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*The Transformation from Low Income Agricultural Economies:  
Observations Focusing on Africa and China*

The paper focuses on two stories dealing with the processes of transformation from low-income agricultural economies to more productive systems. The first is a story of a revolutionary rural transformation in China and the policies intended to promote that transformation. The story from China deals with the particular strategy to promote the economic transformation and the economic outcome as revealed by largely aggregate economic data. It is not an inquiry into the politics of the strategy nor does it inquire into the micro problems and details of continuing reform and adjustment. The second story deals with the problems associated with the general failure to achieve the transformation for most of the people in Sub-Saharan Africa. It is very broad brush, designed, along with the story from China, as background for a discussion of questions about strategies intended to promote the transformation from low income rural economic systems, especially in Africa.

In broad outline the process of the transformation is well known. It is a process of increasing specialization in production and exchange of goods. Specialization and related exchange increase the potential for increased production and a surplus above subsistence available for consumption and investment. Economic activity shifts from the farm household. Fewer workers are required to produce food and the cost of food relative to wages is reduced. Better opportunities attract labor from farming and household tasks and at the same time farm inputs and consumer goods are available at attractive terms of trade for those remaining on farms, leading to increased output per worker and improved levels of living. Of special importance in the transformation is the specialization in knowledge production and distribution. Knowledge in the form of information, skills and as embedded in tools and goods is the most important source of increasing productivity in modern economies.

A large part of the world's population has been left out of the transformation. For them the process stalled out before they got into a system of increasing economic opportunities. Those left out include those living near the edge of subsistence on farms and off. The big question is how to identify and implement policies and programs which promote the transformation, increasing economic opportunities for many more of those who have been left out.

### CHINA

China is the world's largest producer and consumer of agricultural products. The agricultural sector in China has long been confronted with the pressures created by a large and growing population and a relatively small and declining amount of cultivable land per capita. China has only 7 percent of global arable land and 20 percent of the world's population. Roughly 80 percent of the population lives in rural areas and 65 percent of the labor force works in agricultural enterprises.

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\* I wish to acknowledge suggestions and reviews from my colleagues, T. Jayne, V. Kelly, D. Mead, T. Reardon, H. Riley, A. Schmid, J. Staatz, D. Tardif-Douglin, M. Weber, and others of the MSU food security research group.

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China's agricultural sector has undergone a number of important changes since the end of World War II. Immediately after the Communists took power in 1949, a land reform was carried out throughout the country (excluding Tibet). The land reform was based on the premise of providing "land to the tiller," and by the end of 1952, when the land reform program was complete, close to one-half of the country's arable land was redistributed, and over 60 percent of the rural population benefited (Wong, 1973). During this period, the economy was basically market-oriented; the state played a minor role in resource allocation in the rural economy. The subsequent cooperativization (1953-57) and the following communization (1958-62) movements did not lead to the economic gains that Chinese leaders had hoped for, but instead to a near collapse of the rural economy. The "Readjustment Period" began in 1963, and by the end of 1965, the rural economy was near pre 1953 levels. However, the following ten-year "Cultural Revolution" almost ruined the Chinese economy in general, and the agricultural sector in particular. After the death of Mao Zedong in 1976, major policy changes became possible and politically desirable. Beginning in late 1978, the commune system was gradually replaced by the household responsibility system, or the HRS (Lin, 1988), which began a process of decentralization of economic decision making and market-oriented policy formulation in China's rural economy.

China is an agriculturally and climatically diverse country. Thus generalizations about it must be treated with care. China includes 30 provinces (or equivalent) any one of which is larger in area and population and as diverse as most individual countries in Africa. Moreover, policies affecting the agricultural sector among provinces are not uniform since decentralized decision making was brought about by the reforms.

#### *Objectives of the Rural Reform*

There is no simple list of the objectives underlying China's rural reforms initiated after 1978. Nonetheless an attempt is made to indicate the most important objectives that the initiators of reform set out to achieve as follows: a rapid overall economic development aiming at equity and efficiency through structural adjustments, enabling China to transform its traditional rural economy into a modern, industrialized one; a secure supply of basic goods, particularly basic food commodities and industrial materials at reasonable prices; the establishment of a market-oriented rural economy within the socialist system, and improved living standards (Wen and Zhang, 1992).

