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Structural Adjustment Policies and Agricultural Development in Morocco

INTRODUCTION

Structural adjustment is generally defined as a combination of macro-economic stabilization and sectoral policy reform (World Bank, 1988, p.32). Stabilization involves reducing balance of payments and government budget deficits and inflation to levels that can support sustained growth. Sectoral policy reform is aimed at providing incentives for the economy to function more efficiently and to earn more foreign exchange (Nelson, 1990, pp. 3-4). This paper reviews the recent history of structural adjustment in Morocco, with particular reference to the agricultural sector.

Structural adjustment is usually deemed necessary when a country finds itself facing serious economic difficulties. Luther Tweeten (1989, p.1102) has delineated five symptoms indicating that structural adjustment is needed:

(1) persistent government budget deficits,
(2) national debt becoming a large proportion of national income,
(3) high inflation rates,
(4) over-valued national currency and
(5) shortage of foreign exchange.

ECONOMIC CONDITIONS PRIOR TO THE ADJUSTMENT PROGRAMME

All of these conditions (except perhaps high inflation) existed in Morocco in the early 1980s as Morocco began its structural adjustment programme. The Moroccan economy had seen moderate and stable growth during the 1960s and 1970s. Economic growth had attained an average of 4 per cent during the 1970s, reaching a high of 7.5 per cent during the 1973-7 period, only to fall rapidly to a negative 3 per cent growth rate during the 1981–5 period. The phase of rapid expansion had been permitted in part by rising world prices of raw materials in the early 1970s. Between 1973 and 1974, the price of phosphate more than tripled. This rapid price rise had contributed to the launching of public works programmes of physical infrastructure: construction of dams and roads, school and university buildings, industrial facilities, and others. At

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the same time, prices of basic food products were maintained at a relatively low level, thanks to a system of subsidies on food consumption. The increase in world prices of phosphates proved to be ephemeral, since prices began to drop significantly in 1975–6. That drop was translated into a major increase in the government budget deficit because expenses did not drop as quickly as budget receipts. At the same time, easy access to external finance permitted the government to continue investment programmes and to sustain public sector support of the social system. These policies stimulated domestic demand that grew more than 11 per cent per year in real terms during the period 1973–7. At the same time, there was a reduction in competitiveness of Moroccan exports (because of the increase in energy prices and the prices of intermediate goods) and an increase in the import bill.

In the second half of the 1970s, international finance became more difficult and the rate of interest increased. The weight of the debt became heavier and the investments realized during the 1970s could not finance reimbursements of the debt (Seddon, 1988, p. 1). The increase in world prices of raw materials imported by Morocco worsened the balance of trade deficit (oil, grains, sugar and vegetable oil) and brought about public sector deficits because of the subsidy policies.

Conditions in the agricultural sector

In the agricultural sector, as for the rest of the economy, the solid growth of the 1960s and much of the 1970s could not be sustained in the 1980s. Food production did not follow the rapid growth in food demand, which was stimulated by rapid population growth (2.6 per cent), rapid urbanization and a fall in real prices of principal food products (flour, sugar and vegetable oils). At the same time, agricultural exports stagnated during this period, and the balance of agricultural trade went into deficit ranging between $200 and $250 million per year.

The analysis in global terms of the agricultural sector does not take into account the differences in performance in the irrigated and rain-fed agricultural sub-sectors. Irrigated agriculture, which produced nearly 40 per cent of agricultural production, 80 per cent of sugar and more than 50 per cent of milk, had seen during the 1960s and 1970s a rapid expansion, which was followed by a slowing down in the beginning of the 1980s. This performance of the irrigated sector was the consequence of investments in irrigation equipment, increased use of factors of production (fertilizer, improved seeds and so on) and use of modern techniques of production. Moreover, changes in consumption habits in urban areas led to increased revenues for irrigated agriculture due to increased demand for more remunerative crops such as tomatoes.

