

126359

THE IMPACT OF STRUCTURAL  
ADJUSTMENT ON AGRICULTURAL DEVELOP-  
MENT IN THE NEAR EAST REGION

Alan Richards

Working Paper 9525

WORKING  
PAPER  
SERIES

ARCHIV  
114277  
WP 9525



ECONOMIC  
RESEARCH  
FORUM

FOR THE ARAB COUNTRIES, IRAN & TURKEY

This report is presented as received by IDRC from project recipient(s). It has not been subjected to peer review or other review processes.

This work is used with the permission of Economic Research Forum.

© 1995, Economic Research Forum.

The Economic Research Forum for the Arab Countries, Iran and Turkey (ERF) was established in June 1993 as an independent, non-profit regional networking organization. Its mission is to promote policy-relevant economic research with a broad representation of views to help activate the policy-formulation debate in the region, by encouraging and funding quality research, and by disseminating results of research activities to economists and policy-makers.

---

The ERF *Working Papers Series* disseminates the findings of research work in progress to promote the exchange of ideas and encourage discussion and comment among researchers for timely revision by the authors.

The *Working Papers* are intended to make preliminary research results available with the least possible delay. They have therefore not been edited nor made subject to formal peer review by ERF staff and ERF accepts no responsibility for errors.

The views expressed in the *Working Papers* are those of the author(s) and not those of ERF. Unless otherwise stated, copyright is held by the author(s). Requests for permission to quote their contents should be addressed directly to the author(s).

**THE IMPACT OF STRUCTURAL  
ADJUSTMENT ON AGRICULTURAL DEVELOP-  
MENT IN THE NEAR EAST REGION**

Alan Richards

**Working Paper 9525**

**THE IMPACT OF STRUCTURAL ADJUSTMENT ON AGRICULTURAL  
DEVELOPMENT IN THE NEAR EAST REGION:\***

Alan Richards\*\*

Professor of Economics  
University of California, Santa Cruz  
U.S.A.

Revised May 1994

---

\* This paper was prepared for the 23rd Regional Conference of Near East Ministers of Agriculture, Nouakchott, Mauritania.

\*\* The author would like to thank Drs. Fahmi K. Bishay, Mohammed Ghalloudi, and Dyaa K. Abdou for helpful comments on previous drafts. All responsibility for remaining errors is his alone.

ARCHIV  
300.0245(5-011  
51/2  
WP 9525

## Abstract

Structural adjustment is necessary, but not sufficient for achieving sustainable long-run growth and food security at the national and household levels. The key channel of structural adjustment's impact is through improved farmer incentives. There will be fairly strong individual crop responses for those crops which were formerly heavily taxed, while the opposite is true for import-substituting (and protected) crops. The sectoral response will be lower; although there are some important sectoral efficiency gains from reallocating land from lower to higher value crops, these gains are of a "one for all" type. In the longer-run, growth is driven by investment and technological change, but improved incentives can encourage investment. If governments also maintain and strengthen investment in physical, human, and social infrastructure, a strong output response over the longer-run is likely. Differential impacts among rural people are also analyzed. Here too the key variable is how well supply can respond to the improved incentive environment. Such responsiveness is dependent on complementary policies.

## ملخص

رغم أن التكيف الهيكلي يعد أمراً ضرورياً، فهو غير كاف لتحقيق نمو متواصل طويل المدى وأمن غذائي على المستوى القومي ومستوى الأسرة. ويعتبر الارتقاء بالحوافز للمزارعين الطريق الأساسي لتحقيق آثار التكيف الهيكلي، فإن ذلك سيؤدي إلى استجابة قوية إلى حد كبير لبعض المحاصيل التي كان يفرض عليها، فيما مضى، ضرائب عالية، والعكس صحيح بالنسبة للمحاصيل التي تحل محل الواردات (المحاصيل المحمية). أما عن الاستجابة القطاعية فسوف تكون أضعف؛ فرغم أن هناك مكاسب هامة في مجال الفعالية القطاعية، بسبب إعادة تخصيص الأراضي والتحول عن إنتاج محاصيل منخفضة القيمة إلى إنتاج محاصيل عالية القيمة، فإن تلك المكاسب من النوع التي تتحقق مرة واحدة فحسب. وإن كانت الاستثمارات والتغييرات التكنولوجية من شأنها دفع عجلة النمو على المدى الطويل، فإن الحوافز المجدية قد تشجع الاستثمارات. فإذا أبقت الحكومات كذلك على الاستثمار في البنية الأساسية الطبيعية والبشرية والاجتماعية ودعمته، فمن المحتمل حدوث استجابة قوية للإنتاج على المدى الطويل. وتقدم الورقة أيضاً تحليلاً للآثار التفاضلية عند سكان الريف، حيث يكون المتغير الأساسي هو مدى قدرة العرض على الاستجابة لبيئة الحوافز بعد الارتقاء بها. وتتوقف تلك الاستجابة على السياسات التكميلية المتبناة.

## I. INTRODUCTION

During the past decade, many countries have adopted macro, sectoral, and microeconomic policies designed to restore external and internal balances through an expanded role for the market mechanism and the private sector. This shift, often called structural adjustment seeks to stimulate exports, restrain imports, and stimulate private and public domestic savings in order to achieve sustainable growth. Both macroeconomic and sectoral policies are designed to raise the efficiency of resource use by greater reliance on the market mechanism and upon private initiative.

Although the specifics of adjustment "packages" vary from one country to another, the fundamental macroeconomic policy changes are a devaluation of the currency and measures to restrain demand, particularly a reduction in the government deficit. The goal is a real devaluation of the currency, that is, an increase in the relative price of tradeables to non-tradeables, and among traded goods, an increase in the relative price of exportables to import-competing goods. Increased real rates of interest, reductions in the effective rate of protection, deregulation and (often) privatization are usually also included. Such measures aim to strengthen financial intermediation and enhance competition.

Complementary measures specific to the agricultural sector include reducing taxation of agriculture and adopting other policies to improve the sectoral terms of trade and to increase the efficiency of resource allocation in agriculture. In some cases this is done by raising the prices which government marketing agencies offer to farmers, in others by permitting private sector entry into the marketing sub-sector, in still others by privatizing agricultural marketing. Similar policies often apply to input supply, where the motivation is usually to increase the timeliness of delivery. Such measures also seek to lighten the burden on the government budget and cut public deficits. Such steps, in turn, contribute to establishing a realistic real exchange rate by lowering inflation.

This paper reviews the experience and impact of structural adjustment on the agricultural sectors of selected Near Eastern countries. The basic argument is that structural adjustment is necessary, but not sufficient for achieving sustainable long-run growth and food security at the national and household levels. There are many potential gains for the agricultural sector and for rural people from the broader re-orientation of economic policy and the political economy which is the goal of structural adjustment. The goal is a revised division of labor between public and private sectors; although this often includes privatization of public enterprises, governments are also called upon to become more efficient in providing infrastructure, new technologies, and a suitable institutional environment. Political and administrative constraints often impede implementation, and complementary policies to support infrastructural and human capital formation are needed. Because resources are scarce, there are difficult trade-offs. International donors can play a significant role in mitigating these trade-offs.

Countries in the region most often adopted structural adjustment policies because of disappointments with previous, overly centralized and inward-looking economic development

policies, and because of concerns with international indebtedness, food security, rural poverty and employment. Structural adjustment is not merely a response to balance of payments problems, but is part of a wider reorientation of the role of government in the economy. Structural adjustment can best contribute to assuaging these concerns if they are combined with other complementary policies.

The standard elements of the conventional macroeconomic package are reviewed: devaluation and demand restraint, financial reform, trade policy changes, and labor market reforms. Sectoral and microeconomic policies are also reviewed, including privatization and/or price increases to farmers. During the 1980s, many countries began to reform their sectoral pricing policies. Experience suggests that such policies need to be complemented by appropriate macroeconomic policies if farmers' incentives are to improve.

The question of "reforms as packages" is discussed, and the conflict of economic and political logic is noted. From an economic point of view, reforms must be internally consistent: for example, deflation must accompany nominal devaluation. But from a political perspective, such "packages" have the serious weakness of reducing many people's incomes at the same time. Such policy changes may therefore increase popular opposition, and thereby impede implementation of needed policy reform. In some cases, partial implementation can actually make things worse. Increased political participation by farmers can reduce these implementation difficulties.

Since "packages" of the ideal, textbook type are rarely implemented, the impact of real-world programs must be analyzed on a case-by-case basis. In particular, outcomes are likely to be determined by:

- 1) the initial economic structure, in particular, the mix of import-substituting and export crops, the import-intensity of inputs, and other aspects of farming system. Of course, many aspects of the initial economic structure are determined by natural resource endowments (e.g., climate and soils), but the damage of pre-reform policies can also be critical here.
- 2) the degree of protection or subsidy of outputs and inputs, and other features of the pre-reform policy mix,
- 3) the specific mix of reform policies and the timing of their implementation, and
- 4) exogenous events, such as weather, political crises, and shifts in foreign market conditions such as increasing protectionism and/or terms of trade changes.

Structural adjustment is a set of policies designed to alter incentives. Its impact depends upon exactly what new set of incentives are created, and these will vary depending upon the specifics of each case.

The costs of not reforming are very high. Poor countries will stay poor if they fail to implement structural adjustment. However, not only does the failure to adopt structural adjustment reinforce poverty, but poverty and underdevelopment weaken the favorable impact of structural adjustment by impairing the functioning of the market mechanism.

The key channel of structural adjustment's impact on agriculture is through improved farmer incentives. Real devaluation raises farmers' incomes by improving their intersectoral terms of trade (especially with the service sector) and, for net buyers of labor, by reducing labor costs.<sup>1</sup> (The real exchange rate is the price of foreign exchange in local currency; accordingly, it is also the relative price of traded goods to non-traded goods. Farmers sell only traded goods, but consume a mix of non-traded and traded goods.) There will be fairly strong individual crop responses for those crops which were formerly heavily taxed; the opposite is true for those crops which were import-substituting and therefore enjoyed a measure of protection thanks to the overvalued exchange rate. The sectoral response will be lower; although there are some important sectoral efficiency gains from reallocating land from lower to higher value crops, these gains are of a "one for all" type. In the longer-run, growth is basically driven by investment and technological change. However, improved incentives for the sector as a whole can contribute to this long-run goal. If governments also maintain and strengthen investment in physical, human, and social infrastructure, a strong output response over the longer-run is likely. Several regional cases are used to illustrate the complementarity of structural adjustment and investment.

There will be differential impacts of structural adjustment within the farm sector, and among rural people. As with farm technological change, owners of scarce factors (land) get more of the benefits than owners of abundant factors (labor). There may also be differences in impacts by farm size, by crop mix, and by region. The key variable here is how well supply can respond to the improved incentive environment. Again, this responsiveness is dependent on complementary policies. Structural adjustment is a necessary, but not sufficient, condition for agricultural growth, enhanced food security, and poverty alleviation.

## **II. ORIGINS OF STRUCTURAL ADJUSTMENT: THE LEGACY OF CONCERNS AND DISAPPOINTMENTS**

Many countries in the Near East and North Africa have adopted structural adjustment policies, largely because of a set of concerns and disappointments. Some of these are common to many developing countries in other regions, while others are specific to the Near East and North Africa.

---

<sup>1</sup> This is a *ceteris paribus* argument, and assumes that prices of outputs and inputs are market determined. As noted above, the actual impact of a devaluation will depend on other factors, such as the price formation mechanism for outputs and inputs.



## **A. International Issues**

At the international level, the principal concern was the accumulation of foreign debt. To some extent, the difficulties arose because those responsible for national economic management treated structural problems as if they were transitory shocks (see, e.g., Sarris, 1990). Policy makers hoped that increasing balance of payments deficits were temporary, caused by adverse terms-of-trade developments which they hoped would soon reverse themselves. Such an error was an understandable triumph of hope over experience, and in some cases, there were seriously negative transitory shocks, such as terms of trade reversals or prolonged drought. However, more often the problems were caused by pursuing a fundamentally flawed development strategy, or, at a minimum, persisting for too long with such a strategy.

The disappointment was the failure of the strategy of state-led, inward-looking import substituting industrialization. Many policy makers became increasingly disenchanted with the legacies of central planning and direct state involvement in production. In particular, the restrictions on trade, the overvaluation of the real exchange rate, the resort to multiple exchange rates, and the disappointing performance of state-owned enterprises were increasingly viewed as obstacles to development. Agricultural policy makers and specialists became increasingly convinced of the costs of heavily taxing the sector through overvalued exchange rates and output pricing policies. Additionally, administrative deficiencies of state-owned agricultural input enterprises too often impeded timely delivery of fertilizers, seeds, plant protection chemicals, and mechanization services. Evidence mounted that state-led import-substituting industrialization policies penalized the agricultural sector, and were partly responsible for the failure to eradicate rural poverty and for retarding the rate of agricultural growth.

These international themes found their echo in the region. The problems of debt accumulation, poorly performing state-owned enterprises, and deficient producer incentives often plagued Near Eastern and North African states. For example, Turkish structural adjustment became necessary because the interaction of domestic policy and the external environment created unsustainable balance of payments imbalances. Exchange rate and tariff policies favored imports and discouraged exports. By 1979 the effective rate of protection on Turkish manufactures had reached 68% (Kopits 1987); quantitative restrictions were even more important, and covered 80% of all manufactures. Both farmers and industrialists faced incentives to produce for the domestic market; exports grew less rapidly than GDP. Foreign aid and workers' remittances sustained the trade deficit, but both declined in the 1970s.

The Turkish government postponed adjustment by international borrowing, a policy which accumulated a \$16 billion debt by 1980. Parastatals faced the usual multiple goals and enjoying monopoly positions, generated losses which were covered by the general budget. The budgetary burden of the parastatals roughly tripled to 3.5% of GDP during the 1970s. The budgetary deficit also rose because of the needs for electoral patronage. Inflation accelerated, and reached triple digit levels in the wake of the oil shock of 1979. (Kopits, 1987) The deteriorating economic and domestic political situation led to structural adjustment.

Other countries had a similar experience. (See Table 1). For example, Egyptian debt reached nearly \$50 billion on the eve of the Gulf Crisis and War; Algeria owed some \$26 billion, Morocco \$20.8 billion. For several countries, (Egypt, Jordan, Morocco) the ratio of debt to GNP was close to or over 100%. Mauritania had one of the highest debt burdens in Africa. As debt service began to consume over one-third of export earnings, countries increasingly were forced to consider structural adjustment.

The oil boom of the 1970s compounded the difficulties of state-led, import substituting economic development strategies because:

- 1) oil revenues accrued directly to governments, which could persist in their domination of the economy, and
- 2) the rapid spending of oil revenues, combined with supply constraints, stimulated inflation and contributed to real overvaluation of the currency (i.e., a fall in the relative price of trade to non-traded goods).

Economies already weakened by excessive state-intervention caught the Dutch Disease; the problem also applied to non-oil exporters like Morocco (thanks to the phosphate boom of 1973-76) and to labor exporters like Yemen (due to remittance inflows).<sup>2</sup> Resources of labor and capital moved out of agriculture and industry toward services, and away from production for export toward import substitution. Imports soared, while non-oil exports declined. Governments often borrowed money on international capital markets anticipating continued high oil prices. As real oil prices began to decline in the early 1980s (and fell sharply in 1986), governments typically compounded the problem by borrowing in the hope that the fall in oil prices was only a temporary shock. Since real oil prices did not rebound significantly, they had little choice but to begin economic restructuring.

Moroccan experience provides a case of how the combination of an import- substitution development strategy, the 1970s natural resource boom, and foreign borrowing paved the way for structural adjustment. The origins of the import-substituting industrialization or "ISI" strategy were similar to those elsewhere in the region: colonial rule had left a weak indigenous bourgeoisie, since nearly all of the modern sector activities in agriculture and industry were in the hands of foreign colons. The colonial state was heavily involved in the economy; the Moroccan state inherited some 100 state-owned enterprises at independence. Another 37 were added by 1970. The ranks of the civil service expanded from 12,00 in 1955 to 88,000 in 1969. The logic of early industrialization also strongly suggested an ISI strategy (virtually all

---

<sup>2</sup> The "Dutch Disease" (so-called because of the experience of The Netherlands after the onset of large-scale gas exports in the mid-1970s) results when large inflows of unsterilized foreign exchange cause the real exchange rate to become overvalued, thereby shifting the terms of trade against traded goods (e.g., agricultural goods). The price changes induce economic actors to withdraw labor and capital from traded goods and put them into non-traded goods (services). Services boom, while agriculture and industry languish: the country has caught "the Dutch Disease".

countries, including the Asian tigers, followed ISI policies in the early phases of industrialization), and perhaps not surprisingly, ISI was very much the "development orthodoxy" of the time.

As in OPEC countries, the revenue from the commodity price boom of the 1970s accrued directly to the state, which further expanded its role in the economy. Morocco's boom was, of course, based not on oil but on phosphates, whose price more than quadrupled from 1973 to 1975. During 1974-75, phosphates and derivative minerals accounted for about half of Morocco's exports, and the share of phosphate exports to GDP increased from 3.8 in 1971 to 13.85 percent in 1974. The 1973-77 Economic Plan was accordingly very ambitious, and sharply increased public investment beginning in 1975. Total government expenditure rose from 19.8 percent of GDP in 1973 to about 40.1 percent in 1977. In 1970 there were 137 non-financial public enterprises; in 1976, there were some 238. Such a resource-boom also had the usual "Dutch Disease" effects: the real exchange rate became increasingly overvalued, shifting incentives away from traded goods production. Here, too, Moroccan experience paralleled that of neighboring oil countries.