These objectives have been interdependent and at times even conflicting. The dual aims of equity and efficiency, for example, are always a bothersome pair in rural China given the fact that wide disparity between regions already existed before 1978. However, government leaders have taken bold steps in designing specific policies and programs aimed at realizing those objectives.

#### *Reform Policies and Programs*

The central government gradually relaxed compulsory quantity controls over both planting acreage and output procurement, letting local governments and farmers decide what to plant. At the same time, government budget allocated to agriculture has been constantly increasing, particularly to investment in rural infrastructure such as massive road construction, land improvement, marketplaces and communications. Macro policy reforms have been reinforced by sectoral and local policies. Starting from the very beginning of the reform, Chinese leaders realized, based on their past experience, that the success of transforming the traditional

agricultural sector depends upon two basic factors: aggressive government actions, not to directly manage the economy, but to provide adequate public goods and effective institutions to support the transformation; and a package of policies to reconstruct the rural incentive structure within which farmers and other participants can efficiently allocate their resources.

With this consensus the government designed a package of policies and programs to promote the rural economy, which can be described in Chinese by the words: bao, fang, tiao, zhuan, and lian, that is, contract, deregulation, adjustment, specialization, and cooperation. Bao refers to the contract system based on rural households, or the HRS; fang refers to the deregulation of prices and allowing the market to determine prices; tiao refers to adjustments in the rural economic structure and its regional distribution; zhuan describes the promotion of agricultural specialization including specialized rural households, villages and production bases; lian refers to various types of joint operations and cooperatives which involve economic activities in many subsectors in rural China.

The Contract System. One of the earliest steps to be taken in implementing rural reforms was very simple: farmers were allowed more freedom to organize their own labor, in terms of both time allocation and product choice, under the household responsibility system (HRS). The HRS was designed to recognize the property rights of individual farmers to land and other rural assets, and to provide more production and marketing incentives to rural households. Once their obligation to the state (in the form of a contract requiring delivery of specified quantities to the State) had been fulfilled, farm families were free to supplement their income by working in other sectors and to allocate their resources to more profitable activities. This system was completed nationwide in late 1983, which was accompanied by relaxation of quantity control over acreage.

Deregulation of Marketing and Pricing. The marketing and pricing deregulations were tackled in three stages. The first was to reform the state procurement system which was formulated in 1953 and reinforced over the following three decades. In association with implementing the HRS, the government began to reduce the range of agricultural products subject to compulsory state procurement. When a national agricultural marketing/pricing reform program was proposed in 1985, there were only a handful of agricultural products that were still subject to state price and marketing controls. In 1991, only basic cereals such as rice and wheat and important industrial crops such as tobacco and cotton were still under government control, which was finally abandoned in late 1992 when the market system was formally constituted in the Congress.

The second stage of the program was to deregulate consumer prices and markets. The sequence moved from non-grain cash crops and non-grain foods in early-and-middle 1980s to grain products in 1992. Government agencies do buy basic food products such as cereals in the market for buffer stocks and provide a floor price for producers and a less-effective ceiling price for consumers.

The third stage was to relax control over access to the market. Both product markets and factor markets were gradually opened to private participants. The government has invested in improving marketing infrastructure and setting rules of the game in marketing activities. Meanwhile, on balance, government plays the role of stabilizer in the market, especially in the basic food market through buffer stock related activities.

Structural Adjustments. Transforming the structure of China's rural economy has been, from the very beginning, one of the most important objectives of China's rural reform program. Structural adjustment has been carried out on three fronts: within the agricultural sector, changes have been aimed at encouraging crop diversification, with less emphasis on grain and more on cash crops and other subsectors such as livestock and fish; structural change within the rural sector has served to enhance the development of the secondary and tertiary subsectors; in addition, some changes have been made within the regional structure which will improve the overall distribution of economic activities throughout rural China.

