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## Role of agriculture in economic development revisited

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(Accepted 7 February 1993)

### ABSTRACT

Johnson, D.G., 1993. Role of agriculture in economic development revisited. *Agric. Econ.*, 8: 421–434.

While both Malthus and Ricardo viewed agriculture as impediments to economic progress, Mill and Marshall argued that the effects of diminishing returns to land could be offset. Mill emphasized that the progress of civilization, such as roads that reduced the cost of bringing products to market, and policy improvements, such as abolition of the corn laws, provided substitutes for farm inputs. Marshall argued that population growth could for a long time, through growth of organization and knowledge, offset the effects of diminishing returns.

Had the insights of Colin Clark dominated the policies of developing countries rather than the implications drawn from the dual sector models and the pessimistic views of Prebisch, agriculture's contribution to economic development would have been enhanced. The efforts to tax agriculture to support import substitution policies reduced rather than increased economic growth. Agriculture has important contributions to make to economic development, but must receive even handed treatment if the possible contributions are to be realized. A major failure of all governments has been the unwillingness to recognize that agriculture is a declining industry and to adopt policies that would assist farm people to adjust to the decline in demand for farm labor.

Over the past two centuries there have been major changes in the role or roles attributed to agriculture in economic development. As the Nineteenth Century began agriculture was viewed as a major impediment to progress by the two greatest economists of the era – Malthus and Ricardo. The combination of a limited supply of land and diminishing (marginal) returns to the application of labor and capital to land were deemed to limit the

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improvement of welfare, even when productivity of labor in manufacturing increased over time. These were the conditions assumed to prevail in a developed country, such as England. At the same time, there were countries, such as America, with uncultivated land or land that was cultivated very extensively which could expand the output of food at constant or even declining prices. The strong support for the abolition of the English Corn Laws by many prominent economists was motivated in large part because free trade in grain was viewed as the only available means for freeing that country from the restraint that agriculture was imposing upon economic growth during the first half of the Nineteenth Century.

While the pessimism of Ricardo and Malthus was perhaps rather too great, we must remember the state of agricultural knowledge as of the early years of the Nineteenth Century. John Stuart Mill, writing at mid-century, saw what we would now call economic growth (rising real per-capita incomes) as complementary to improvements in agriculture that would hold in check rising real food prices (1920, p. 183). He wrote of the antagonism between “the law of diminishing return from land” and “the progress of civilization” (p. 183). His major points on how the progress of civilization acted to offset diminishing returns have a modern ring. He did not stop with noting that the progress of agricultural knowledge, skill and invention permitted increased output from land or reduced the amount of labor per unit of output. He went on to note the positive effects of improved means of communication and transportation: “Good roads are equivalent to good tools.” (p. 184). Reductions in the cost of bringing products to markets (or inputs to the farms) were equivalent to a reduction in the inputs required to produce agricultural products. Mill further recognized that if there were significant improvement in the productivity of labor in nonfarm pursuits an increase in the price of food need not prevent a rise in real consumption – the increased cheapness of clothing and lodging might more than make up for the increased cost of food. Finally, he noted that policy improvements, such as reductions in taxes, or the abolition of the corn laws “or of any other restrictions which prevent commodities from being produced where the cost of their production is lowest, amounts to a vast improvement in production.” (p. 186). Unfortunately this important insight has been forgotten by policy makers far more often than it has been remembered.

In his *Principles of Economics*, Alfred Marshall had rather little to say about the relationship between agriculture and economic progress but two points are worth noting. In contrast to views that are now popular in certain circles, he argued that even when there exists diminishing returns in cultivation “... it may be possible for an increase in the population to cause a more than proportional increase in the means of subsistence.” (1936, p. 166). How could population have such an effect? He stated: “...the

pressure of population on the means of subsistence may be restrained for a long time by the opening up of new fields of supply, by the cheapening of railway and steamship communication, and by the growth of organization and knowledge.” (p. 166). He did not argue that the effects of population growth could go unchecked indefinitely – “... the evil day is only deferred; but it is deferred.”

His second point was an empirical one, namely that even in agriculture “... the tendencies to increasing and diminishing return appear pretty well balanced, sometimes the one, sometimes the other being the stronger.” (p. 670). There is little to argue with this conclusion a century later. One careful set of estimates found that for 1900–1982 that the real price of cereals declined by 0.8% annually, all food by 0.3% and all agricultural products by 0.8% (Diakosavvas and Scandizzo, 1991, 244–245).

