to the Eastern cities and ports, and to transport people and manufactured goods to the West. Water and road transport became increasingly inadequate. Railroad construction began in the late 1820s, but was confined largely to the Eastern seaboard until about 1840. By 1850, however, the first

railroad reached Chicago; a great spurt in railroad construction followed, and the first transcontinental line was completed in 1869. Railroad construction was financed through massive land grants and direct money subsidies from the Federal government, European investments, and the sale of railroad bonds. At first, the railroads followed the western migration. But later, and especially with movement west of the Mississippi, the railroads preceded and in fact often determined the migration and settlement routes (Edwards 1940).

A variety of transport systems was used in the course of westward expansion -- roads, canals, rivers and railroads. A high density of roads (typically located every mile and dividing the landscape into square mile blocks) was needed to serve the dispersed, small-scale, family farm system of settlement. This variety and density of roads and other means of transport made possible a mushrooming growth of rural towns -- centers of agricultural service and marketing activities within a reasonable travel distance of the majority of farm people.

The development of viable economic opportunities (as against the mere subsistence opportunities on the land) proceeded slowly. Many additional services were required. Several legislative enactments in 1862 were of great significance for the development of U.S. agriculture. In addition to the Homestead Act already mentioned, the Morrill Act established land grant colleges, providing federal grants of land for the endowment, support and maintenance of at least one college in each state teaching agriculture and engineering. The U.S. Department of Agriculture was also established in 1862. This department evolved into a great agricultural research, education and service institution and has served as an important catalyst in all the major agricultural developments over the past century.

Subsequent developments in the area of agricultural research and education included the Hatch Act of 1887 which provided federal funds to all states for the support of agricultural experiment stations. These funds were initially directed to research in the plant and animal sciences and in engineering. In later years, funds were provided by the Federal government to support research at the experiment stations in additional areas -- economics, sociology, home economics and nutrition. The Smith-Lever Act of 1914 established the Cooperative Agricultural Extension Service. In some states the Extension Service was, for many years, affiliated with one of the major farmer organizations. At present, however, the Cooperative Agricultural Extension Service is closely integrated with the teaching and research functions of the State University in which the "land grant college" (named after the land grant provisions of the 1862 Act) is located, and it is financed cooperatively with federal, state and local government funds. In 1917 the Smith-Hughes Act provided federal money to support the teaching of vocational agriculture and home economics in high schools. This series of enactments was instrumental in the establishment of the basic institutions which then evolved into the specialized system of agricultural research and education in the United States.

The enactment of legislation in each case marked the culmination of long, often bitter struggles going back in one form or another to the early days of the Republic. In all cases, as a result of the federal system which gave individual states the residual power and autonomy in these areas, some experience had already been developed. For example, several states had established colleges of agriculture in the 1850s,

before the Morrill Act. In the 1870s, a few states created experiment stations where scientists were employed to conduct research on farm production problems. Before the formal establishment of an extension service, extension work was being carried out through special short courses at colleges, through lectures, correspondence, publication of bulletins, field experiments, demonstrations, and exhibits at fairs. And by 1916, 421 public high schools throughout the country had agricultural departments. It is significant, however, that the various groups pressuring for agricultural research and education eventually sought the help of the Federal Government. Agricultural schools and colleges, organized experimentation, extension work and elementary and secondary school training in agriculture all began locally, and although State and local governments continue to support them to the present day, in each case Congress was called upon to furnish national leadership and financial aid (Edwards 1940).

The colleges of agriculture had a difficult time at first because of lack of funds. In selling their land grants received from the Federal Government for establishing the colleges, the States competed with the railroad and homestead land. In most cases the income derived from land sales was insufficient and appropriations were sought from the State legislatures. Later the Federal Government provided direct subsidies in support of the colleges. Furthermore, there were few qualified college-level teachers in the natural sciences and practically none in agriculture. Most of the available textbooks were of European origin and their contents were not based on American experience. Politics was also a prominent factor in the selection of administrators and professors. However, by 1900 most of these colleges were firmly established and attracting rapidly expanding numbers of

students (Edwards 1940, p. 254).

The Cooperative Extension Service was likewise plagued with difficulties in the early years. But it too grew into a strong force in aiding the development of a commercial agriculture. One of its early difficulties is illustrated by the following experience as told by Murry D Lincoln, the first extension agent in the State of Connecticut.

"Nobody knew what an extension agent was supposed to do. So I asked Dr. Jarvis, who was in the Department of Agriculture, what I should do. He said, 'Good Lord, I don't know. Just go down there and find out what the source of income of the farmer is and try to improve it.'

One of the first farmers I was told to meet was in Stonington, Connecticut.

As I met this big, raw-boned Yankee farmer, almost without introducing myself, I said to him, 'Good Lord, what is your source of income in this area?'

And I have heard this story quoted later, but it actually happened. He looked at me and said, 'Source of income, young man? We don't have any around here. We live on lack of expense.'" (World Food Forum 1962).

Another policy focus in the area of services to agriculture was the provision of credit. The transformation of the vast land area into productive commercial farms required large amounts of capital. Farmers depended on borrowed funds for many of the required investments. But commercial credit terms available to farmers were a major source of dissatisfaction throughout the latter half of the nineteenth century. Corporate finance methods were not applicable to the individual proprietor of a family farm. Credit available from commercial banks, insurance companies, and merchants carried a high rate of interest and was available only on a short term basis.

Expensive renewal fees pushed costs even higher. And in many areas, credit for any purpose was hard to come by (Brown 1962).

The financial panic of 1907, and the report by the President's Country Life Commission appointed in 1908 helped highlight farmers' credit needs and problems. After more years of agitation, the Federal Farm Loan Act of 1916 established twelve regional federal land banks to provide long-term credit in larger amounts and on more favorable terms (e.g. providing for long-term amortization of mortgages) than that available from other sources. Local cooperative farm loan associations with farmer-borrower shareholders were, and remain to this day, the vehicle for implementing lending activities under this act.

Additional regional banks were established in the 1930s to provide production credit for farmers and loans to farmer cooperatives. This specialized, cooperative, farm credit system is administered through the Farm Credit Administration, also established in the 1930s. In this cooperative system, farmer borrowers own shares in the local associations which in turn own the stock of the regional banks. The regional banks obtain funds through bond issues in the regular money markets. This specialized farm credit system is supplementary to other sources. Much of the credit farmers need continues to be supplied by commercial banks, individuals, insurance companies, and merchants, but this system does provide an important alternative source of funds. Also, this specialized system introduced new guidelines and criteria for all credit agencies in serving more adequately the particular credit needs of farmers (Benedict 1953).

With the severe depression of the 1930s, an additional innovation was made in the field of farm credit. Direct government loans were made to farmers often considered the least credit-worthy by commercial bank standards and, therefore, unable to get credit from other sources. In the early years, the emphasis was on rural rehabilitation, resettlement, and loans to permit tenants to become owners. Supervision and maintenance counselling has been a key feature of these programs. In 1946, these emergency, high risk, supervised credit operations were coordinated under the Farmers' Home Administration. This agency was given federal funds and was later authorized to insure loans made by private lenders. In the 1960s, its role was expanded to provide loans for rural housing, for water and sewage facility construction by the smaller cities and towns in rural areas, and for other rural development needs.

Two other key services of major importance to farmers as well as to the economy in general were directed at soil conservation and rural electrification. Although the conservation movement had lost some momentum after the first decade of the twentieth century, by the latter years of the 1920s, many became concerned with reports of serious soil erosion and depletion. Research reported on the seriousness of the problem, but the most convincing evidence was supplied by nature's severe drought and attendant dust storms of the early 1930s.

High levels of unemployment in the depression years provided the rationale for public works. The Civilian Conservation Corps, formed at that time, served both to create employment and to develop conservation measures. The Soil Erosion Service was established in the U.S. Department

of the Interior in 1933. In 1935, soil conservation work was transferred to the U.S. Department of Agriculture and the Soil Conservation Service (SCS) was established. Today soil conservation specialists are available throughout the country to work with farmers in planning and adopting soil conservation practices. SCS workers also cooperate and work with special soil conservation districts organized by farmers under state laws.

In 1930, less than 600,000 farmers (under 10 percent of all farm families) had electric service. The private electric power companies found it generally unprofitable to build distribution lines and supply electric service to sparsely populated farming areas. In 1935 President Franklin Roosevelt, by Executive Order, established the Rural Electrification Administration (REA). The following year Congress passed the Rural Electrification Act. The REA supplies credit, technical and engineering assistance to local rural electric cooperatives. The progress in providing electric service to farmers has been continuous and today practically all farms in the United States have access to electricity.

This brief sketch of the major developments in federal farm service policies illustrates their great diversity. And many services have not been discussed at all -- rural free delivery of mail, statistical reporting services on crop and livestock production, prices and outlook information, assistance to farmer cooperatives of all kinds, supervision of weights, measures and standards, crop insurance, and many more. Furthermore, since the focus here is on federal policies, we have not even mentioned the many important actions taken by state and local governments in the provision of services and regulations governing agriculture in the several states.

But all these policies -- federal, state, and local -- grew out of the experienced needs of the time and were actively sought by farmers. In fact, one point that must be emphasized is the significant role played by farmers' organizations throughout this history. The early battles were over free access to land and security of tenure. With increasing commercialization of farming following the Civil War, competition intensified and farmers addressed themselves to issues of speculators in commodity markets, high railroad freight rates, shortage of credit and high interest rates, and monopoly power of the railroads and other industrial firms with which they dealt. The initial push toward action in these areas grew out of activities sponsored by the Grange, a farm organization founded in 1867. A series of laws, still referred to as the Granger Laws, resulted from this pressure by farmers. Later, rural leaders helped lead the fight to enact additional anti-monopoly legislation and establish railroad regulatory bodies. Another major consequence of this anti-monopoly movement was the rapid growth in farmer cooperative buying and selling. Many of these early efforts at performing the function of the middleman failed, but they paved the way for the successful cooperative movement of later years.

#### Production Adjustment and Price-Support Policies

In the 1920s, new problems emerged in American agriculture which were debated for more than a decade before actions were taken to directly address these issues. During the First World War, farm commodity prices and land values increased sharply. But prices (for both commodities and land) declined precipitiously after the war. Farmers who assumed large mortgages earlier found their repayment capacity greatly reduced. Exports declined, farm failures and foreclosures increased, and farm "surpluses" appeared. Given these circumstances, several new ideas became

popular: production adjustment and farm income equity. Adjustment was later translated into production regulation and control, while the concept of farm income equity found expression in the term "parity" -- re-establishing the relationship between farm prices and farm production and living costs that existed in the period 1910-14.

The 1920s was a decade of debate and a search for remedies to these problems. But the marked change in circumstances was not immediately recognized and thus policy measures enacted failed to come to terms with the new conditions and the problems that they posed. The prosperity of the previous decade served to camouflage these new conditions and led to prescriptions that failed to resolve the new problems. Farming became more commercialized and consequently farmers were more deeply affected by changes in prices and costs. Most of the land had been settled and the farm population was relatively stable. Movement to the frontier was no longer a viable alternative. Farm tractorization was proceeding, leading to increased borrowing and capital investments. The U.S. had paid up its foreign debts and had become a creditor nation. Failure to appreciate the significance of this new situation for trade led to the raising of tariffs to keep imports out, and at the same time suggesting increased exports as a solution to falling farm prices. Finally, the policy record of the past served as an impediment. In all past policies directed toward the agricultural sector, the Federal Government did not get directly involved in any major way in the internal affairs of farm firms' production decisions nor in the marketing and pricing of farm products. Earlier policies had been directed at the creation of opportunities and the services to facilitate their exploitation. Wrote Hibbard in the 1930s, during the past decade,

"...the farmer began to ask for something more specific and more potent. The remedies asked for were to be used in treating internal ills, many of them becoming chronic, most of them not at all well known to the doctors in charge of the case, or rather of the epidemic" (Hibbard 1938).