Several policy measures and programs are believed to have contributed to the rural structural transformation. Firstly, it is a commonly held view, that the HRS together with the relaxation of price-controls and freeing of the market has provided necessary incentives to individual farmers, private firms and collective enterprises to participate in marketing both products and modern inputs. Secondly, priority allocation of government budget and preferential banking credits are other important contributors which enable local collective and individual investors to finance non-crop and non-farm rural activities. Thirdly, the increased imports of agricultural products such as wheat and rice and factor inputs such as chemical fertilizers have allowed the government to shift from acreage planning to market-oriented policies, enabling a shift of some resources from crop production to more profitable non-farm enterprises. Fourthly, increased government investments in market infrastructure have facilitated farmers' participation in the market and reduced transactions costs. Finally, careful regional planning under government guidelines, together with a package of incentive policies including price discrimination, market development, credit preferences and subsidized technological diffusion, were carried out to bring about improved distribution of regional rural economic activities.

Specialization. The central government has encouraged rural diversification and firm and household specialization to increase the marketable surplus of agricultural products at the local level. Several policy measures have been adopted in this regard. In mid-1980's a voluntary land redistribution program was launched, in response to a rapid growth of rural non-farm enterprises. Through the scheme, rural households that are good at farming were able to increase the amount of land at their disposal, making rural specialization possible. In addition, government at various levels gave priority to specialized households and other specialized rural economic agents when allocating credits and other essential factor inputs. Market opportunities have been created for those engaged in specialization so that they may sell their produce at more or less secured prices through government assistance. Finally, government units at various levels directly invest in and/or help to establish some specialized production bases in important crops for both the domestic and international markets.

Joint Operation and Cooperation. In order to improve the efficiency of the rural sector, while protecting rural smallholders, the government has promoted joint operations and cooperatives. One of the most important measures is to facilitate the organization of small farmers' common marketing cooperatives on a voluntary basis. The second effort is to establish a comprehensive service system supporting the rural transformation. Local agricultural authorities no longer merely hand down government decrees, as was the case before, but are now organized into company-like parastatals to provide a wide range of services including advice on technical and financial matters, marketing information, product selling and input buying activities. The government has also encouraged farmers and local governments to establish share-holding rural enterprises, enabling these rural enterprises and cooperatives to accumulate capital, to compete in markets and to make profits (and losses).

## OBSERVATIONS ON PERFORMANCE

With the impetus and momentum created by the reforms China's rural economy has grown at an extraordinary pace. Over the 1978/79 to 1992/93 period, average annual rates of growth were: output of the rural sector 10 percent, non-farm rural enterprises estimated at more than 30 percent, agricultural output 6 percent, and grain output 4 percent (compared to a 2 per cent per year growth rate in grain output between 1957-78). During the same 14-year period, the nation's population grew at a rate of less than 1.5 percent.

The rapid growth over the past 14 years has been associated with a drastic structural transformation in the rural sector. The relative importance of agriculture has declined dramatically, as a share of the value of total output from 70 percent in 1978 to 27 percent in 1993 (ARGRE, 1994). Roughly 57 percent of the rural output in 1993 was attributable to the rural industry, as contrasted to less than 20 percent in 1978. Other non-farm economic activities contributed to the rural output by 16 percent. With the rapid expansion of non-farm rural enterprises many rural workers moved to small towns and newly-industrialized areas. An estimated 110 million rural workers were (1993) engaged in non-farm activities, which was roughly equivalent to the labor employed in the formal urban industry and accounted for more than 25 percent of the total rural labor force. With the movements of rural industrialization and urbanization, rural income grew rapidly, from 216 yuan per capita in 1980 to 1370 yuan in 1993, increased at an annual rate of 14 percent at constant prices (SSB, 1994).

Perhaps most striking has been the importance of the town and village enterprises (TVE) in rural transformation. By 1992 rural collective enterprises accounted for 27 percent of industrial production in contrast to 9 percent in 1978. That is 27 percent of a much larger magnitude. The TVEs currently employ more than 100 million workers and produce a great variety of consumer goods and inputs, including agricultural chemicals and tractors.