Hayami and Ruttan (1971, 1985, chapter 2) present excellent summaries of the Ricardian model and of the various stage theories of the relationships between agriculture and economic development. The growth-stage theories range from those of Friedrich List and Karl Marx to Eugene Rostow. The growth-stage theories call our attention to significant changes in variables and parameters as economic growth occurs. However, the assumption that there are clearly defined stages in the transition from primarily agricultural to primarily industrial economies cannot be supported empirically or, for that matter, theoretically. The process is one of continuous adjustment and change without artificial breaks or turning points. This is not to say that the adjustments occur without interruption or at a constant pace but rather that changes occur through product and factor markets that determine agriculture’s relationship to the economy as a whole.

## DUAL SECTOR MODELS

In some ways the dual sector models of the 1950s and 1960s represented a retrogression from the neoclassical modifications of the Ricardian model of agriculture in economic development. The neoclassical modifications included the emphasis upon the role of productivity change in agriculture as an offset to the effects of diminishing returns and recognition of the low income elasticity of demand for food, following Engle, as major factors in explaining the declining relative importance of agriculture in the economy while holding in check any tendency toward long run increases in the real prices of food. In the development of the dual sector models neither Colin Clark’s massive contribution to the understanding of economic growth or progress nor the important insights of G.B. Fisher on the structural changes that occur with economic growth appear to have been recognized.

Had these contributions been recognized, some of the more unrealistic and unnecessary aspects of the earlier dual sector models might have been replaced by more appropriate assumptions with greater predictive power and which would have supported policies that were much more appropriate for agriculture and thus overall development. If there were ever a doubt about it, the experiences with respect to agricultural and development policies in the developing countries during the 1960s and 1970s prove that ideas count and are important. Unfortunately, all too often bad ideas based upon inadequate analysis dominate ideas that subsequently are proven to have been sounder.

The dual sector models appear to have dominated much of economic and policy thought during the 1950s and early 1960s, at least up to the publication of T.W. Schultz' *Transforming Traditional Agriculture* (1964). Unfortunately, whether or not intended by the major early contributors to the dual sector models (Lewis, 1954; Fei and Ranis, 1964), some implications of the models were interpreted as assigning to agriculture in the developing countries a negative or static role in economic growth. These implications were translated into policy frameworks that were disastrous in the role assigned to agriculture in the growth of developing countries and which adversely affected the welfare of farm people in most developing countries and, consequently, had adverse effects upon economic growth overall. The conclusion (or assumption, more accurately) that the value of the marginal product of labor in agriculture was zero over a wide range of employment gave intellectual support to the conclusion that agriculture's primary contribution to economic growth was to provide a costless supply of labor to support the growth of industry and the development of cities. The labor supply to industry was costless because agricultural output did not decline and the food surplus in the rural area created by transferring a worker from rural to urban areas could be appropriated to add to the capital of the urban areas. This conclusion was extended by accepting the assumption that the elasticity of supply of agricultural products was very low, approaching zero, and that agriculture could be continuously exploited to provide wage goods at low real prices to permit the maintenance of low labor costs in the industrial sector.

Another unfortunate development in economic writing was the position enunciated by Prebisch (1959) that the long run trends in real agricultural prices were adverse and investment in agriculture was not an appropriate use of the limited resources of developing countries. This view provided additional intellectual support for import substitution policies that stressed industrial development at the expense of agriculture. As noted above, during the Twentieth Century the overall trend in real prices of agricultural products in international markets has been a declining one. But declining

real product prices does not mean that investment in agriculture would yield substandard returns or that real wages in agriculture must lag behind real wages elsewhere. Productivity improvements can and have more than offset the consequences of declining real prices for grains and other crop products in most countries. Where there have been increases in real per-capita incomes and factor markets have functioned reasonably well, the real returns to labor in agriculture have increased over time.

The conclusions derived from the dual sector models and the pessimism with respect to the trends in real prices of agricultural products combined to provide support for import substitution policies. Such policies were supposed to create a manufacturing sector that was to be a source of economic growth, something it was believed agriculture could not be. It is now clear that import substitution policies did not benefit the countries that adopted them. The evidence is overwhelming that countries that have been relatively open have had far superior economic growth compared to those that greatly restricted imports and, consequently, inhibited the development of exports (Krueger, 1980; Alam, 1991; Dollar, 1992; Levine and Renelt, 1992). These studies complement and support the many studies that have shown a positive relationship between export growth and GNP growth but the export–GNP relationship had been questioned because the direction of causality could have run either way, or both ways for that matter. What the supporters of import substitution policies ignored, and probably didn't understand, was that import duties are a tax on exports (Clements and Sjaastad, 1984). Consequently the import substitution policies resulted in slow growth, not only of imports, but also of exports. And since the import substitution policies were ineffective in generating rapid economic growth, it follows that a positive relationship between export (or total trade) and GNP growth was a relationship that should have been expected.