On the other hand, the rain-fed sector that produces the major part of basic food commodities (cereal grains, vegetable oils and legumes) did not experience a growth in production comparable to the irrigated sector. Public investment had favoured irrigated areas, and the impact of drought made production gains highly variable in rain-fed areas. But the structural constraints and climate (one drought every two years on average during the last two decades)
could not by themselves explain the problems of Moroccan agriculture. The performance of the agricultural sector had been negatively affected by both macro-economic and sectoral policies in agriculture. The macro-economic policies followed during the 1970s and the beginning of the 1980s had disadvantaged Moroccan agricultural exports because of the over-valued exchange rate and regulations on foreign trade. The controls on prices of basic food products also had negative impacts on agricultural production. To compensate for the negative impacts of public sector macro-economic policies on the agricultural sector, policy makers attempted to stimulate directly the production and income of farmers. State interventions were either indirect, such as investments in infrastructure and improved technology, or direct, such as subsidies on inputs and elevated price supports for production. The principal instruments of intervention by the state have been as follows:

1. price supports for major agricultural commodities,
2. restrictions on domestic and foreign trade and a proliferation of controls and administrative regulations in the formation of prices and exchange rates throughout the whole agro-industrial chain,
3. subsidies for most inputs, such as fertilizers, improved seeds, irrigation water, and livestock feedstuffs, as well as farm investments, and
4. subsidies on basic food products such as flour, sugar and vegetable oil.

These interventions have had repercussions on public finance as well as causing distortions in production and exchange.  

STRUCTURAL ADJUSTMENT IN MOROCCO

Morocco actually began structural adjustment on its own in the late 1970s and early 1980s with the plans of 1978–80 and 1981–5. The factors mentioned above, plus the effects of the drought of the 1980s, accentuated the weight of the external debt and caused the country to undertake, in collaboration with external financial agencies, structural adjustment reforms of the economy. The principal objectives of these reforms were the reduction of the balance of payments and budget deficits. A whole range of measures at the macro and sector levels were undertaken to achieve these objectives. Macro measures included reducing the growth in the money supply, reducing the rate of growth of government expenditures and increasing government revenues, and adopting a flexible exchange rate to devalue the dirham.

The first adjustment programme with the World Bank was called the Industrial and Trade Policy Adjustment (ITPA). It was designed to reduce domestic price controls and distortions and to reduce tariff protection to a maximum of 45 per cent. ITPA also included a number of financial sector reform measures. The structural reform measures in ITPA were coordinated with the general economy measures discussed above.  

1. Structural Adjustment Policies in Morocco
2. Structural Adjustment Policies in Morocco
Conditions in agriculture leading to adjustment

The measures adopted in the agricultural sector are discussed in detail below. The agricultural sector measures were designed to supplement and complement the general economic measures and those taken in the industrial sector. A study of prices and incentives in the agricultural sector helped to identify the existing distortions and opportunities for policy change (Ministère de l’Agriculture et de la Réforme Agraire, Royaume du Maroc, 1986, pp. 177–86). The study revealed that the domestic resource costs for dryland cereals, oilseeds, legumes and export crops were all less than one, meaning that Morocco had a comparative advantage in production of these crops. Most sugar production had domestic resource costs greater than one, and milk was generally equal to or slightly over one.

Clearly, one of the principal effects of state intervention in the agricultural sector has been the reinforcement of the dual structure of the sector (modern and traditional). Before 1980, more than 65 per cent of agricultural investments were devoted to irrigated zones that represent only 10 per cent of cultivated land and 15 per cent of the agricultural population. It was only beginning with the 1981–5 five-year plan that investments were re-oriented in favour of rain-fed zones. The dualism encouraged by state intervention appeared also in the application of new techniques. Programmes have existed for encouraging utilization of modern techniques and factors of production in irrigated zones, but rain-fed zones remain largely traditional and little touched by systems of subsidies for farm investments. Moreover, products cultivated in rain-fed zones, notably the cereals, have been penalized relative to irrigated crops because the majority of crops cultivated in irrigated zones receive fixed prices and a sure market outlet provided by the state. The large rain-fed crops (mainly cereals) have a price support that, because of food subsidies and the lack of an adequate collection network, are known to be inefficient. In a year of good harvest, market prices for certain cereal grains have often been considerably below official prices.

The policies of subsidizing inputs have benefited irrigated zones more than rain-fed zones. About 40 per cent of total input subsidies have been absorbed by irrigation water and 35 to 40 per cent of fertilizer subsidies have been consumed in irrigated zones.