China's agriculture has been undergoing a number of drastic changes during the period of economic reform and great progress has been made in achieving the objectives of those who initiated the rural transformation reform program. But the transformation in rural China is far from completed. The challenge will be to modify policies to continue to promote both rural farm productivity and rural non-farm enterprises and to deal with developing problems.

Striking are the differences in economic development among regions and groups as indicated by differences in rural per capita net income reported by regions for 1992. The 11 provinces of the East region, 1,300 yuan, the 10 provinces of the Central region, 900 yuan and the 9 provinces of the West, 600 yuan. Some studies show that income differences among regions were at least 30 percent larger in 1992 than in 1979. (ARGRE, pp. 125-29) Several factors are related to the differences among the regions. First, resource endowments and infrastructure favor the East. Second, the East had earlier reform at the level of the province where decentralization and market development were "one step ahead". Third, the East and Central had a history of greater commercialization and market orientation. Investment opportunities were thus greater in the East and resources flowed from West to East.

## SUB-SAHARAN AFRICA

The discussion of Sub-Saharan Africa is a generalized -stylized- description. The region includes 47 countries, all different, but with some common characteristics. Most important for the purposes of this paper, all have large numbers of rural residents attempting to make a living

from farming and very small scale off-farm activities with very limited economic opportunities. Most have had rapid migrations to cities unprepared to receive them, also with very limited economic opportunities. The problems of the people left out of the opportunities for economic development are strikingly similar across Sub-Saharan Africa, although the percentage trapped in poverty varies among the countries. There are significant differences in the capacity of the various governments to address the problems of those trapped in poverty.

### *Economic Organization and Governance*

The majority of the 500 million people of the region live in states with a recent history of political transition and instability. The history is important. The colonial period did not prepare large numbers of people for effective management of modern economies and governments. The legitimacy of existing authority is often questioned. The leaders have generally been skeptical of the capacity of ordinary people to make "correct" political and economic decisions. There has been a strong tendency for attempting state management of the economy and most recently a loss of faith in socialist ideologies. Most importantly the processes of working out and carrying out national economic policies are not well developed.

Smallholder Semi-Subsistence Rural Economies. Most, estimated as high as 75 percent, of the people in the region live in rural areas, and most rural residents are members of households engaged in semi-subsistence agriculture. Most of the smallholders hold land under customary systems of tenure. As numbers of people in a community increase the land is divided into smaller units. With very limited resources agricultural output is often inadequate to meet the food needs of the households. Household surveys consistently show that the majority of farm households receive more of their staple foods by purchase or gift than they sell or give. There are few households that are completely self sufficient food producers, although unreliable food markets discourage specialization and dependence on markets.

Typical smallholders live under very uncertain conditions, and given that most live near the level of subsistence, assuring the means to an adequate food supply has a high priority. Limited resources, risk aversion and uncertainty of weather and markets severely limits the use of purchased inputs.

Off-Farm Employment. Most farm households receive some income from selling services or goods. The rural employment generally involves very little specialized skill or investment and yields low returns. It consists of a variety of activities dominated by small-lot trading, low technology manufacturing and labor in areas of more abundant resources. Small scale enterprises are important to the survival of the rural household, but rural enterprises have not developed as attractive enough alternatives to farm household work to be a significant stimulus to the transformation of the rural economies. (Mead) The lack of effective demand in rural areas for purchased inputs and consumer goods other than food, the limited access to credit at rates comparable to urban firms, the limited availability of inputs and general low level of infrastructure limits the opportunity for rural enterprises.

A formal, and in many ways separate, economy of government workers, professional services, and larger scale firms in commerce and manufacturing exists in the cities. Because of limited demand, economies of scale and political influence, the formal economy tends to be monopolistic with the consequences economists typically expect. And because of a combination of regulations and the nature of labor markets for workers in larger firms and bureaucracies, the labor markets of the formal and informal sectors are separate and unequal, limiting access to

the better paying jobs. The urban informal sector is much easier to enter, but has problems and characteristics similar to the small firms in the rural areas.

Commercial Farming. There are many examples of productive (profitable) commercial farming in the region. Without getting into the issues of advantage and possible exploitation, note that groups of large scale farmers have been able to organize commodity systems with reliable supplies of technical inputs, including information, credit, insurance, transportation, storage, and access to reliable product markets, and regulations for quality control of products and inputs resulting in high levels of productivity.