Even at the height of the boom, part of state expansion was financed by foreign borrowing. Expansion continued into 1976 even as phosphate prices collapsed (falling by 47 percent), swelling the budget deficit to 20 percent of GDP (Morrisson, 1991). Expenditures rose thanks to the beginnings of the Saharan War, the increased cost of consumer subsidies (rising from 1 percent of GDP in 1973 to 6.9 percent in 1974), (Horton, 1990), the unwillingness to cancel investment projects, and the political fear of cancelling public sector salary increases. Although some initial steps toward stabilization were taken in 1977, the Moroccan government, like so many others, hoped that the adverse price shock was temporary, and tried to "grow through the recession." Accordingly, it accumulated an increasingly large foreign debt, which rose from 20 percent of GDP in 1975 to nearly 60 percent (at \$10 Billion) in 1980, when service payments consumed 32.7 percent of exports.

The consequences of this noxious combination of import-substitution, commodity boom-and-bust, and debt accumulation were also very similar to those elsewhere in the region. As the burden of debt became increasingly unmanageable, the government was forced to undertake stabilization measures. In Morocco, as elsewhere, the initial impetus for stabilization came from outside of the country: from the unwillingness of foreign creditors to continue to finance budgetary deficits and the concomitant necessity of the country to turn to the IMF for assistance.

Jordan followed a similar pattern. Jordan has long suffered from chronic trade imbalances, mainly because of its small manufacturing base, the paucity of natural resources, including water, and therefore, the need to import much of its food needs. Although the trade gap was partially filled by the large inflow of remittances, debts were also accumulated. From 1984 to 1988 the proportion of public and publicly guaranteed foreign debt to GNP rose from 59.3 percent to 95.1 percent. The debt service ratio increased from 13.8 percent to 29.8 percent during the same period. The repayment burden eventually became unsustainable, and the government embarked on stabilization and structural adjustment.

The original agreement reached between the government and the IMF had the usual orthodox elements: measures, including tax reforms, freezing military spending and funding for consumer subsidies, were adopted to reduce the budget deficit. Credit was tightened to reduce inflation and the currency was significantly devalued. The government also adopted a flexible exchange rate policy, and reformed trade policy: maximum tariff rates were reduced, quantitative import restrictions relaxed, and interest rates deregulated. (World Bank, 1993c). As discussed below, although the Gulf Crisis and War of 1990-91 temporarily derailed these adjustments, the government has been able to resume the reform program. In Jordan, as in Egypt, Morocco, Tunisia, Turkey, and other countries of the region, the first key agent of change was external pressure.

The Algerian experience provides another example of the common pattern. The country experienced strong state-led growth during the 1960s and 1970s. Its investment to GDP ratio of about 40% was the highest in the world. However, this growth process suffered from two problems: 1) the country's foreign exchange was almost entirely derived from the sale of hydrocarbons (oil and gas), rendering the economy vulnerable to the downturn of oil prices in the 1980s, and 2) the statist structure of organizing production led to considerable inefficiencies in the allocation of investment. Highly-capital intensive intermediate goods production (e.g., iron and steel) was favored, while labor-intensive manufactures of consumer goods and agricultural production received few investment resources. The country began to accumulate debt, and then experienced a very heavy terms of trade shock in the mid 1980s, when the combination of the decline in the (dollar) price of oil and the fall in value of the dollar (currency of Algeria's hydrocarbon exports) relative to European currencies (currency of most of Algeria's imports), led to a 36% fall in the value of exports; the country's terms of trade deteriorated by 60% between 1985 and 1988, and the debt-service ratio rose from 33% in 1985 to 60% in 1988 (World Bank, 1993c). The country had little choice but to accelerate its economic reforms, which had begun in the early 1980s. In this sense, the experience of Algeria is slightly different from that of Morocco and Jordan: in Algeria, as in Egypt, sectoral reform had preceded macroeconomic reform. Such a mix of policies, however, can pose problems.

## **B. Early Experience: The Importance of Supporting Sectoral Reform with Macroeconomic Policy <sup>3</sup>**

At the sectoral level, concerns over the size of the food import bill stimulated policy reform. During the heady decade of the oil boom, the demand for food grew far faster than domestic supply. The growth of demand was fueled by high population growth rates and rapidly growing per capita incomes.<sup>4</sup> Depending on the specific commodity, demand grew from 3.5 to over 6% per year. Because of physical and policy-generated constraints, supply response could not keep pace with the expansion of demand. Consequently, the import bill

---

<sup>3</sup> Some macroeconomic indicators for selected countries of the region are given in Table 2.

<sup>4</sup> Formally,  $D^* = n + e y^*$ , where  $D^*$  = rate of growth of demand,  $n$  = rate of population growth,  $e$  = income elasticity of demand, and  $y^*$  = rate of growth of per capita incomes.

for food escalated rapidly. For oil-exporters, a dramatic improvement in the barter terms of trade contributed to growth of imports and the decline of food self-sufficiency in many countries in the region.<sup>5</sup> Overvalued exchange rates contributed to the same outcome on both the demand and the supply sides: on the demand side, by artificially cheapening imports, and on the supply side, by weakening farmers incentives. The oil boom and Dutch Disease, combined with pre-existing import substitution policies which discriminated against agriculture, undermined agricultural supply response. Demand soared, supply stagnated--and imports accelerated.

Governments first responded to the problem of deteriorating food self-sufficiency ratios by reforming crop pricing policies. (Bishay, 1988) These policy changes strengthened incentives in agriculture, especially if governments also adopted macroeconomic and exchange rate policy changes. The impact on incentives was much weaker if governments did not improve macro management. In these cases, what farmers gained from price and other sectoral policy changes they lost from overvalued exchange rates. Both Egypt and Turkey suffered from this problem to varying degrees.

The case of Egypt in the 1980s illustrates how sectoral reform efforts can be undermined by the failure to implement macro-economic reform. Egypt's agriculture was strongly shaped by the "non-tradeables" boom of the oil decade (roughly, 1974-1982). Labor was drawn out of agriculture to work abroad and in non-traded goods production; much of the latter was government employment. Feed and livestock production ("partially non-traded goods") expanded, while cotton and rice (exportables) stagnated. Livestock enjoyed both natural protection because of consumer's tastes, and explicit tariff protection until 1987, as well as non-tariff protection in the form of complex bureaucratic hurdles placed before importers. These policies favored the production of livestock and fodder crops like *birsim*, which compete with wheat. Policies favoring "less-traded" goods like vegetables, reinforced farmer's incentives to divert variable inputs away from (heavily taxed) cotton. Finally, foreign exchange scarcity in the mid 1980s led to restrictions of non-wheat agricultural imports, which increased the degree of protection of crops which competed with cotton (Richards, 1991a).

Despite these problems, the sector performed fairly well. Although World Bank data (based on the national accounts) suggests the opposite, FAO and other data suggest that agricultural growth was stronger in the 1980s than in the 1970s (Richards, 1991a). Crop yields resumed their historical upward trend, and the decline of the cultivated area was reversed. Unfortunately, cotton yields continued to decline, while the relative expansion of livestock subsector accelerated during the 1980s. Land productivity was raised by utilizing higher-quality seed, more fertilizers and pesticides and other purchased inputs. The rate of growth of fertilizer consumption per feddan decelerated in the 1980s but remained strong. Pesticide use remains high, but has declined from its 1970s peaks. Mechanization expanded rapidly, but decelerated in the 1980s; "power intensive" operations are now almost entirely

---

<sup>5</sup> In 1973, a barrel of oil would buy one bushel of wheat; in 1980, a barrel would buy six bushels.

mechanized in most parts of the country. Real wages rose rapidly down to 1985, thanks to emigration and expanding off-farm employment; they subsequently fell 40% by the end of the decade. Rural poverty fell both relatively and absolutely during the oil boom (e.g., from 1974/75 to 1983/4). More recent estimates are unavailable, but the fall in farm wages strongly suggests that rural poverty has been increasing since the mid-1980s (Richards, 1991a).

The government was and is committed to policy reform in agriculture, in particular, to reduced controls, better incentives, and an expanded role for the private sector. The government gradually dismantled controls over the sector: at the beginning of the decade, some 13 different commodities were subject to price controls. Today, only cotton remains partially controlled. As noted earlier, the response of wheat to the combination of decontrol/enhanced incentives and technological change was very strong. Investment continued to be strong; private investors were especially active in the New Lands, where they often produced high-valued exportable crops. Input marketing is being decontrolled and privatized. Experience so far has been favorable; some reports suggest that the reliability of delivery has increased.

Unfortunately, however, the government failed to implement macroeconomic reform until the very end of the decade. Overvaluation of the exchange rate thus undermined sectoral price reforms: Nominal Protection Coefficients remained less than one, despite sectoral reform. Real exchange rate overvaluation increased the implicit tax on agriculture by between 50 and 200% between 1970 and 1985 (Dethier, 1991). A good start on macro-reform was made in 1991; if stabilization and structural adjustment measures continue to be implemented, the incentive structure for agriculture should continue to improve. Then the key will be to find the resources to provide adequate infrastructure and to foster a climate favorable to private investment in the sector.

Turkish policy before 1980 had parallels with the Egyptian experience: Turkish sectoral policy subsidized agriculture through input subsidies and output price supports, but Turkish macroeconomic policy undermined these benefits through an overvalued exchange rate and industrial protection. It has been estimated that the positive sectoral-level transfers of resources into agriculture from 1961 to 1979 were more than offset by currency overvaluation (Olgun, 1991). Another study (Hansen, 1991) obtained similar results: sectoral price policies (i.e., price supports) transferred into agriculture a nominal sum equal to 1.3% of GDP between 1961 and 1985, but when the impact of overvaluation is included, some 3.8% of GDP was transferred out of agriculture. When the impact of industrial protection is included, and therefore the internal terms of trade effects are included, the total volume of resources transferred out of agriculture through price changes was 2.9% of GDP. There were also price distortions between crops, which engendered efficiency losses.

However, when non-price policies (i.e., investment and other public spending) are included, the picture changes somewhat, but the basic point remains: without including the exchange rate effect, from 1961 to 1980, about 0.7% of GDP was transferred into agriculture. However, what sectoral policy gave, exchange rate policy took away: when exchange rate changes are included, the positive effect of sectoral policy was overturned, and about 1.1% of

GDP was transferred out of agriculture. (Hansen, 1991, 530-531).<sup>6</sup> Structural adjustment removed some of the exchange-rate biases against agriculture, without, as we shall see, eliminating subsidies. Structural adjustment reversed the increasing biases against traded goods of the 1970s. Perhaps not coincidentally, the growth of agriculture accelerated, from 2.16% in 1972-79 to 3.7% in 1980-88 (Uctum, 1992).<sup>7</sup>

Although comparable studies are not available, it seems likely that a similar case might be made for recent Iranian experience. Iranian agriculture received large subsidies during the 1980s, partly because of the government's strong desire to achieve food self-sufficiency, and partly in order to transfer oil wealth to the rural areas. High support prices and large input subsidies were channeled to cereals; for wheat, subsidies covered 80% of the cost, and the government bought up to 85% of output at a guaranteed producer price which, in 1990, was 11% above world market prices. Urea prices paid by farmers were only 8% of world prices, and credit terms were very generous. Iranian farmers, like their Turkish neighbors, received substantial subsidies from the government through sectoral policy. The sector as a whole performed well, growing at about 4% from 1980-1988. There was, however, some slowing of growth during the decade: from 5.8% in 1980-85 to 2.5% in 1985-90 (World Bank, 1993b).

Sectoral subsidies were costly, amounting to up to 19% of the government's budgetary deficit. The goal of self-sufficiency was not achieved, because demand growth outstripped supply increases. There were also serious distortions among outputs: favoring cereals encouraged the planting of marginal areas, with deleterious consequences for livestock production and for soil erosion. Since the exchange rate was grossly overvalued (the free market price of the rial was some 20 times higher than the official rate), it is possible that a detailed study of resource transfers between Iranian agriculture and other sectors of the economy would obtain the same result as the studies of Turkey cited above. Such a large overvaluation strongly suggests that macroeconomic policy may have undermined sectoral policy.

The Iranian government recognized some of these difficulties and embraced some reforms starting in 1990. The exchange rate on machinery and chemicals was changed, and guaranteed prices were brought closer to world prices. In January 1991 the government reduced the number of exchange rates from 7 to 3, and unified the exchange rate at close to the market rate in March, 1993. Tax rates have been revised, the banking system has been liberalized, and some privatization has begun. The budgetary deficit fell from 9% of GDP in 1988 to 2% in 1992 (World Bank, 1993c). Structural adjustment seems to have begun in earnest in Iran.

---

<sup>6</sup> The author notes that these calculations exclude credit subsidies; "they are substantial and the omission tends to bias the support to agriculture for Turkey downward". (Hansen, 1991, p. 530-531).

<sup>7</sup> Because of continued subsidies, the acceleration of the growth rate of Turkish agriculture can be taken as an indication of success of the particular mix of policies adopted in that country, but not as an indicator of the success of an "orthodox structural adjustment" package.

### C. Rural Poverty

A second concern was with rural poverty and household food security. In international regional perspective, the Near East and North Africa did not look too bad during the decades of the oil boom. According to the recent IFAD study, the region had in 1988 the lowest percentage of rural people in poverty (26%) of any region of the developing world.<sup>8</sup> (Jazairy, Alamgir, and Panuccio, 1992) In most countries, the proportion of absolutely poor people (often the same thing as the number of undernourished) declined during the oil boom; in some countries, the absolute numbers of poor people also fell.

Such a result may seem surprising, given the "urban bias" of the development strategies of the period. The fundamental (and probably not sustainable) cause was large-scale emigration for labor by many rural men. Such emigration was, of course, in turn the result of the rapidly increasing demand for labor in the major oil-exporting countries of the region. Emigration for work reduced poverty in all countries which sent substantial numbers of unskilled workers abroad (in Sudan, where emigration was concentrated among skilled workers, the consequences for poverty alleviation were far more ambiguous). Poverty was reduced because:

- 1) families with a family member who went abroad saw a sharp increase in their family incomes;
- 2) some of the remittances were spent on labor-intensive activities such as agricultural production and especially housing;
- 3) the rural poor who stayed behind received higher wages, thanks to the emigration of a substantial percentage of rural men.

Evidence of such benefits may be seen in Egypt, Tunisia, Morocco, and Yemen, among others. (For a review, see FAO, 1990).

Unfortunately, such gains were not sustainable: real wage improvements and remittances first stabilized, and then reversed due to adverse economic and political developments. Economically, the critical event was the collapse of oil prices in the mid-1980s. It is no accident that real Egyptian farm wages began to decline then; by the end of the decade, had fallen by 40%. Politically, the Gulf Crisis and War of 1990-91 led to the large-scale repatriation of labor from Iraq, Kuwait, and Saudi Arabia, with seriously adverse effects for Yemen, Egypt, Jordan, and Sudan. Yemen, for example, had to absorb perhaps 750,000 returnees, compared with an existing labor force of 3.1 million (FAO, 1993). In Jordan, about 200,000 people were forced to return.

---

<sup>8</sup> Corresponding figures for other areas are: Asia, 31%; Sub-saharan Africa, 60%; Latin America and the Caribbean, 61%.



Emigration thus had mixed effects on the agricultural sectors of the region. On the one hand, it added to the supply constraints by raising wage costs, and thereby weakened efforts to achieve national food security. On the other hand, by raising rural real incomes, it enhanced household food security for many. An additional favorable impact on the agricultural sector and on rural people was its effect on indirect farm taxation. Several studies (Bishay, 1983; Dethier, 1991) have documented the relative decline in agricultural taxation during the decade of the oil boom. Some argue that oil revenues made this policy improvement possible. Because governments had oil revenues, they could afford to tax farmers less. Accordingly, producer prices moved toward (typically higher) international prices for many farm goods. As noted earlier, however, such gains were often undermined by real overvaluation of the currency.

The poverty situation now is very serious. (Table 4). Because population growth accelerated after the 1950s, in most countries the labor force is growing by well over 3% per year. Further, in few countries will the rate of growth slow down significantly during the coming decade, because of demographic momentum. When combined with the anti-employment bias of ISI and the collapse of growth of the late 1980s,<sup>9</sup> it is little wonder that unemployment is rising while real wages are either stagnant or falling. In Egypt, for example, some 6 million jobs must be created during the 1990s simply to provide jobs to new workers (that is, with no reduction in employment, increase in real wages, or expanded female labor force participation). (Handoussa and Potter, 1991) In an economy whose total labor force in 1990 was perhaps 14 million, this is a daunting challenge.

If Egyptian experience was driven by changes on the labor supply side, demand side changes were more important in the Moroccan case. As discussed elsewhere in this paper, Moroccan structural adjustment combined adjustment with export-led growth. When the effect of continued inflows of remittances are included, it was possible for the country to reduce poverty at the same time as it improved the incentive structure and efficiency. By shifting resources to exports, by heightening agricultural incentives, and by being lucky (see below Section IV-C), Morocco managed to combine structural adjustment with poverty reduction.

This was essential, because Morocco faces a serious rural poverty problem. According to IFAD data (Table 4), 45% of the rural population fall below the poverty line, while (Table 5) 72% are "functionally vulnerable"<sup>10</sup> The origins of this poverty lie in the skewed distribution of land, and, perhaps even more so, in the dualistic farming systems and policies which were pursued until the mid-1980s. There is a great difference between conditions and poverty in irrigated and rain-fed farming in Morocco, and, until fairly recently, policy tended to favor the

---

<sup>9</sup> According to the World Bank, per capita income for the region as a whole was approximately 30% lower in 1990 than in 1980 (the annual rate of per capita income growth was -2.6%) (Koch-Weser, 1992).