MAJOR COMPONENTS OF AGRICULTURAL ADJUSTMENT

The agricultural sector structural adjustment programme in Morocco was supported by several loans from international lending agencies and by grants from USAID and other donors. The World Bank provided $100 million for the first structural adjustment load in agriculture in 1985. In 1987, a second World Bank loan was signed for $225 million. The African Development Bank loaned $150 million in 1985. The World Bank provided two other loans for improving irrigation, and the European Investment Bank and EC provided other credits for agricultural development (The Economist Intelligence Unit, 1990, p.27).
The major components of the agricultural structural adjustment programme are as follows (World Bank, 1987, pp. 9–18):

(1) liberalize agricultural and food product pricing and marketing,
(2) restructure priorities for the public investment programme,
(3) streamlining and/or privatize government support services,
(4) improve the management of natural resources, and
(5) strengthen the Ministry of Agriculture’s policy analysis capability.

Price and marketing policies

The largest group of conditions of the external loans fell into this category. In general, the aim of the conditions was to de-control prices and de-regulate domestic and international marketing of agricultural products. The agreements called for changing the approach to establishing domestic support prices for cereals to a linkage with world market prices instead of domestic cost of production. Most agricultural products would move from a restricted trade status to free trade with a tariff. Much of the structure of control and regulation of internal markets for cereals and other agricultural products would be removed or simplified.

The cost of inputs and services that benefit essentially irrigated zones would be adjusted in such a manner as to approach their real economic value. Subsidies would be removed from fertilizer, irrigation water, services provided by the irrigated perimeters and the animal feed by-products, bran and sugar beet pulp. Perhaps the most controversial components called for the progressive removal of subsidies for flour and vegetable oil. There were also numerous conditions concerning changes in the regulations of flour mills and flour products.

Restructuring public investment programmes

Public investments were to be restructured in a manner to allocate priority according to the following criteria:

(1) fundamental contribution to the sectoral development objectives,
(2) little or no impact on the operating budget,
(3) maximum profitability of the investments,
(4) positive effect on the balance of payments, and
(5) creation of employment in the short and long term.

In addition, private sector incentives for larger participation in agricultural investments would be provided. The state would cease to furnish support services that are commercially viable. Also, in order better to direct state actions, agricultural subsidies would be transmitted by a special fund called the Fund for Agricultural Development.
Restructuring and privatizing government support services

The structural adjustment programme sought to rationalize and render more efficient public sector interventions to recover costs and to encourage the state to cease to provide services that could be transferred to the private sector. Improvements were planned in agricultural research and extension. Services that could be efficiently provided by the private sector were to be wholly or partially privatized. Veterinary services were to become essentially private. Input marketing for fertilizer was to be reformed, so that state companies and the private sector would be on an equal footing. Production and distribution of seeds was to be gradually privatized.

Strengthening agricultural policy analysis capability

The structural adjustment programme sought to reinforce the means of analysis available to the Ministry of Agriculture to permit the following:

(1) analysis of price, trade, and agricultural marketing policies;
(2) examination of the level of investment programmes and expenses as a function of social and economic criteria;
(3) undertaking longer-term analyses; and
(4) monitoring the evaluation of projects and investment programmes in the agricultural sector.

ASSESSMENT OF THE AGRICULTURAL ADJUSTMENT PROGRAMME

The agricultural adjustment programme effectively began in 1985 and continues to the present. Hence, at this point, we cannot evaluate total impacts of the programme. Rather, we can describe the measures that have been undertaken and assess the results to date.

Price and marketing policies

Substantial progress was made on the reduction of input subsidies. The programme to eliminate subsidies on fertilizer has proceeded essentially as planned, causing the price of fertilizer to rise substantially. The fertilizer price is now free. Even with the price increase, use of fertilizer increased substantially, except in 1987, which was a poor rainfall year. Studies have shown that the marginal value product of fertilizer is still considerably higher than its price, so usage is not likely to be affected in the future by the higher prices. Also, about 30 retail outlets for fertilizer have been closed to shift more of the distribution to the private sector. Subsidies on seed production were frozen at the 1984 level in real terms. Steps have been taken to privatize the production of seeds.
Prices of wheat bran and sugar beet pulp were increased by 60 and 17 per cent, respectively. These price increases were determined by using a feed ration model to determine shadow values of nutrients, given the prices and nutritional characteristics of other livestock feed ingredients. Today there is an official price of bran that is used only to calculate flour subsidies – the bran market is free.