In the 1920s, the major policy responses remained external rather than internal to farm firm decision-making. Tariffs were raised in 1921 and 1922 and to their all-time high in 1930. The Capper-Volstead Act was passed in 1922 providing special legal status to farmer cooperatives relative to tax and anti-trust laws. The Bureau of Agricultural Economics was established within the U.S. Department of Agriculture and the Purnell Act of 1925 made funds available to state experiment stations for economic and social research. Additional farm production credit was made available. The Farm Board was established under the Agricultural Marketing Act of 1929. A \$500 million revolving fund was provided to help in the establishment of cooperatives who could, with loans from the Board, store farm commodities and thus even-out their marketing and help stabilize prices. This was a departure from earlier programs in that federal funds were provided with the expectation of influencing markets and farm prices directly. But there were no provisions for production adjustment and the general economic depression later doomed the experiment to failure.

Farm groups became more militant in the early 1930s -- organizing strikes, violently resisting farm foreclosure sales, setting up road blocks and dumping products destined for market, marching on state capitols, and the like. Basic agricultural legislation was enacted in 1933 in the form of the Agricultural Adjustment Act. The Commodity Credit Corporation (CCC) was

later created to make loans to farmers who complied with crop acreage reduction programs. The loans were on specific crops (initially corn and cotton) which permitted farmers to withhold their products from the market. If the market price later improved, farmers could sell their crops and repay the loan. But they could also choose not to repay the loan in which case the CCC assumed ownership of the commodities. The processing tax levied on the first processor of farm commodities, which provided funds for paying farmers who withdraw land from production, was declared unconstitutional in a 1936 decision by the Supreme Court. Congress immediately passed the Soil Conservation and Domestic Allotment Act under which farmers were to be paid from direct appropriations for shifting land from soil-depleting to soil-conserving crops. The more permanent legislation came in the 1938 Agricultural Adjustment Act which made price supports mandatory for corn, wheat and cotton.

The basic agricultural adjustment legislation enacted in the 1930s has been modified many times since. The strong demand for farm products in the 1940s shifted emphasis from controlling to encouraging farm production. In the 1950s surpluses mounted and there was a return to policies of production restriction; farmers were paid for placing land in the "soil bank," Public Law 480 was passed allowing farm commodities to be sold to developing countries for local currencies (rather than dollars), and commodities could also be provided as a grant for emergency and relief purposes. Additional policy changes were made in the 1960s. Price support levels on basic crops were lowered and a system of direct payments was introduced. Lower domestic prices

increased commercial exports and decreased the need for export subsidies. Direct payments provided more incentives for farmer participation in acreage diversion programs and consequently a better supply control mechanism. Near the mid-1970s policy was reversed after grain stocks were sharply reduced as a result of large purchases by the Soviet Union in 1972 and by crop failures in several world regions. But toward the end of the 1970s, despite record exports, farm prices were again major issues and protesting farmers called upon the federal government to use its power to increase farm commodity prices. Thus, although farm policies have been changed a number of times since the 1930s in response to specific circumstances, every national administration has recognized the need for price support and production regulation activities in agriculture.

The task of production adjustment has become more difficult than it was in the 1930s. On the side of increasing farm output beyond the levels of the mid- to late 1970s, there is some uncertainty. The rate of yield increases has been lower in the 1970s than in the 1950s and 1960s (Schuh 1976). In part this may be due to bringing lower quality acreage back into production in the 1970s. But there is also some evidence that yields will not continue to increase at the rapid rate of the earlier two decades. On the side of decreasing farm output, the task is complicated because of the greater flexibility and substitutability in the farm input mix. Withdrawing acreage is no longer as effective as it was in the 1930s since more capital-intensive practices on acreage remaining in production can offset production foregone on the acreage withdrawn.

To complicate matters, U.S. agriculture is characterized by a wide range in farm size and in levels of technology

employed. Consequently, there are greater differences in the per unit cost of producing a given farm commodity, in the volume of output per farm, and in the income per farm family. When prices are set high enough to provide the farmer producing a small volume with a reasonable income, they give the farmer producing a large volume and using modern techniques a tremendous windfall. This has been corrected to some extent by placing limits on the amount of government payments to any one farmer. Furthermore, the higher the price supports, the greater the production restrictions required if large government stocks are to be avoided.

#### Summary

This history of selected highlights indicates the relationship between these broad policies and the general circumstances prevailing at the time. In the first phase of development, policies emphasized the creation of opportunities on the land. Given the large land mass and open spaces, procedures were required whereby people could gain access to and secure rights on the land. But the opportunities thus created were of a subsistence nature; the next phase of policy concentrated on services to transform these raw opportunities into commercially viable occupations -- transport systems, markets, research and education, and credit occupied the center of the stage. Finally, as productivity increased and as agriculture changed from self-sufficiency to a commercialized sector increasingly integrated and interdependent with industrial sectors often characterized by concentrations of economic power, policy emphasis shifted again and focused on the level of return to agricultural producers and the governmental regulation and control of market forces needed to achieve these ends. In each phase, direct action by farm people through their organizations provided an important thrust for the enactment of new policy.

The latter phase of government policies is relatively recent -- a phenomenon of the past 50 years. The most rapid structural changes in U.S. agriculture occurred during this period. And while our emphasis thus far has been on farm policies (policies directed toward producers of farm commodities), concerns over the past three decades have included the non-farm rural population and special rural development programs have been mounted. This more inclusive emphasis was at least in part the result of the rapid and fundamental changes that occurred in agriculture since the 1930s. As noted earlier, the farm population, the number of farms, and the cropland acreage harvested peaked in the mid-1930s. Currently, the farm population is under 25 percent and farms number under 40 percent of their peak number reached in the 1930s. Such reductions imply very rapid changes in the structure of U.S. agriculture over the past five decades. How were these changes brought about and why? Are similar transformations likely in today's developing countries?

#### U.S. AGRICULTURAL TRANSFORMATION: THE PAST FORTY YEARS\*

In agriculture there are two major sources or types of economies of scale. One is on-farm mechanization, farm enlargement and labor displacement. The other occurs as functions are shifted from the farm to the industrial or "agri-business" sector. Both of these sources of scale economies were of key significance in U.S. agriculture. These processes have been occurring since the beginning phases of commercialization and became increasingly important after the Civil War in the 1860s. But on-farm mechanization accelerated

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\* This section draws on my earlier publication "Transformation of U.S. Agriculture: The Past Forty Years," Department of Agricultural Economics Staff Paper No. 126, June 1977, University of Wisconsin-Madison.

substantially within the past 40 years. In many parts of the world today agricultural development must find ways of employing more labor -- not less. Thus, indiscriminate on-farm mechanization can be potentially damaging. Labor displacement through mechanization may not be an economy of scale for society, even though it may be such for larger landowners whose private calculations do not reflect the costs and/or benefits to society at large.

Shifting functions from the farm will be of significance in all countries as agriculture develops and becomes more commercialized. Different production processes reach their most efficient size (or scale) of operations at different levels of output. Efficient use of land, labor and capital in farm production can generally be achieved on relatively small sized farms. On the other hand, efficiency in the use of production factors in wheat or rice milling, cheese making, livestock slaughter and meat processing, the canning of fruits and vegetables, the fabrication of textiles, the manufacture of fertilizers, tractors and trucks, etc. -- all require a larger volume of business than could be provided efficiently by one large farm. In other words, a farm's production would have to grow beyond its most efficient scale and would, therefore, result in diseconomies and inefficiencies before other processes would have approached the scale of operations at which they can be performed efficiently. Thus in U.S. agriculture most of the input production and supply functions, and the output processing and distribution functions (as well as finance, insurance, research, education, etc.) have been separated from basic on-farm production. The following discussion, however, will focus on the scale economies inherent in mechanization and on-farm production.

A point to remember is that U.S. agriculture developed under conditions of plentiful land and a scarcity of labor. Thus the emphasis since the beginning of the nineteenth century has been on output and efficiency per person rather than per acre. To be sure, some people were concerned with improving livestock breeds, improved soil treatment, better plant varieties, etc. But the major concern was to extend the capacity of labor through mechanical devices and improved tools and equipment.

Our green revolution came very recently. Hybrid corn was introduced in the late 1920s, but the major use of commercial fertilizers, and later, weed-and-insect-control chemicals, did not occur on a massive scale until after World War II. Thus, the sharp yield increases based on biological-chemical technology came after 1950. But this technology alone would not have had much of an impact on farm size and population structure. The change in structure was brought about largely by the tractor and related mechanization. The shift from oxen to horses in the nineteenth century, and the horse-drawn implements and equipment that were developed throughout that period, did improve labor efficiency and output per worker. But essentially it meant doing a better job tilling the land or perhaps clearing and putting more land under cultivation within the 80- or 160-acre family farm unit rather than expanding the basic size of the farm. Tractor mechanization and the later development of ever larger power units as well as tillage and harvesting equipment required an expansion of farm size in order to utilize the machinery efficiently.

In the United States, as in countries around the world, land-saving technology (biological-chemical) was essentially

neutral to scale or size. There is nothing mysterious or complex about this. Seeds, fertilizers, insecticides, etc. are perfectly divisible inputs and can be applied with equal efficiency on small farms. Water for irrigation may involve some scale economies, but these can be captured through water user associations, cooperatively owned tube-wells, etc. Likewise, of course, machines can be small, or machine services can be rented, or machines can be jointly owned. In this way, machine services too can be made divisible. But the basic factor endowments in U.S. agriculture with plentiful land and scarce labor did not encourage the latter type of development.

In the early years of mechanization, joint ownership of certain machines was quite common. But this did not generally include the tractor or the basic tillage machines and implements. Machines that were used only a few days during the year and where timeliness of operation (in relation to weather and season) was not crucial -- these were generally prospects for joint ownership. The joint ownership by 6-10 farmers of a grain threshing machine was quite common, at least in the Midwest, until the 1940s. Until that time, many farmers hauled their unthreshed grain (in bundles) and stored it at the farmstead, either in relatively weather-proof stacks or in the large lofts above the livestock stables. In either case, the crop was protected and the concern with losing the crop due to a prolonged period of rainy weather was removed. The threshing machine could then be moved from farm to farm, and there were few conflicts over whose grain was to be threshed first and whose was to be threshed last. But with the shortage of farm labor brought about by World War II, farmers switched increasingly to threshing directly from the

field. Now timeliness became critical and conflicts arose among the cooperators of a threshing ring. Everyone wanted to be first to avoid losses should the weather turn bad. So most of the sharing and joint ownership of machines disappeared by the late 1940s.

During the prosperous years of World War II, farmers had accumulated savings, and later credit became more readily available. The machinery companies shifted from war-time production to domestic production, and new and bigger farm machines (tractors and accompanying equipment) were placed on the market. Thus, in the 1950s, there was a major wave of new farm mechanization. From one-fifth to almost two-thirds of the farms sold in the late 1950s, depending upon type of farming, were purchased by adjoining farmers to enlarge their farms in order to achieve the economies of scale associated with the new machines.

How did the small farms (e.g., 80-acre farms) that continued operation during this period make out financially? Actually, they continued to do quite well in comparison to all farms on the basis of output per acre. In the late 1950s, an analysis of records from a large number of Wisconsin farms showed that the smaller farms produced about the same (or even slightly higher) yields for the major Wisconsin crops than did the larger farms. But output per worker increased much more rapidly on the larger farms. With increased mechanization and farm-size expansion, the difference in output per worker between larger and smaller farms grew wider. To own the machines, and/or to get bigger machines, a farmer had to expand. Farmers who expanded their land base received higher incomes -- as a general rule. Although their costs increased also, the returns increased faster than costs -- always, however, with

the requirement of an expanded land base, otherwise scale economies were not realized and costs went up faster than returns. Realization of these economies was dependent upon farm-size expansion and labor displacement.

Small farmers could survive and stay in business throughout this period -- and some did. But they had to settle for less income. They fell behind farmers who were expanding their size of operations and even farther behind people in urban occupations. However, one must differentiate here between a small farmer who was established before 1940 and one who tried to get established in the 1950s. Throughout this period land values and land taxes were increasing at a fairly rapid rate. Thus a farmer who got established in 1940 and who had his mortgage paid off by 1960 or before could continue operations, even though at a reduced return. But a young family purchasing a farm at the higher land values of 1950 (given the subsequent unfavorable cost/price relations in farming) would find it very difficult to pay off the higher mortgage payments, the higher taxes, and at the same time provide the increasing income needed for a growing family. The late 1940s was the turning point.