<sup>10</sup> As noted in Table 4, some recent studies (e.g., Morrisson, 1992) dispute IFAD's figures, finding that roughly 35% of the rural population is poor.

irrigated sub-sector. Severe droughts combined with mounting debt and other macroeconomic difficulties in the late 1970s and early 1980s further exacerbated both rural and urban poverty. But the acceleration of growth during the middle and late 1980s, fostered by structural adjustment and favorable weather, led to a fall in absolute poverty from 20% in 1985 to 13% in 1991.

#### **D. The Employment Problem**

One of the sharpest dilemmas facing governments in the region is that of generating sufficient employment opportunities for the rapidly growing labor force. On the one hand, structural adjustment is deflationary in the short run, and therefore increases unemployment. The same may be true of privatization. On the other hand, meeting the employment challenge provides yet another compelling reason for embracing reform: the old, state-led strategies clearly cannot provide jobs. Only a more flexible, responsive, and competitive economy can do this. The problem accordingly creates a "short run cost, long-run gain" trade-off for governments.

The region's employment problem is daunting. The labor force for the region as a whole is growing at over 3% per year; for some countries, the rate is considerably higher. (Table 6). During the past decade, few countries of the region managed to create enough jobs to cope with the rising tide of young people entering the labor force. Everywhere the burden falls most heavily on the young. In Jordan, Morocco and Tunisia, roughly one of five urban young men is unemployed; the official unemployment rate in Yemen is 25%, in Algeria, 20%, in Sudan, 17%. (See Table 7; Koch-Weser, 1992; World Bank, 1992). The concept of "unemployment" breaks down at such high levels, as young men scrounge whatever living they can from the informal sector and/or from the grey (or black) economy of semi- or illegal activity. In several countries there is evidence that the educated have higher unemployment rates than the illiterate, who are so poor that they must take whatever job they can find. According to the 1986 Egyptian Census, for example, the unemployment rate for illiterates in that country was only 3%, while for secondary school graduates it was 28.8% and for university graduates 25.9%. In Jordan, unemployment is a (monotonically) rising function of education (Qudsi, et.al., 1993). Part of the problem seems to be that the quality of these young people's education has ill-equipped them for modern economic activity.<sup>11</sup> These underemployed young men constitute a critical source of social and political instability throughout the region. The greatest single social challenge facing regional leaders is providing jobs for the expanding, very young labor force.

The public sector cannot provide these jobs. Government payrolls cannot continue to expand; indeed, the imperatives of structural adjustment are already shrinking them. Evidence from Egypt, Jordan, and elsewhere in the region strongly suggests that the "administered wage mechanism" in the public sector reduces labor market flexibility. When over half (Algeria) or nearly one third (Egypt) of all jobs are in the public sector, the problem of inflexibility of the national labor market becomes particularly acute. Not only are many people employed in

---

<sup>11</sup> See, e.g., Richards and Waterbury (1990), Chapter 5, "Health and Education".

unproductive activities, but the security of public sector work becomes a magnet for young people with some education. They often refuse other jobs, waiting for an opening in the public sector. Such behavior raises unemployment. In other words, state-dominated economic structures not only contribute to unemployment by slowing growth, but also by reducing the ability of labor markets to adjust.

Nor can the other safety valve of the past, emigration abroad, be counted upon any longer. Neither the EC nor the Gulf States are likely to generate employment opportunities for young Maghrebis, Egyptians, Turks and Yemenis as they did in past decades. The old mechanisms for job creation can no longer do the job, yet the challenge has become more acute than ever because of the rapidly growing labor force.

If only by default, the sole hope of coping with the rising demographic tide is a flexible, rapidly growing private sector pursuing comparative-advantage-generated niches in the international economy. Reform is essential to raise growth and to raise the elasticity of employment with respect to growth: if the economy suffers from serious biases toward capital-intensity (which is typical in statist economic systems), each new job will require considerably more investment. Structural adjustment, however painful in the short run, is a necessary component of solving the employment and poverty problem in the region. The agricultural sector has a crucial role to play here, partly by generating foreign exchange, partly by raising farm incomes, which tend to be spent on labor-intensive manufactured goods and services, and partly through direct employment creation. Rural (and urban) entrepreneurs, if left alone, will find profitable niches. However, governments can and must assist them with information and other logistical support: complementary policies must be implemented.

Tunisian experience illustrates the necessity-but-insufficiency of structural adjustment for addressing the problems of growth and job creation. Tunisian agriculture faces a difficult natural environment. With less than 10% of the land area under irrigation, Tunisian farming suffers from highly variable rainfall and production. To take only one recent example, wheat output in 1987 was 1.36 million tons, .22 million in 1988, .42 million in 1989, and 1.12 million in 1990. Under these difficult conditions, the growth rate of agriculture of 2.5% (food 2.6%), just keeping pace with population growth (2.5%) was no small achievement. But clearly the future of Tunisian development, food security, and poverty alleviation will have to lie outside of agriculture. Agriculture's role is to hold the line, and support the transition. What role has structural adjustment played in this process?

During the 1980s Tunisia was plagued by serious problems of slow growth, balance of payments imbalances, unemployment, and inflationary pressure. By 1985/86 the country could no longer borrow internationally, and had no choice but to begin adjustment. The first adjustment program in Tunisia was an Agricultural Adjustment Loan. Elements of the program were as follows:

1. The dinar was devalued 10% in 1986; real devaluation of 20% had been achieved in 1989-90, compared with the 1983-84 value.

2. Investment fell from 25% in 1986 to 18% in 1988.
3. Interest rates were largely deregulated, and increased sharply, although rates in agriculture were held down.
4. Contractionary monetary policy was pursued.
5. Import liberalization took place for producer goods, but was only slowly implemented for consumer goods, especially industrial product.

The manufacturing response has been quite good. Manufacturing value added is now 16% of GDP, and industrial productivity grew at 2% per year during the 1980s. Manufacturing output grew at over 6% per year throughout the decade. Earlier and continuing investment in human capital contributed greatly to this outcome, as did the policy reforms outlined above. Manufacturing exports were able to replace sharply lower oil and phosphate exports, permitting a recovery of exports. (UNDP, 1992). From 1987 to 1990, manufacture exports grew at a very rapid 14.3%. The strategy is to shift to a flexible, highly responsive economy, which is the only sensible approach given the small size of the country, its limited water and land resources, and its rapidly growing labor force (3.0% for the rest of this decade).

There were a number of implementation difficulties with the program. In trade, quantitative restrictions remained, and the effective rate of protection actually increased. State control of investment has still not been eliminated, and although some state owned enterprises have been privatized, the process has been slow. Fiscal reform, however, has been implemented, permitting the tight monetary policy which reduced inflation and made possible real devaluation.

Some of these difficulties have slowed agricultural progress. Critics charge that parastatals have been relatively inefficient in distributing farm chemicals and seed. Investment in irrigation has led to rising sectoral incremental-capital- to-output ratios<sup>12</sup> or ICORs (now near 11.0), and there is evidence that public investment in irrigation has a higher ICOR than private investment. There is a considerable need for better infrastructure, especially better secondary, feeder roads (Thabet, Boughzala, and Ammar, 1992). However, producer prices rose 40% between 1986 and 1992; although fertilizer prices rose by 60%, prices of seeds and water rose less (25% and 9%, respectively).

The Tunisian strategy has worked reasonably well, particularly given the serious adverse exogenous shocks (drought, terms of trade declines, and the Gulf War) which have buffeted the economy. The agricultural sector has managed to keep up with population growth and to avoid a larger relative burden of food imports. Indeed, in 1991/92 Tunisia had a positive balance of food trade for the first time in decades. Agricultural growth was negative between

---

<sup>12</sup> ICOR measures the amount of investment needed for a unit increase in output.

1985 and 1990, but then rebounded strongly. Output expanded by 27.7% in 1990, 14.7% in 1991, and 5.8% in 1992. The negative shock of the Gulf Crisis and War seems to have given new impetus to economic reform, whose pace accelerated in 1991. Some of the recent strong growth performance is undoubtedly due to the good weather of the first years of the decade, but the perseverance of the government with its reform strategy in the face of unfavorable exogenous events also deserves credit. The problems of Tunisian agriculture today--marketing, packaging, access to E.C. markets--have a distinctly modern flavor. Like most other upper-middle income countries, neither Tunisia nor the 60% of rural Tunisians who work outside of agriculture (significantly, largely in manufacturing) (Radwan, Jamal, and Ghose, 1991) will be able to solve its principal problems through agriculture alone. However, agriculture can support the wider development strategy; structural adjustment has contributed to this goal.

### **E. Summary**

In summary, structural adjustment is not merely a response to the accumulation of international indebtedness or to other balance of payments problems. Although countries often embark upon structural adjustment programs because of balance of payments problems, the programs are equally necessary as necessary components of a reorientation of the basic development strategy. Only such a reorientation can meet the problems of food security, employment creation, poverty alleviation, and better resource management. Countries cannot live beyond their means forever; resources are far too scarce to be wasted; agriculture is far too important to continue to suffer from price disincentives. Structural adjustment is a necessary (but not sufficient) condition for creating a viable response to the disappointments with past performance and concerns for the future.

## **III. THE GENERAL STRUCTURAL ADJUSTMENT PACKAGE**

### **A. Definitional Issues: Stabilization vs. Structural Adjustment?**

Some analysts distinguish between stabilization and structural adjustment. There are several possible grounds for doing so. In one perspective, (e.g., Sarris, 1992) stabilization programs are instituted when the source of the balance of payments problem is felt to be a transitory, temporary shock. Structural adjustment programs, on the other hand, are undertaken when the sources of the difficulties are more deeply rooted. In the first case, the stress is on expenditure reduction (deflation) and expenditure switching (devaluation) to help the economy overcome a temporary difficulty.<sup>13</sup> In the second case, deeper changes in the

---

<sup>13</sup> Technically, the distinction is not only whether the problem is due to a shock or a structure, but in the case of the shock, whether the shock is transitory or leads to a permanent change. In the case of price shocks, the question may be reformulated as whether the autocorrelations of first differences add to zero (in which case the shock is transitory) or not (in which case the shock is permanent). For some commodities (e.g., bananas, copper, iron ore, jute, palm oil, sugar and tea) shocks seem to be transitory; for others (coffee, cocoa, cotton, maize and rice), there is some evidence that shocks become permanent. See Deaton (1989) and Cochrane (1988).

organization of the economy are necessary. Policy reforms then aim to revive growth through greater efficiency in resource allocation.

There is an institutional as well as an intellectual justification for the distinction. Stabilization measures and programs are the responsibility of the International Monetary Fund, while structural adjustment programs fall within the World Bank's portfolio. Such a distinction may be traced back to the Bretton Woods Treaty of 1944 which established the two institutions. In accordance with its mandate, the IMF focuses on short-run stabilization measures and programs; Stand-By agreements are usually short-run (six to eighteen month) agreements, with a clear focus on measures to improve the balance of payments within that period. Of necessity, these programs are sharply, often exclusively, focused on macroeconomic variables. World Bank Structural Adjustment Programs, by contrast, generally have a longer time horizon (e.g., five years), and include sectoral and micro-economic measures designed to enhance the efficiency of resource allocation over that longer time period.

Despite these differences, there is a clear complementarity between stabilization and structural adjustment at both a conceptual and an institutional level. Institutionally, the World Bank cannot give Structural Adjustment Loans to any country which has not already signed a Stand-By agreement with the IMF. This reflects a conceptual consensus that structural adjustment cannot work unless stabilization has also been achieved. Especially in the majority of cases where the causes of balance of payments imbalance are due not to transitory, externally generated shocks, but rather to structural weaknesses, such as excessive borrowing by inefficient state-owned enterprises or discriminating against traded and exportable goods in pricing policies, etc., stabilization requires structural adjustment, and vice versa. This conceptual interpenetration finds an institutional counterpart: the IMF has become increasingly concerned with structural reforms (e.g., in trade policies), while the World Bank has become increasingly interested in macroeconomic management.

For most Middle Eastern countries, structural weaknesses (like excessive borrowing by inefficient state-owned enterprises or discrimination against traded and exportable goods in pricing policies), not transitory, externally generated shocks caused balance of payments imbalance. In such cases, stabilization and structural adjustment are mutually self-supporting. For this reason, in this study the distinction between "stabilization" and "structural adjustment" receives little attention; each is necessary for the other, and both are necessary but not sufficient for the real goal of stimulating growth through a reorientation of the role of the state in the economy.

## **B. Elements of the Standard Program: Macroeconomic**

The key elements of the standard program are nominal exchange rate devaluation, fiscal austerity, and increasing competition by reducing trade barriers and by privatization/deregulation of productive activities. At the macro-economic level, the focus is

on "macro-prices": the price of foreign exchange, the price of capital, and (often to a lesser extent) the price of labor. (Falcoln, Pearson, and Timmer, 1983). The first price is the key: the exchange rate or the relative price of traded to non-traded goods. There must be a real devaluation of the currency, if this crucial relative price is to reflect the real opportunity cost structure of the economy. A nominal devaluation alone is insufficient; indeed, a nominal devaluation, if not accompanied by measures to switch and reduce expenditure, is unsustainable, and often actually harmful, because it simply fuels inflation. Nominal devaluations are typically inflationary, so there must be off-setting demand restraint. For most developing countries, demand restraint and restricting the growth of the money supply requires a cut in the government budgetary deficit. This may be affected either through expenditure cuts, tax increases, or (typically) a mixture of both.<sup>14</sup> Although the macroeconomic literature suggests that expenditure reduction is more effective, political economy considerations may reverse that judgement. Particularly in view of the need for complementary infrastructural investment, it is vital that spending cuts be properly targeted. Unfortunately, political realities often dictate a very different pattern of spending cuts from the pattern which would maximize equitable growth.

Structural adjustment programs also typically include attempts to increase the flow of savings which passes through the banking system. There is little evidence that the volume of domestic savings is very sensitive to real interest rates; there is much evidence that real interest rates greatly affect savers' choice of savings instrument. To take a regional example, the Sudanese real interest rate probably had very little effect on the savings rate of Sudanese workers in Saudi Arabia; it had a very great impact on their decision whether or not to send their money home through the Sudanese banking system. Because of information and legal problems, informal financial networks are not likely to channel funds to activities earning the highest return. Raising real interest rates will lead to "financial deepening", or to strengthening the financial intermediation role of the banking system. In capital scarce countries, the real price of capital should not be held artificially low.

Structural adjustment programs also include reform of trade restrictions. Such reforms aim at increasing competition and reducing price distortions, and in particular, the discrimination against exports. Reduction of the number of prohibited goods, and elimination of import quotas wherever possible is a high priority. Such quotas not only greatly weaken competitive forces, but they also often reduce governmental effectiveness by diverting talent into the pursuit of import licenses.

Programs sometime include measures to reform the urban (rarely the rural) labor market. In some countries (e.g., Egypt) rules which make it very difficult to fire workers convert labor from a variable into a fixed cost. Although these rules greatly increase existing workers' job security, they favor capital-intensive production techniques and inhibit job creation. They also reduce the X-efficiency of firms. Changes in these laws, however, are very difficult to implement, because politically strong labor-unions often resist them. Although these policies

---

<sup>14</sup> There is a voluminous literature on this subject; for an excellent review, see Sarris (1990).

do not have a direct impact on agriculture, they affect the sector indirectly in at least two ways: 1) they stimulate rural-urban migration by raising some urban wage rates, and 2) they create powerful urban vested interests which resist policy changes which are favorable to the rural and farm sector.

### **C. Elements of the Standard Program: Sectoral and Microeconomic**

The macroeconomic reforms sketched above contribute to raising the sectoral terms of trade of the agricultural sector, and shift incentives within agriculture: from non-traded to traded, and from import-competing to export commodities. These fundamental reforms need to be complemented by reform of domestic price policies.<sup>15</sup> These changes can take two forms:

- 1) The government withdraws from direct agricultural marketing; the "privatization" option;
- 2) The government remains in the marketing business, but raises producer prices and/or reduces the volume of produce which must be sold to the government.

Both options also apply to farm inputs. Most countries in the region have followed the latter approach, although privatization has also occurred (e.g., fertilizer in Morocco and--ongoing--in Egypt).

Such price reforms have several goals.

- 1) They seek to raise the efficiency of resource allocation in agriculture.
- 2) They aim at reducing the tax burden on farming. There was a substantial transfer of resources out of the agricultural sector: in Morocco in the early 1980s, some 15% of agricultural output was transferred. (Tulluy and Sallinger, 1991). Ending such transfers is only macroeconomically sustainable if either government expenditure falls and/or an alternative source of revenue is found. It is also hoped that reducing the tax burden on farmers and improving their incentives will stimulate a supply response.<sup>16</sup>
- 3) They hope to promote more timely delivery of farm inputs.

There is considerable debate about the utility of governments intervening in output markets in order to stabilize prices. There are two issues:

- 1) Are the welfare gains from stabilization high enough to warrant intervention?

---

<sup>15</sup> As noted earlier, in actual practice in the region, reform of commodity price policies usually preceded macroeconomic policy change.

<sup>16</sup> The question of supply response is discussed in the next section.



2) If the answer to the first question is "yes", what is the most effective method of intervention? What should the government stabilize and how should it do this?