During 1985–8, the official prices of agricultural products were frozen in nominal terms. The first official price increases occurred for the 1989 crop. The approach of linking domestic price to world price for bread wheat was adopted, with the caveat that the domestic price would not fall below the 1986 level in real terms. The marketing and prices for durum wheat, maize and barley were completely freed. For milk, the price differential between high lactation and low lactation was increased by more than 20 per cent to provide a greater incentive to increase production during low lactation.

A farm budget analysis was carried out to calculate the impacts of these changes on producer income. It appears that major changes occur only for irrigated farms that practise a crop mix largely composed of wheat, and for producers of barley in rain-fed zones. Irrigated wheat producers are better off because the price of wheat went up in 1989 more than the increases in cost of production. For rain-fed zones the impact of structural adjustment on farm income is closely linked to variation in yield that is characteristic of these zones. This variability is amplified by the effect of size of farm and by the portion of the farm that goes into wheat or into barley. Barley producers have seen a drop in their income by 10 per cent in real terms, despite increases in yield. This drop is explained by the fall in the price of barley that has not been supported as it was before the programme. In conclusion, one can say that it is probable that farm income has been affected more by measures outside the structural programme (devaluation, food subsidy policy and so on) than by the application of structural measures. The major beneficiaries have been the producers of wheat.

Changes were also made in subsidies and regulations on production and distribution of food products. The price of ‘deluxe’ flour was de-controlled. Quotas were established by mill for the production of the lower-quality ‘national’, flour, which is still subsidized. The extraction rate for ‘national’ flour was increased from 78 to 80 per cent.

In 1987, the government of Morocco, in cooperation with USAID and the World Bank, launched a Compensatory Food Programme designed to help lower-income groups who might be adversely affected by the price increases and other measures in the structural adjustment programme. About $80 million has been allocated to the food component of this programme.

Public investment programmes

In the early years of the adjustment programme, public investment fell in agriculture both in absolute terms and as a percentage of total investment. Agricultural investment fell from Dh 1 387 million in 1981 to Dh 582 million in 1986. The percentage of total investment fell from 13.5 in 1981 to 7.0 in
1986. However, investments in agriculture increased substantially in later years bringing the nominal level in 1988 nearly back up to the 1981 level. There have been changes in the mix of investments within agriculture as well. Research and extension rose from 4 per cent of the total in 1985 to 8 per cent in 1987, while large-scale irrigation dropped from 50 per cent to 42 per cent over the same period.

**Government support services**

Major changes have been undertaken in irrigation policy. A key objective is financial autonomy for the irrigation offices. Recovery of water charges has increased from 47 per cent in 1984 to 67 per cent. Three irrigation offices out of nine have moved from deficit into surplus. Marketing of inputs is being transferred to the private sector.

Veterinary services have been privatized in certain areas. The public sector still pays costs for any large-scale epidemics and for artificial insemination services. In agricultural research, legislation was adopted to strengthen the autonomy of the National Agricultural Research Institute. Experiment stations that were mainly engaged in seed production were closed, so that activity could be transferred to the private sector.

For extension, the most important realization concerns the elaboration of the extension plan of which the principal objective is the re-enforcement of training of farmers by the establishment of interdisciplinary teams that operate on the ground and that will be in contact with other more specialized teams at the level of the province. The specialized teams will be in permanent contact with the national research agency at the central level. This structure is going to permit contact between the research institute and farmers and will facilitate the results of agro-economic research and equally the feedback from farmers to researchers concerning problems encountered on the ground that could not be solved by the multi-disciplinary teams.

**Agricultural policy analysis capability**

Substantial progress was made in increasing the Ministry of Agriculture's policy analysis and monitoring capability. The Ministry economic policy staff have conducted several studies that have been used in debating and establishing agricultural policy. The staff are all computer-literate and most have received training in micro-economics, quantitative methods and policy analysis. Several have received advanced degree training. Some of the staff participated in a joint policy study with the World Bank on market interactions in the agricultural sector.
CONCLUSIONS AND RECOMMENDATIONS

The assessment drawn from the execution of the structural adjustment programme to date suggests the following principal conclusions:

(1) Many of the changes have been quite positive and have laid the groundwork for a more vigorous agricultural sector in the future.