Small farms transferred before 1945 could survive through the 1950s and 1960s, but those transferred later were likely to experience financial difficulties and these farms were again sold and usually combined with a neighboring farm. Small farm is not a precise term. Even specifying acreage is imprecise since the significant measure is size of business rather than acreage. In the dairy areas of Wisconsin and neighboring states, it was generally the 80-acre farm that was at the margin of being economically viable in the late 1940s. In cash-grain (corn-soybeans) farming areas, it was perhaps the 160-acre farm,

and in the more arid wheat producing areas, the 320-acre farm. In fact, of course, farm enlargement in the latter areas occurred somewhat earlier and was more pronounced than it was in the dairy areas.

In many cases, the sale of small farms destined for combination represented older farm operators selling farms at retirement. In some cases, however, technological developments in effect drove the small farmer out of business or required that he change his type of farming. One such case involved small dairy farmers; but the more dramatic case is that of the mechanical cotton picker and the displacement of Southern sharecroppers.

In Wisconsin dairying, a major technological innovation occurred in the 1950s which made it difficult for small farmers to remain in dairying. Until about 1950, farmers used 10-gallon milk cans which were kept in a cooling tank. The cans were picked up by a private trucker each morning and delivered to a processing plant. But beginning with the early 1950s, the cans were replaced by the refrigerated bulk tank installed in a special milk-house adjacent to the dairy barn. This was accompanied, or soon followed, by the pipeline milking system in which the milk was pumped directly from the milking machine into this bulk tank. Now each morning, or in some cases on alternate mornings, the milk was picked up by a tank truck. It soon became almost impossible for a dairy farmer to stay in business without all this new equipment. This involved a major investment and required a larger dairy herd than many farmers had at the time. One alternative was to produce milk for delivery to small local cheese factories, but these were also under economic pressure,

and were being consolidated. So this new technology created major pressures for farm-size expansion in Wisconsin dairying.

The mechanical cotton picker in the South had a profound effect on farming structures and employment. As noted in an earlier section of this paper, Southern plantation agriculture was transformed after the Civil War, not into a system of small owner-operators, but into a system of sharecroppers. These sharecroppers, many of them Black Americans, held very insecure tenure rights to the land and could easily be displaced. The shift away from mules to tractors as the major source of power resulted in a decline in the sharecropping system with reliance on wage labor supplied by resident, former sharecropper families, or by workers living in the neighboring villages and countryside. There was a further decline in sharecropping and in overall labor use as a result of greater mechanization of pre-harvest cotton operations and the use of chemical weed control. In addition to the mechanization of pre-harvest operations in cotton, other enterprises were also becoming increasingly mechanized: corn harvesting; combining oats and soybeans; hay balers; and the like. But although cotton was of key significance, all this mechanization did not affect the unskilled labor required for the cotton harvest. In fact, seasonal harvest labor per acre of cotton increased due to increasing yields. With the introduction of the mechanized cotton picker in the 1940s, however, the demand for unskilled labor practically disappeared while that for skilled labor increased. The average unskilled labor input per hundred-weight of cotton was 33.5 hours in 1940 and dropped to 11.5 hours by 1950, and to 2.4 hours in 1957. In the same period input of skilled labor increased eight times (.32 hours in 1940 to 2.50 in 1957). In the first stage of mechanization sharecroppers

were being replaced but they remained an employment opportunity (even though at very low pay) in the cotton harvest. In the final stages of mechanization (which included the mechanical cotton picker), this opportunity disappeared and led to a massive out-migration of often poorly educated people seeking employment in the industrial centers -- especially in the large cities of the North (Day 1967).

Aside from a few such dramatic cases, which were, of course, extremely costly and disruptive to the people involved, farmers did have a choice. They could continue without farm-size expansion if they were willing to accept declining relative incomes. The only way farmers could keep up with family income growth in non-farm occupations was to buy the machines and expand their land base. And this could be done only by combining farms and displacing labor.

But there was another factor which weighed heavily on the minds of operators of family-owned farms. Most every farmer and his wife wanted to see the farm kept in the family. Before the 1940s this was not a major problem. The young people (son and wife or daughter and husband) who got the home farm considered themselves favored and fortunate. The problem was not to persuade one of the children to take over the farm; rather, the problem was to figure out how to establish the others -- since farms were generally not subdivided to provide for all the children. The farm ordinarily passed to the next generation as a unit. All children usually shared in the will of the parents, but this sharing was commonly achieved by means of an estate which included payment for the farm by the child who was fortunate enough to become the new operator.

Again, however, things changed after 1940. Farm children were no longer isolated from urban society. Farm electrification gave access to radio and television. Many farm boys were involved in World War II. Most farm children had access to and attended high school after 1940, whereas many did not before. And after World War II, jobs in the city were relatively plentiful. So the young men and women on the farm would not stay home if it meant falling behind in income, and sacrificing the amenities which they knew urban life might offer. So if a farmer did not expand his operations and buy the machines, he fell behind in income and his children all left the farm and took city jobs.

The change in the structure of opportunities is well illustrated by two studies of family farming in Wisconsin. A study in the 1940s documented the relation between the size of the farm business and the life cycle of the farm family (Long and Parsons 1950). This study showed that a Wisconsin dairy farm was a business closely associated with the physical capacity of the farm operator and his family. A young family would build up its business (measured in terms of the number of milking cows) until the farmer reached about the age of 50. At about that time, there were two possibilities. If a son was available to "work his way into the business," the dairy herd was maintained at the peak size and the son would take over the business when the father reached the age of 60-65. In those cases where no sons were available, the herd size declined after the father reached the age of about 50, and he would sell the farm to a new beginning farmer when he reached the age of 60-65. The new family would simply start the cycle over again. In the former case, the increased labor (and strength) supplied by the son came at an appropriate time to offset the declining physical capacity of the father. In the latter case, where

there were no sons available, the waning capacity of the aging farmer meant a decline in the size of business.

A similar study in the 1960s illustrates well the fundamental changes that had occurred. The life-cycle phenomenon and its relation to business size was still evident and pronounced. However, the timing and implications had changed. In this latter period, even farmers without sons at home were able to maintain the size of their business (i.e., the number of milking cows) until they were about 60 years old. The machine technology had reduced the dependence on hard, physical labor. Farm wives had become more important in the farm labor force. Furthermore, it is likely that farm people were healthier and in better physical condition than a generation earlier. Other factors contributed to this greater capacity. Farmers were more knowledgeable about production practices. With the consequent reduction in risks, greater specialization was possible and secondary enterprises could be eliminated. Greater availability of custom hire of machines was also a factor in some cases. Finally, farmers had achieved coverage under the Social Security system in the 1950s and were thus less dependent on their children for care and support in old age. So the parents, by this time, had achieved greater independence from their children (Dorner and Sandretto 1963; Dorner and Weisblat 1963; Dorner and Hock 1965).

Yet, as noted above, the children had also achieved much greater independence from their parents. So what the study of the 1960s showed very clearly was that if a farmer was to interest a son in taking over the farm business, he had to expand operations by the time he reached the age of 50 (more or less). Even though his own increased capacities would permit him to run the business at peak performance ten years longer than his father had, he still had to expand and enlarge and mechanize

further in order to provide enough volume to sustain both himself and his wife and a new (son's or daughter's) family at a constantly rising level of living.

And the last point introduces still another complication. Throughout the 1940s, farm prices were relatively high. Thus a small farmer got a substantial boost (certainly relative to the depressed prices of the 1930s) in his farm income from the higher prices even with volume of output remaining constant. But after the first few years of the 1950s, or more precisely, after the Korean War, farm prices fell. They continued to fall, relative to the prices farmers had to pay for production goods, throughout the 1960s and the early 1970s. This can be seen by noting the changes in the Parity Ratio over these years. The Parity Ratio is a ratio of two indices: Index of Prices Received by Farmers divided by the Index of Prices Paid by Farmers (including in the latter interest, taxes, and wages) both on a base of 1910-14 = 100.\* During the 1940s, this Parity Ratio averaged 107.4; it fell to an average of 91.7 during the 1950s; fell further to an average of 81.5 during the 1960s; and averaged only 76.7 during the first three years of the 1970s (Economic Report of the President 1973). Thus the terms of trade were shifting against farmers through the period following

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\* This ratio is then multiplied by 100 and expressed as the percentage that farm prices are of parity. Over the past thirty years, there have been a number of modifications in the formula, especially concerning the base period. These complications do not alter the conclusions presented.

the prosperous 1940s.\*

The only way to maintain the farm family's income was to expand volume of production and to increase efficiency (i.e., lower cost per unit of output). But maintaining income was hardly sufficient. Average farm family incomes had always been considerably lower than urban family incomes, and urban family incomes were rising quite sharply throughout this period. Thus farmers were under pressure from a variety of sources: from the machinery companies introducing and trying to sell new and bigger machines; from a cost-price squeeze; from the prospect of income decline relative to urban workers and other farmers who were mechanizing; and finally, from their own hopes and desires to keep the farm in the family.

So to repeat and to emphasize, the economies of scale in U.S. agriculture were and are associated with the machines, especially the machines introduced after 1940 and particularly after World War II. This mechanization made sense under conditions of relatively scarce labor and abundant land. And, in fact, it did not always make sense in all parts of the country since the mechanization came very fast and the movement of people from the farms was overly rapid -- especially in cases such as the rapid adoption of the mechanical cotton picker and the displacement of sharecroppers who were not well prepared for the employment opportunities that were available in the cities.

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\* The Parity Ratio did rise to over 100 in mid-1973, but again declined after a brief period of high prices in the mid-1970s. As of November 1978, this ratio was 70 (USDA Agricultural Prices, Nov. 1978).

SPECIAL PROBLEMS AND NEW PROGRAMS  
RESULTING FROM THE AGRICULTURAL TRANSFORMATION

The production performance record of agriculture in the U.S. economy is a highly successful one. That performance has been significantly influenced by private developments in the industrial sector. From the early mechanical inventions to the technological revolution of recent decades, the industrial sector, with strategic support from public investments in research and education, played a significant role. In the course of its development, agriculture became increasingly dependent on off-the-farm factors -- modern capital inputs, research, extension, communication and transportation facilities, markets, credit, and legal and social services.

A notable feature of U.S. agricultural development has been the general lack of comprehensive public planning. There have been no five-year plans or production targets. Yet agriculture has contributed impressively to capital formation and to the economic development of the non-agricultural sector. In recent decades, the U.S. Department of Agriculture has performed a basic production planning function for the agricultural sector through the administration of the price support and production adjustment programs. But primary reliance is placed on income inducements to elicit the voluntary participation of millions of farmers.

Despite the good production performance achieved, many problems have emerged from the transformation of U.S. agriculture and the concomitant development of a predominantly urban-industrial society. These problems can be divided into those facing the commercial farming sector such as high capital requirements, and those associated with the continuing agricultural transformation such as underemployment and poverty. The problems in these two

areas are, of course, interrelated.

#### Commercial Farm Problems

One result of the rapid transformation of U.S. agriculture has been increasingly large capital requirements for an efficient farming unit. The capital investments for an efficient family-sized unit, although varying by type of farming, now range from \$250,000 to \$400,000 and more. This creates especially acute problems for young people trying to get a start in farming. Many farms are transferred within the family, in which case special financial arrangements may be worked out between the parents and the children -- full market value may not be applied to the land, interest rates may be lower than going market rates, an allowance may be made for the years of underpaid labor provided by the children, etc. Some young people start by renting all or some of the land for a number of years and purchasing later. But in most cases very substantial borrowing is involved and heavy debt burdens are assumed by beginning farmers. Federal legislation has been proposed to provide special financing for beginning farmers, but thus far has not been enacted. The Farmers Home Administration, given its expanded functions since the 1960s, has not had sufficient funds or personnel to meet these needs. Several states have passed legislation setting up special state funds to assist young, beginning farmers.

There is growing concern over the movement into farming by large corporations. Such large corporations are heavily involved in the production of such commodities as fruit and nuts, broilers, some vegetables, sugarcane, and a few others. In the mid-1970s, the business receipts of corporations whose major income was from farming were around 20 percent of total U.S. farm product sales. However, this tends to overstate the case since most of the farm sales by corporations were made by relatively small corporations with less than ten stockholders. Changes in the

income tax laws in the late 1950s permitted farm corporations with ten or fewer (fifteen under the 1976 Tax Reform Act) stockholders to be treated as partnerships for federal tax purposes. If the income is passed directly to the owners who pay the income taxes, no corporate tax is paid. For a number of reasons, including farm transfers within families which may be facilitated by incorporation, many farm families have incorporated their farming operations under these provisions. Thus, according to the most recent estimates, agricultural corporations with more than ten stockholders produced only 5.3 percent of total U.S. farm sales (Edmondson and Krause 1978).