Economic orthodoxy today holds that the answer to the first question is "no" (Newberry and Stiglitz, 1981). There are several arguments. First, from a farmer's perspective, it is stability of income not price which matters. Stabilizing prices may actually destabilize income, depending on supply elasticities, for farmers in systems subject to significant weather (i.e., output) shocks--a case which includes the large majority of farmers in the region. Second, even if there are gains, research based on comparative static models suggests that the quantitative gains from stabilization are small (Newberry and Stiglitz, 1981). Third, if private traders are allowed to operate, price stabilization schemes are vulnerable to speculative attack (Salant, 1983)

It has been noted that this piece of economic advice has been almost universally ignored by governments. In particular, the relatively successful market-oriented governments of East and Southeast Asia have consistently intervened to stabilize rice prices. Countries of the Near East, whatever their experience with structural adjustment, have maintained similar policies. Although political forces may be part of the explanation, some analysts (e.g., Timmer, 1988) have suggested that long-run, dynamic, investment considerations may also play a role here. As Timmer notes, such a perspective can only be formally studied using a large macroeconomic model. But such models require many specific assumptions, which vitiate their generality and utility for policy analysis.

Given the analytical uncertainty surrounding price stabilization, it is not surprising that few structural adjustment programs in the region have called for dismantling of government price-stabilization schemes.

#### **D. The Question of "Packages"**

##### ***1. The Economic Logic of Packages***

Critics of structural adjustment, the IMF, and the World Bank often charge that stabilization and structural adjustment packages are too often "generic programs", which do not adequately reflect the specific realities of a particular developing country. Several points are in order here. First, structural adjustment programs have, and must have, a certain internal coherence. It is not surprising that all programs include nominal devaluation and austerity measures: if the real exchange rate is overvalued, then this combination is necessary to fix it. Economic logic does not change from country to country. Second, however, it is doubtless the case that the economic structure of countries will differ, as will the political realities: Morocco is not Egypt. In particular, the precise nature of both "market" and "government" failure varies, and policies must reflect this. Two points may be made here:

1) No one knows how any economy "really works". Economies are far too complex to be easily analyzed in any model, whether simple or highly complex. Models are metaphors, ways of helping us organize our thinking in order to make plausible

statements and to offer practical advice. (McCloskey, 1985). Critics of the international agencies too often sound as if they had an alternative, superior explanation for how the economy in question worked. Upon careful inspection, this rarely turns out to be the case.

2) The international agencies do try to incorporate local realities into their programs. In this they are limited by their mandates and by the staff time available to undertake detailed analysis of the specific market and government failures. The Bank has a larger staff than the IMF and is more concerned with medium to long run problems. The Bank's programs are unsurprisingly somewhat more tailored to local circumstances than IMF stabilization programs. But the reality remains: a country which has been living beyond its means must change the incentive structure of its economy once foreign lenders lose confidence in that economy. In this situation, the rather simple model or metaphor of the macroeconomy which undergirds all IMF programs (i.e., devalue the currency; impose fiscal austerity; reduce trade barriers) remains highly plausible.

Structural adjustment programs are "packages": they have an internal, logical coherence. The currency must be devalued and austerity imposed if a real devaluation is to occur. Interest rates must be raised and the labor market deregulated if anti-employment biases in policy are to be removed. Trade barriers must be removed and the currency devalued in real terms and industry deregulated if industrial efficiency is to improve through the stimulus of greater competition. Economic logic dictates reform packages.

## ***2. An Implementation Constraint: The Clash of Economic and Political Logics***

Unfortunately, political logic dictates precisely the opposite: it is the height of political folly to offend everyone at once--which is what the economic logic implies! Many of the difficulties of implementation of structural adjustment programs may be traced to this "clash of logics". Take, for example, the relatively successful Turkish case. Turkey's structural adjustment program has been quite successful in stimulating exports, particularly non-traditional ones. It has shifted its development strategy from import-substituting industrialization to export-led growth. However, successive governments have found it extremely difficult to implement austerity measures: the government continues to run large deficits, and then compensates for the ensuing inflation by frequent small nominal devaluations.

At the beginning of the structural adjustment process, the government announced a sweeping structural adjustment policy with devaluation of the currency, fiscal austerity moves, and trade and parastatal reform. A crawling peg was adopted for the currency, tariffs were cut, and many quantitative export restrictions were lifted. Parastatals were reformed; management obtained the authority to set prices, and were required to phase out subsidies. From 1981-85 exporters received tax rebates and subsidized credit while nonexporting firms faced sharper increases in the real cost of borrowing.

Turkish manufactured exports responded very strongly to this new policy environment. Manufactures jumped from one-third of exports in 1980 to three-quarters in 1985, with continued strong performance thereafter (in 1989, manufactures were 66% of exports). There has been considerable diversification of manufacturing, and the sector's efficiency rose. Turkish consumer durables are now competitive in the discriminating markets of the EC and the Gulf.

Agricultural performance has been weaker. The rate of growth has been roughly equal to or slightly below the rate of population growth. Cereal imports in 1989 were roughly three times greater than in 1970. This had no implications for national food security, because of the strong industrial export performance. However, national indebtedness and balance of payments difficulties remain a problem. The government has found it difficult to privatize and to control the budget. The public sector borrowing requirement (budget deficit plus parastatal borrowing) was 9% in 1981, 6.5% in 1988. Inflation was reduced but remains stubbornly high by regional standards, averaging some 40% during the decade.

The persistent budgetary deficit is not mainly the result of parastatal borrowing, whose borrowing was 8.5% of GNP in 1979, 3.1% in 1989. Rather, it is the result of export subsidies and large public spending by municipalities, a type of spending which often expands greatly in the period preceding elections. Neither the military regime nor successive democratic governments have been able to eliminate the large subsidies inherited from past policies. Rather, the subsidies have been restructured and reoriented, to favor exporters, especially in manufacturing, and to win popular support for otherwise unpopular programs (Waterbury, 1992). Turkish structural adjustment has really never had one of the three "IMF pillars", fiscal austerity.<sup>17</sup> The crawling peg, however, has prevented this inflationary pressure from overvaluing the real exchange rate.

In an important sense, Turkish structural adjustment has not gone far enough. For example, privatization has proved to be very difficult. Freeing prices by monopolistic parastatals is not necessarily a sound policy. Yet this is essentially what happened, with adverse effects for their customers. These customers included Turkish farmers, who saw huge increases in fertilizer prices (some 1000% from 1979 to 1982--over 600% in one year, 1980) and in other inputs. Beginning in 1986, foreign imports and private entry were permitted in fertilizer and tea marketing. The tobacco parastatal faced similar competition in 1988, and fertilizer was privatized in 1991 (Olgun, 1991; Cakmak and Yeldan, 1992).

Despite the reforms of the exchange rate and relaxation of import restrictions, the terms of trade seem to have turned against agriculture during the 1980s (Cakmak and Yeldan, 1992). Other authorities (e.g., Olgun, 1991) dispute this. There were clearly significant short to medium run adjustment costs, including the loss of some 100,000 agricultural jobs. There have been efficiency gains, and the sector has been modernizing rapidly: despite the large

---

<sup>17</sup> The other two being, of course, nominal devaluation and trade reform.

increase in fertilizer prices, fertilizer use per hectare in the late 1980s was 63.7 kg per ha, compared with 15.7 in 1970/71.

Turkish experience illustrates the clash of political and economic logics. Despite the best intentions, the Turkish government, which is clearly committed to a more market-oriented development strategy, has been unable to implement a consistent structural adjustment "package" of the IMF type. It has been argued recently that the inability to restrain government spending may be the political price which must be paid to implement the other measures. Specifically, a "center-right" coalition now governs Turkey, in which economically strong but electorally weak (because few in number) business interests must seek allies among those who have sustained losses from structural adjustment (Waterbury, 1992). Consequently, the governing center-right political parties must spend large sums of public monies not only to foster export drives, but also to compensate losers. In a democratic environment like Turkey, it has proved very difficult to implement the classic "structural adjustment package".

Other countries have not been immune from the conflict of economic and political logics, and from the ensuing implementation difficulties. In Pakistan, politically driven subsidies continue to swamp the government's tax collection abilities, generating large deficits. In Egypt, the government reformed most farm prices (but not cotton) during the second half of the 1980s; deregulated and reformed the banking system in 1991/92; slowly reduced the budget deficit, but made little progress with privatization or deregulation of the labor market (Richards, 1991b). The first component of reform, macroeconomic stabilization, has been doing very well. Debt relief and banking reform are the keys here, although there are also other factors. Some 30% of the present value of the debt has already been forgiven, while another 20% will be if the reforms are fully implemented. Tourism first boomed and then declined due to internal security problems, while remittances have remained strong. Thanks to the banking reform package, Egyptians have been turning dollar holdings into Egyptian pounds, generating a current account surplus of some \$3.5 billion. International reserves are accumulating. Price reforms in the agricultural sector are also largely proceeding according to plan, and the government has increased its real revenue by replacing indirect taxation with sales taxes.

The bad news is that reforms have so far been largely limited to the financial sector; the real economy continues to lag. Indeed, the very success of the banking reform has reduced pressure on the exchange rate, which has probably led to real overvaluation. The growth of non-traditional exports has slowed, as local costs have risen and the exchange rate stayed up. The banking system is awash with cash, but the public's holdings are mainly in very short term (1 - 3 month) instruments. Any shock to confidence could lead to rapid conversion of Pounds to dollars, precipitating a sharp, sudden devaluation. Emerging weakness in the balance of payments as a result of the decline of tourist earnings are a source of concern.

More fundamentally, the problem is that the short-term liquid savings are not being translated into investment in the real economy. Only such investment can generate sustainable employment growth. There is consensus among observers that reforms of the real economy

are proceeding sluggishly. In particular, there has been little progress on privatization; by 1993, less than 2% of the book value of public sector assets had been privatized (World Bank, 1993c). It is true that the government of Egypt has agreed to Basle Standards for asset valuation, and has formed public holding companies to increase the autonomy of public enterprise managers. However, (historically speaking) high interest rates and especially, the general lack of public confidence in the stability of a "level playing field" for private and public enterprise have so far stymied private investment in traded goods production. In other words, despite two years of reform efforts, little has been done to correct the fundamental weakness of the Egyptian economy, the absence of private investment in labor-intensive traded goods production. Structural adjustment, as opposed to Stabilization, has really only barely begun. The government's recent decision

The contradiction between political and economic logics can be overcome if rural people have political weight, and if some of the costs of adjustment are mitigated through economic growth. The Moroccan experience illustrates such a fortunate conjuncture. The Moroccan government was able to rely upon and to strengthen a pro-reform coalition, composed of two critical groups of "winners" from the economic reform process: large private-sector Moroccan capitalists and the rural notables. The government was also able to overcome opposition from losers, for both economic and political reasons.

Moroccan capitalists have benefited from the opening of the economy, from the growth of output, and from the influx of foreign capital for joint-venture investment. As in some Eastern European countries, some key government actors could benefit from privatization, thereby ensuring that such a policy did not deprive them of patronage resources. More traditional linkages between the government and the King on the one hand and the business elite on the other have also been strengthened by the former's strong support of pro-business reforms.

Rural notables, long a pillar of the regime, have benefitted from the fact that structural adjustment has favored agriculture in general, and the rain-fed subsector in particular, as agricultural investment has been reoriented towards this formerly relatively disfavored subsector. The large rural population subsisting in this subsector benefitted from a series of high-rainfall years in the late 1980s during adjustment, as well as from a substantial increase in remittances from abroad, thanks to sound exchange rate management. Long-standing political control mechanisms, which rely heavily on patron-client relations, further contributed to political stability.

"Losers" in the reform process were largely urban. There were significant urban riots in June 1981, January 1984, and December 1990. Urban workers' losses from structural adjustment were, however, cushioned by the (unusual) fact that economic growth accompanied reform, thereby mitigating the fall in real wages and the rise in unemployment. Growth was possible because of good weather (raising agricultural output, incomes, and purchases from cities) and thanks to the large increase in exports. Expenditure switching was relatively more important than expenditure reduction in restoring macroeconomic and external payments balances. Some

political liberalization, such as releasing political prisoners and holding elections, contributed to the legitimacy of reform in the eyes of those who bore significant costs of reform.

Structural adjustment with growth, combined with carefully managed political liberalization, has enabled the Moroccan government to strengthen key allies, to mitigate the suffering of the losers, and to reinforce the legitimacy of economic reform.

#### **E. The High Costs of Not Reforming**

The costs of not reforming can be very high. It may not be an accident that two of the poorest countries in the region, Sudan and Yemen, have also done the least to reform their economic policies. Both have maintained highly overvalued exchange rates, and both have significant trade restrictions. Both are overwhelmingly agricultural countries, and must base their development strategies on the farm sector. There are, of course, significant distinctions between the two. Most prominently, the Sudan has great agricultural potential, which so far has not been realized. Yemen has a far less favorable natural endowment, but also has in general pursued better balanced economic policies.

The economic situation in Yemen is difficult: with the downturn in oil revenues, growth has reversed, and is now negative in real terms. The repatriation of perhaps 750,000 Yemenis, of whom 50% are estimated to have returned to rural areas, in the wake of the Gulf Crisis and War of 1990-91 greatly complicated economic management, and seriously increased poverty. Population growth remains high, and the country has yet to formulate any environmental protection strategy. The problems of externalities are very serious in Yemen, serious degradation of land and water resources is occurring. Ground water pumping is excessive, and deforestation is rapid. Achieving the national goal of reunification has proved costly, and has exacerbated the government deficit. Consequently, the money supply is growing by 20% per year, stimulating inflation, which, in turn, further weakens the fledgling modern banking system and leads to overvaluation of the currency. (World Bank, 1992).

The agricultural sector has been caught in a "policy induced profit squeeze". On the one hand, policy lowers the prices of outputs: the increasingly overvalued official rate is used for food imports, thereby depressing producer prices. On the other hand, foreign exchange is licensed and rationed, leading to input shortages. The result is a profit squeeze, which discourages investment in farming. For example, feed shortages after 1987 led to widespread failures and exit by formerly successful private sector commercial broiler producers.

Public investment has also suffered. Although most public investment funds came from international donors, cuts in the government's recurrent budget have "starved projects", due to a lack of counter-part funds and of personnel. There has been considerable privatization in the former PDRY, thanks to entry by Northern Yemeni entrepreneurs, take over and privatization by employees (tractor stations), or simply through collapse and abandonment. However, three parastatals remain problematic: 1) the CACB, a credit agency; 2) MSMMC, the Municipal Slaughterhouse and Meat Markets Corporation, which has made poor locational choices for slaughterhouses, and 3) the Military Economic Corporation, which is

the main importer of meat and live animals. There is little evidence that any of these organizations contribute significantly to growth. Parastatals, described as "inefficient and debt-ridden, with dilapidated facilities" (World Bank, 1992).

Unsurprisingly, the decline in national food self-sufficiency continues: on the eve of unification (1990) North Yemen imported 48% of its food (60% of cereals); the value of food imports had increased three fold since 1975; the value of food imports per capita had doubled. Qat production, of dubious social merit, continues to be the most profitable crop in the country; the World Bank estimates that adding the value of qat to the national income accounts would raise estimated GDP by 25%. The government wants to tax qat production, both as a revenue raising measure and to discourage its production. Since the crop is a non-tradeable, the overvalued exchange rate contributes to its profitability.

Many of these trends began during the oil boom. The point here is that current policies do little to change the situation. So long as the flow of remittances remained large, food security was not jeopardized. Today, however, the government's adherence to the unrealistic policy goal of "food self-sufficiency" impedes focusing on less ambitious, but more realistic policy goals. Now that emigration and remittances have been disrupted, a new approach will have to be found. Structural adjustment will be necessary if Yemen is to meet its food security and employment challenges. Yemen has a plethora of talented domestic entrepreneurs; if given the correct price signals and if supported with adequate infrastructure, they will find a way to produce and market goods, providing foreign exchange, food, and jobs to the national economy.

Sudan enjoys some of the region's greatest agronomic potential, with large areas of relatively good soil (especially in the central clay belt and the irrigated zones between the White and Blue Niles), adequate if erratic rainfall in the South and Center of the country. In the 1970s, many hoped that Sudan would become the "breadbasket of the Arab World". Yet today, most Sudanese are considerably poorer now than at the beginning of the 1980s. During the past decade, per capita incomes fell by 18%, real GDP declined by 11%. The World Bank estimates that 10% of the population of Northern Sudan suffers from chronic food insecurity; another 38% face transitory food insecurity. Famines in Western and Southern Sudan have killed large numbers of people; estimates range from 500,000 to well over one million.

What accounts for the vast gap between potential and experience? Although drought and civil war have undoubtedly played a role, poor policy must also bear a share of the responsibility. The government of Sudan before 1989 did little to implement structural adjustment, despite one of the most serious set of internal and external imbalances in the region. (World Bank, 1990d) The Sudanese case illustrates the "worst-case scenario", a vicious cycle of delaying reform, which only worsens the macro and trade imbalances, which means that the adjustment will be correspondingly more severe, a fact which leads to further delay, and so on. The Sudan also illustrates the dangers of "partial reform": by devaluing the nominal value of the currency, but then not cutting the budgetary deficit, the devaluations only succeeded in

stimulating inflation.<sup>18</sup> Some Sudanese observers then (inaccurately) blamed "the IMF" and "structural adjustment" for the problems, when, in fact, the culprit was partial (and therefore economically incoherent) reform.(World Bank, 1990d).

The exchange rate has been greatly, and consistently, overvalued. Inefficient parastatals are ubiquitous; successive governments have evidenced a great distrust and fear of the private sector, which alone holds out any chance of raising efficiency. There has been a vicious circle of state regulation and mismanagement leading to capital (including human capital) flight, to widening macro-imbalances, and to shortages. The government, having ever fewer resources, steadily cut real wages to employees, who are required to control ever larger parts of the economy. They cannot do this, because the Sudan is far too vast a country, and the civil service has too few resources. As is by now well known, centralized economic control simply does not work. Instead, these policies drive out or greatly distort private sector activity, which heightens distrust, engenders more controls, and so on in a downward spiral.