(2) The timing and sequencing of implementation could have been improved considerably. In the early years, the agricultural sector bore many of the costs of adjustment (subsidy removal, reduced protection and so on) without receiving the benefits. This situation has brought about an increase in cost of production that is not compensated by the level of prices of products.

The lessons drawn from this experience permit us to formulate the following recommendations:

(1) In the identification of a programme of adjustment, it is vital to associate all of the concerned parties with the objectives and process to help create shared ownership and responsibility and to ensure complementarity and good integration of all of the components of the programme.

(2) Before putting the programme of adjustment into operation, it is important to begin with an initial evaluation of the impact of the measures to be undertaken, not only at the aggregate level but also at the level of the producer and the consumer. Successful evaluation requires the availability of strong tools of analysis adapted to the social economic context of the country. Also it is necessary to develop these tools to proceed with the evaluation, and undertake simulations throughout the application of adjustment measures to take into account new situations that can appear.

(3) Structural adjustment does not necessarily need to be synonymous only with solving problems of budget resources. It seems, in effect, that the tendency in the application of adjustment programmes is to favour especially the execution of measures that have positive incidence on the public budget. It is important to consider all of the public objectives, to create a plan of structural adjustment measures and to follow the totality of that plan in order to achieve the combination of objectives. Partial execution can result in undesired outcomes.

NOTES

1 Parts of this section and other sections in this paper are taken from, or draw heavily upon, a previous paper by Mokhtar Naanani (Bouanani, 1989).

2 See the contribution on Morocco by B. Hamclouch in S. El-Naggar (1987).

3 A. de Janvry et al. (1990) conclude that the current agricultural sector adjustment programme should thus be seen as a highly attractive context to mount a serious effort at rural development to assist small farmers to take maximum advantage of the opportunities offered by reducing the historical bias against dryland agriculture.

4 Improvement of natural resource management included soil conservation, reforestation,
reducing desertification, and other programmes. Because of space limitations, it will not be discussed in this paper.

5 There was a safety clause whereby the domestic support price would not fall below the 1986 real support price in the event of a fall in world market prices.

6 The prices and incentives work has shown that Morocco has a comparative advantage in production of dryland wheat, but not irrigated wheat, in general.

7 An evaluation of this programme is currently under way (personal communication with Assistant Professor Joanne Csete, Department of Nutritional Sciences, University of Wisconsin).

REFERENCES


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DISCUSSION OPENING – RASHID M. HASSAN*

I have read the paper by Dr Bouanani and Professor Tyner in conjunction with that by Alberto Valdés, on which I will also open the discussion (see below). They are, to a large extent, complementary, though it will be realized that Valdés provides a somewhat more general review of policy reform, whereas Bouanani and Tyner have been asked to concentrate on the experience of a single country. They have certainly produced a particularly interesting analysis of the economic conditions and the policy environment in Morocco before and after reforms were introduced. Time may not be opportune for a comprehensive assessment of the impact of policy reforms owing to their being so recent as well as there having been only partial application of adjustment measures. Country experiences, however, provide the only laboratory for economic policy simulation experiments.

For that reason I value the contribution of Bouanani and Tyner since they provide a valuable review of the symptoms which indicate that policy reform

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is necessary and clearly describe the package of rather typical measures which have been applied, with a focus on agriculture. Part of my interest in their work, which will be reflected in my later comment on Dr Valdés's paper, relates to the matter of timing and sequencing of policy implementation. This appears to be one case in which agriculture was faced with re-adjustment at a very early stage, and in which it bore burdens without receiving speedy benefit. The other feature of the paper is the emphasis which it gives to the importance of policy analysis, which I will also refer to later.

My criticism of the paper is that it does tend, understandably in a very short presentation of a case study, to be somewhat weak in analysis of the overall background. A small table summarizing data on key indicators of protection and economic incentives, such as the real exchange rate for the important sectors and commodities in Morocco before and after the policy change, would have made this paper very illuminating. Such information is necessary for evaluating the relative importance of the various components of the reform programme, especially if combined with data on resulting changes in the volume and composition of commodity trade and factor allocation. Useful lessons about the relative importance and timing of the different measures of economic adjustment can be learned from specific case studies. This does require a very full analysis, since the linkages involved can be complex. It is still important, however, to understand the descriptive background and it is in this that the authors have made a useful contribution.