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17429-E

Distr.
RESTRICTED
PPD/R.27
13 October 1989
ORIGINAL: ENGLISH

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

MODERNIZATION AND RESTRUCTURING OF MOROCCAN MANUFACTURING INDUSTRY
WITH EMPHASIS ON AGRO-BASED INDUSTRIES*

Special reports on industrial rehabilitation

No. 5

Prepared by the
Regional and Country Studies Branch
Industrial Policy and Perspectives Division

26

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Preface

As part of the Programme of the Industrial Development Decade for Africa, UNIDO's Regional and Country Studies Branch is issuing a series of studies determining both the major problems of African manufacturing and the potential for regenerating the sector. The aim is to outline policies and measures that may result in overall improvements and to identify individual plants for assistance. While other documents in the series deal with key issues and continent-wide analyses, this report and similar studies on Zambia, Angola, Tanzania and Liberia are part of a series of country level diagnostic surveys on the rehabilitation of African manufacturing industries.

The surveys are economic and policy diagnoses of the industrial sector in selected countries. They provide estimates of resource requirements for selected industrial plant rehabilitation, as well as assessments of expected results from such rehabilitation. The surveys also provide a contribution towards the formulation of sectoral, national and regional policy measures and institutional developments, and the identification of full feasibility studies and advisory services which may be required as part of the follow-up.

The present report is a diagnostic survey of modernization and rehabilitation needs in the agro-industries subsector of the Moroccan manufacturing industry. The report focuses on the plants in the food products subsector. Apart from suggestions to improve the performance of these plants, the report also contains suggestions for improvements at the sectoral and general policy levels.

The UNIDO field mission visited Morocco from 4 to 31 March 1989. The members of the team were UNIDO consultants: Mr. Bertrand Bellon, team leader, Mr. Abdoulaye Baldé, Mr. Jan Björk, Mr. Jean-Francois Flotté, Mr. Graham Smith. Ms. Chraibi, in charge of the Ministry of Commerce and Industry's meat and vegetable canning division, assisted the mission during the visits to plants.

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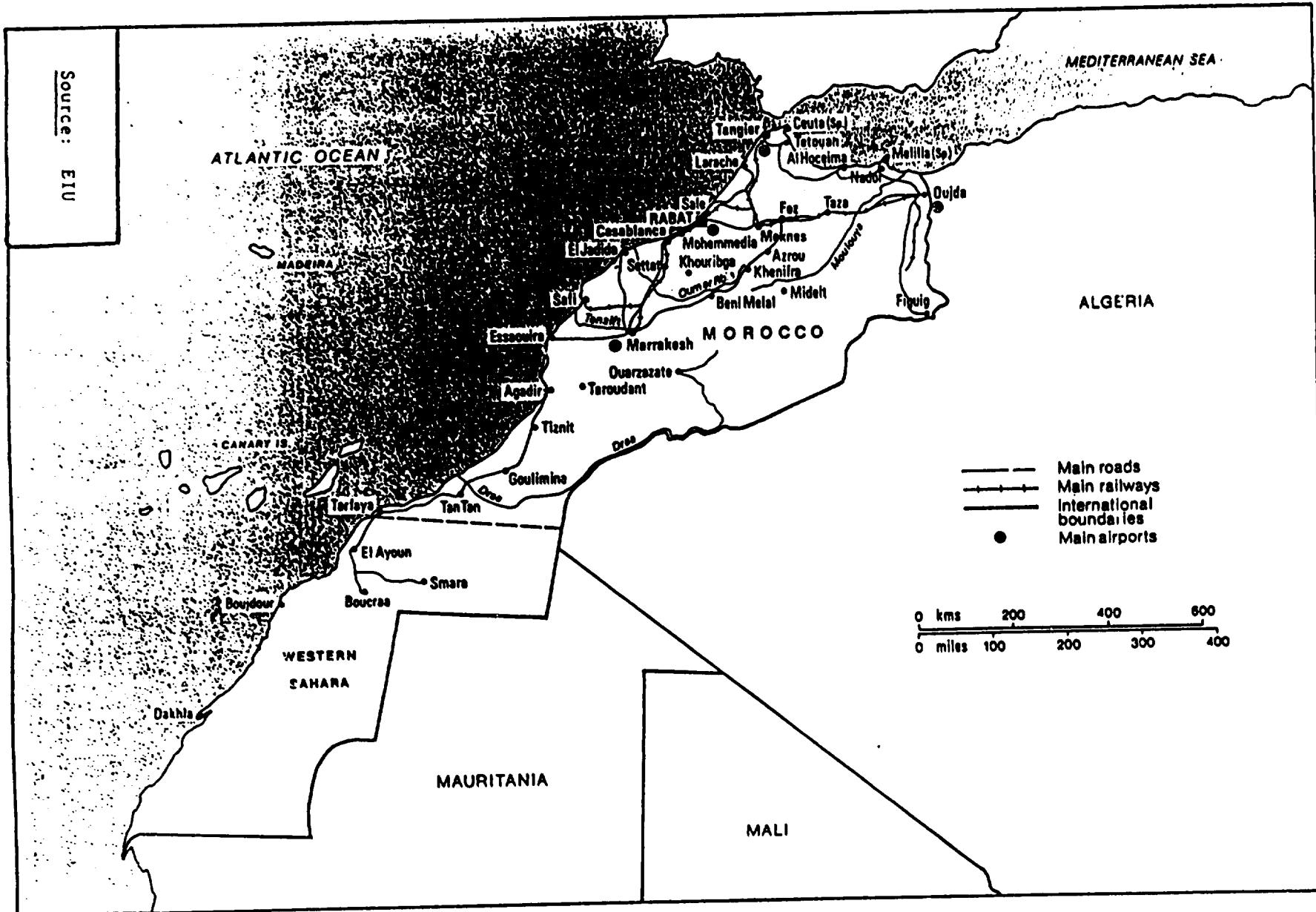
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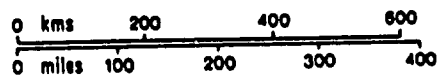
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Source: EIU