The model of economic growth and the role of agriculture presented by Colin Clark would have served policy makers and the farmers of the developing world far better than the inferences based on the dual sector models. In Clark's world the transformation of an economy with rising real incomes from one with most of the employment in agriculture to an economy emphasizing industry and service sectors was quite explicable – the increase in productivity in agriculture combined with income elasticities of demand for farm output that were both less than unity and declining as real per-capita incomes increase makes possible the transfer of labor from agriculture to the rest of the economy, where productivity is also increasing, while equating the supply and demand for farm products at constant or even declining real prices. The transfer of labor that occurs with economic progress was readily explained by the response of workers to differences in

labor returns among the sectors (Clark, 1951, chapter X). Nor did Clark ignore the role of savings and capital accumulation in his analysis of economic progress (chapter XI). Clark's model, which follows from the neoclassical model of an enterprise economy, has stood the test of time and experience far better than the earlier dual sector models.

#### AGRICULTURAL PRICE AND INCOME POLICIES

There is an enormous body of evidence to support the conclusion that policy makers in both the developing and developed countries have misunderstood the role of agriculture in economic development and how factor and product markets function. It has now been well established that during recent decades that there is an inverse relationship between real per-capita incomes and the degree of protection of agriculture (Miller, 1986; Binswanger and Scandizza, 1983). This means, other things constant, that the lower a country's real per-capita income, the higher the level of taxation of agricultural output and the higher real per-capita incomes, the higher the level of subsidization.

The analyses undertaken by the World Bank under the direction of Anne O. Krueger, Maurice Schiff and Alberto Valdés have documented the degree of the discrimination against agriculture in 18 developing countries (Schiff and Valdés, 1992b). The period of the analyses was from 1960 to the mid-1980s. In addition to presenting measures of the extent of the negative protection of agriculture and whether due to direct or indirect measures, estimates of output effects are presented. Some of the more important results are presented in Table 1.

It should be obvious that under the policy conditions described by the measures of direct and indirect protection that agriculture's ability to contribute to economic progress was greatly circumscribed in all but two of the developing countries included in the study. In only two countries (Korea and Portugal) was there positive protection of agriculture. In the other 16 countries the protection was negative. For the three countries with the highest rates of negative protection it was estimated that the cumulative effect on agricultural output over the two-decade period was 23% of the output level in the final year. This means that if protection had been nil, at the end of the 20-year period agricultural output would have been 23% greater than it was. For the group of ten countries with an average negative nominal protection rate of 36%, the average output effect was 16%. For the group of three countries with a negative protection coefficient of 16% the output effect was estimated at 6%.

Presumably the negative protection of agriculture was designed to serve some objective or set of objectives. Certainly the objective was not that of

TABLE 1

Direct and indirect taxation of agriculture in 18 countries, 1960–84 (period average in percent)

Country	Period	Indirect tax (negative protection)	Tax due to industrial protection	Direct tax	Total tax
Extreme taxers	1960–84	28.6	25.7	23.0	51.6
Ivory Coast	1960–82	23.3	23.2	25.7	49.0
Ghana	1958–76	32.6	32.4	26.9	59.5
Zambia	1966–84	29.9	21.4	16.4	46.3
Representative taxers	1960–86	24.2	32.8	12.0	36.4
Argentina	1960–84	21.3	39.5	17.8	39.1
Colombia	1960–83	25.2	37.8	4.8	30.0
Dominican Rep.	1966–85	21.3	20.8	18.6	39.9
Egypt	1964–84	19.6	27.5	24.8	44.4
Morocco	1963–84	17.4	13.4	15.0	32.4
Pakistan	1960–86	33.1	44.9	6.4	39.5
Philippines	1960–86	23.3	33.0	4.1	27.4
Sri Lanka	1960–85	31.1	40.1	9.0	40.1
Thailand	1962–84	15.0	13.9	25.1	40.1
Turkey	1961–83	37.1	57.4	–5.3	31.8
Mild taxers	1960–83	15.7	22.9	0.2	15.8
Brazil	1969–83	18.4	21.4	–10.1	8.3
Chile	1960–83	20.4	37.4	1.2	21.6
Malaysia	1960–83	8.2	9.9	9.4	17.6
Protectors	1960–84	13.6	13.9	–24.0	–10.4
Korea, Rep.	1960–84	25.8	26.7	–39.0	–13.2
Portugal	1960–84	1.3	1.0	–9.0	–7.7
Sample average		22.5	27.9	7.9	30.3