Nevertheless, the issue of increasing corporate control over land and farming operations (either directly or indirectly through vertical integration) is of increasing concern. There is no special federal legislation on this matter, but as of 1977, ten states had legislation providing restrictions on corporate farming and several others required annual reporting by corporations engaged in farming. Seven additional states had legislation pending (Edmondson and Krause 1978).

Another issue that continues to plague the commercial farming sector is the threat of "over production" and declining prices for farm products while the costs of land, taxes, interest and non-farm inputs increase. Despite the high prices of the mid-1970s and continuing record-breaking exports of farm commodities, farmers continue to be caught in a cost-price squeeze. In times of high crop prices this affects the livestock producers; as of this writing (February 1979) it is the grain producers who feel threatened by declining prices for their products. In the mid-1970s land withdrawal programs were terminated and farmers were

encouraged to put all their land into production. But in recent years there has been a return to acreage withdrawal programs.

Despite strong farmer organizations and the substantial political power wielded by farmers, especially until very recent times, farmers have lacked bargaining power in the market place relative to that exercised by industry and labor. The economic power that farmers have achieved in the market has come primarily through governmental assistance -- commodity loans, withholding surpluses from the market, marketing orders for milk and fresh fruits and vegetables, and other actions. Farmer cooperative organizations have exerted the greatest bargaining influence in commodity lines -- especially milk -- in which marketing is regulated under federal or state marketing orders. But farmers, through their organizations and with the help of sympathetic members of Congress, continue to press for a greater voice in the determination of farm prices in the market place. Major breakthroughs in this area have not yet occurred. Given the tremendous productive capacity, the wide geographic dispersion of production of most farm commodities, the difficulties of withholding perishable commodities from the market, and the conflicting regional interests, farmers continue to be more dependent on federal farm policies than on their own collective bargaining in the market.

A regional land reform issue concerning U.S. commercial agriculture concerns farmers on lands in the Western states receiving irrigation water from federal projects. The Reclamation Act of 1902 established limitations on the amount of land under one ownership eligible to receive irrigation water from a federal reclamation project. The intent of the Act was to distribute the water to small family farms. An individual

owner, living on or near his land, could receive project water on 160 acres. The limitation was on land eligible to receive irrigation water, not on land owned (USDA Country Review Paper, 1979).

In the intervening seventy-five years, circumstances and administrative rules obscured both the area eligible to receive water and the residency requirements, especially in the Imperial Valley of California. A 1977 court ruling, however, held that both requirements were valid and directed the responsible federal agency to comply with the Reclamation Act on irrigation projects under its control. Owners of excess land served by federal water have been ordered to divest themselves of such land if it is to continue to receive project water. Estimates are that from one-half to one million acres are affected by the proposed rules (USDA Country Review Paper, 1979). The issue is not yet settled, and powerful interests (including, in this area, several large corporations engaged in intensive vegetable production) are involved in trying to get the rules changed in their favor.

Finally, an issue that is of increasing concern and significance is the rising cost of energy and the energy-intensive nature of the U.S. food system. The agricultural sector uses about twenty-two percent of the total energy used in the U.S.; 16.5 percent of the U.S. total is used by the food system. However, only about 3 percent of total U.S. energy consumption is used directly in farm production and the manufacture of inputs produced in the industrial sector. The largest energy users in the U.S. food system are processing and home preparation of food (USDA Handbook of Agricultural Charts, 1977). Efforts to conserve energy and to shift to other sources (wind, biomass,

solar -- especially for crop drying) are underway, but achieving significant changes will take many years. Various experimental and educational programs are being undertaken by the individual states. But in this area much will depend on the effectiveness of national energy conservation and development policies.

#### Poverty and Related Problems

Poverty is defined in relation to an income standard which takes into account family size, composition, sex and age of family head, and place of residence.\* Families or unrelated individuals are classified as being poor if their income falls below the cost of a minimum consumption standard. The poverty "threshold" is updated every year to reflect changes in average income growth and the Consumer Price Index. The largest numbers of poor currently reside inside the metropolitan areas; however, more than one-third live in non-metropolitan areas.

The poverty rate is much higher for Black Americans and some other minorities than for White Americans. The poverty rate declined substantially from 1959 to 1969, as did the number of poor persons. But between 1969 and 1976 both the size of the poverty population and the poverty rate fluctuated but showed little cumulative change (the latter year was, however, one of economic recession). For the total population, the proportion of people in poverty in 1959 was 22.4 percent; this declined to 12.1 percent in 1969 and to 11.8 percent in 1976. The poverty rate for White Americans over this period (for the three respective years) was 18.1 percent, 9.5 percent, and 9.1 percent; and for Black Americans 55.1 percent, 32.2 percent, and 31.1 percent (Current Population Reports No. 115, 1976).

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\* In 1977, the poverty threshold for a nonfarm family of four was \$6191 (Current Population Reports No. 116, 1978, p. 29).

The underlying causes of rural poverty and the inter-relations between the agricultural transformation and the problems in many of the large cities are most complex. Although the latter issue will not be discussed here, the rapid adoption of labor-saving technology and the massive displacement of people from farm employment obviously intensified the problems of poverty in the cities. In addressing the issues of rural poverty, we are dealing with a much larger population than that actually on farms. While the farm population is under four percent of the U.S. total, the population classified by the census as rural constitutes about 26 percent.

Many of the rural poor live in small towns and villages or in the open country but are not employed on a farm. People who were and continue to be adversely affected by the agricultural transformation are those who remain on farms but are unable to adjust to the new technological requirements, and those who leave the farm but are ill-prepared to move into well paying jobs in the industrial sector. In part, these adjustment problems are associated with the lower levels of formal education among farm people. Despite the attention given to rural education throughout our history, educational levels to this day remain somewhat lower in rural than in urban areas throughout the country.

The educational disadvantage is most pronounced for Blacks and other minorities. In the past, this disadvantage has been especially prominent for both white and black people living in the South. The situation in the South is also related to the land tenure system. Had a system of family owned and operated farms emerged after the Civil War, rather than the sharecropping

arrangements which retained the political and economic power concentrations of the old plantation system, the operating farmers, both black and white, would have had control over taxation and local investments in schools and other required infrastructure. Farmers and laborers released from such a family farm system, as demonstrated in some other regions, might well have been more adequately prepared for urban life.

Relative to the 1920s and 1930s, higher skill levels are now required in most employment. Today there are far fewer rungs on the ladder of economic opportunity within reach of those lacking education and specialized training than in the earlier decades of this century. Many of the people who have been pushed and/or pulled out of farming face a labor market demanding skills they do not possess. Thus the poverty problem, both rural and urban, would be less acute if rural migrants had been better trained, and if the agricultural sector had not released so many unskilled workers who could not meet the skill requirements at the particular technological stage of development that industry was passing through.

Within the farm population, poverty is concentrated among two groups. A substantial number of operators of small farms are poor. However, not all families living on small farms are poor. Some of these families are in semi-retirement, others have good paying non-farm jobs. But most of the remaining farm poverty is concentrated among families on these small farms. Hired farm workers, on the average, are also likely to be poor. In 1976, 676,000 farm workers whose primary employment status was hired farm work averaged 230 days of work. Total wages per worker averaged \$4988 for the year, of which \$4783 was from farm work (the remainder was from non-farm work). The hired farm work force represents a disproportionate number

from minority populations. In 1976, 60 percent of the farm workers were White, 21.4 percent Hispanic, and 18.9 percent Black. (This is in contrast to proportions in the total population: 86.7 percent White, 11.5 percent Black, and 5.3 percent Hispanic. The last category overlaps with the first resulting in a sum greater than 100 (USDA Hired Farm Work Force, 1978).

Regionally, the South has a higher proportion of the poverty population than other areas. In 1976, 30 percent of the people, but 41 percent of those in poverty, lived in the South (Current Population Reports No. 115, 1976). Outside the South, Indian reservations, especially in the Southwest and the Northern Plains, contain enclaves of rural poor, along with parts of New England and the Upper Great Lakes. Communities of rural poor Mexican-Americans live along the southern border (Brophy and Aberle, 1966; National Advisory Commission on Rural Poverty, 1967).

Several large geographic areas with substantial numbers of rural poor have always been marginal farming areas; among them are the hill and semi-mountainous areas of Appalachia and the Ozarks, and areas in the Northern Lakes States. In addition to small farm agriculture, people in these areas depended heavily on employment in mining and forestry. In the 1950s, the mining industry made a major shift to labor-saving technology; during this same period competitive forces in agriculture led to rapid farm enlargement. Thus in the decade 1950 to 1960, the Appalachian region had a 52 percent (334,900) drop in employment in agriculture, forestry, and fisheries, and a 59 percent (265,400) drop in employment in mining. Despite employment growth in manufacturing, construction, and trades and services, the area had 32,600 fewer employed in this five-industry grouping in 1960 than in 1950. The Ozark area ended the decade with

53,440 fewer jobs and the Northern Lake States with a decline of 30,779 (USDA Agricultural Economic Reports 69 (1965), 73 (1965), and 108 (1967).)

As a consequence of rapid labor displacement from agriculture, as well as from mining, large areas of the United States have had an absolute decline in population. Small rural towns have experienced the same squeeze as farmers on small farms. As population declines, it becomes more difficult and more expensive to maintain high quality public services and to support a desired variety of private retail trade and other local establishments. Between 1940 and 1960, more than 1,200 U.S. counties lost population. Approximately 80 percent (960 counties or almost one-third of the U.S. total) had no population center of over 5,000 persons in 1960. And between 1959 and 1964, in 1,315 non-metropolitan counties, private non-farm employment either declined or increased by less than 100 jobs (Economic Report of the President, 1968).

These problems are extremely complex and do not lend themselves to quick solutions. Most are not new, but they have all been greatly intensified by the revolutionary changes in agriculture over the past 40-50 years. Policy makers have come to recognize these problems as major issues in U.S. economic development. Within the past 20 years a key measure of progress has been the number of people lifted from the misfortune of being poor.

Yet this recognition was developed only gradually. Some specific efforts were made in the mid-1950s to aid small farmers. Likewise, Regional Commissions in some of the depressed areas were established to diagnose problems and provide funds and assistance to invigorate new developments in these areas. Then in the 1960s President Johnson inaugurated

a "War on Poverty" policy. And in 1972, a comprehensive Rural Development Act was passed by Congress. Among the various provisions, the Act expands the functions of the Farmers Home Administration to provide more equity capital for small farms, as well as for essential rural industrialization, job expansion and community facilities; it provides additional federal cost-sharing for water quality and provision of ample water for rural communities and industrial development; it helps to strengthen rural fire protection and fire suppression capability in rural areas; Title V of the Act provides additional financing for research and extension education related to non-farm rural development as well as for additional assistance to small farmers (USDA Country Review Paper, 1979).

The Comprehensive Employment and Training Act of 1973 provides funds earmarked for rural areas. The Act also provides specific programs for assistance to hired farm workers to improve their earning capacity in agriculture and to attain the skills necessary for moving to non-farm jobs at higher wages. A number of states have passed special laws providing for collective bargaining procedures for farm workers. The agricultural sector is still excluded from coverage under the National Labor Relations Act; thus, farm workers desiring specific protective legislation must achieve it at the state level.

Nutritional programs and other income transfer programs have been strengthened. In fiscal 1975, 19.2 million persons used food stamps, 42 percent more than the 13.5 million the previous year. Recipients paid \$2.9 billion and received food stamps worth \$7.3 billion, giving them a food buying subsidy of \$4.4 billion. Additional measures for rural development and the improvement of rural living include the provision of increased medical services, public transportation and other infrastructural

works, assistance for rural housing, etc. During fiscal 1975, more than \$2.2 billion in loans and grants were advanced by the Farmers Home Administration providing 102,516 home loans, two-thirds of which were to low-income families and 57 percent were subsidized through interest rates below prevailing market rates (USDA Country Review Paper, 1979).

In part because of these efforts over the past 20 years or more (and in part due to responses to other economic trends and forces in the general economy) there have been some significant changes.