- Main roads
- +— Main railways
- International boundaries
- Main airports



Map of Morocco

General country information

Population: 23.29 million (1987), growth rate 2.3 per cent per year

Area: 447,000 km²

Life expectancy: 60 years

School enrolment ratio (1985):	Primary	81 per cent
	Secondary	31 per cent
	Adult literacy rate	29 per cent

Languages: Arabic, French, Berber

Currency: Dirham. 8.30 DH = US\$ 1 (March 1989)

1987 GDP at market price 145.0 billion DH (average growth rate over the 1982-1987 period: +3.1 per cent per annum)

GNP per inhabitant: 6,646 DH (1988)

<u>Origin of GDP 1986</u>	% of total	<u>Components of GDP 1986</u>	% of total
Agriculture, forestry, fishing	13.8	Private consumption	66.7
Mining, fuel, power	6.7	Government consumption	13.3
Manufacturing	14.9	Gross fixed capital formation	18.4
Building and public works	4.0	Change in stocks	1.1
Transport, communications, banking and services	24.1	Exports	15.2
Wholesale & retail trade	16.5	Imports	-14.7
Government salaries	20.0	<u>GDP at market prices</u>	<u>100.0</u>
<u>GDP at factor cost</u>	<u>100.0</u>		

1987 Exports FOB \$M 2,799

1987 Imports CIF \$M 4,220

Main exports (1987)

Phosphates & phosphoric acid	26.6%
Textiles	12%
Citrus fruits	7%

Main imports (1987)

Crude oil	12%
Wheat	11%
Sulphur	6%
Machinery	4%

Main buyers of Moroccan goods (1987)

France	29.3%
India	6.8%
Spain	6.7%
West Germany	5.4%
Italy	5.3%
Japan	4.4%

Main suppliers to Morocco (1987)

France	22.8%
USA	9.2%
Spain	9.1%
West Germany	6.1%
Italy	5.6%
Iraq	5.6%

List of abbreviations

BCM	Banque Commerciale du Maroc
BCP	Banque Centrale Populaire
BdM	Banque du Maroc
BMCE	Banque Marocaine du Commerce Extérieur
BMCI	Banque Marocaine pour le Commerce et l'Industrie
BNDE	Banque Nationale pour le Développement Economique
CCG	Caisse Centrale de Garantie
CDM	Crédit du Maroc
CGEM	Confédération Générale des Entreprises Marocaines
CIH	Crédit Immobilier et Hôtelier
CMPE	Centre Marocain de Promotion des Exportations
CNCA	Caisse Nationale de Crédit Agricole
DCE	Directorate of International Trade, MCI (see below)
DH	Dirham
DI	Directorate of Industry, MCI
EEC	European Economic Community
EMIs	Electrical and Mechanical Industries
IMF	International Monetary Fund
ITC	International Trade Centre
ITPA	Industrial and Trade Policy Adjustment Loan
MCI	Ministry of Commerce and Industry
NIC	Newly Industrialized Country
OCE	Office de Commercialisation et d'Exportation
OCP	Office Chérifien des Phosphates
OdC	Office des Changes
ODI	Office pour le Développement Industriel
ORMVAO	Office Régional de Mise en Valeur de l'Ouarzazate
ORMVAT	Office Régional de Mise en Valeur du Tafilalt
SAL	Structural Adjustment Loan
SGMB	Société Générale Marocaine de Banques
SMDC	Société Marocaine de Dépôt et de Crédit
SSIs	Small-scale Industries
UNIDO	United Nations Industrial Development Organization
VAT	Value added tax
UNDP	United Nations Development Programme
USAID	United States Agency for International Development

