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WORKING PAPER NO. 590

THE RELEVANCE OF ADLI FOR SUB-SAHARAN AFRICA

by

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1994 BUFORD AVE. - 232 COB
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Berkeley, California
March, 1991

a critical role in disseminating market attitudes by enabling the rise of a class of commercial farmers. Johnston and Mellor (1961) emphasized that agriculture must perform many functions in support of industrial expansion: supply labor, food, raw materials, and capital to the nonagricultural sector; earn foreign exchange for imports required for industrialization; and provide markets for industrial goods. However, except for the physiocrats, no economists assigned a leading-sector role to agriculture.

II Empirical Sources of Agricultural Neglect in Development Policy

The denial that agriculture can serve as a growth pole has been based on several empirical presumptions.

1. *Stylized Facts:* One of the best-established propositions in economic development is that the more developed the country is economically the smaller the share of agriculture in value added and employment. (Kuznets 1968, Clark 1951, and Chenery and Syrquin 1975). This proposition is supported by both historical and contemporary empirical studies. Following Lewis (1954), this proposition has been interpreted in economic development as calling for a policy in which agriculture is the handmaiden of an industrialization push, in which very little of the agricultural surplus is reinvested in agriculture and agricultural terms of trade are used to transfer the lion share of economic surplus from agriculture to manufacturing and encourage rural-urban migration. It has not generally been recognized that the implications of the structural change entailed in shrinking the relative size of the agricultural sector require the transformation of agriculture from a low-productivity sector to a high-productivity sector, in order to enable a shrinking sector to provide a marketable surplus sufficient to feed an increasingly larger urban population.

2. *Technological Pessimism:* (Ricardo 1817) Technologically, agriculture suffers from two presumed disadvantages: Science-based, input-intensive agriculture is not subject to increasing returns to scale. The HYV technology is inherently scale-neutral (Lipton 1978). In addition, it was presumed that agricultural innovations disseminate slowly, are not continuous, and that rates of return to investment in agricultural innovation are lower than in manufacturing. But the scale-neutrality of agricultural innovations is actually a strength of agriculture rather than a weakness, since it enables high productivity egalitarian growth in the rural economy. Also, there is evidence (Grilliches 1958 and Evenson and Ranis 1990) that the rate of return to agricultural innovations has been

considerably higher than that in manufacturing and that, with investment of public resources in agricultural research and extension, a continuous stream of agricultural innovations can be generated.

3. *Domestic Demand Pessimism*: Engel's law established that the income elasticity of demand for food is below unity, so that the share of agriculture in value added must decline as per capita incomes increase. Also, demand functions for grains are price inelastic, so that the absorption of a small excess supply of grains requires a large drop in price. However, empirical research has indicated that at very low income levels, the income elasticity of demand for food actually rises as households move to more varied diets and that the income elasticity of demand for grains continues to rise at income levels typical of semi-industrial countries as households move to a meat-based source of proteins which is based on a much less efficient use of grains for calory-generation.

4. *Trade Pessimism*: (Nurkse 1962 and Prebisch 1962) There was presumed to be a secular tendency for prices of primary goods to fall, making primary exports a poor candidate for an export-led growth strategy. A modified version of this proposition would state that primary-export income is subject to larger cyclical fluctuations than manufactured-export income. In addition, the cyclical character of primary exports leads to exchange rate fluctuations which mitigate against import-substitute industrialization. When export-receipts from primary exports are high, the exchange rate becomes overvalued making imports a more attractive means of satisfying domestic demand than domestic production. When export-receipts are low, the exchange rate is attractive, but the supply of foreign exchange for the import of intermediates and machinery is low, making it a fiscally unpropitious time to initiate import-substitution strategies in manufacturing. The ADLI strategy, however, is not an export-oriented strategy. It is rather a domestic-food agriculture provision strategy, for which trade-pessimism is relevant only to the extent that agricultural development is so successful that it converts grain-importing countries into grain exporters (e.g. India of the 1980s).

5. *Linkage Pessimism*: Ever since the early input-output studies of Chenery and Watanabe (1958) it has been assumed that in developing countries the backward linkages of agriculture are small relative to those of manufacturing Hirschman (1958). The presumed small linkages make agriculture an unlikely growth pole. We contend below that this linkage pessimism is factually unjustified.