Similarly there are a number of examples of small-holder adoption of high yielding varieties, technical inputs of fertilizer and other chemicals resulting in greatly increased yields where the package of inputs are delivered along with credit and assured profitable markets. When Government commodity support programs were considered to be too expensive they were discontinued and smallholders, faced with increased risks and problems, reverted to systems less dependent on technical inputs.

Exports. Exports are particularly important in the transformation process. Export commodity systems have the potential to produce surpluses for investment in increased food production or off-farm enterprises and have been a means for earning foreign exchange for the purchase of productivity-enhancing inputs. The export commodity systems have had different outcomes depending on the participation of smallholders. In systems unresponsive to the interests of smallholders much of the surplus has been captured by Government agencies and officials and by private non-farm firms, with little of it invested in rural infrastructure or rural enterprises. Most impressive have been a few mixed venture schemes involving export crops. Cotton in Mali is an example. These schemes have delivered a package of complementary inputs, financing and information combined with a reliable (but not a guaranteed price) market for the commodity and assured repayment of loans from the sale of the commodity. The effective combination of a parastatal, a large private firm and independent farmers, manages to reduce uncertainty, provide a relatively low cost and effective coordination of the system, and captures important economies of scale in transportation, processing, communication and marketing. The result has been improved incomes and food security for the farm households. While the schemes have their problems, importantly for our purposes they show that proactive coordination of commodity systems can significantly improve productivity.

Customs and Regulations. The institutions or rules of the economic game consist of the generally accepted code of conduct-the customs- and the formal laws and regulations. Laws which are inconsistent with customs are usually ineffective. Custom in Africa puts great emphasis on behaviors consistent with the support and preservation of the extended family and clan. These customs are most likely reinforced by the importance of the extended family, clan, and ethnic group in coping with the problems of food and personal security in very uncertain environments.

Customs define roles and responsibilities which influence labor productivity, investments, market and firm organization. It turns out that customs well adapted to deal with short run problems of household and village security are not always well adapted to modern industry and commerce. Most pervasive, perhaps, is the resulting weak incentives of managers and other employees to perform the economic functions of government agencies and non-family firms and the strong social incentives to use positions to benefit the extended family or kinship group.

Transactions costs are increased and investments are avoided because of uncertain property rights and uncertain enforcement of contracts, and a general ambiguity about existing policies, regulations and their enforcement. The existing regulatory systems, as implemented, reduce both domestic and international trade and investment and have had an especially negative effect on international transactions. The problems of regulatory ambiguity and public program implementation are worsened by the almost universal practice of paying public officials very little in salaries.

### *Economic Policy Reforms*

Three areas of notable economic policy reforms have been initiated over the past 10 years or so, most often at the behest of international lenders and donors. Most countries of the region have devalued overvalued currencies and many have liberalized access to foreign exchange. Agricultural commodity price supports, pan-territorial pricing, movement restrictions, farm input subsidies and consumer food subsidies, other than donor-financed food aid, have either been abandoned or significantly reduced. Parastatal organizations engaged in agricultural commodity marketing, storage, processing and food and input distribution have been abandoned or changed functions. Many included price stabilization and subsidy functions.

### *Observations On Performance*

Taking food security as a measure of economic performance, most of the people in Sub-Saharan Africa are worse off than 14 years ago. Reasonable estimates are that agricultural output growth rates have averaged about two percent per year since 1965 and have not been much different in the 90s. Population growth rates are estimated at 3 percent, with many of the countries at 3.5 per cent and higher. Data on available calories per person similarly suggest a decline in food security. There is no evidence of improvement in average per capita real income and some indications of declines (Cycler).

It is certainly the case that more people were trapped in poverty in 1993 than in 1979. The circles of poverty have not been broken for a very large percentage of the rural population and many in urban areas as well. Poverty is the problem and the result. The lack of resources is a barrier to investment in education, health, resource conservation, basic infrastructure, and productivity enhancing inputs. The results are high levels of illiteracy, poor health, degradation of resources, high transactions costs, too many children, low productivity per person and perpetuation of poverty.