There have been serious deficiencies in macroeconomic management. Until 1983 the Government tried to compensate for poor performance by borrowing, thereby accumulating a debt approximately equal to 150% of national output. After 1983, however, international lenders were no longer willing to lend to Sudan without evidence of policy reform. Sudan accumulated arrears to the IMF, and by 1986 was declared ineligible to draw on the IMF's resources. Government savings dwindled, and then turned negative. The government instituted a policy of repeated, large nominal devaluations of the Sudanese Pound; unfortunately, accelerating inflation led to real appreciation from 1982 to 1989; the real effective exchange rate changed little from 1978 to 1982. Multiple exchange rates were utilized, with the ones least favorable to producers being applied to exports, especially cotton and gum arabic.

Government deficits absorbed most of the resources of the banking system: from 1984 to 1989, some 51% of bank credit went to finance the Central Government deficit, while another 28% covered the losses of parastatals. Interest rates were abolished in 1984, reintroduced in 1987, and rescinded again in 1990. Real interest rates have been negative throughout the decade. National investment has fallen from 13% of GDP in 1976 to 4% by the late 1980s. The only bright spot was that the external terms of trade improved, largely thanks to the fall in oil prices. But because of the overvalued exchange rate and excessive government regulation, export crops were not able to respond.

The government regulates all aspects of cotton crop production. Because of administrative and exchange rate problems, there have been many problems with the timely delivery of inputs; for example, in 1989 some 15% of the cotton crop was lost due to the late delivery of sacks. The situation with spare parts is still worse. These problems interact: officials of the Agricultural Corporation are obliged to spend much time in Khartoum trying to secure allocations of foreign exchange for inputs. This diverts their energies from on-the-ground

---

<sup>18</sup> The alternative Turkish strategy of repeated mini-devaluations was also not used.



management activities. Unclear lines of responsibility between the Agricultural Corporation and the Ministry of Irrigation impede management of public irrigation systems. Because of the accumulation of weeds and silt in canals, the crop intensity in the irrigated sub-sector fell from 75% to 57% (a decline of some 300,000 feddans). Another parastatal, the Earth Moving Corporation, has a silt removal capacity of 10.2 million cubic meters per year, while silt deposits are estimated at 16.7 million cubic meters per year. Significantly, the Government of Sudan prohibited private entry into this activity, despite its own incapacity to deliver the needed service. Ginning losses in Sudan are some 300-400% above international norms. The parastatal, Sudan Cotton Company, has a monopoly over ginning and exports. Cotton growers (the tenants of the Gezira and Rahad Schemes) and the input suppliers (the Agricultural Company) are insulated from the success or failure of the Sudan Cotton Company, so they do not press for reform.

The problems facing other crops are primarily the overvalued exchange rate and inconsistent government regulations which sometimes create perverse incentives. For example, the government set international prices of its gum arabic very high, trying to reduce smuggling (the result of the overvalued exchange rate). But the high prices encouraged consumers to switch to other suppliers, such as Nigeria and Senegal. The overvalued exchange rate encouraged the smuggling of livestock products; erratic government policy has earned the country a reputation for unreliability in the livestock trade. In 1989 the government issued licenses for sorghum exporters for "back-to-back" (barter) deals. This transformed sorghum into a speculative commodity: traders' profits came from the import side, where actual prices were rising rapidly with inflation, despite price controls. A shortage ensued, leading the government to ban exports.

The two consistent themes of the Sudanese policy problems are the overvalued exchange rate and parastatal inefficiency. Both create strong disincentives to agricultural production. At the same time, the government neglects certain vital tasks, such as the proper enforcement of land-rental contracts in the mechanized farming zones of the Central Clay Belt of the country, with deleterious ecological consequences. In Sudan, structural adjustment will be a necessary component of recovery; it will not be sufficient, because the key is the reorientation and reform not merely of private incentives, but of public action.

It may not be an accident that the two countries which have had the most difficulty implementing structural adjustment are also the poorest countries of the region. The causality, however, may go both ways: not only does the failure to adopt reform impoverish, but poverty impedes implementation. Fundamentally, structural adjustment is an attempt to "get the prices right" at the macro, sectoral, and microeconomic level. Few would dispute that accurate price signals are critical to efficient resource allocation. But there is far more to efficient markets than government price policies: in particular, the physical, social, and human infrastructure for markets must be in place. Agricultural markets require roads, storage facilities, information systems, clearly defined and transparently enforced property rights, and people who can respond rapidly to changing conditions. All of these things require investment, and in poor countries, they are all in short supply. The failure of structural

adjustment and poverty may be reciprocally related. But experience strongly suggests that without structural adjustment, poor countries are doomed to remain so.

#### **IV. THE IMPLICATIONS OF STRUCTURAL ADJUSTMENT PROGRAMS FOR AGRICULTURE**

##### **A. Prices**

It is generally expected that the sector as a whole will benefit from structural adjustment. The impacts may be summarized as follows:<sup>19</sup>

- 1) A real devaluation is an increase in the price of traded goods relative to non-traded goods. Since agricultural products are usually "more tradeable" than those of other sectors, in general a real devaluation will improve the intersectoral terms of trade. This, in turn, will increase the real income of farmers, even if there is no supply response.
- 2) Fiscal austerity is deflationary. The decline in incomes leads to a fall in the demand for importables, but not for exportables. Accordingly, the price of exportable goods rises relative to importables. In the Near East and North Africa, basic foods (cereals) are imported goods. Their price will fall relative to exportable crops.
- 3) The combination of a real devaluation and deflation will lead to a fall in real wages, including those in agriculture. The supply of labor is growing everywhere because of past population growth. Some labor will switch from (less profitable) non-traded goods production; given inelastic labor demand functions, there will be a fall in real wages in agriculture. This effect will be mitigated to the extent that there is a supply response to the improved price incentives; the increased profitability of farming causes an outward shift in the demand function for labor. Because supply elasticities for the sector as a whole are low (see below), this effect will be small in the short run.
- 4) The real devaluation, combined with reduced import protection and/or export taxation will change the relative price structure among crops.
  - a) The price of export goods will rise relative to import-competing ones, including cereals;
  - b) The price of "relatively less-traded goods" will fall relative to other traded goods. Consumer preferences, information costs, and/or transportation costs may create "partial non-tradeability" for certain farm products (e.g., fresh dairy). If the elasticity of substitution in consumption of fresh (non-traded) and powdered (traded)

---

<sup>19</sup> These points follow Norton (1987) and Binswanger (1989).

milk is low, fresh milk becomes a "partially non-traded good". Such goods will become less profitable relative to other farm products.

5) Farm incomes will rise because of the improvement in the terms of trade and, for net buyers of labor, because labor is a large component of costs.

6) Reform of crop price policies will reinforce the increase in farmers' incomes. Its impact on the relative prices of traded and less-traded, export and import-competing crops naturally depends on the precise structure of price/crop taxation policy. It is a fair generalization, however, that in the Near East and North Africa, traded goods, particularly cereals, have typically been taxed. The precise impact on the profitability of this import-competing good relative to export goods will depend on the relative magnitude of earlier taxation and real exchange rate overvaluation.

It is necessary to add a caveat: these effects assume that prices are market determined, and that changes in exchange rates are "passed through" to domestic economic actors. If these conditions do not obtain, the results of a devaluation can be different. For example, recent analysis of Algerian farming suggests that devaluation will reduce the profitability of most farms (World Bank, 1990a). For producers, output prices of cereals and pulses are administratively determined and are above world prices when valued at the real effective exchange rate. Other crops whose prices are market determined enjoy extensive protection from quantitative import restrictions, which of course raises their domestic prices above world market levels. Accordingly, a devaluation of the dinar will either a) have little effect on prices (in the case of administered cereals and pulses) or b) reduce producer prices, if devaluation is accompanied by a relaxation in quantitative restrictions. At the same time, because of the high import content of agricultural inputs, a devaluation would raise the price of inputs.

This is unsurprising: whether the source of protection is an overvalued exchange rate, tariffs, or quantitative import restrictions, the price of a good in a protected market will fall if protection is removed. Devaluation reduces the profitability of importables, and increases the profitability of exportables. The lesson is that the impact of devaluation on the sector as a whole will depend upon:

1) The crop mix: This will have been influenced by past policy decisions; in particular, if the sequence of reform has been "first sectoral liberalization, then macroeconomic stabilization", the devaluation-cum-austerity of the latter may adversely affect producers of import-substitutes.

2) The extent of direct and indirect subsidy or taxation of the sector: To the extent that 1970s' concerns with food security led to policies which subsidized cereal production, a removal of subsidies, combined with devaluation, would *ceteris paribus* reduce farm incomes, as in the Algerian case.

3) The import-intensity of inputs: if inputs are imported, devaluation will, of course, raise their price. If they are produced locally and inefficiently, and if devaluation is

accompanied by lifting tariffs and other trade restrictions, prices to farmers should fall. If locally produced goods have a high import content, but are otherwise efficiently produced, costs of production, and therefore prices to farmers, will rise.

4) The price-formation mechanism for import-competing and export crops: Obviously, changes in prices will not affect outputs whose prices are fixed by government. However, a devaluation under such a system will have important implications for the government's budget.

5) The agricultural production function: Since a real devaluation reduces wages, but may raise the costs of other variable inputs, the total impact on costs will depend upon the production function.

Although in most cases the fundamental conclusion that structural adjustment should improve farmers' welfare remains, the specifics of each individual case (farm systems and precise present policy mix) will matter greatly. Governments need to be able to conduct the kind of concrete, detailed analysis which alone can answer the critical question, "Who benefits and who bears the burden of structural adjustment?"

## **B. Quantities**

There is consensus that the elasticity of supply of individual crops is relatively high (although often less than one, especially in the short-run). Accordingly, there have been significant crop reallocations in response to structural adjustment programs and price policy reforms. Since the post-reform pattern of prices more closely corresponds to the structure of real opportunity costs, the reallocation of land, labor, and purchased inputs among and between crops increases efficiency. The gains from changes in cropping patterns can be substantial: for example, the losses from price distortions in the Egyptian case have been estimated at 7% of GDP, and over 30% of agricultural GDP (Dethier, 1991; Hansen, 1992).

There is much less agreement on the aggregate supply response, although most economists believe that the response is low. As Binswanger (1989) has pointed out, the basic argument for inelasticity was made over forty years ago (by Johnson, 1950): aggregate sectoral output can only increase if more resources (land, labor, and capital) are utilized or if there is technological change. Binswanger reviews a series of econometric studies of aggregate supply response; although there are the usual methodological debates and conundrums, the conclusion is clear: aggregate supply elasticities are very low in the short-run, usually below 0.2, often below 0.1. On the other hand, Valdes (1989) finds contrary evidence, largely because he is looking at the longer-run, and because he (plausibly) attributes long-run agricultural growth with a favorable "price environment". Braverman (1989) points out that if prices had been very low, then even if elasticities are low, a large output response could occur: e.g., if prices rise 100%, then output could rise by 10-20%--a result which regional policy makers would certainly welcome! In a manner somewhat analogous to the debate on price stabilization, part of the difficulty is that econometric analysis is ill-suited to studying the complex dynamics of long-run agricultural growth (a point stressed by Binswanger, 1989 and Braverman, 1989).

Aggregate supply responds strongly to investment. Public investment in rural infrastructure, particularly roads and irrigation, has a strong impact on output; the same is true for investment in human capital. The difficulty, of course, is that the fiscal austerity of structural adjustment programs may reduce such public investment. At the same time, private investment will not be forthcoming unless the price environment is favorable. These are difficult trade-offs, which can only be mitigated through careful program design.

Such results lead to an important conclusion: supply response is endogenous to program design. It is critical that investments in rural infrastructure and human capital be protected as far as possible from budget cuts. Such an outcome depends upon the relative political influence of agricultural producers: only if agricultural interests are politically strong can they minimize spending cuts in agriculture. Too often, urban groups have greater political weight; then the burden of austerity falls most heavily upon farmers, jeopardizing the complementary investments which are required to translate a more rational pricing structure into growth.

Some evidence from the region suggests that countries which raised producer prices and have increased investment did relatively well during the past decade. Morocco has gone at least as far with the structural adjustment as any country in the region. Beginning in 1983, the Moroccan government implemented a classical program, with devaluation, fiscal austerity, and trade liberalization components. Implementation was made difficult by an initial exclusive focus on stabilization, without adequate attention to increasing competitiveness and exports. Reform slowed in 1983-85, when a new agreement was negotiated. Since then Morocco has met most of its reform targets. The new agreement, in effect from 1986, first targeted industry, but then was extended to agriculture. A first Agricultural Structural Adjustment Loan covering mainly input price increases was implemented between 1985 and 1987, and a second ASAL which stressed output price reform and greater 1988-92; money from USAID contributed to sectoral adjustment from 1984 to 1993.

The reform contained many conventional features. Fertilizer subsidies were reduced by 40%,<sup>20</sup> water charges increased and collection improved, and private sector entry into marketing was permitted. Veterinary services, fertilizer marketing, seed production and distribution were privatized. The agricultural export marketing authority (a government monopoly) was abolished. Support prices for durum wheat, barley and maize were eliminated. The conditions of ASAL-2 for rationalization of the livestock market were also met.

However, Morocco's actual policy mix diverged in several important respects from the "text book case" of structural adjustment. In fact, the degree of protection of cereals, especially of bread wheat, actually rose since 1984. For most cereals, nominal protection coefficients are between 1.4 and 1.8. Although the trade in cereals is theoretically free, in fact a license is still required. Flour and bread prices are in principle deregulated, but are in fact controlled by the

---

<sup>20</sup> Because the marginal value product of fertilizer continued to exceed the price of fertilizer even after price decontrol, fertilizer use continued to increase during the reform period (Tyner, 1993).

government. Reforms of sugar prices have not been completely implemented, while edible oils and oil crops have moved from being taxed to being protected (Tyner, 1993). In Morocco, as in Turkey, farmers continue to receive special treatment.

The government of Morocco has also continued its decades-long policy of stressing investment in irrigation. Moroccan large farmers and agribusiness have responded well to the improved environment, and growth has been strong. To some extent, Morocco has also been lucky: the weather during the late 1980s was generally far more favorable than during the early years of the decade. Rural poverty was also strongly mitigated by remittances, whose inflow was probably increased by sound exchange rate management (Morrisson, 1992).

### **C. Good Policy or Good Weather? The Importance of Luck in Policy Outcomes**

Assessing the sources of the relatively favorable rent performance of Moroccan agriculture faces a kind of "identification problem": growth accelerated in the late 1980s, when the weather improved and structural adjustment reforms were implemented.<sup>21</sup> For the whole decade, the sector grew at 5.5%, rising to over 6% for the latter half of the decade. Export performance was especially strong: in 1989, agricultural exports exceeded those of the traditional leader, phosphates. Farm output per capita rose 25%, and cereal output grew at 7.5% (World Bank, 1991). The instability of cereal production showed no change when the period 1961-76 is compared with 1979-90. By the end of the decade, food imports were about 10% of total imports, compared with perhaps 20% in 1980.<sup>22</sup> Food exports grew more rapidly than imports (which reversed the experience of 1965-80); industrial exports grew still more rapidly, with favorable employment and balance of payments implications.

Remittances rose by 80% in real terms from 1980 to 1987 (Morrisson, 1992). In 1980, remittances were some 16.5% of agricultural value added, by 1987, they were about 30% of value added. These remittances played a critical role in alleviating rural poverty among those rural Moroccans less well placed to benefit from structural adjustment. Although exogenous factors were certainly critical, sound exchange rate management helped. The Moroccan government also continued its long-standing policy of allocating substantial investment funds to irrigation. Some 80,000 ha of irrigated land were added during the 1980s. Generous credit subsidies were also offered.

---

<sup>21</sup> Other countries have had a similarly ambiguous experience. For example, Turkish agricultural output grew more rapidly in the second half of the 1980s than during the first half. It may also have been influenced by the drought which occurred in the middle of the decade, or due to the (lagged) positive impact of structural adjustment.

<sup>22</sup> As with the data for Egypt, there is a discrepancy between FAO and World Bank data. The Bank asserts that cereal self-sufficiency deteriorated in Morocco. This is contradicted by FAO data. If the FAO production data are correct (i.e., cereal growth of 7.5% per year) then cereal self-sufficiency almost certainly improved. Per capita incomes grew slowly during the decade; gdp per capita grew at about 1.5%; incomes presumably grew faster, thanks to remittances. Even if per capita incomes grew at 3% per year, with a population growth rate of 2.6% and an assumed income elasticity of demand of 0.4, demand for cereals would have grown at 3.8%--well below the FAO production growth rate. Self-sufficiency would, therefore, have improved.

Good luck can also help countries which have not embarked on thorough-going reform programs. Egyptian experience offers an interesting case. Egypt's ability to delay the reforms which economists have advocated for nearly two decades is striking. Despite the inexorably mounting economic problems which delay exacerbates, the government has (until, perhaps, very recently) postponed change--and yet has not faced the cessation of external capital flows which, we have argued, is usually the first source of pressure for reform.

Egypt enjoyed the good fortune of its geographic location and of regional political events. This form of good luck may be termed "strategic rent". Of course, the bulk of Egyptian export revenues in the 1980s came directly or indirectly (via workers' remittances) from petroleum revenues, and, of course, oil revenues are (and always have been) largely economic rent. Oil revenues had risen from 11% of exports of goods and non-factor services (i.e., excluding workers' remittances) in 1974 to 58.6% in 1982; oil revenues had risen from essentially nothing in the early 1970s to nearly 20% of government revenue in 1982 (World Bank, 1990b). Oil revenues permitted the government to pursue "economic business as usual" while reorienting the country's foreign policy. Despite the vaunted "Open Door" policy, the government continued and even deepened many of the baleful economic legacies of Nasserism: the number of civil servants doubled, while enrollments in the universities (the ticket to government employment) rose over 250% (Handoussa, 1989). There was much talk of reform, and very little action, during the Sadat era.