Source: Schiff and Valdés (1992a, p. 6).

making the distribution of income more equal (Schiff and Valdés, 1992a). While urban poor may have gained through lower food prices, both absolutely and relatively there are far more rural poor than urban poor. One of the puzzles of political economy is why the world aid community consistently ignored the huge transfers of income from low income rural areas to much higher income urban areas and in a number of ways through their aid actually abetted such transfers.

If there had been any acceptable justification for the negative protection of agriculture it must have been that the transfers to governments and urban residents was a source of increased growth of the national economies.



TABLE 2

Price interventions and GDP growth, by country group, 1960–85

Country group	Nominal rate of protection		Annual GDP growth
	Indirect	Total	
Extreme taxers	-28.6	-51.6	3.3
Representative taxers	-24.4	-36.4	5.1
Mild taxers	-15.7	-15.8	5.3
Protectors	-13.6	10.4	6.5

*Source:* Schiff and Valdés (1992a, p. 11).

Without attempting to attribute causality, it is perhaps of interest to at least look at the experience of the 18 countries – Did discrimination against agriculture increase the rate of growth of GNP? Were the uses of the resources extracted from agriculture put to highly productive uses? The answers are clearly in the negative. A regression of per-capita real GNP growth on the average rates of nominal protection of agriculture for 1965–84 indicates that the higher the negative rate of protection, the lower the rate of national per-capita GNP growth. The regression coefficient between the protection rate and per-capita GDP growth was significant for the 1960–84 period at the one-percent level and the R-squared was at the relatively high level of 0.57. The regression coefficient indicates that the average rate of negative protection of 36% for the ten countries may have lowered their annual rate of per-capita GDP growth by as much as 2.5%. This result should not come as a total surprise; given the results of the studies of the relationships between trade orientation or openness of economies and the rates of economic growth referred to earlier. The countries with high negative rates of protection for agricultural products obviously had inward looking policies in all sectors of their economies. For a summary of the data used in the analysis, see Table 2.

The industrial economies, as is well known (Johnson, 1973, 1991; Tyers and Anderson, 1992), have subsidized their agricultures, especially since the early 1960s. The policies followed by the European Economic Community, Japan and the United States have had a significant negative effect upon the international market prices for agricultural products. The rates of protection estimated in the World Bank studies did not reflect the distortions in world market prices due to the policies of the industrial countries. Consequently the discrimination against developing country agricultures was even greater than indicated; had the nominal rate of protection been zero agriculture in the developing countries would have been adversely affected if they produced any of the temperate zone agricultural products.

## AGRICULTURE'S CONTRIBUTION TO ECONOMIC GROWTH

I believe that it is now recognized, once again, that agriculture is capable of making several contributions to economic growth and does so if appropriate policies and conditions prevail. These contributions include (1) the release of labor for nonfarm employment; (2) the provision of an increased supply of food and fiber at constant or decreasing real prices; (3) production of an export surplus as an important source of foreign exchange to pay for capital goods and technical services not available domestically; and (4) savings to be invested in nonagricultural activities, either in rural or urban areas.

Each of these actual or potential contributions require a more or less continuous increase in output per worker. Without such productivity growth it is extremely difficult to significantly expand output in the nonagricultural sector of an economy in which agriculture accounts for most of the employment and output. It is through productivity change in agriculture that one of the major interconnections between agriculture and the rest of the economy becomes evident. It is through what John Stuart Mill called the "progress of civilization" that significant increases in resource productivity in agriculture becomes possible. The attributes of progress are of enormous variety – knowledge, research, roads, communication, markets, manufactured inputs, repair services, human skills.

## AGRICULTURE AS A DECLINING INDUSTRY

It was noted above that one of agriculture's important contributions to economic growth was the transfer of labor to the nonfarm sector. Governmental policies universally fail to accept the transfer of labor from farms to nonagricultural jobs as essential for the economic health of the farm population. Instead it seems to be assumed that any decline in the farm population is an indication that policies have failed. If the labor transfer occurs slowly relative to the shifts in the demand for and supply of labor to agriculture, the incomes of farm families will grow more slowly than incomes in the rest of the economy. In economies with a large percentage of the labor force engaged in agriculture, say a quarter or more, rural per-capita incomes are significantly less than urban incomes. Consequently the labor transfer must be at such a rate as to not only to absorb the annually generated excess supply of labor in rural areas but to further reduce employment in agriculture to erase the differences in labor returns for individuals with comparable human capital.