CHAPTER 1

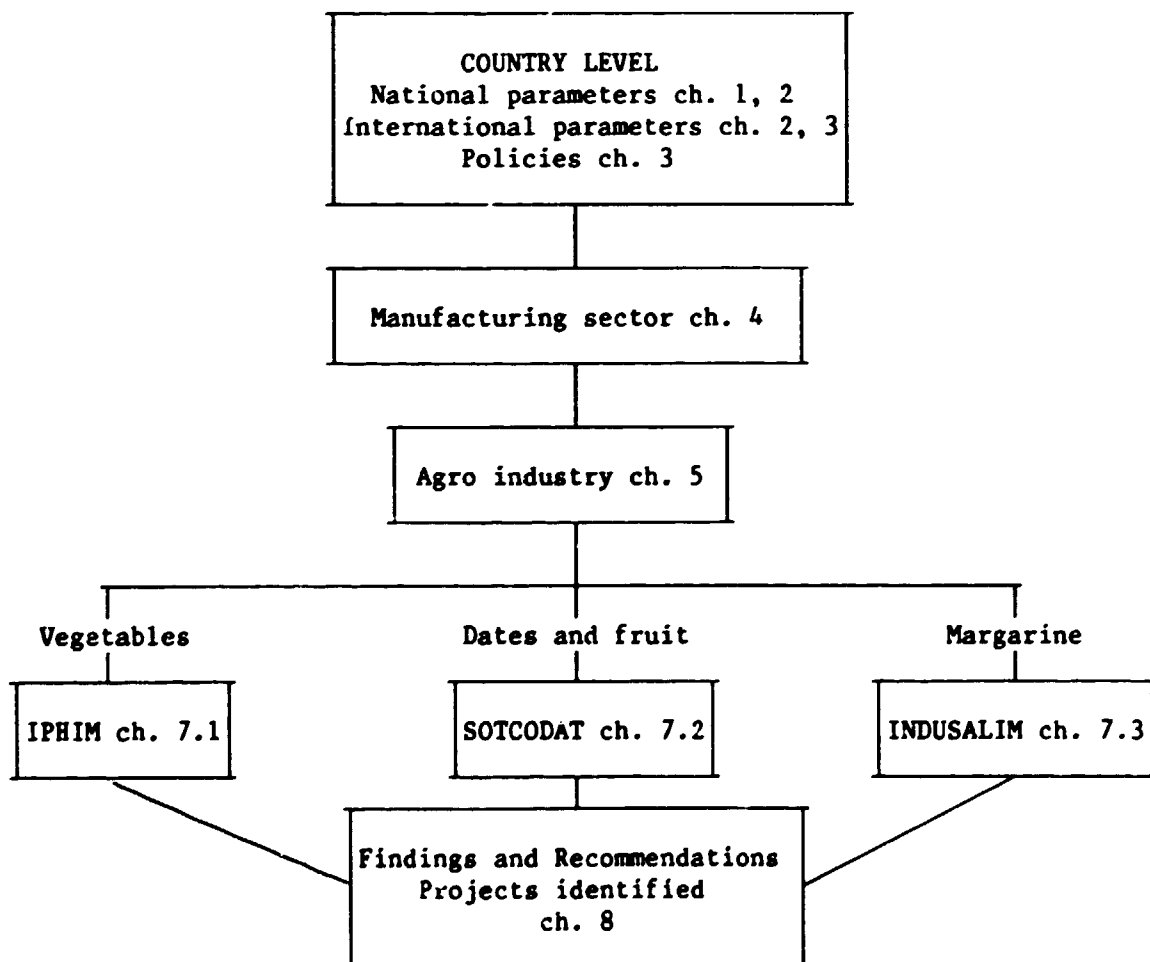
BACKGROUND TO THE STUDY

1.1 The approach used in this study

The basic objective of this study is to provide a diagnostic survey of plant rehabilitation and modernization in the agro-related industries of the Moroccan manufacturing sector. Modernization is used here to indicate relatively minor changes in organization and/or physical plant in a profitable enterprise. Rehabilitation is used to indicate a need for more extensive organizational and/or technical assistance in enterprises that no longer function well, but that are fundamentally viable. In Morocco, modernization is a far more important issue than rehabilitation.