At the same time the news is not all bad. Managing a 2 percent increase in agricultural output under the adverse conditions of the past 14 years was a notable achievement. The evidence is that African farmers, workers and managers do respond to economic incentives and there has been positive changes in economic policy. Development programs have made a difference.

## **DISCUSSION AND IMPLICATIONS**

There are great differences in factors important to the transformation of rural economies between the situation in China and Africa. The population growth rate in China is less than 1.5 percent compared with at least 3 percent for Africa. Literacy in China was estimated as more than 85 percent by 1993 in contrast to about 30 percent for Africa. Levels of health appear to have been significantly better in China. China had a much higher proportion of its crop land

under irrigation and many of the high yielding varieties require reliable water. China has a clear advantage over African countries from a common language, culture and legal system reducing transactions costs, facilitating domestic trade, with the potential for achieving economies of scale. It appears the political leaders in China had much more capacity to implement changes in policies than has been the case with leaders in Africa. China had a tradition of organized local governments with economic responsibilities. Also, many successful ethnic Chinese with money, skills and international connections to world technology participated in business ventures in China.

At the same time, many in Africa have a long experience operating within market economies. There are firms with extensive connections with the world trade and technical information networks. There are examples of successful economic development.

Differences in conditions and customs are very important and have to be considered in developing policies. Nonetheless, there appear to be important implications for development policy from the experiences in China and Africa.

#### *Some Critical Questions about Governance*

Take governance to mean the structure of power regulating economic relationships. The economic transformation requires a major restructuring of the system of governance. It involves changes in rights and privileges. There are winners and losers. People have to adopt new ways of relating and working.

Unanswered from the China experience are questions about the processes of change in the system of governance. What explains the political decisions behind the adoption of the objective to transform the rural economy and the many decisions made in the process of developing and implementing the strategy in pursuit of that objective? What were the customs and attitudes which resulted in the entrepreneurial responses to market opportunities? Why do the TVEs work? Why aren't they captured by the politically powerful or ruthless? How was it possible to convert organizations designed to control and extract bounty from farm households to parastatal like organizations serving the interests of these same households? In the period before 1978 what changes in the governance systems increased the potential for the post 1978 economic transformation and what reduced it?

The question to be answered by the African countries is how to bring the governance systems to restructure sufficiently to accept the commitment to develop and implement a strategy to effectively promote the economic transformation. Like many economic policy issues, government contributes to the problem and must contribute to solution. The answer to this critical question is beyond ordinary economic analysis, but economists have a role in contributing to the understanding of governance systems and the potential level and distribution of costs and benefits of alternative systems.

#### *Some General Conclusions*

The following short list of general conclusions relevant to the current economic reform debates is suggested.

\*\*Perhaps the most important conclusion is that it is possible to develop a strategy or program to promote the transformation. China is the most dramatic recent example of a proactive program promoting a rapid transformation, but is not the only one.

\*\*The transformation from low-income rural economies to significantly more productive and equitable ones does not just happen; it is not a likely outcome without a set of policies to promote it (at least in an acceptable length of run). While there is abundant evidence of policies and practices which are barriers to the transformation, there is no evidence to suggest that simply eliminating the negative policies would result in a timely transformation. Would China have made the rapid transformation simply by getting Government out of the way of markets and private enterprise?

\*\*The structure of incentives determines the economic outcome. The institutions - the rules of the economic game- structure the incentives. There is a strong tendency for political systems to develop institutions which result in weak incentives to increase productivity. The first move in the China economic revolution was to institute the household responsibility system and to (slowly) reduce the role of the large state enterprises. It was clearly an important innovation leading to increased productivity. The lesson is - get the institutions linking actions to consequences right. This is not as simple as it sounds.

\*\*The private firm is not necessarily the most effective organization for managing resources for the production and distribution of goods and services. Ownership matters, but more important is the discipline imposed upon the organizations. The implication of the experience with the TVEs, cooperatives and other forms of organization in China and with some of the parastatals facilitating production and marketing of export crops in Africa, is that the form of ownership along with the disciplinary environment should be considered as institutional variables in designing a transformation program.