There has been and is a reluctance of policy makers in industrial countries to accept the declining relative importance of agriculture and the transfer of labor out of agriculture that is inevitably associated with

economic growth. Some farm price and income policies, such as those of the European Economic Community, attempt, albeit unsuccessfully, to limit the decline in farm employment and thus slow down the transfer of labor from the rural to urban areas. The evidence is very clear that such policies fail to achieve that result. Data for all the major industrial countries for the past three decades do not show a negative relationship between the level of protection and the rate of decline of farm employment (Johnson, 1991, chapter XI). In fact, countries with high rates of protection, such as Japan and members of the European Community, have had more rapid declines in farm employment since 1960 than the countries with the lowest rates of protection, such as Australia, Canada, New Zealand and the United States.

Governments have seldom adopted measures to facilitate the adjustment of rural areas to what economic growth requires. Such adjustments are inevitable, yet governments have not wanted to recognize this to be the case nor to accept responsibility for alleviating the costs that such adjustments impose upon farm and other rural people. To recognize that farm employment must decline does not mean that there must be a flood of migrants from the country to the city though such can be the outcome. In many cases the least costly way to assist the adjustment process is to make the countryside attractive for nonfarm activities that provide alternative employment opportunities for those who no longer find employment in agriculture an acceptable use of their human capital.

What is required to make rural areas more attractive for the creation of nonfarm employment? Basically it amounts to providing the necessary infrastructure in rural areas – roads, schools, communications, medical facilities, marketing structures, plentiful and reliable supplies of electricity. If these steps are taken, they make rural areas more attractive to rural people as well as those who make the investments required for the creation of nonfarm jobs in rural areas. Schools are key. It is a sad commentary upon rural policy making that it is only after agriculture has become relatively unimportant as a source of employment that schools in rural areas are of approximately the same quality and availability as urban schools.

One reason why the transition from a centrally planned to a market economy is going to be so difficult in the former Soviet Union is the poor state of the rural infrastructure in every regard – roads, schools, medical facilities, communication. The transfer of labor from agriculture to the rest of the economy, which will occur as economic growth occurs, will be tragically difficult due to the decades of neglect of the rural infrastructure. It will be a long time before the rural areas will be attractive for nonfarm investment activities other than those directly related to agriculture.

A consequence of the myopic views of policy makers concerning the agricultural adjustment process is that I know of no ministry of agriculture that believes part-time farming merits its full support and encouragement. This is evident in nearly the full range of activities that such ministries may be involved in – research, extension, credit, adult education, agricultural vocational education. Yet the experience of all of the market economies has been that a large part of the adjustment of the farm population to economic growth has been through part-time farming – the combining of farm and nonfarm employment in the same household and often for the same person. As commercial as the agriculture of the United States is thought to be, in most recent years 60% or more of the incomes of farm families have come from nonfarm activities; hardly more than a quarter of all farms are full-time farms in the sense that *more than half* of their family incomes come from farm operations. In Japan and Taiwan as well as in Germany an even larger fraction of farms are part-time. For millions of farm families the opportunity to continue to live on their own farm, where homesteads are dispersed, or in their village is a positive amenity. But this amenity is available to large numbers only where nonfarm jobs have become accessible to rural residents and it has been possible to combine these jobs with farm work. Part-time farming has permitted the majority of people living on farms in industrial countries to share in the increasing incomes created by economic growth. If there had not been significant growth of nonfarm jobs in rural areas permitting the development of part-time farming, there would be far fewer farm households or there would be many more farm households with low levels of income. The primary alternatives to part-time farming were either a greater migration to the cities or the damming up of more poor people in the countryside.

#### ALTERNATIVE ORGANIZATIONS OF AGRICULTURE

The countries of Central and Eastern Europe are now trying to decide how to organize their agricultures and, hopefully, will do so with the objectives of contributing the most to their economies and their farm people. The experience of Poland during the socialist period makes it evident that private ownership of land is not enough, by itself, to create a productive agriculture. The major point that I wish to make in the next few paragraphs is a simple one – it will take far more than deciding how farm units are organized to create efficient agricultures. The overall policy setting must be a congenial one in the sense that rural areas are not discriminated against in the provision of infrastructure, that farms are served by efficient input supply and output marketing systems, that there are adequate supplies of appropriate farm inputs such as fertilizers, ma-

chinery, petroleum products and electricity, and that farm organizations are permitted to make decisions that are in their best interests subject to appropriate restraints with respect to externalities. While it should not be necessary to state, farm output prices should not be manipulated for the benefit of urban consumers or for the benefit of government finances.