The collapse of oil rents in the early to the mid-1980s greatly increased the pressure for reform. Although there were some reforms (particularly of the government budget), a consistent reform program was not even formulated until mid 1986, not implemented until May, 1987, and abandoned in November, 1987. Throughout the 1980s, Egypt continued to procrastinate reform, even as problems mounted, and long after oil rents had dwindled.

The reason is that Egypt could collect another form of rent: strategic rent. Egyptian leaders were able to exploit their unique position as the largest Arab nation, and the only one to have signed a peace treaty with Israel to extract concessions from the United States, the EC, and through these, international agencies such as the IMF and the World Bank. The government skillfully utilized "strategic rent" to delay reforms for half a decade after the oil price collapse of mid-1986.

Even strategic rent has its limits, however. On the eve of the Gulf War, pressure was mounting on Egypt to change: the IMF, badly burned in 1987, was taking a harder line, while the US connection was endangered by Egypt's coming dangerously close to violating the Brooke Amendment. After failing to meet the targets of the May, 1987 stand-by agreement with the fund by November, 1987, there followed several years of complicated negotiations, in which the government of Egypt used its strategic importance to extract favors from the US, and to induce the US to lobby the IMF to exercise great restraint in dealing with Egypt. The patience of all parties was running out, as Egyptian policy makers appeared to take an ever-shorter perspective on the problem.

Here, from a strictly Egyptian macroeconomic point of view, good luck "saved the day". The Gulf Crisis and War of 1990-91 created an entirely new situation, and allowed the government of Egypt to obtain a very favorable deal. The essence was simple: Egypt would adopt a reasonably conventional stabilization and structural adjustment package, which would cover most of the policy changes outlined above, in exchange for massive debt relief. Such a bargain was attractive both economically and politically. Economically, the reduction of up to \$20 billion of debt cut yearly interest payments by \$2 billion for the next ten years. Politically, the deal was easier to sell domestically, since the government could plausibly argue that its creditors were shouldering part of the burden of past mistakes.

Needless to say, what from an Egyptian macroeconomic point of view was "good luck" was an unmitigated disaster for countries like Yemen, Sudan, and Jordan. We have seen that the reform impulse was weak in the first two countries. They unfortunately combined both a weak reform effort and bad luck, in contrast to Morocco's strong reform/good luck, and Egypt's weak reform/good luck.

The final possible combination, strong reform/bad luck may be seen in Jordan.<sup>23</sup> The need for economic reform, particularly by cutting bureaucratic red tape that constrained private sector activity and investment, was apparent to policy makers by the mid-1980s, but real progress did not begin until the economic crisis of 1988/89. The original agreement reached between the government and the IMF reportedly called for a reduction of the budget deficit; a reform of the tax system; a tighter credit policy; a more prudent debt management and borrowing policy; a decrease in the rate of inflation; an improvement in the current account to a balanced position in 1993; the building up of foreign currency reserves to cover three months' worth of imports.

The government was clearly committed to meeting the conditions of the agreement with the IMF. And, despite extensive public criticism of the agreement, at no point did any Member of Parliament come forward with an alternative plan. When it came time to pass the 1990 budget, there was no attempt by parliament to advocate increased spending as a way out of such problems as unemployment. Hence, in effect, the parliament gave its endorsement to the IMF package.

Despite the government's good faith in its implementation of IMF conditionality, the Gulf crisis effectively undermined the original timetable of reforms. In the first place, thousands of refugees flooded into Jordan. The Kingdom's political position on the crisis further exacerbated the situation, since coalition states were disinclined to alleviate Jordan's refugee problem. The embargo against Iraq deeply hurt Jordan's commercial, industrial, and overland transport sectors. The blockade of the port of Aqaba led shippers to avoid using it even for other purposes. Jordan also lost its Kuwaiti and Saudi markets as well as Gulf state aid because of the Kingdom's failure to join the anti-Iraq coalition. The regional instability also

---

<sup>23</sup> Figure 1 shows a simple taxonomy of how countries in the region combined strong or weak policy reform efforts on the one hand and good or bad luck on the other.



cut into Jordan's increasingly important tourist trade. Assessments of the economic impact of the crisis on Jordan range from \$1.7 to \$5 billion..

The Gulf crisis also caused the budget deficit projected for 1991 to jump by JD 121.7 million to JD 216.7 million. As a result of these economic dislocations, Jordan put a moratorium on the payment of its rescheduled debts, a situation about which the IMF was reportedly very understanding. An IMF team arrived in Jordan in mid-September 1991 to prepare a new letter of intent and a new agreement was announced in October 1991. Jordan has largely fulfilled the terms of this obligation; economic reforms are "on track" once again. The budget deficit fell from 18% of GDP in 1991 to 4% in 1993, while inflation fell from 21.5% in 1989 to 5.3% in 1992.

Although bad luck can temporarily derail a reform program, if the unfavorable exogenous shock is temporary and if policy makers persist, reform can resume. Further, a realistically designed and properly implemented reform package can increase the flexibility and responsiveness of the economy, because private actors and market mechanisms are more flexible and responsive than government employees and bureaucratic decision-making procedures. Consequently, reformed economies may be better able to withstand the exogenous shocks which (inevitably) buffet them. In Tunisia, for example, despite "catastrophic droughts" in 1988 and 1989, GDP growth remained positive, whereas in previous droughts, GDP had fallen. Luck may be exogenous, but the ability to cope with the consequences of luck is policy-generated.

#### **D. The Complementarity of Structural Adjustment and Investment**

Good weather, strong remittances, and continued investment were the motors of Moroccan sectoral growth. Although the "identification problem" makes firm conclusions difficult, policy changes very likely contributed to the strong performance of Moroccan agriculture in the second half of the 1980s. Serious problems remain. Food subsidies, although already costly, are poorly targeted; public sector enterprises face wage compression and difficult managerial problems. Agricultural credit subsidies are also expensive, and the employment pressure is very strong. Nevertheless, Morocco seems to have made a good start at shifting toward a private-sector led strategy, which is probably the only hope for solving these problems. The Moroccan case illustrates the complementarity of structural adjustment and sectoral investment in stimulating agricultural growth.

A second example of such complementary policies is the dramatic increase of Egyptian wheat production in the late 1980s. Here the complementary investment was research into new varieties. Adapting higher yielding varieties of wheat to Egyptian conditions proved a challenging task; however, when the release of the new variety coincided with decontrol of the wheat market and large price increases, output rose by over 40% in four years. It is now recognized that the country has a strong comparative advantage in wheat (World Bank, 1993a), and that the long struggle to develop a locally adapted high-yielding variety and to free domestic prices has paid off handsomely.

However, it is also instructive that in neither case was the entire "conventional policy package" implemented. The Egyptian real exchange rate remained overvalued throughout the late 1980s (although arguably less so than earlier in the decade); structural adjustment in the Egyptian economy as a whole has moved very slowly. In Morocco, farmers received generous credit subsidies (i.e., capital was under-priced). It may be that some of Moroccan farm growth, like Turkish industrial exports, is as much the result of subsidization as of "getting the prices right". Indeed, throughout the region, more resources were devoted to agriculture during the 1980s. Irrigation, credit, farm traction, and fertilizer use all rose (Richards, 1992). Increased investment and greater input use played a critical role in promoting the growth of output.

Two key, related questions on the interplay of reform and investment are:

- 1) the budgetary sustainability of investment, and
- 2) the efficiency of investment.

As noted earlier, output and input price subsidies to Iranian agriculture amount to nearly 20% of the total government deficit. At the same time, real investment in agriculture in 1989 was only one-third of its 1982/83 level. Serious backlogs of investment for rehabilitation and maintenance of existing infrastructure have emerged. Part of the logic of the recent reform program in Iran is to reduce budgetary pressure, and hopefully, to free funds for needed investment in infrastructure. Here, reform is necessary in order to make investment budgetarily sustainable.

There are also competing uses for investment funds, and no country can really afford to waste resources. It is critical to obtain the highest possible pay-off for investment. In some economies, the structure of decision-making greatly lowers the efficiency of investment. In Algeria before 1987, state farms ("Domaines Agricoles Socialistes" or DAS) occupied most of the best coastal crop land, and received the majority of state investment: over 65% of fertilizers and 75% of the number of tractors went to the DAS, which also received 96% of official credits (World Bank, 1990a). However, there were few incentives for DAS personnel to perform: minimum wages were guaranteed regardless of farm performance, and management faced the "soft budget constraint" (Kornai, 1990), in which losses would automatically be covered by extensions of credit from state banks. Performance of the heavily favored DAS was only marginally better than the deprived private sector; indeed, for some crops, the private sector outperformed the DAS despite receiving many fewer inputs. That is, the private sector was markedly more efficient. Not only did this institutional arrangement greatly reduce the efficiency of investment, it also created serious burdens for the government's budget. The government responded decisively to this situation in 1987, when the DASs were dissolved into much smaller cooperatives ("Exploitations Agricoles Collectives" or EACs) or private farms ("Exploitations Agricoles Individuelles"). The government created some 22,000 EACs, with an average of 6-7 members, and a cultivated area averaging 70 hectares, and 5,100 EAI, with an average area of 6 hectares (World Bank, 1990a).

In some cases, the entrants into production in Algeria have been young people with advanced degrees in agricultural engineering or other sciences. Similar patterns have been found in Tunisia, where over the past 3 to 4 years the government has leased up to 100,000 hectares of state land to such people, as well as to large joint-venture agribusiness. Similar patterns have occurred in the distribution of reclaimed land in Egypt. However, the Egyptian government has also in some cases given land to unemployed university graduates with few farming skills. If they could sell the land to qualified farmers, such a policy would be the equivalent of a cash-transfer to the graduates; however, to prevent speculation the government has outlawed sales. The resulting situation is unlikely to yield either happy graduates or optimal use of agricultural resources. Rental agreements may, however, be able to solve this problem.

## **E. Institutional Problems**

Institutional difficulties can undermine structural adjustment. Two types of problems are particularly salient: 1) unclear specification of property rights, and 2) conflicting responsibilities of different government agencies. The presence of either problem can blunt farmers' response to the enhanced incentives which structural adjustment can provide.

The market mechanisms presupposes clear property-rights. If these are absent, no amount of price change can elicit response. If there is confusion over ownership, private resources will be devoted to trying to establish it, or to clarifying it, rather than to production. Such a situation reduces investment, and undermines agricultural growth. For example, Algerian land laws began to change in 1987, as the government tried to give state farms (DASs) to privately managed collectives (EACs) or individuals (EAs). However, land remained owned by the state until 1991, and much legal uncertainty surrounds the transfer of property rights. The government retained the right to add members to EACs, which may also have increased uncertainty. Since the government has changed property rights systems for land repeatedly since independence, the recent government initiatives may lack credibility. Such uncertainty has, of course, hampered investment (USDA, 1992; World Bank, 1990a). Iran has had similar difficulties.

If property rights are poorly specified, then enhanced private incentives may actually increase the abuse of the commons. For example, subsidies to feed in Jordan have encouraged herders to overstock and overgraze, thereby accelerating the ecological destruction of the badia or rangeland (Nesheiwat, 1991). If water is treated as a "free good", which no one owns, then higher output prices may exacerbate the problems of water scarcity. In Egypt, for example, decontrol of cotton and sugarcane would probably have this effect, since both are water using crops (Sarafy, 1993). The fact that the government of Algeria exempts EACs which drill private-tube wells from being required to accept new members (World Bank, 1990a) may create incentives for overexploitation of groundwater.

Conflicting governmental responsibilities can also undermine the favorable impact of improved incentives. For example, three ministries share responsibility for the sector. Unsurprisingly, this has led to conflicts and to reduced effectiveness in planning, research, and extension. (World Bank, 1993b). In a number of other countries, conflicts between the

Ministries of Agriculture and Water and Irrigation are not uncommon. Governments need to work to resolve these institutional problems if they are to realize the potential benefits of structural adjustment. Some reform programs include efforts to strengthen government institutions; for example, some agricultural adjustment funds were used to train government personnel in policy analysis. In some cases, reform programs contain institutional-strengthening components

#### **F. Disaggregating Impacts on Rural People**

If investment in infrastructure can be maintained, available evidence suggests that structural adjustment policies will, on balance, help the agricultural sector. As we have seen, however, the precise results will depend on farm systems, the pre-reform policy mix, and the specifics of the reform package. Unsurprisingly, sectoral impacts must be disaggregated into impacts on different rural groups. Several distinctions are important:

- 1) "farmers" and "rural people";
- 2) "land owners" and "farm workers";
- 3) different farm sizes
- 4) farmers producing different crops
- 5) regional differences.

It is well-known that in many parts of the Near East and North Africa, many (and often most) rural people no longer primarily make their living from farming. For example, in Tunisia, 60% of the rural labor force works outside of agriculture, and farming has become a part-time activity for most farmers (Radwan, Jamal, and Ghose, 1991). In Egypt, estimates of non-farm employment's share of the total range from 45% in 1977 (Radwan and Lee, 1985) to 36% according to the 1986 census. Often, the poor obtain a large percentage of their income from off-farm employment: in one survey, Egyptian farmers working less than one feddan obtained nearly 1/3 (32%) of their income from off-farm work (Commander, 1987).

It follows that to assess the impact of structural adjustment on rural people and upon household food security, an analysis of a reform program's impact on agriculture is not sufficient. For example, suppose that a large percentage of non-farm employment is in non-traded services, as seems to have been the case in rural Egypt in the mid-1980s, where perhaps 2/3 of off-farm employment was in non-traded goods (Richards, 1991a). The decline in the relative price of non-tradeables would hurt these workers in the short-run. However, there are many definitional problems here. For example, although restaurant and hotel workers are usually classified as producing non-traded goods, the demand for their services often comes from tourism, obviously a tradeable, and one which is sensitive to the real exchange rate. On the other hand, if, as in Tunisia, much rural non-farm employment is in small-scale industry, then structural adjustment's positive impact on industrial production will help the rural poor.

It has also been shown that the rural poor in Egypt, Morocco, Tunisia, and Yemen depend upon remittances. These may also be favorably affected by structural adjustment's

realignment of the real exchange rate. One must be cautious here, however. We know that measured remittances at the national level are highly sensitive to exchange rate changes; however, this may simply indicate that the devaluation caused the remittances to "switch channels" (e.g., from being hand-carried by trusted representatives to being sent through the banking system). The author is unaware of any studies which attempt to assess the impact of devaluation on the volume of remittances received by poor people. Because of legal implications, the absence of such studies is hardly surprising.

IFAD data on the characteristics of the rural poor (see Table 5) show that many, often most, of the rural poor are "small holders". Secondary groups, depending on the case, are "the landless" or "nomads". In all cases, households headed by women also form a substantial percentage of the poor. Other detailed studies (e.g., Radwan and Lee, 1977) suggest that many of the rural poor are disabled or otherwise unable to support themselves. But most of the poor are "the working poor".

Own-production is becoming steadily less important for the poor throughout the region. Increasingly, even very small "subsistence farmers" obtain at least some of their (meager) incomes from sales in the market. Further, detailed micro-studies have shown that small farmers do not rely exclusively, or even primarily, on sales of agricultural produce for their incomes. An estimate for Egypt may be found in Table 8. It is apparent that small-farmers depend heavily on sales of labor-power for their income: even families holding between 3 and 5 feddan get nearly one-third of their income from hired labor. Those with smaller farms are still more dependent on labor markets. Note also that in all cases, wages off the farm are more important than agricultural wages. Similar results have been found in Tunisia (Radwan, Jamal, and Ghose, 1991).

We must differentiate the impact of structural adjustment on different types of agriculturalists, and between "first-round" and "subsequent rounds" of effects. First, there will be a sharply different impact among owners of different factors of production. Land is everywhere in inelastic supply, while the labor force is steadily growing. Deflation and real devaluation reduce wages. Those whose incomes come largely from selling their labor-power will see their incomes fall; those who own land will see their incomes rise. The question then becomes how land-owners spend their increase incomes: if they spend them on locally produced, labor-intensive goods and services, then there will be a favorable impact on the poor. The same will also be true if larger farmers increase their production of labor-intensive crops, thereby raising the demand for farm labor. There is some evidence that this has happened in Morocco (de Janvry, et. al.) These "second-round effects" need to be carefully studied and, whenever possible, made part of program design in order to minimize the negative impact of structural adjustment on the rural poor.

Different farm-size classes will also be differently affected by structural adjustment. Not only are the presumed benefits at least proportional to farm size, so that the absolute size of benefits rises with land area farmed, but also different farm-size classes have different income sources, and may have different cropping patterns. Consider the example of Egypt. One small-sample survey in Gharbiyya in 1984 showed that even for farmers working between 3

and 5 feddan, nearly 40% of their income came from the labor market (Commander, 1987). According to the 1986 Sample Population Census, roughly 2/3 of rural off-farm employment is in non-traded goods (see Richards, 1991a). Real devaluation should, therefore, reduce the demand for off-farm labor.

Further, Egyptian farmers holding small parcels of land tend to specialize in livestock production (Richards, 1991a). Since the livestock product market was protected until recently, structural adjustment should reduce prices. Further, livestock products have a high income elasticity of demand (about 1.0). The substitution and income effects therefore work together to reduce the demand for livestock products. Because small farmers depend heavily upon the labor market and sales of dairy products, they are likely to lose from structural adjustment in the short run. The longer run, general equilibrium effects are, of course, very complex as output mixes shift and new technologies are adopted. But in the short run, the conclusion would seem to be that the benefits of structural adjustment are a direct function of farm size.<sup>24</sup> As a rough rule of thumb, we might hazard the guess that farmers working more than 3 feddans will gain, the landless and those working less than one feddan will lose, while the impact on those working between 1 and 3 feddans will depend on their cropping patterns, livestock intensities, and involvement in the labor market.