There has been some decentralization of industry, and rather dramatic shifts in population. Over the past decade population growth in the non-metropolitan areas exceeded growth in metropolitan areas. This growth does not simply represent expansion and sprawl of existing metropolitan communities beyond existing boundaries and into adjacent metropolitan territory. Rather, unprecedented population growth is being witnessed in many rural counties far distant from major urbanized areas.

While this new pattern of population change is evident in most regions of the country, rates of population growth and net in-migration are especially high in several subregions. These areas correspond to some of the earlier most depressed areas; some also are noted for their outdoor recreational and scenic attributes. These subregions include parts of New England, the Ozarks, the Colorado Rockies, the Appalachian Mountain region, and the Upper Great Lakes Areas.

Although much remains to be done, some key problem areas that need to be addressed for achieving a more comprehensive rural development have been identified. Likewise, policies

and programs responsive to these needs are being implemented. And some significant progress has been made, despite the fact that many of the problems continue to persist. And perhaps most importantly, the policy conception of the causes and the remedies has been fundamentally altered. Greater attention is now being given to those tough questions of human development, income distribution, and the structure of economic and political power and opportunity.

#### Concluding Comments

The history of agricultural development in the United States is illustrative of some major successes intermingled with points of failure and continuing problems. The productivity of the U.S. system is undisputed. However, the very rapid transformation of the past forty to fifty years created adjustment problems for millions of people. In countries with factor endowments quite different from those existing in the U.S. (e.g., where capital is scarce and labor is in overabundant supply), such a transformation must take different forms and proceed at a slower rate since under such conditions a transformation similar to that which occurred in the U.S. could be disastrous.

But the fact that problems were created and that all have not been resolved should not prevent recognition of the significant achievements of this agricultural system. The U.S. farm population is only 3.6 percent of the total. Of 343 million acres harvested, 107 million, or 27 percent, are used for the production of exports. In 1975/76, the U.S. produced 246 million metric tons of grain, of which 79 million tons, or almost one-third were exported. This represents almost 75 percent of total world grain exports from

the major surplus-producing countries -- U.S., Canada and Australia (IFPRI 1977).

A highly productive agriculture in the U.S. has provided major benefits for the general U.S. economy and beyond. The rapid increases in resource productivity in agriculture served as a price stabilizing, deflationary force since World War II and until the strains placed on the grain markets in the early to mid-1970s. The agricultural sector currently is running a net positive foreign trade balance of \$10-12 billion -- a surplus helping to offset the growing trade deficit in the non-farm sector. The agricultural sector has also been a source of capital for development in the urban-industrial sector through terms of trade transfers and through the large educational and other investments made in human capital in the tens of millions of people released from the farm for urban employment. Furthermore, the agricultural sector absorbed a substantial share of the cost of social welfare by supporting a population in excess of that required to produce the nation's fiber and food. Finally, U.S. agriculture has provided a secure source of food for the world over the past 30 years. Are there any lessons to be gleaned from this experience that could be of importance to developing economies today -- other than the negative one implied above concerning the type and rate of transformation? It is widely acknowledged that the experience in one country cannot be directly transferred to another. Yet looking at such experience may help us to raise important new questions in another setting.

The sequence of major policies for the development of agriculture appears to be of major significance. The questions of land tenure -- providing secure opportunities on the land for a very large proportion of the farm population -- have to be resolved before other policies can have their full effect.

Transportation and the availability of markets, both internal and foreign, are key factors in providing farmers with the incentive to make improvements and adopt new techniques since it is only through markets that surplus production becomes valuable to producers. Research, extension and general education for the farm population -- all primarily public functions -- are key elements needed to build a progressive agriculture once a secure tenure system exists and markets are functioning reasonably well.

Close linkages between and among different units of government, private industry and individual farm families and their organizations are instrumental in fostering the increased interdependence of the agricultural and the industrial sectors -- an interdependence that is crucial for a highly productive agriculture whose inputs must come increasingly from the non-farm sector. Farm controlled cooperative marketing and credit organizations play a crucial role in the commercialization of agriculture. The government intervention and price policies to stabilize earnings and prevent wild fluctuations are significant once the farming sector becomes increasingly commercialized and interdependent with the non-farm sector. Finally, a fundamental lesson from this experience is that when employment and distribution are combined and closely linked with policies to promote output and productivity, the transformation to a commercialized system of agriculture provides major benefits to farmers and non-farmers alike. One qualification, however, must be kept in mind. Because of the resource endowments and the rapid growth in employment opportunities in U.S. development, growth and productivity were much more compatible with equity in distribution. Under current conditions in most of the

developing countries, much greater policy emphasis must be given specifically to promoting these latter goals since they are not as automatically linked to growth rates and productivity increases.

Most of the features discussed would appear to be needed in any progressive agriculture, irrespective of its form of organization. In the United States, these measures led to a highly productive and efficient agriculture in what continues to be essentially a system of family-operated and largely family-owned farms.

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WOMEN IN DEVELOPMENT

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## WOMEN IN DEVELOPMENT

OBJECTIVES AND STRATEGIES

Enhancing women's capacity to participate in the larger rural and urban economies as well as within the domestic household sphere has become an increasingly important focus for development planners. Recognition of women's substantial participation in the agricultural labor forces of Asia, Africa and Latin America grows as field studies are done, statistical reporting systems are revamped to note whether respondents are men or women, and qualitative evidence accumulates.

Making women full partners in development is consistent not only with oft-stated concerns for equity but with the tenets of economics as well. Underutilization or underemployment of half the potential labor force does not make economic sense, especially when increasing human productivity is a major objective of development efforts. In many parts of the world, women's responsibilities include growing, processing and storing the family food supply; building and/or repairing the shelter; providing clothing, rudimentary health care and the children's first education. Yet women's resource bases may shrink while their obligations grow--particularly in those regions where heavy out-migration of men leaves women, seasonally or sometimes for longer periods, as de facto heads of households. Their access to land, agricultural inputs and opportunities to participate in financially remunerative tasks (even if only to market their small surplus in the nearest town) often are further eroded as programs of mechanization, commercialization, and institutional and social change are designed and implemented.\*

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\* Boserup makes many arguments in this regard on an international basis. Staudt, Jelin, Mernissi, Salazar, Smock, and Elmendorf present evidence from several countries supporting the generalization.

While the development process is not inherently sex-biased, it appears that development programs and policies certainly may be (Boserup 1970, Clark 1975, Deere 1977, Staudt 1978). In spite of increased awareness of the negative impacts which development may have on women's abilities to fulfill their economic and social roles, there are many obstacles to designing specific programs for bringing about desirable outcomes and avoiding adverse effects. Simply knowing that concentration of land ownership will increase if farm mechanization is encouraged, for example, does not automatically mean that a land redistribution program or a prohibition on machinery imports will follow. The adverse impact of increasing inequity of land ownership may be seen as a necessary cost of achieving a desirable outcome such as increased production per unit of labor. Similarly, in order to address women's needs and potentials, competing interests must be satisfied, and practical problems of program design, execution and financing solved before "enhancing women's participation" can be translated from an objective to a development strategy.

This section sets forth some of the critical issues on women in development. The remainder of the discussion will be devoted to reviewing each of the conference agenda items with an eye to possible concrete strategies for incorporating women in every aspect of agrarian reform and rural development.

#### Women Agricultural Producers

Women in the rural areas are becoming "visible." It has been discovered that women's labor contributions to agriculture exceed those of men in many countries.\* Some-

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\* Clark, Deere, de Wilde, Spencer, Weil, and the U.N. ECA document a number of cases quantitatively.

times women also control the disposal of the products of their labor (Simmons 1976, Smock 1977, Weil 1973). Yet in many cases, women grow the low-value food crops destined for household consumption, while men control the return from high-value cash crops -- even though women may contribute large amounts of labor time to weeding, cultivating and harvesting the produce destined to be sold.\*

Agricultural statistics consistently undervalue women's agricultural labor -- both in terms of hours invested and economic return. By including women as "unpaid family workers," a zero valuation often is assigned to their time in the fields.

#### Off-farm Employment

Women increasingly are seeking earning opportunities off the farm in the rural areas, or in the nearby towns or the cities. Even the most hearty advocates for improving women's opportunities for wage employment recognize the thorny difficulties involved in creating full or part-time cash-earning opportunities. Low pay, unsafe and unsanitary work places, few promotion possibilities, job insecurity and exploitation in terms of wages and hours are characteristic of working conditions for both women and men in the developing world. Yet there is both historical and current evidence to indicate that women are found in greater proportions in the lowest-level, least well-paid jobs and that they have much less occupational mobility than do men.

In nonagricultural employment, for example, women are said to be particularly well-suited to the "feminine" detailed and repetitive work tasks of the textile and

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\* Van Allen's classic account of the Aba riots is amplified by reports from Deere, Okala and Mabey, and a host of other writers.

electronics industries, to the "traditionally female" food processing activities, or to the "role-compatible" handicraft or cottage industry production on a small scale (Dixon 1978, Elmendorf 1977, Lim 1979, Mernissi 1976, Salazar 1975). Such sex-stereotyping of jobs may increase the number of women's opportunities created at certain stages of industrial development, but it may also work to keep women out of potentially more rewarding jobs as industrialization proceeds (Chaney and Schmink 1976).

The informal sales and services sector jobs in many countries are open to wide participation of women (Arizpe 1977, Boserup 1970, Leis 1974, Smock 1977). The power and high profit margins of rich West African women traders are renowned, but even here studies indicate that women's opportunities in this area have an upper limit (Mintz 1971, Robertson 1975-76). There are, moreover, probably thousands of women engaging in petty or small scale retail trade who receive a minimal return for long hours spent on a sidewalk or in a crowded market stall for every one who has "made it big." And the services that many women provide are the most menial and low-paid that any society offers - domestic work - without job security or possibilities for advancement (Arizpe 1977, Bryant n.d., Chaney 1977, Salazar 1975). Yet insofar as women's access to more or better agricultural and industrial jobs is limited, these sales and service sectors will be expected to provide increasing opportunities for women.

So far as specific strategies are concerned, no strict guidelines can be applied and guaranteed to promote, or at least not to inhibit, the achievement of women in develop-

ment objectives in a given country. The issues which might be relevant to developing such strategies or considering whether they are explicitly needed are, therefore, often posed here as questions. References to research are cited to indicate the evidence leading to the questions and, in some cases, as sources for speculative answers in given situations.

ACCESS TO LAND AND WATER

The productivity of both men and women farmers depends to a major extent on their access to land and water resources. Women, like men, cultivate land in a variety of institutional arrangements -- as landless laborers, as tenants, and as owner/operators -- and in some cases they even act as landlords. Legal rights, either "traditional" or established through a written modern legal code, condition women's status and determine whether or not women may own land as individuals. Social and cultural traditions often lead to different patterns of ownership and cultivation for men and women. Women's obligations to provide food for the household in the Gambia, for example, result in women controlling the flood-irrigated land next to the river for production of the staple rice. Men grow cash and supplementary food crops on rain-fed upland as well. A project intended to raise productivity in agriculture would have to recognize the resources currently allocated to members of each sex; for example, a suggestion to facilitate women's cultivation of rain-fed uplands or to involve men in irrigated crop production could be expected to encounter resistance since traditional land use rights would have to be changed drastically.

In many developing countries, women's access to land for farming is contingent upon their husband's, father's, or other male kin's access to land. Women generally cultivate land identified as "belonging to" related men. Women may, in fact, carry out all decision-making as well as physical work tasks on this land and control the disposition of the product or they may, as many of the statistics on farm

management indicate, simply furnish "unpaid family labor."

Where women clearly have use rights, but do not have legally recognized ownership and inheritance rights, it may be helpful, in considering the need for or the dimensions of a possible land reform, to think of women as "tenants" on their men's land. In this light, a woman's tenancy security and sharecropping rates would be considered in relation to production incentives and her willingness to make permanent investments in the land. A woman working a husband's land in a society where marriage can be broken relatively easily might be less secure than, for example, a woman who "rents" land from a brother or natal kin group member. Similarly, a woman who has no control over the product of the land would have less incentive to increase her labor and enhance her productivity through improved farming methods and inputs if her allocated share of the output would not increase. The possibility that a husband may take a second wife and then reduce the first wife's land (Correze 1976, Curley 1973) may also be a deterrent to a woman's investing a great deal of capital or labor in making permanent improvements on land allocated to her. If insecure tenancy is recognized as a deterrent to tenant cultivator incentive and thus to increased productivity among male cultivators, then to the extent that women are also in the position of insecure tenants, their incentives and productivity may also be constrained.