The TVEs of China are examples of an institutional innovation in ownership and discipline. These are complex organizations subject to discipline or at least influence from three sources: the national government, local governments where they are located, and importantly the market. TVEs which fail to meet their payrolls and other costs are allowed to fail. Workers and managers can be dismissed. At the same time the local government has some capacity to influence the organizations to serve local interests. For whatever reasons these organizations have been a critical institutional innovation promoting the transformation by creating millions of productive employment opportunities, supplying inputs and consumer goods to rural people, generating capital and foreign exchange from sales in international and domestic markets, and at the same time responding to local community interests. In their absence would private firms done the same thing? Were the TVEs a result of an advantage in access to capital in an economy without capital markets?

\*\*It is neither necessary or sufficient to "liberalize all markets or to liberalize them all at once." China adopted a slow transition from the command economy and continues significant direct participation in the economy. Countries adopting sudden and major shifts to more market-oriented economies have suffered what appears to have been serious and unnecessary disruptions.

## *Developing Strategies to Promote Economic Transformations in Africa*

Based on what we know of the problems and successes in Africa and China, what is implied for strategies to promote the transformation in African countries?

Start with a political commitment to the objective of achieving the transformation and a willingness to adopt a pragmatic strategy designed to work out and implement policies consistent with the objective within the political and resource constraints of the system.

A basic economic strategy consistent with the general guidelines described for China is applicable for African countries as well, including; to make use of the incentives of markets, provide safety nets and policies to deal with market failures, provide a strong set of complementary public goods directed at promoting the transformation, and strong local governments participating in economic development. The issues are in the interpretation and implementation of the guidelines.

In Africa, as was the case in China, food security properly receives high priority. Adequate food is required for the energy to do the hard work necessary for production in near-subsistence households and to promote health, contributing to future productivity. Food insecurity leads to risk averse behaviors and customs which limit innovation, investment, and mobility and thus productivity.

However, once household food insecurity is recognized as a problem of poverty, not simply as a problem of food production, the implications of the food security priority change. Increased agricultural productivity is important for its contribution to incomes of producers and real income of consumers. Food security is enhanced by low cost and effective production and distribution systems for agricultural inputs, commodities for domestic and international markets, and food for urban and rural households.

The delivery of a package of inputs tied to reliable product markets has been identified as particularly important to successful agricultural systems. Research and information are frequently identified as inputs with public good characteristics requiring public funding. To the extent research and information can be brought under the discipline of the market, as in some integrated commodity systems, performance is likely to be improved. Highly applied research and extension provided by farmer-owned associations also add discipline. Nonetheless, publicly supported research and information service serving smallholder agriculture appears essential.

To be most effective, research and related technical information needs to be highly targeted and delivered in timely relationship with purchased inputs and credit. Technical inputs, with or without credit, will not be purchased without reliable markets. Commodity specialization, especially in higher valued commodities, requires both reliable, always on time, delivery systems for inputs and food. All this suggests a research and action program committed to facilitating the necessary coordination for commodity systems and related markets.

Special organizations or arrangements will often be needed to assure credit to smallholders. Also some form of commodity stabilization with the objective of assuring reasonably predictable revenue from targeted commodities may be desirable, but design and discipline are critical. Recall that China relied on both markets and parastatal-like organizations for delivery of technical inputs, technical information and credit to farmers.

In most smallholder farming in Africa labor is a constraint to total output. Also, the labor involved in accomplishing household tasks is great: collecting firewood, preparing commodities for cooking, supplying water, dealing with sanitation, etc. Many labor saving inputs exist for both farming and household tasks. With improved purchasing power, from farming or off-farm jobs, and lower prices from economies of scale in production and distribution, purchases of labor saving inputs would greatly expand. This in turn would generate employment and demand for more goods. These are the relationships which transformations are made of.

The second and equally important priority in a transformation strategy is promotion of off-farm enterprises and employment.