The organization of farm resources is an important aspect of the economic transition or transformation now taking place. The alternatives range from maintaining the large farm organizations, perhaps under the guise of joint stock companies, to creating much smaller farming cooperatives to family farms. The issue of the ownership of farm lands is as much a political as an economic issue. With appropriate policies, legal and institutional arrangements an efficient agriculture could exist under numerous different tenure arrangements – the terms under which a farmer or a farm organization obtains access to the use of land. It can be by ownership, by a use right or by a variety of rental arrangements (fixed rent in cash or kind or share rent).

In the United States where any tenure arrangement is possible, the most numerous form of organization is that of the family farm and of the family farms, part-ownership. In this case the farm operator family owns part of the land and rents the other part. It is important that the dark shadows of the past not prevail to either make land rental illegal or to encumber it with so many conditions that it is not a viable alternative. If land rental is to be consistent with efficient use of agricultural resources, there must be competition in the land rental market. Local authorities cannot be permitted to exercise monopoly powers in the rental of farm land, either in terms of establishing rental rates or in the determination of who the renters are on the basis of other than relevant criteria, such as past experience in paying rent. This point is made because it may be years before some of the republics of the former Soviet Union reach decisions concerning the private ownership of farm land. Until that time, family or even small scale cooperative farms can be viable only if the conditions under which farm land is available to farm operators is clearly defined and arbitrary and capricious decisions are minimized. If there are disputes between the farm operator and the owner of the land, there should be an independent agency for the resolution of the dispute. Such procedures generally do not now exist since the court systems in the republics are no where independent of the executive.

The success of the agricultural and rural reforms in China since 1978 show that not everything has to be perfect for rural people to make major contributions to economic development. What that example shows is that if the governmental restraints on the behavior of farm people are gradually relaxed and markets are permitted to develop and grow in significance,

farm people will respond by working harder and more productively than under the old restrictive regime of the communes. But it was not only the form of farm organization that rural people found repressive. Very important was the many restraints on what farm people were permitted to do. At the beginning of the reform period, almost all forms of individual or private nonfarm activities were prohibited, such as selling directly to urban residents, engaging in production of handicrafts or simple manufacture, or buying and selling with the intent to make a profit. Individuals were not allowed to own the means of production, such as a tractor or truck. As these restraints were gradually lifted over the first half of the 1980s, all forms of rural productive activity expanded at rapid rates. Agricultural output grew at an unprecedented rate of 7% annually from 1979 to 1984 and rural industrial output has grown much more rapidly than the output of large and heavily subsidized urban state enterprises.

Farmers are now largely free to produce what they wish though there is still pressure on them to sell fixed quantities of a few products, such as grain, oilseeds and cotton, to the state. The remarkable agricultural production record was achieved even though they do not own the land they farm nor can they be sure that they will next year farm the land they farmed this year. True, as one would expect, there is evidence of underinvestment in maintaining or improving the productivity of land. Without security of tenure, long run investments are discouraged. In spite of the potential reforms that have not been carried out that would either increase output or improve resource productivity, the overall record in terms of increased real incomes of farm people, high rate of growth of agricultural output and the creation of nonfarm jobs for rural residents has been a remarkable one.

#### CONCLUDING COMMENTS

Revisiting the subject of the role of agriculture in economic development makes it clear that there was a great deal of wisdom in the thought of Mill and Marshall that appears to have been largely ignored in the formulation of economic policies affecting agriculture in the developing countries in the decades since World War II. But it was not only the policy makers that may have failed to understand the wisdom that history had provided, but many economists approached agriculture's role in development in a very different and, I would say, much less insightful manner. Nor did the massive empirical work of Colin Clark affect the models that were used, regardless of the intentions of their creators, to justify the exploitation of agriculture and rural people.

As one revisits the recent history of thought and policy related to the

role of agriculture and economic development, it seems to me that all too often a very important fact has been ignored, namely "Farmers are as smart as the rest of us." It is simply wrong headed for any one to assume that farm people can be exploited over an extended period of time without there being negative effects, not only for the farm people, but for everyone.

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