In order to determine whether women's access to land and water resources in any given situation is sufficient to enhance their participation and productivity in agriculture, several different aspects of the current situation can be examined as a first step. Only then will reasonable and

feasible measures to enhance women's productivity through increased access be devised.

1. Do women have legal rights to own and inherit land as individuals?

The incentives for increased production which are assumed to apply to male owner/operators could also be assumed to apply to women. To make an analogy with the appropriation of surplus, several observers have noted a decrease in women's productivity when men, through membership in cooperatives, control the fruits of women's labor marketed through those institutions (Apthorpe 1971, Hanger and Moris 1973).

2. Does a redistribution of land in a proposed land reform take into account women's traditional access to land as well as their access in the modern legal code?

This may be especially important to consider when a reform facilitating a transition from traditional to modern tenure forms is involved. If in theory "all citizens" may secure title to land under a modern legal code, but if in traditional practice women only secure land use rights through male relatives, it is likely that women will not interpret "all citizens" to include them. Their participation may not be enhanced as envisioned by the reform designers. Even in a matrilineal area where a settlement scheme was created, patrilineal land rights were introduced (Brain 1976).

3. In more general terms, are there grounds for women participating in land redistribution schemes in their own right? Two specific possibilities might be considered:

(1) Where women are members of household units with no active male members, can these women get access and/or title to land and water rights?

(2) Where women participate in household production units which also contain active male members, will women's productivity be increased if they also have legal access to land in their own right?

4. Under what conditions does the introduction of cash crops spur competition for the land used for food crops?

In many countries, production of cash crops is the province of men while women concentrate on food crops. By developing cash crop opportunities, women's access to quality land for food crop production may be restricted with a consequent drop in food crop cultivation seen.

5. A related question on current status may be posed from a slightly different perspective: What proportion of good agricultural land is held or controlled by women? Are they consigned to marginal land, i.e., characterized by rockiness, or hillsides or slopes, with poor access to water, at long distance from home, or conversely, confined to the worn out soils near home? Are women poor farmers because they have poor resources?

6. Do cultural taboos work to deny women access to land and water? Or do the stereotypes of "weakness" and sexual "vulnerability" prevent women from participating in certain agricultural tasks, thus limiting their productivity?

A study in Peru notes that women are not allowed, for cultural reasons attributed to their sex, to open the main sluice gates for irrigation. Nor can they go out if irrigation takes place at night because of cultural perceptions that being abroad at night is "dangerous." This limits their abilities to adopt irrigated agriculture techniques independently and their access to irrigated land. The same study in Peru also shows that women are not allowed to touch the plow for reasons of sex in certain regions (Bourque and Warren 1976). In some areas of China, a country which has stressed the integration of women in agricultural production, menstruating women are not allowed to work in fields, reducing their total number of work days as well as rewards in the form of work points (Diamond 1975).

7. Do women's competing demands for time bar them from effective access to use or ownership rights in land and water resources?

Women in most developing countries have many domestic tasks in addition to any remunerative tasks outside of the home which they may undertake. In some cases, a considerable amount of time is often needed to

complete land registration -- time to go to the provincial capital to see people, to fill out papers, and to secure necessary documents. Men spend many fewer hours on domestic tasks and are thus able to afford to take the time needed to acquire land rights. In a situation of land scarcity, women may be confined to tenant or landless cultivator status even though they in theory have equal access.

### AGRICULTURAL INPUTS, CREDIT, AND SERVICES

In more subsistence-oriented societies, women play an active role in agricultural production that is equal to or greater than that of men (Boserup 1970, Martin and Voorhies 1975, Mynttie 1978, Spencer 1976, Whyte 1978). According to U.N. estimates, women undertake a major part of cultivation in over half of all societies, and an equal part in a quarter of those societies. In India it is estimated that female labor accounts for a fifth of family labor and a third of agricultural labor, though case studies suggest women contribute not less than half of all labor (Ashby 1979). Women tend to plant, weed, harvest, store, and process crops, while men clear land, as well as plow.

The commercialization of agrarian societies, concentration of land ownership (and concomitant scarcity of land), and extension of agricultural information and support services appear to be associated with a marginalization of women's agricultural roles (Boserup 1970, Garrett 1976, Hull 1976, Staudt 1975-76). Moreover, there appears to be an inverse relationship between rising economic status and women's contribution to household maintenance (Deere 1977, Stoler 1977). Men increasingly take responsibility for growing cash crops, which has, in densely settled areas, intruded on scarce land available for food production. In some areas, this has adversely affected family food consumption (Correze 1976, Nash 1970, Rubbo 1974, Stavrakis and Marshall 1978). In many parts of Africa, commercialization has also drawn men away from agricultural areas, thus increasing women's work responsibilities as they take on what were formerly men's tasks.

#### Women's Limited Access

As growing documentation demonstrates, rural development

planners and staff neglect not only the economically disadvantaged and politically less powerful segments of rural society, but most women as well. Male preference in institutional support to farmers, such as in extension, credit, and cooperative membership, reduces women's access to such support. This may have an adverse impact on female heads of households and on women living in disadvantaged households. Like any other farmers, women farmers are motivated to participate in and expand productivity by stake, return and need. Over time such systematic exclusion from institutional support is expected to take its toll on women's productivity and, ultimately, on program effectiveness.

A variety of reasons explain such neglect. First, program assumptions are made that information and benefits will trickle down from men to women within households, an assumption impossible to sustain in female-headed households. Moreover, very little is known about the degree to which husbands transmit information to wives, though one study in Tanzania indicates divergent information levels between husbands and wives in households reached by extension (Fortmann 1977). Second, staff are primarily men, and in many societies there is a reluctance to initiate contact between unrelated men and women. Finally, institutional procedures and legal restrictions may make it difficult or impossible for women to obtain loans. One study found that the percent of households with a man present was fourteen times as likely to have detailed information about loans than the percent of households headed by women (Staudt 1975-76).

Women farmers' exclusion from the mainstream of

agricultural extension not only compromises the principle of administrative equity, but administrative effectiveness and efficiency as well. Women often have independent income-earning sources, such as from trading or beer brewing. Women heads of households, numbering what some estimate to be a third of rural households in the developing world\*, constitute a varied group -- some widows, some abandoned by migrant husbands (a category in which sex and poverty intersect quite visibly), and others who receive cash support from migrant husbands. In this latter category, there are available cash resources with productive investment possibilities if there were appropriate institutional support.

#### Examples of Limited Access

Two studies in Kenya illustrate that women's potential productivity goes unrealized because of early presumptions orienting services both to men and to cash crops, staff prejudice, and institutional biases preventing most women from getting access to credit. The relationship of land to credit is worthy of added mention. Credit is usually available to those with sureties for loans, and land reforms which place individual title deeds in men's names have the effect of limiting farmers with migrant or disinterested husbands from obtaining loans.

In one study, the maize output per acre of women farm managers was compared to that of men managers. Women managing farms constituted a third of the sample -- about the same proportion estimated to be in the population of Kenyan

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\* Tinker, Boulding, and Buvinic, et al, note that the lack of standardized definitions of household head make comparative analysis difficult.

households. Women's output equalled men's, but when access to education and extension was controlled, women's output surpassed men's (Mooock 1976). In another study comparing two administrative units, women farm managers (two-fifths of the sample) were earlier adopters of maize and had a more diversified set of crops on their land than on farms with a man present. This was an area with minimal, but typical, levels of agricultural services. In the other area, with historical and contemporary advantages in agricultural services, staff members, and cooperative activity, women's timeliness of adoption and diversification was less than men's. Ironically, more services and support (virtually always meaning more services and support channelled to men) may reduce women's productivity relative to men's (Staudt 1978).

Over time, the systematic neglect of one group at the expense of others results in lower productivity, whether it be among nations, ethnic and racial groups, or women and men. A structurally-induced lowered productivity over time becomes increasingly difficult to correct. It is exactly this kind of problem that planners and staff face in some parts of the world where women's productivity has been undermined over the course of several generations or decades of time. In such cases, questions of remedial, special attention to women may be raised. Such attention had greater administrative costs and, initially, less return. Ultimately, however, it equalizes opportunity and enhances productivity of all persons for development.

EDUCATION, TRAINING AND EXTENSION

Rural women's access to channels of information and to training is not the same as men's. Although administrative services are ostensibly provided to farmers without regard for their sex, in practice, as the discussion above demonstrated, women have less access to male-staffed extension systems or to extension systems which focus on cash crops rather than food crops (Bond 1974, Boserup 1970, deWilde 1967, Fearn 1961, Fortmann 1978, Reynolds 1975, Smithells 1972, Staudt 1975-76, U.N. ECA/FAO 1976). Discrimination is partially explained by cultural inhibitions about contact between unrelated men and women, separate-sex communication networks, and staff inattention to, or nonprovision for, women's other work responsibilities which affect the extent of time available for training.

Two examples illustrate the latter observations. First, male agricultural staff frequently speak directly to men about training or other opportunities, often at community meetings which men have historically attended, or at male gathering places (or in the case of one project in Guatemala where information is transmitted by radio programs, the title of the program is "Let's Talk, Mr. Farmer!"). Information transmitted in this way will reach women only to the extent men communicate the information within the household, and there is little documentation about the extent to which this occurs, or the rapidity with which this occurs. A study in Tanzania found that in households where a given recommendation was known, the percent of husbands aware of it ranged from 1 to 5 times the percent of wives with the same knowledge (Fortmann, cited in Ashby 1979). In any case, whatever information reaches women is secondhand, and vital facts may be lost in the indirect transmission process. Second, extension programs do not always take into account women's

added work responsibilities which affect access to training and opportunities. Agricultural training centers offering short, one-week courses are not likely to be well attended by women with pressing child care or agricultural seasonal labor responsibilities.

In societies with large numbers of female household heads, a woman head's absence may mean the farm is unattended, unlike farms with two or more adults. It is estimated that one-third to two-fifths of all rural households are headed by women. The labor burdens and responsibilities of female-headed households often go unrecognized in training program designs. One study in Kenya documented that farms with a man present were four times more likely to have had a household member trained than women-headed households (Staudt 1975-76).

#### Improving Access: Some Possibilities

To begin to improve women's access to services, some extension systems have concentrated on group extension, (either to mixed-sex groups or to separate groups of each sex) as well as on increasing the numbers of female extension agents. The Weir Commission in Kenya illustrated that only two percent of the agricultural staff were women, not surprising since women were excluded from intermediate agricultural colleges until the late 1960s. Women constitute only 16% of the extension service in Indonesia (Milone 1978). One recurring problem in recruiting more women into extension results from sex disparities in access to education, as well as from sex-stereotyped education. In many societies, women's illiteracy rates are twice those of men's, and reach as high as 80 percent or more in parts of the developing world (major exceptions include Latin

America, Sri Lanka and the Philippines).

Given these inequities, extension systems staffed predominantly by men must consider ways to design projects so that women are reached, as well as to induce male staff to serve farmers more equitably. At the same time, attention to sex disparities in literacy, educational achievement, and incentives to draw more women into agricultural extension work are required to address inequitable extension delivery. According to UNESCO figures published in 1977, the proportion of women who are agricultural graduates range from none (in countries which do not provide agricultural training for women) to nearly 30 percent in Thailand (Ashby 1979). More information is needed on the extent to which male staff contact women, female staff contact men, and one sex group contacts members of their own sex group. The quality of contacts needs attention as well. Under what conditions, and with what kinds of programs, is the sex of an intended beneficiary important for explaining access patterns?