Rural off-farm enterprises and households face essentially the same set of problems as in farming. (To a large extent they are the same people.) It is logical to apply the same strategic approach to off-farm rural enterprises. The specifics would, of course be different, but research and action programs, including those facilitating training, providing specialized credit, promotion of coordinating institutions and organizations to assure complete sets of inputs essential to the enterprises, are the same in principle.

In the transformation of economies with large populations trapped in low income farming and rural enterprises, farming and off-farm employment are intimately linked. Improvement of farming systems is necessary but as the transformation progresses the more dynamic contribution can be expected to come from the off-farm enterprises. Note again the "market with industrial policy" approach to non-farm rural enterprises taken by China. Targeting infrastructure investments in transportation, communications, marketing facilities and training are part of such a strategy.

The actions in a transformation strategy with the highest benefit to cost ratio (in financial terms, not necessarily politically) are changes in the governance systems. Targets would be existing policies and regulations imposing costs on the economy without benefit to the relatively poor and missing rights and regulations which would promote productivity and improve access to economic opportunity. In most African countries this is a large set and would require a commitment to a strategy to identify and reform them. A special target would be well intended regulations which result only in imposing costs by the actions taken to avoid them.

### *Something More*

Something more is needed in most African countries and something more was going on in China. Africa needs a "big bang" approach to get their economies developing at a faster rate than population growth. Good sound policy will not be enough. Something has to be done to change the enterprise systems, as well as rights to economic participation, and connect their economies more effectively to the economies and knowledge networks of the world.

New forms of economic organization are needed. These organizations need to be compatible with the conditions and customs of the countries. The experience with the integrated export commodity joint ventures and the variety of collective organizations participating in the transformation in China, suggests some kinds of joint ventures offer the best prospects.

Particularly suggestive in the China story was the role of the enterprise forms with community or other types of collective ownership under a combination of market and political discipline. This suggests policies promoting more active participation in economic activities by villages and

other decentralized units of government. With traditions of communal organization, what institutional innovations would be needed to get local community participation in enterprises or indirectly in active support of enterprises owned by groups from the community? It appears that limited access to capital and technical inputs are important barriers to the development of rural farm and off-farm enterprises. Are specialized investment banking organizations to inform and support local communities and rural enterprises a possible source of economic growth? Perhaps, but the institutional design is critical.

Most importantly some means must be developed to connect African economies more effectively to world markets and knowledge networks. This suggests a variety of joint ventures with international firms, or in some cases with national firms with good international connections. Joint ventures through franchising or other contractual agreements, other than simple direct foreign investment, seem to offer the best opportunities. The franchise model leaves ownership of the assets of the enterprise in the hands of local managers and investors, while the firm offering the franchise supplies a set of successful standard operating procedures, and access to input and output markets, including access to specific knowledge networks. A major contribution from international joint ventures would require an investment in the development of models and national and international oversight institutions. In any case institutional innovation to effectively bring those left out into the world economy is very much needed.

#### FINAL COMMENTS

This brief paper does not do justice to our subject. Reading the report on China, condensed as it had to be, and reading the much too generalized description of the economic organization of a region of 47 diverse countries raises many more questions and possible ideas for promoting transformations in Africa and elsewhere than we were able to explore in the discussion. Abstracting from the current wars raging in the region creates a feeling of unreality, especially related to recent work in Rwanda. There are very large differences among the countries and different approaches are appropriate.

The discussion neglected policies focusing on equity other than the objective of bringing those trapped in poverty opportunities for participating in more rewarding employment. China and some of the African countries face major problems of existing or growing disparity in wealth. The certain lesson is that markets and an objective of equity do not lead to equitable distributions of opportunities. Policies and programs directed specifically at equity objectives are required.

African leaders may take some hope from the observation that most economists would have concluded in the middle 70s that China was an economic basket case with little prospect for economic development in the foreseeable future.

The stories of this short paper suggest that as a profession we have a great deal of work to do to glean understanding about the relationships between institutional design and economic development from the extensive natural experiments currently on display. The story from China both supports and raises questions about the validity of some of our previous conclusions about policy to promote economic transformations. Most importantly there is hope from knowing that a rapid transformation took place. It can happen in other countries as well.

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