Some evidence suggests a roughly similar pattern for Moroccan farmers in Haute Chaouia, where medium-sized farms seem to benefit more from the ASAL than do small ones. As economic reform raises grain prices, medium farmers (who are net sellers of grain) benefit significantly, while the benefits for small farmers, who are net buyers of grain, are much more modest. There are also additional effects. Rising forage prices induce a shift toward grazing on the commons, which increases the demand for child labor and has adverse ecological effects. (de Janvry, et.al., 1992). This modelling exercise also suggests that the rising price of meat due to economic reform leads to a significant increase in women's "home production time" by small farmers (an increase in time devoted to livestock work of over 10%). This is one of the very few studies which attempts to model the impact of structural adjustment at the household level, with differences by farm size explicitly included.

Farm differentiation by crop mix are likely to be somewhat less important, because the evidence indicates that farmers can and do switch crops. This will be constrained, of course, by agronomic and climatic conditions. These, however, are more typically regional issues. In some countries, e.g. Morocco, structural adjustment may favor rain-fed areas, simply because the irrigated sub-sector has long received the bulk of farm input subsidies (Kydd and Thoyer, 1992). Structural adjustment also, of course, favors the production of crops in which a country has a comparative advantage. Structural adjustment may make farming more profitable, but remote, inaccessible areas subject to low and variable rainfall will not be helped. After all, structural adjustment only improves incentives; it does not change nature!

---

<sup>24</sup> A further caveat must be made: some wealthy farmers and agro-exporters may enjoy the benefits of past "rent-seeking behavior", and stand to lose from structural adjustment. See the examples discussed in Sadowski (1991). The same will be true of subsidized farmers in Algeria, Iran, and Turkey, should those countries remove subsidies as part of a future reform package.

Such areas may be quite ill-suited for farming, and the core problem in such areas is how to alleviate poverty. If structural adjustment fosters a shift in development strategy which stimulated growth, then inhabitants of such areas can benefit, as they move out and/or receive remittances from other areas. There is no panacea for the problems of such regions.

## **V. LESSONS LEARNED**

### **A. Structural Adjustment: Necessary, but Not Sufficient**

This paper has presented the case that structural adjustment is necessary, but not sufficient, for agricultural development and for meeting the challenges of food security and employment creation. Structural adjustment programs are best seen as useful beginnings to the arduous task of shifting toward a pragmatic, private-sector supportive, market oriented development strategy. Structural adjustment largely aims to "get the prices right", to send appropriate signals to economic actors, and to widen the space for private entrepreneurial activity. Market cannot and will not work with excessive government intervention. Government bureaucratic procedures are typically far too cumbersome to cope with the large number of rapid decisions which farmers and exporters must make every day. In the modern, rapidly changing international economy, structural adjustment is a necessary condition for growth.

It is not, however, a sufficient condition. The vision of old-style neo-classical orthodoxy was one of competitive markets, with widely shared, easily available information, secure property rights with transparent relatively effective conflict-resolution mechanisms (i.e., a well-functioning legal system). This vision, we all know, is deeply flawed: information is highly imperfect, transactions costs are ubiquitous, and both "market failure" and "government failure" are rife. Both markets and government need to become more effective in developing (and developed!) countries.

The *necessity* of structural adjustment should be clear. At a national and macroeconomic level, countries simply cannot live beyond their means indefinitely.<sup>25</sup> In this basic sense which is too often forgotten, structural adjustment is necessary. It is vital to strengthen the market mechanism, which is the institution best suited to coordinate the activities of large numbers of economic actors. But these actors must receive price signals which reflect underlying social scarcities. Foreign exchange and domestic savings are scarce in most LDCs; their prices must reflect that scarcity, if economic agents are to use these resources wisely. The countries of the region have no choice but to increase their reliance on the market if they are to meet food security and employment goals. We have known for decades that private farmers are more effective than bureaucracies. The same is true of agricultural marketers and input suppliers. Government regulatory functions should be recast to promote, rather than to

---

<sup>25</sup> As the United States 1992 Presidential campaign demonstrated, even a rich country is not immune from this stricture.

thwart, competition. The fundamental changes of real devaluation and increasing openness to the international economy, the core of structural adjustment programs, are a necessary component of agricultural and economic development in the region.

Implementing reform programs in subsidized agricultural sectors will adversely affect some, perhaps many, farmers and rural people. However, the fundamental logic of structural adjustment remains: a country cannot live beyond its means indefinitely. If the farm sector is large, then subsidies are likely to be expensive. Expenses will be even greater if the government also subsidizes basic consumption goods. How will the government pay for the subsidies? Of course, if the government has ample external resources from mineral exports, it can fund the subsidies. This was the pattern for many oil exporters during the decade of the oil boom. But even Saudi Arabia has found it increasingly expensive to carry the burden of large subsidies to agricultural producers and to consumers. Countries with a less favorable natural resource endowment (i.e., all other countries of the region) have found the burden increasingly difficult to bear. If the tax revenues are not forthcoming, subsidies then contribute to the government deficit, and thus to inflation and other macroeconomic difficulties. Since these difficulties have adverse ramifications for investment and job creation elsewhere in the economy, they are unlikely to be sustainable over the long-run. As resources become scarcer, greater efficiency is essential. Structural adjustment is necessary, even for subsidized agricultural sectors.

The *insufficiency* of structural adjustment for agricultural development is equally apparent. Reform programs face two types of implementation pitfalls.

- 1) In some cases, political constraints thwart effective implementation of an economically coherent set of policies. If only a portion of the policy "package" is put into place, important benefits may be foregone; in extreme cases, the partial policy shift does little to remedy the underlying problems.
- 2) In nearly all cases, supplementary and complementary policies are required if the full benefits of structural adjustment are to be achieved. These complementary policies include policies to improve rural infrastructure, to enhance rural human capital, to develop and extend new technologies, and to safeguard property rights and to ensure the transparency and accountability of government agents.

The full benefits of structural adjustment can only be achieved if political leaders can implement an economically coherent package of reforms, and if the complementary policies can also be implemented. Since there are often trade-offs among the elements which go into any policy package, there is considerable "art", as well as "science" in the formulation and, especially, implementation of policies to maximize the gains of policy change for the agricultural sector.

Fundamentally, what is needed in the region (and elsewhere in the developing world) is a thorough-going re-orientation of the role of the state in development. The state needs to stop doing some things, start doing other things, and do better still other things. The state needs to



stop excessive intervention in the economy, and in particular, should largely eliminate any state-owned productive activity where a competitive market either already exists or can be created. This will include a large number of productive activities in the agricultural sector. The state must start or do a better job of creating and maintaining rural infrastructure, educating rural people, devising health care systems, providing property and other rights to its citizens, ensuring the transparency and accountability of government agencies, and developing and extending new technologies. The state must start devising mechanisms to protect rural environments through carefully crafted, implementable regulations which are effectively and equitably enforced. One of the benefits of the end of the Cold War is that economic policy debates need no longer be marred by ideological imperatives, whether of the political Left or the Right, but can be dominated by pragmatism and realism.

## **B. Sustainability: Ecological**

Structural adjustment should be conceived, then, as a portion of the needed reformulation of state action. The mix of state, private, and small-group collective action needs to be redesigned to promote equitable and sustainable growth, to reduce poverty, and to ensure national and household food security. "Getting the prices right" matters greatly; but the prices which must be got right include those of depletable natural resources, and two resources which are in principle renewable but which are in practice being so over- or inefficiently utilized as to be being rapidly depleted in much of the Near East: water and land.

Sustainable agricultural development in the region is not possible without careful water management; water management is made very difficult by deforestation in water-sheds, by inappropriate or non-existent pricing policies, and by ineffective state and local collective action. Advocates of structural adjustment rightly argue that past policies have seriously weakened growth and poverty alleviation by blunting farmers' incentives and by distorting relative scarcities; such distortions must be removed. At the same time, however, it is essential that the "tragedy of the commons" be averted through the proper assignment of property rights in agricultural and marginal land and in water. Only if these problems are confronted will structural adjustment programs succeed in promoting long-run growth and poverty alleviation.

In some cases, structural adjustment can contribute to solving ecological problems. For example, analysts of Jordanian water use are increasingly concerned with impending "water shortages", and, therefore, seek to limit the area planted to water-intensive crops.. As usual, one of the problems is that water is grossly underpriced. Although raising water prices is one possible solution, some evidence suggests that the marginal value product of water under current conditions far exceeds any contemplated price for water. For example, to cover operations and maintenance fees for the Jordan Valley Authority, the price of water may be raised to 0.024-0.0115 JD/cubic meter under recent reforms (World Bank, 1990c). However, the marginal value product of water-intensive crops like bananas and oranges remains considerably higher: at about 0.2 and 0.7 JD/cubic meter, respectively (Tech International, 1988). It follows that raising water prices alone will not have the desired water-saving effect. However, the markets for fruits are highly protected in Jordan, thanks to quantitative

restrictions. However, in the current IMF stabilization program, the government of Jordan has agreed to liberalize horticultural marketing and to permit the entry of foreign produce. This will reduce the price of fruit and the marginal value product of water-use in fruit production. In this case, structural adjustment policies contribute to water-conservation.

Heavy farm subsidies can have adverse ecological consequences. As noted earlier, the war-induced drive for self-sufficiency in cereals in Iran induced some farmers to plough previously uncultivated grazing land. Apparently they often disregarded land contours, thereby fostering soil erosion. Such erosion, of course, not only undermines land productivity and traditional rangeland systems, but also accelerates the silting up of dams and irrigation systems. Heavy production subsidies also create incentives for overpumping of ground-water.(World Bank, 1993b). One of the most fundamental insights of economic science is that prices should reflect scarcities, and that if they do not, the interconnected nature of production can easily generate unanticipated, unwanted outcomes. Structural adjustment, such as that embarked on by the government of Iran after 1990, can help to restore ecological balances.

### **C. Sustainability: Political**

A second element of sustainability is political. Structural adjustment programs will only be sustainable if there is expanded popular participation in decision making and more accountable governance. Greater participation is necessary to solve ecological problems: more effective water-users associations and greater reliance on local enforcement of communal rules regulating access to common-property resources at the local level will be essential. Public budgetary, manpower, and information constraints make it impossible for centrally-managed regulatory systems to function adequately. Greater popular participation in governance is no longer a political preference; at the local level, it is a requirement for sustainable development and natural resource management.

It may be argued that greater political participation is also a requirement for the political sustainability of structural adjustment programs themselves. Structural adjustment is, in the final analysis, necessary because countries cannot live beyond their means indefinitely. Precisely for that reason, however, in most countries a majority of the population lose in the short run from structural adjustment. After all, adjustment requires deflation in the short-run, and most people lose from a fall in aggregate demand. This basic, structural fact often leads to serious political implementation difficulties with structural adjustment. These difficulties can be averted, but deft political leadership is necessary to explain to people why the changes are necessary. In the worse case, the government only partially implements structural adjustment measures (for example, a nominal devaluation without demand reduction), which fail to yield the expected benefits, and thereby convincing many people that reform does not "work".

Further, losers are often well-organized and well-connected to important decision makers. This often increases the political difficulties of implementing structural adjustment. This is especially true of urban groups, particularly those in the government bureaucracy and in state-owned enterprises. As we shall see below, many (but not all) farmers are likely to

benefit from structural adjustment policies, especially if they are combined with the complementary policies sketched above. (Such policies also have the effect of widening the number of beneficiaries within the agricultural sector, and in the economy as a whole). Greater political participation and representation by farmers is likely to enhance the prospects for successful structural adjustment.

However, as usual, the actual outcome depends on the pre-reform policy mix. If farmers are represented and if they have been subsidized, they will naturally resist reforms. The voting strength of Turkish farmers is one reason why farm subsidies remain high, despite over ten years of governmental efforts to rationalize prices. It has been observed that Turkish farmers were strong enough to affect sectoral policy, but not strong enough to shape macroeconomic policy (Hansen, 1992). And, as we have seen, what the first set of policies gave to farmers, the second set took away. In general, those countries whose farmers have had good access to policy makers, whether through electoral or more traditional political systems, have registered the best performances in the region.

The political sustainability of structural adjustment also requires the resumption of growth, employment creation, and a rising standard of living for the bulk of the population. Because of the adverse short-run impact on growth and therefore incomes of many of the poor, political sustainability and the maintenance of household food security requires complementary short-run policies such as Social Adjustment Funds to finance labor-intensive public works and other activities to protect the incomes of the poor in the short run. In the long run, both sustainability and household food security require not only structural adjustment, but also the complementary policies of investment in physical and institutional infrastructure and in human capital.

Designing such mixes of conventional structural adjustment programs and complementary investment policies is admittedly difficult. There are numerous, often painful, trade-offs between short and long run costs and benefits, between efficiency and equity, and between political realities and economic necessities. The donor community has an important role to play in mitigating the sharpness of some of these trade-offs, and in assisting in the design of optimal strategies. The donor community can also provide crucial financing for Social Adjustment Funds. Such money can make a major contribution to political (and economic) sustainability, because it simultaneously allows the government to cut budgets, while providing for a social safety-net with external resources.<sup>26</sup> But there can be little doubt that structural adjustment is necessary for the long-run sustainability of economic growth, and therefore, of food security at both the national and household level. It is equally apparent that structural adjustment alone will not solve the problems; it is not a sufficient condition for agricultural and national economic development.

---

<sup>26</sup> This is not to say that social spending should be cut in a structural adjustment program. Unfortunately, given the balance of political power in many countries, it can easily occur. Foreign resources earmarked for a Social Assistance Fund can help.

## VI. ROLE OF GOVERNMENTS

The lessons learned can be summarized as a series of policy recommendations. Governments should:

- Create the appropriate macroeconomic environment for agriculture by maintaining a realistic exchange rate;
- Provide the environment for the emergence of realistic intersectoral terms of trade by refraining from excessive protection of industrial products and by allowing farm inputs and outputs to be set largely by market forces;
- Create positive real rates of interest to stimulate savings;
- Permit private economic agents to enter the business of marketing both inputs and outputs;
- Provide an adequate regulatory environment for private economic activity to ensure that the public gets the benefits of competition;
- Provide adequate management of environmental externalities, especially in water and range management;
- Make every effort to explain the necessity of such policies for the future welfare of the country;
- Devise mechanisms to ensure that the interests of the farm and rural population are well represented in policy formulation processes;
- Reorient state spending to focus on:
  - Providing adequate physical infrastructure, such as roads and major irrigation systems;
  - Investing in human capital: rural education and health;
  - Providing information and quality control mechanisms to promote agricultural exports;
  - Providing effective governance through more effective, transparent government rules and procedures;
  - Providing effective protection for clearly defined property rights in land, water, and other farm inputs and outputs;
  - Testing and extending new farm technologies.
- Develop the necessary analytical capacity to offer policy makers detailed analyses of precisely how a contemplated reform package will affect the farm sectors and rural people, given the farming systems and the pre-reform policy mix.
- Combat corruption and strive to enforce laws rules, and regulations equitably.
- Promote popular participation in decision making.

## REFERENCES

- Al-Qudsi, Sulayman, Ragui Assaad, and Radwan Shaban (1993). "Labor Markets in the Arab Countries: A Survey". Paper presented at First Annual Conference on Development Economics, Initiative to Encourage Economic Research in the Middle East and North Africa, sponsored by the World Bank, Cairo, Egypt (June 4-6).
- Binswanger, Hans (1989). "The Policy Response of Agriculture". Proceedings of the World Bank Annual Conference on Development Economics. Supplement to The World Bank Economic Review and The World Bank Research Observer. pp. 231-258.
- Bishay, Fahmi K. (1988) "Agricultural Price Policies in the Near East: Lessons and Experience". Rome: Economic and Social Policy Division, FAO.
- Braverman, Avishay (1989). "Comment". Proceedings of the World Bank Annual Conference on Development Economics. pp. 259-262.
- Cakmak, Erol H. and A. Erinc Yeldan (1992). "The Role of Agriculture in the Structural Adjustment Experience of Turkey: A General Equilibrium Analysis". Cairo: The Ford Foundation.
- Cochrane, J.H. (1988). "How Big is the Random Walk in GNP?" Journal of Political Economy, 96, pp. 893-920.
- Commander, Simon (1987). The State and Agricultural Development in Egypt Since 1973. London: Ithaca Press for the Overseas Development Institute.
- de Janvry, Alain, Elizabeth Sadoulet, M. Fafchamps, and M. Raki. (1992) "Structural Adjustment and the Peasantry in Morocco: A Computable Household Model". European Review of Agricultural Economics, 19, 427-453.
- Deaton, Angus (1989). "Savings in Developing Countries: Theory and Review". Proceedings of the World Bank Annual Conference on Development Economics. pp. 61-108.
- Dethier, Jean-Jacques (1991). "Egypt", in Krueger, Schiff, and Valdes, eds. pp. 15-78.
- Falcoln, Walter, Scott Pearson, and C. Peter Timmer (1983). Food Policy Analysis. Baltimore: Johns Hopkins University Press for the World Bank.
- FAO (1990). Intraregional Labour Mobility and Agricultural Development in the Near East: Phenomenon, Impact, and Policy Implications. Rome: FAO Economic and Social Development Paper No. 94.
- FAO (1993). Agricultural Development in Republic of Yemen: Objectives, Constraints, and Policy Options. TCP/YEM/2252(A). Rome: FAO.
- Handoussa, Heba (1989). "The Burden of Public Sector Employment and Remuneration: A Case Study of Egypt". Geneva: I.L.O.
- and Gillian Potter (1991). Employment and Structural Adjustment: Egypt in the 1990s. Cairo: American University in Cairo Press for the International Labour Organization.
- Hansen, Bent (1992). The Political Economy of Poverty, Equity, and Growth: Egypt and Turkey. Oxford and N.Y.: Oxford University Press for the World Bank.
- Horton, Brendan (1990). Morocco: Analysis and Reform of Economic Policy. Washington, D.C.: Economic Development Institute of the World Bank.