#### Sex Segregation in Extension

Ironically, the very attention to building up female staffs and specialized extension for women has often resulted in a sex-segregation of extension services into home economics, either compartmentalized in the Ministry of Agriculture or lodged in a completely different ministry. A focus on women's domestic role in extension is pervasive (UNESCO studies cited in Ashby 1979). According to one study comparing programs in Africa, "the goal of extension services has frequently been not the increase in farm level productivity of women but rather finding ways to reduce their

participation in agriculture through promotion of more homebound activities (Lele cited in Ashby 1979)." The compartmentalization is in part a product of the wholesale transfer of a U.S. extension model to many parts of the world, despite the distinctly different sexual division of labor, as well as the small proportion of women available for recruitment into an extension system. Although home economics has undergone some transformation in parts of the world, it has all too often promoted an image of women based on ideals of Anglo-American Victorianism. Remnants of such a thrust are found in emphases on table decoration, embroidery, and sewing in areas of the world where income-earning prospects for such products are virtually nil (Lele 1975). One part of this image involved removing women from the fields and agriculture altogether and into home and domestic specializations. Such an image cannot either be assumed as desirable or preferred from the perspective of both development needs and peoples' obligations and preferences, nor is such an image practical for alleviating poverty or making best use of all human productive resources. This is particularly true in many areas where women have the responsibility by custom and practice to provide the family food supply, and often children's clothing and school fees as well. Nevertheless, the home extension service may be the only outreach program reaching women, and efforts to improve the service and incorporate more agricultural content may be in order.

Home economics programs tend to be sparsely staffed, operating with few resources and focusing on domestic training. One study found that one to two percent of all

agricultural field staff in a Kenya district were women and all, save one, were home economics assistants, with a geographic area and set of job responsibilities that contrasted greatly from ordinary agricultural staff (Staudt 1975 -76). The 'women's programs' are often relegated to low status (Ashby 1979). Home economists are responsible for teaching women a wide variety of subjects, including sewing, nutrition, prenatal care, and gardening, among others. This broad range of subjects matches the kind of training women farmers receive when attending a short course at the farmer training centers. An examination of course content revealed that only one-third of class time was devoted to agricultural subjects. Men farmers who attended the farmer training center, in contrast, are provided with concentrated and specialized subject material relating to, for example, cattle care or coffee production (Staudt 1975-76).

Ultimately, an integrated extension system that is based on peoples' economic needs without regard to the sex of intended beneficiaries or of staff would appear to offer the best prospects for development and equity. In the meantime, however, sensitivity to separate communication networks and sex-divided work responsibilities is necessary for designing extension systems that reach women as well as men.

### OPPORTUNITIES FOR NONAGRICULTURAL EMPLOYMENT

It was assumed by development planners in the 1950s that members of the rural labor force who could not be absorbed productively into agriculture (because of increased mechanization, rapid population growth, excessive pressure on a limited stock of physical resources, etc.) would move gradually into urban areas and be absorbed into the manufacturing and tertiary (trade, sales, services) sectors. This transition has been neither complete nor painless. Some urban areas (e.g., Nairobi) are coping with a large number of unemployed job-seekers; and in other countries (e.g., Sri Lanka) the unemployed rural labor force has grown to include major proportions of certain age groups. There is an increasing concern with developing opportunities in nonagricultural employment (e.g., World Bank, UNIDO). A search for strategies for increasing labor-intensive industrial job openings has begun in earnest (Dixon 1978). The development of the "appropriate technology" perspectives is one part of this search.

For women, the move to develop nonagricultural employment opportunities has special dimensions. First, there is much less specific information about women's current participation and productivity in nonagricultural than in agricultural jobs. It is therefore more likely that a development program which substitutes visible, unemployed male labor for unseen, employed female labor may be mounted. Second, women generally are less literate than men and fewer are enrolled in schools and training programs which give them salable nonagricultural skills. Their competitive position is thus somewhat weaker than men's for the more skilled, more

profitable jobs. Third, women's abilities to accept and benefit from enhanced nonagricultural employment opportunities are to some extent conditioned by the compatibility of such opportunities with their roles as wives, mothers and housekeepers. The costs of producing a job vacancy for women may also be higher if facilities which increase role compatibility are included in the job creation costs -- day care centers, maternity benefits, etc. (Boserup 1970, Chaplin 1970). Fourth, a focus for improving productivity of those nonagricultural jobs which women already hold may demand a technology ladder or organizational approach which differs from those which would be developed if the participants were all male. If women are restricted in their movements outside of their houses for religious reasons, for example, technology must be very divisible if they are to adopt it in the very small-scale firms operated out of their houses. Skill teaching must be done almost on an individual basis, and/or basic social and cultural changes implemented. Opening a second or night shift for women in an electronics factory already employing women in the day shift may be possible only if transportation is provided. A technological change to increase production efficiency which requires an increase in firm size and a separate work place may be simple for a male entrepreneur to adopt. For a woman trying to combine domestic and entrepreneurial roles, this technological change may be impossible to adopt without a major reorganization of her domestic life. Finally, women may be consigned to the less-skilled, lowest-paid jobs in the service sector because of beliefs that they cannot be entrusted with highly complicated machinery (Chaney and Schmink 1976).

In sum, the effective enhancement of rural nonagricultural employment opportunities for women has to be based on analysis of the answers to three questions:

1. What nonagricultural jobs do rural women currently perform?
2. What factors will facilitate women's abilities to take advantage of nonagricultural employment opportunities?
3. What factors work to prevent women from improving productivity of current nonagricultural jobs or from taking newly-created opportunities?

### ORGANIZATION AND PARTICIPATION

Participation includes involvement in the decision-making processes, implementation, benefits and evaluation of development programs. Unless local people are involved in the process, committed to its goals, and able to develop a stake in the outcomes, development is not likely to be successful or self-sustained. Participation is increasingly recognized as a basic right, because development interventions affect peoples' life chances, standard of living and access to other resources. Participation is also recognized as a tool which allows better planning and implementation, as knowledge of local conditions is incorporated into development programs. From an administrative point of view, organizations as vehicles of development represent a cost-effective means to implement projects. Moreover, extension contact with groups rather than individuals will, in all likelihood, extend the distribution of services.

Organizations provide a context in which people can solve their own problems in self-sufficient and self-sustaining ways. Organization facilitates the use of size, scale and cohesion to build on, and enhances economic resources which translate into political resources.

In political institutions, decisions are made which affect the value of work and the distribution of resources, and women's virtual exclusion from international, national and community decision-making partly explains the invisibility and undervaluation of their work and their exclusion from development benefits (Staudt forthcoming, Boulding 1975, Putnam 1976, Bourque and Warren 1976). Ultimately, women's access to land and water, to agricultural inputs, to productive training, education and extension

opportunities, and to compensated nonagricultural employment which takes their special needs into account, depends on broad and representative participation in decision-making processes.

Women form a substantial portion of the intended beneficiaries of all rural development programs; in many areas women are the primary food producers and thus constitute part of the farm clientele. As growing documentation demonstrates, planners and staff not only neglect the economically disadvantaged and politically less powerful segments of rural society, but the majority of women as well, both as spouses and particularly as female household heads. This occurs for various reasons: a reluctance to initiate contact between unrelated men and women, inadequate knowledge of women's work, prejudice, and program implementation that assumes information and benefits will trickle down within households from men to women. The tenuous and indirect nature of the relationship between staff and women is perpetuated by regarding women only as wives and mothers, rather than also as farmers, traders and cooperative members. One AID agricultural information program, for example, is built around a radio program called "Señor Agricultor" - Mr. Farmer. Household structures around the world are neither uniform, nor universally equitable. Assumptions made about trickle-down effects are increasingly hard to sustain.

#### The Relationship of Organization to Government

Distinctions can be made about women's organizational mobilization for development, both as autonomous from government and as interacting with government programs. On the

latter, women's organizations can activate direct relationships with development staff, or, through pressure, create contexts in which staff have more incentive for and greater stake in interaction with women as well as men. It might be argued that women are indirectly represented as members of households, yet documentation of development's adverse impact on women suggests that women's interests have been unreflected or not represented at all. On the former distinction - mobilization autonomous from government - women's self-help organizations have many precedents in all areas of the world. Various organizational activities and organizational structures provide numerous examples of development possibilities (and actualities) already existing, ranging from credit societies to communal agriculture, and mutual aid societies (Brana-Shute 1976, Hull 1976, Kaberry 1952, Klingshirn 1971, Seibel and Massing 1974, Leis 1974, Watchel 1975-76). Autonomous sometimes by preference, these organizations are often invisible to persons outside a community.

#### Networks Among Women

In societies with long histories of female exclusion from overtly productive activities or with tendencies toward female social exclusion, communication among women may flow in an informal network pattern where ideas, information and resources are exchanged. Though research on informal networks is limited, worthy questions might be raised about the way in which ideas spread within networks, how spread in women's networks differs from that in men's networks, and the implications those findings have for development. In some societies, the near-universal subordination of women, separate communication networks for the sexes (and exclusion

of women from community decision-making), and the possibility of multiple wives suggest a greater degree of egalitarianism among women than men (Correze 1976, Curley 1973, Rosenfield 1975). A more rapid, equitable diffusion of development ideas among women is a strong probability in certain contexts. A study in Botswana supports this assertion (Bond 1974).

#### Organizational Support From Where?

Another issue is whether, or to what extent, organizations can or should be supported with resources external to the community, also termed "built from above." Women, like other subordinate groups, face obstacles when mobilizing for collective action; the essence of subordination is less access to economic resources, contacts, and information that foster successful collective action. With a long-standing tradition of exclusion from community participation, some catalyst may be necessary to foster both men's and women's acceptance of women's organizational activity and provide support for its sustenance. Consideration must also be given to the effects of external support on the character of groups, as well as to whether external intrusion either preempts or provides a context in which locally generated leadership and awareness emerge.

#### Building Organizations on Women's Existing Roles

The lines along which women organize, and who defines those lines -- be it outsiders to the community, an elite within the community, or members -- are crucial issues to consider as well. Building roles unacceptable to a community appears counterproductive as Soviet strategy in Central Asia demonstrates (Masse11 1974); yet building on

and strengthening roles which exist in societies with marked sex disparities may simply perpetuate inequity. Past home economics programs which emphasized women's domestic roles to the exclusion of others illustrate this prospect. Depending on the local context, some combination of building on acceptable roles and providing income-earning opportunities appears to offer greatest prospects for success. Women's cooperatives in India and Bangladesh, and Mother's Clubs in Korea illustrate some of these possibilities (Dixon 1978, Kincaid, et al n.d.). Issues defined by elite women can be just as external to the needs of members as outside;-defined issues. Just as the recurrent male elite capture of local participatory institutions constitutes an obstacle to equitable development, so also do similar processes and blocks occur among women.

#### Separate or Integrated Organizations

Questions are invariably raised about the issue of whether women's organizations ought to be separate from men's, or whether organizations should be sexually integrated. In societies with existing, separate-sex communication networks, continuing the tradition of separation would allow skills and resources to be built for eventual integration. Separation also forestalls confrontation with cultural patterns found in some societies opposed to mixing unrelated men and women.

Early organizational integration of the sexes may mean a submergence of women's interests, or participation by a minute proportion of women, with dim prospects for either representation or integration of key issues. Numerous

committees have a lone representative of women, an individual facing as many obstacles to representation as did the lone African on colonial committees in Kenya or the lone tenant on land committees. In one peasant union, ostensibly "integrated," calculations of the proportion of women involved figured to less than one percent; these women are furthermore confined to a women's program within the union. (Salvadoran Communal Union, cited in Staudt, forthcoming). Frequently, a cooperative with "household membership," considered an ideological advance over male-only membership, is simply a continuation of male appropriation of cooperative benefits (Apthorpe 1971, de Wilde 1967, Hanger and Moris 1973). It cannot be assumed that the benefits of cooperative membership are shared equally or according to labor inputs. When men in Ujamaa villages were questioned about whether women should have part of the cash proceeds from the communal plot on which women labored, three-fourths of the men said women should receive at least ten percent (Brain 1976). Unless steps are taken to involve women, or recruit individual women, the fruits of women's labor may be appropriated by others with eventual negative implications for women's work incentives and productivity.

#### Women in Development IS Development

There is a certain cost to establishing separate-sex organizations and institutions. The cost is the difficulty of mainstreaming and widening what are too easily seen as "women issues." In many cases, terming something a women's issue simply reflects a semantic problem. The need for increased food production and potable water, as well as for more equitable access to resources, credit and work opportuni-

ties based on need, skill, and interest are development issues. If all development is to be accomplished by women's efforts alone, then they may be called women's issues. But insofar as women are to share in the development process, and separate-sex organizations appear to facilitate the mobilization of women's contributions, then the objective of the organizations is clearly not the solving of women's problems, but the solving of development problems.

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A.I.D. POLICY ON AGRICULTURAL ASSET DISTRIBUTION:  
LAND REFORM

A.I.D. POLICY ON AGRICULTURAL ASSET DISTRIBUTION:  
LAND REFORM

LAND REFORM IN A PARTICIPATORY  
AGRICULTURAL PRODUCTION STRATEGY

Need for Policy on Access to Assets

The A.I.D. Agricultural Development Policy Paper, June 1978, delineates five major functional areas based on a broadly participatory production strategy, a main one being agricultural asset distribution. The Agricultural Policy Paper states: "A highly skewed distribution of land among agricultural producers or ineffectively enforced size ceilings or tenancy regulations will adversely affect both improved equity and increased production, thereby rendering a broadly participatory agricultural production strategy virtually impossible to implement."

This paper, an A.I.D. Policy Determination, sets out the Agency's position on agricultural asset distribution and land reform.

Developing country studies clearly indicate that existing agricultural asset distribution patterns play a very important role in determining who benefits from agricultural growth, and hence from country development programs and foreign assistance designed to augment that growth. In this regard, Section 103 of the Foreign Assistance Act specifically directs the Agency to assist developing countries to undertake "establishment of more equitable and more secure land tenure arrangements."

Relation of Asset Distribution, Farm Income and Agricultural Productivity

The ability of A.I.D. to implement its equitable growth strategy is in large measure conditioned by the structuring of land holdings in the developing countries. This is because whenever the distribution of land is highly skewed, the distribution of farm income is also likely to be highly skewed. Under these conditions, equity-oriented A.I.D. projects are difficult to develop and implement. In an environment of grossly skewed distribution of land resource ownership, it is likely that the owners of small farms and the rural poor will benefit from rural development only marginally if at all, unless the development programs are very carefully planned and devoted to benefiting the poor.

Moreover, the highly skewed land distribution patterns prevailing in many countries, in addition to being inequitable, may well constrain the overall growth of agricultural productivity and food production. Available evidence indicates that, given existing land use patterns and resource availabilities, average per acre productivity tends to be larger on small farms than on large farms. Furthermore, the owners of small and marginal farms and landless laborers constitute an important under-utilized economic resource under prevailing land distribution patterns. It is also probable that much agricultural land may be under-utilized.

Empirical evidence also suggests that a broadly-based income distribution pattern is essential to sustained long-run nationwide equitable growth. Even if, from a technical standpoint, food production could be increased sufficiently

on large farms, the poor majority may still be unable to purchase their food requirements. The mode of agricultural production should provide for maximum widespread income earning opportunities. Experience also indicates that small farms are, on the average, more employment intensive than large farms. Given that access to land and other agricultural assets is the surest path to an equitable, efficient pattern of overall economic growth, A.I.D.'s agricultural and rural development program will consider support of needed land reform and land tenure security programs in receptive host countries.

Individual land ownership is not necessarily an objective of such programs in all instances. In many African countries, for example, the importance of communal tenure arrangements and access to other agricultural assets such as cattle and water are among the primary considerations. While general principles involved can be set forth in this policy determination, the identification and implementation of an asset reform program must be done on a country-by-country basis.

#### A.I.D. LAND REFORM POLICY

A.I.D. policy on land reform consists of the following elements:

1. A.I.D. is prepared to provide assistance in support of land reforms designed to achieve a more equitable distribution of agricultural assets. The assistance -- technical or financial -- may be direct with respect to land reform or tenure reform or settlement measures or it may be in terms of credit, fertilizer, extension, infrastructure, institution building or other projects, designed to support

beneficiaries in land reform areas.

2. In providing such support A.I.D. will rely on Mission and Country studies and judgments as to: (a) which kinds of reforms warrant A.I.D. support, and (b) which types of assistance are most appropriate.

3. The U.S. Government is prepared to provide food aid to those countries that choose to implement reforms designed to achieve more equitable distribution of agricultural assets, as necessary, to cover potential short-run food production or marketing shortfalls related to implementation of land reform.

In sum, A.I.D. is prepared to offer support to developing countries which express a genuine commitment to helping their rural poor by establishing more equitable access to agricultural assets and to more secure land tenure arrangements. Because commitment is the single most important element of a successful reform, A.I.D. will examine and will be prepared to consider supporting any request for assistance where that commitment exists. On the other hand, should studies show that particular types of assistance, such as provision of current inputs, are exacerbating the plight of the poor in situations where land tenure practices are inequitable and there is an absence of commitment to reform, then the Agency, on Mission advice, is prepared to consider withholding those types of assistance.

#### ILLUSTRATIVE LAND REFORM ACTIVITIES WARRANTING A.I.D. SUPPORT AND CONSIDERATION

##### General Conditions

A.I.D. recognizes that owners of small farms, and the

landless or near landless who now provide agricultural labor, are not likely to adopt more productive techniques as soon as they acquire improved access to land or increase their rights in land. They must have assured access to productive inputs and services such as water, fertilizer, credit, etc., and also to complementary assets such as livestock. Land reform programs must, concurrently with the activities directly offering rights in land, provide necessary services, institutions, and infrastructure, both at the local level and linked to national programs and policies along with land rights transfers to ensure that land reform beneficiaries participate in rural processes.

#### Essential Conditions

Two conditions establish appropriateness of the U.S.G. providing either direct or indirect support to programs of land policy reform. These conditions are:

1. A.I.D. can offer to assist countries to implement land reform policy only if the host country government is committed to the policy change and its effective implementation.

2. A.I.D. decisions to assist countries with land reform must be based on an integrated analysis of:

(a) the country agricultural development strategy;

(b) the production system(s) which will be utilized by the beneficiaries of the reform; e.g., foodgrain, grazing, export crops, etc.;

(c) cost/benefit analyses of additional

public sector development requirements to ensure that the reform is effective -- cadastral surveys, clear titles, roads or other infrastructure, inputs, staff, etc.

#### Desirable Studies and Analysis

While it is not essential that A.I.D. alone undertake the integrated analysis necessary to meet the essential conditions noted above, this is an area in which A.I.D.'s experience will prove beneficial. The research needs will vary somewhat from country to country, but it is expected that studies will go beyond cadastral surveys to include agricultural production and land use capability determinations as well as basic cost/returns and employment calculations for alternative cropping or livestock systems by size of farm and tenure arrangement in most cases. Short-term studies may also be valuable to resolve specific issues and to appraise a government's commitment. Particular attention should be paid in all studies to women's access to land and the effects of legal constraints on their abilities to buy, hold, use and inherit land and on their capacities to participate in rural development processes. All studies should include a social/anthropological analysis so that the mode for implementing land reform is selected and carried out in a manner compatible with the socio-cultural environment. It must be kept in mind, however, that often there is a snowballing effect, an acceleration, that takes place when a serious reform is initiated. Thus studies, while highly desirable, may not be feasible ex ante to plan an ideal reform.

### Candidates for Land Reform Support

Specific kinds of land reform and associated activities which are candidates for A.I.D. support include the following:

1. Land Ownership Redistribution: There are several feasible approaches to land ownership redistribution. Among them are:

- (a) transfer in fee simple from one individual owner to another;
- (b) expropriation by the state with whole or partial payment to the former landowner by the state or the new owner(s); and
- (c) communal decision, with or without payments by parties acquiring ownership or use rights.

2. Land Tenure Reform (or tenure security reform) is frequently posed as a first alternative to land redistribution per se. It can help prepare for land redistribution by settling land use relationships which can later be made part of broader "property" rights. Land tenancy generally refers to the contractual or informal agreement between a land owner and a land operator concerning the use of specified lands for agricultural production purposes for anywhere from one crop season to multi-year. Tenure reform covers the reform of laws and regulations which govern ownership, use, and transfer of land, including laws and regulations involving temporary use of land, e.g., squatting or renting. Tenancy security reform involves the reform of laws and regulations specifically on variability of rental arrangements and conditions between a landowner and tenant.

Tenure equity is dependent upon the size and form of rental payment relative to the productivity of the cultivator's

labor and capital, and his managerial and technical skills. Tenurial arrangements can also have significant impact on production depending upon the size and stability of rents and shares, whether owners share in the costs and risks, and the length and security of the tenure period. These factors are likely to affect investment by the tenant in resource improvement, application of modern technologies, use of purchased inputs, and willingness to include in the production program higher value enterprises.

Tenure reform will likely require both policy changes and changes in legal codes. The farm costs and returns studies, the resource inventory and agricultural utilization determinations mentioned above, and the "tenure status" surveys would provide insights and judgments on both land and tenure changes. These studies will typically recommend ceilings on farm size and on rental payments and shares, but also security clauses and pricing policies which ensure that tenants and laborers are not displaced by equipment. Tenancy reforms are inherently difficult to enforce; without complementary administrative and other enforcement measures they are likely to be ineffective.

3. Land Consolidation: Three common types of land consolidation which have been implemented in LDCs are:

- (a) collectivization or communalization of land holdings under group ownership and use;
- (b) consolidation of individual fragmented holdings to permit more efficient utilization of technology and to improve production; and
- (c) mixed schemes, establishing both communal grazing rights for more effective environmental control and individual cropland allocations to provide cultivator incentives.

Group ownership includes all of the collective forms of land holdings, including grazing and water rights. Conversion to group ownership -- whether it be truly communal, based on tribal or similar sociocultural structuring, cooperative, a corporation, or a collective colonization scheme -- is a special category of land reform. Land redistribution as defined in 1 above may lead to making lands available for group ownership approaches. Existing farming schemes, such as communal grazing, may also need direct support to make them economically viable. Such assistance is also considered part of land reform.

Redistribution of land ownership is frequently, but not always, required under land consolidation. When only an exchange of plots among owners is involved, however, total farm size may be the same before and after consolidation.

4. Settlement (Resettlement): Governments induce settlement of agricultural producers in new agricultural lands by removing constraints (control of trypanosomiasis or onchocerciasis, e.g.), by providing incentives (roads, irrigation facilities, financial grants) or other government directed settlement programs. For such areas, governments have to put in place new agricultural input, service and infrastructure systems. They may also seek to encourage the private sector to expand trade and commerce and serve other functions in these new areas. In the likelihood that land practices and claims of some kind exist, even in remote areas, governments will have to satisfy these preexisting rights and define new land, tenure, or group farming arrangements which will govern land use in resettlement areas. Resettlement schemes are liable to be proposed by governments as alternatives to land

reform actions. In deciding whether to supply assistance to resettlement, Missions should ascertain whether the settlement represents real reform or a "cover-up" for not undertaking reforms.

In so doing it is important to keep in mind that resettlement or land reform itself are both "political" and "cost/benefit" issues. If resettlement costs less than land reform per family relative to benefits it may be "economically" preferable.

#### Specific Assistance Modalities

A.I.D. is prepared to provide assistance which will help assure that whatever type of land reform is appropriate for a given situation is successfully implemented. The preferred method of providing assistance to land reform is to provide financial and technical support to essential complementary undertakings. These include, but are not limited to, such services as credit, extension and research, such inputs as fertilizers, farm implements and improved seeds; such rural infrastructure as transportation, irrigation and energy; marketing, storage and distribution services; and administrative and technical services located in and directed toward reform areas.

Ordinarily, for land reform which transfers land to individuals or groups, the financing of the actual land purchase, if any, is best handled by government. The A.I.D. contribution should normally provide only indirect support. Nevertheless, on a case-by-case basis, A.I.D. is prepared to consider providing direct financing or loan guarantee seed capital for a portion of a compensation program in those unusual cases where a radical reform would only be possible with A.I.D. assistance of this type.

## A.I.D. PROGRAM AND STAFFING IMPLICATIONS

This land reform policy could have significant staffing implications for A.I.D. Its implementation for a number of countries would require an increased level of Mission personnel professionally trained in land reform, agricultural production economics, socio-economic decision-making in rural institutional settings, and land resource development and management. The staffing need arises from the complexity of the undertaking and because A.I.D. has been seriously depleted of agricultural and social science personnel generally. Although U. S. and developing country consultants can provide timely advice and assistance, the task is of sufficient importance to the fulfillment of the Agency's objectives as to require appropriate staff. Only with a strong staff can the Agency and its Missions effectively assist governments' willingness to encourage full participation in development by the poor. A.I.D./W will give special consideration to Mission requests for staff required to implement serious land reform activities.

Approved: s/ John J. Gilligan

JOHN J. GILLIGAN  
Administrator

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