- Jazairy, Idriss, Moniuddin Alamgir, and Theresa Panuccio (1992). *The State of World Rural Poverty: An Inquiry into Its Causes and Consequences*. New York: New York University Press for the International Fund for Agricultural Development.
- Johnson, D. Gale (1950). "The Nature of the Supply Function for Agricultural Products". *Journal of Farm Economics*, 42, 2, pp. 539-64.
- Koch-Weser, Caio (1992). "Reform and Regional Cooperation: A Development Agenda for the Middle East and North Africa". Paper Presented at the 46th Annual Conference, The Middle East Institute, Washington, D.C. (October 16).
- Kopits, George (1987). *Structural Reform, Stabilization, and Growth in Turkey*. Washington, D.C.: IMF.
- Kornai, Janos (1990). *The Road to a Free Economy: Shifting From a Socialist System: The Example of Hungary*. New York: W.W. Norton.
- Krueger, Anne O., Maurice Schiff, and Alberto Valdes (1991). *The Political Economy of Agricultural Pricing Policy: Volume 3: Africa and the Mediterranean*. Baltimore: Johns Hopkins University Press for the World Bank.
- Kydd, Jonathan and Sophie Thoyer (1992). "Structural Adjustment and Moroccan Agriculture: An Assessment of the Reforms in the Sugar and Cereal Sectors". Paris: OECD Development Centre, Technical Papers, No. 70 (June).
- McCloskey, Donald N. (1985). *The Rhetoric of Economics*. Madison: University of Wisconsin Press.
- Morrisson, Christian (1991). *Adjustment and Equity in Morocco*. Paris: Development Centre Studies, OECD.
- Nesheiwat, Karim S. (1991). "Socio-economic Aspects of the Traditional Hema System of Arid Land Management in Jordan". Rome: F.A.O.
- Newberry, David M.G. and Joseph E. Stiglitz (1981). *The Theory of Commodity Price Stabilization: A Study in the Economics of Risk*. Oxford: Clarendon Press.
- Norton, Roger D. (1987). *Agricultural Issues in Structural Adjustment Programs*. Rome: FAO Economic and Social Development Paper No. 66.
- Olgun, Hassan (1991). "Turkey", in Krueger, Schiff, and Valdes, eds. pp. 230-267.
- Radwan, Samir and Eddy Lee (1986). *Agrarian Change in Egypt: An Anatomy of Rural Poverty*. London: Croom Helm.
- Radwan, Samir, Vali Jamal and Ajit Ghose (1991). *Tunisia: Rural Labour and Structural Transformation*. London and New York: Routledge for the International Labour Organization.
- Richards, Alan (1991a). "Agricultural Employment, Wages, and Government Policy During and After the Oil Boom", in Handoussa and Potter, eds., pp. 57-94.
- (1991b) "The Political Economy of Dilatory Reform: Egypt in the 1980s". *World Development* 19, 12, pp. 1721-1730.
- (1992). "Arab Food Security in the 1980s: Stylized Facts and Lessons for the Future". Mimeo, Georgetown University, Washington, D.C.
- Richards, Alan and John Waterbury (1990). *A Political Economy of the Middle East*. Boulder, CO and London: Westview Press.
- Sadowski, Yahya (1991). *Political Vegetables? Businessman and Bureaucrat in the Development of Egyptian Agriculture*. Washington, D.C.: Brookings Institution.

- Schiff, Maurice and Alberto Valdes (1992). *The Plundering of Agriculture in Developing Countries*. Washington, D.C.: The World Bank.
- Salant, Stephen (1983). "The Vulnerability of Price Stabilization Programs to Speculative Attack". *Journal of Political Economy*. 91, 1, pp. 1-38 (February).
- Sarafy, Salah (1993). "Environmental Sustainability for Egyptian Agriculture", in Mohamed A. Farris and Mahmood Hasan Khan, eds. *Sustainable Agriculture in Egypt*. Boulder, CO: Lynne Rienner Publishers.
- Sarris, Alexander H. (1990) *Guidelines for Monitoring the Impact of Structural Adjustment Programs on the Agricultural Sector*. Rome: FAO Economic and Social Development Paper No. 95.
- Sarris, Alexander H. (1992). "Structural Adjustment and Agricultural Development in Egypt: Policies, Perspectives, and Options". Cairo: Ministry of Agriculture and Land Reclamation and FAO.
- Tech International, Inc. (1988). *The Jordan Valley: Dynamic Transformation: 1973-1986. A Study Prepared by Tech International Inc. in association with Louis Berger International, Inc., financed by USAID in cooperation with the Jordan Valley Authority of the Hashemite Kingdom of Jordan*. Amman: Jordan Press Foundation.
- Thabet, Boubaker, Mongi Boughzala and Badr Ben Ammar (1992). "Agriculture and Food Policy in Tunisia". Cairo: The Ford Foundation.
- Timmer, C. Peter (1988). "Agricultural Prices and Stabilization Policy". Paper prepared for ANE/TR/ARD Strategy Symposium, "Agriculture in the 1990s". Cambridge, Massachusetts: Harvard Institute for International Development.
- Tuluy, A. Hassan and B. Lynn Salinger (1991). "Morocco", in Krueger, Schiff, and Valdes, eds., pp. 122-170.
- Tyner, Wallace. "Agricultural Sector Analysis and Adjustment: Recent Experiences in North Africa and the Baltics". Lecture at USAID, sponsored by Agricultural Policy Analysis Project-II, Washington, D.C. (May 19).
- Uctum, Merih (1992). "The Effects of Liberalization on Traded and Non-traded Goods Sectors: The Case of Turkey", in Tevfik F. Nas and Mehmet Odekon, eds., *Economics and Politics of Turkish Liberalization*. Bethlehem, PA: Lehigh University Press; London and Toronto: Associated University Presses, pp. 143-154.
- Waterbury, John (1992) "Export-Led Growth and the Center Right Coalition in Turkey". *Comparative Politics*, 24, 2, pp. 127-145.
- World Bank (1987) *Morocco: CEM: Issues for a Medium-Term Structural Adjustment Program*. Washington, D.C.: The World Bank (January 30).
- (1990a) *Algeria Agriculture: A New Opportunity for Growth*. Washington, D.C.: The World Bank (April 5).
- (1990b) *Egypt: Country Economic Memorandum*. Washington, DC: The World Bank.
- (1990c) *Jordan: Towards an Agricultural Sector Strategy*. Washington, D.C.: The World Bank (June 12).
- (1990d) *Sudan: Reversing the Economic Decline: Country Economic Memorandum*. Washington, D.C.: The World Bank (July).

- (1991) "Staff Appraisal Report: Kingdom of Morocco: Agriculture Sector Investment Loan (ASIL)" Washington, D.C.: The World Bank, (July 29).
- (1992) "Republic of Yemen: Agriculture Sector Study: Strategy for Sustainable Agricultural Production". Washington, D.C.: The World Bank.
- (1993a). Arab Republic of Egypt: An Agricultural Strategy for the 1990s . Washington, D.C.: The World Bank.
- (1993b).Islamic Republic of Iran: Agriculture Strategy Note: A Strategy for Reconstruction and Growth . Washington, D.C.: The World Bank.
- (1993c). Trends in Developing Economies 1993. Washington, D.C.: The World Bank.
- UNDP (1992). Human Development Report, 1992. New York: Oxford University Press.



**Figure 1: Economic Reform Outcomes**

	<i>Strong Reform Effort:</i>	<i>Weak Reform Effort:</i>
<i>Good Luck:</i>	Morocco Tunisia	Egypt
<i>Bad Luck:</i>	Jordan	Yemen

Table 1: Debt and Trade Indicators, Selected Near Eastern Countries

Country	External Debt (Billion \$, 1990)	Debt/GNP (Percent)	Debt Service Ratio (Percent)	Food Import Dependency Ratio (Percent, 1986-88)	Growth of Exports (Percent per year)	Growth of Imports (Percent per year)	Net Remittances (Billion \$, 1990)
Algeria	26.806	53.1%	59.4%	70.7%	5.3%	-4.6%	0.321
Egypt	39.885	126.5%	25.7%	45.2%	2.1%	-1.7%	3.744
Iran	11,511	11.5%	3.9%	n.a.	14.7%	7.9%	n.a.
Iraq	81,456	n.a.	235.4%	n.a.	7.8%	4.4%	n.a.
Jordan	7.678	221.1%	23.0%	85.2%	10.3%	-0.5%	0.5
Mauretania	2,239	214.7%	16.8%	57.2%	5.6%	3.1%	0
Morocco	23,524	97.1%	23.4%	28.1%	6.1%	2.9%	1.995
Sudan	15.9	n.a.	5.8%	14.5%	-0.9%	-8.3%	0.188
Syria	16.446	118.1%	26.9%	29.1%	8.7%	-8.3%	0.375
Turkey	50,252	48.1%	30.5%	5.2%	7.2%	7.4%	3.245
Tunisia	7,534	62.2%	25.8%	59.3%	4.8%	1.1%	.591
Yemen	6.236	97.1%	5.4%	62.1%	n.a.	n.a.	1.366

Source: Iraq: Petroleum Finance Corporation; all others: World Bank, UNDP.

**Table 2: National Income Accounts, Selected Near Eastern Countries**

Country	Population (in millions, 1991)	Real GDP per capita, \$PPP, 1989	Growth of GNP per capita, 1965-1980	Growth of GNP per capita, 1980-1991	Inflation Rate (1980-91)	Budget Surplus/Deficit as % GDP, 1991	GDI as % of GDP (1991)	GDS as % GDP (1991)
Algeria	25.7	3,083	4.2%	-0.7%	10.1%	0.4%	29.7%	35.6%
Egypt	53.6	1,934	2.8%	1.9%	12.5%	-20.0%	20.4%	7.0%
Iran	57.7	3,120	2.9%	-1.3%	13.8%	n.a.	27.2%	22.9%
Iraq	19.0	3,510		n.a.	n.a.	n.a.	n.a.	n.a.
Jordan	3.7	2,415	5.8%	-1.7%	11.6%	-18.0%	24.0%	-15.8%
Mauritania	2.0	1,092	-0.1%	-1.8%	8.7%	-4.0%	16.1%	8.2%
Morocco	25.7	2,298	2.7%	1.6%	7.1%	-2.8%	22.2%	15.5%
Sudan	25.8	1,042	0.8%	n.a.	n.a.	n.a.	n.a.	n.a.
Syria	12.5	4,348	5.1%	-1.4%	14.3%	0.4%*	n.a.	n.a.
Tunisia	8.2	3,329	4.7%	1.1%	7.3%	-4.0%	23.1%	18.3%
Turkey	57.3	4,002	3.6%	2.9%	44.7%	-4.2%**	19.0%	16.4%
Yemen	12.5	1,560	5.1%	n.a.	n.a.	n.a.	13.4%	2.4%
						* % GNP		

Source: World Bank, UNDP

**Table 3: Agricultural Sector Indicators, Selected Near Eastern Countries**

Country	Agricultural Output, % GDP	Rural Population, % total pop	Agricultural Labor Force, % Total L.F.	Agricultural Growth Rate 1980-1990	Food Output Per Capita, Index, 1988-90 (1979-81 = 100)
Algeria	16%	48%	13.9%	2.9%	96
Egypt	19%	53%	33.9%	4.1%	118
Iran	23%	43%	36.4%	4.2%	104
Iraq	n.a.	n.a.	n.a.	2.5%	n.a.
Jordan	7%	32%	10.2%	5.5%	100
Mauritania	37%	53%	69.4%	-7.35%	85
Morocco	16%	52%	45.6%	5.8%	128
Sudan	33%	78%	63.4%	0	71
Syria	22%	50%	22.0%	0	80
Tunisia	14%	46%	21.6%	2.5%	87
Turkey	17%	39%	46.8%	2.55%	97
Yemen	22%	71%	62.5%	2.9% (YAR)	n.a.

Source: UNDP, World Bank, FAO

**Table 4: Rural Poverty in the Near East and North Africa**

Country	Rural Population ('000s)	Agricultural Population ('000s)	Rural Population Below Poverty Line ('000s)	Percent of Rural Population Below Poverty Line	Non-farm Population as Percent of Rural Population
Algeria	13,399	5,989	3,350	25%	55.3%
Egypt	26,902	21,404	6,726	25%	20.4%*
Iran	24,605	15,005	7,382	30%	39.1%
Iraq	4,800	3,879	1,440	30%	19.2%
Jordan	1,015	200	173	17%	80.3%
Lebanon	483	269	72	15%	44.3%
Mauretania	1,165	1,254	932	80%	0%
Morocco	12,679	9126	5,706	45%	28.0%
Turkey	28,244	24,730	3,954	14%	12.5%
Sudan	18,730	14,897	15,921	85%	20.5%
Syria	5,716	2,947	3,087	54%	48.4%
Tunisia	7,822	2,040	543	15%	73.9%
Yemen (former YAR)	5,806	4,825	1,742	30%	16.9%
Yemen (former PDY)	1,360	785	408	30%	42.3%
Near East and North Africa	105,670	76,943	27,309	26%	27.2%

\*(Other sources show 35-45%)

Source: Jazaury, et. al. (IFAD).

**Table 5: “Functionally Vulnerable Groups”\***

Country	Small holders	Landless	Nomads	Fishermen	Refugees	Total	Vulnerable as Percent of Rural Population
Algeria	4,020	--	402	13	167	4,602	34%
(Egypt)							
(Iran)							
(Iraq)	162	30	30	--	--	223	22%
Jordan							
Lebanon							
Morocco	4,564	1,902	2,029	647	1	9,142	72%
(Sudan)							
(Syria)							
Tunisia	471	724	72	214	--	1,481	41%
Turkey	7,908	7,908		339	301	16,457	58%
Yemen (former YAR)	3,890	--	406	17	62	4,376	75%
Yemen (former PDRY)	680	--	136	24	--	840	62%

\* “Functionally vulnerable” = “the poor and those who can easily become poor”

Source: Jazairy, et. al. (IFAD)

**Table 6: Labor Force Growth Rates, Selected Near Eastern**

Country	Period:		
	1980-85	1985-91	1990-2000
Algeria	3.5%	3.7%	3.6%
Egypt	2.6%	2.5%	2.9%
Iran	3.2%	4.1%	4.2%
Iraq		3.1%	4.2%
Jordan	4.3%	4.3%	4.9%
Mauretania	2.7%	2.8%	
Lebanon		3.5%	2.4%
Morocco	3.2%	3.2%	3.3%
Syria		3.5%*	4.0%
Tunisia	3.1%	3.1%	3.0%
Turkey	2.3%	2.1%	
Yemen	2.7%	3.0%	4.5%

\* 1985-90

Sources: World Bank; I.L.O.

**Table 7: A Compendium of Unemployment Rates for Selected Near Eastern Countries**

Country	Year	Age Group	Unemployment Rate
Algeria	1990	16-65	19.7%
	1990	15-19	64%
	1990	20-24	46%
	1990	25-29	17%
Egypt	1988	6-65	7.1%
Iraq	1987	10+	5.1%
Jordan	1991	15+	14.4%
	1991	15+	23.4%
Kuwait	1985	15+	2.7%
Morocco	1986	15+	8.6%
	1990	15+	15.8%
	1991	15-14	31%
	1991	24-34	18%
O.P.T.	1991	15+	7.9%
	1990	---	13-15%
	1990	---	30-40%
Syria	1983	10+	3.3%
Tunisia	1986/7	18-59	14.1%
	1990	---	16%
	1992	---	15.8%
Yemen	1986	10+	6.2%

**Sources:**

1. Al-Qudsi, et. al. (1992)
2. UNDP (1992)
3. CAPMAS-1986 Population Census
4. UNESCWA (1991)
5. Morrisson (1991)
6. Moroccan Ministry of Social & Economic Affairs (1992)
7. Israeli Govt. (1992)
8. P.R.I. (1992)
9. UNDP (1991)
10. Stevenson & Van Adams (1992)
11. Tunis, Ministry of Planning (1992)
12. World Bank (1992)



**Table 8: Income Source by Farm Size, Egypt, 1984**

Income Source:	Farm Size: (feddans)				
	0-1	1-3	3-5	5-10	10+
1. Crop Agriculture	23.2%	40.0%	39.3%	49.6%	59.8%
2. Livestock	19.9%	10.6%	8.9%	9.6%	23.0%
3. Rent:	4.8%	3.8%	12.5%	22.5%	5.2%
4. Agricultural Wages	14.5%	13.9%	3.4%	0	0
5. Non-farm Wages	32.0%	27.4%	29.2%	12.2%	12.0%
6. Other	5.6%	4.3%	6.7%	6.1%	0
1+2+3	47.9%	54.4%	60.7%	81.7%	88.0%
1+3	28.0%	43.8%	51.8%	72.1%	65.0%

Source: Calculated from data in Commander (1987), pp. 213, 217.



**ECONOMIC  
RESEARCH  
FORUM**

**FOR THE ARAB COUNTRIES, IRAN & TURKEY**

7 Boulos Hanna St., Dokki, Cairo, Egypt

Tel: (202) 700810, Fax: (202) 3616042, E Mail: ERF @ vrit 01 eg.