The analysis below leads to suggestions both for projects at the plant and economic policy levels. In order to ensure that all relevant issues are covered, a "top-down approach" has been adopted. Figure 1 summarizes this approach.

Figure 1.1



1.2 Consultations and discussions

The mission was assisted by the Ministry of Commerce and Industry. Apart from this Ministry, the two main organizations that helped the mission and suggested specific companies to be analysed were the Chamber of Commerce of Casablanca and the Banque Nationale pour le Développement Economique (BNDE). Discussions were also held with senior officials from the Ministries of Foreign Affairs, Planning, Agriculture and Fisheries. A wide range of financing institutions such as the Caisse Nationale de Crédit Agricole (CNCA), the Office pour le Développement Industriel (ODI), the Banque Marocaine pour le Commerce Extérieur (BMCE), and the Société Marocaine de Dépôt et de Crédit were visited as well.

Discussions were also held with international co-operation partners of Morocco, including the European Economic Community, the French Embassy, the Embassy of the Federal Republic of Germany, USAID and the UNDP office in Rabat.

The team mission had been preceded by a preparatory mission led by Mr. George Assaf, UNIDO, 27 November - 8 December 1988.

1.3 Morocco: some key characteristics

Moroccan society is characterized by old traditions and a strong and complex social structure in which family ties play a major role. These social and cultural characteristics have deeply influenced Moroccan business. The country has an abundance of natural resources, agricultural land, and on the whole a favourable climate. It has a key position among Mediterranean countries (both among Maghreb countries and vis-à-vis the European Economic Community), partly because of its advantageous geographical location and excellent transport connexions. The various socio-cultural and geographical characteristics which help to provide a good basis for development are reinforced by a very stable political situation and an active development policy.

In comparison with many other African countries, the country has a very strong financial and business structure. Most of the entrepreneurs are traditionally engaged in trade and speculation, and this has had a great influence on industrial development: short-term returns tend to be favoured above long-term investments. Venture capital is scarce, and quality control and modern production processes do not always get the attention that is needed to keep industries competitive. However, adequate finance for future industrial development is available in the country, and the domestic supply of natural resources and semi-processed goods is secure.

Morocco has relatively abundant natural resources. It has the world's largest and most easily accessible phosphate reserves, which has made the extraction and processing of phosphate a key sector in the economy, and a major source of foreign exchange earnings. Relatively large reserves of other minerals, such as iron ore, copper, barytine, fluorspar, zinc, manganese and lead, are also exploited while local anthracite and hydropower resources meet about a tenth of the country's energy requirements.

The country's agricultural potential is considerable. Intensive rainfed farming takes place in the plains and hills west of the Atlas mountains. Here, fertile soils and a humid, temperate Atlantic climate are found.

Although agriculture is at present far from achieving the maximum possible yields, agricultural products (in part processed) already account for about a quarter of total Moroccan exports.

Fishery resources are considerable along the extensive Mediterranean and especially Atlantic coastlines, but these are only partly exploited. Processed fish is also a major export item.

With regard to human resources, the economy still suffers from a considerable shortage of personnel with a middle-level or higher education or technical training. This is in part a consequence of insufficient attention to technical and economic subjects in the curricula of educational establishments. On the other hand, career prospects for personnel at these levels are often not very bright - in spite of a booming economy. This leads to extensive migration to Europe, especially France.

1.4 Major aspects of this study

Morocco's specific social and economic structure does not only provide the background for this study: it has also influenced the project proposals formulated on the basis of the analysis. The top-down analysis will bring out strengths and weaknesses at each level in the manufacturing sector. Special attention will be given to links between macro- and micro-economic issues. This is expressed, among others, in the treatment of the firms selected for in-depth analysis: although they face modernization or rehabilitation problems that are firm-specific, they are also representative of key issues of a more general nature in the food products subsector and in Moroccan manufacturing as a whole. There are, in other words, a number of common rehabilitation/modernization objectives at the plant, subsectoral and sectoral level.

The first company, IPHIM (Industria Pimientora Hispano Maroqui S.A.), specializing in dried and canned vegetables, is now expanding into deep-frozen food products. This orientation towards new products and markets implies, among others, the improvement of sanitary conditions and packaging. If these issues are properly tackled and if the attempt to enter new markets is successful, the modernization of IPHIM can act as a pilot case for other small enterprises in the food-processing industry. SOTCODAT (Société de Conditionnement et de Traitement des Dattes du Tafilalt) represents a typical example of industrial rehabilitation. An examination of this firm was requested by the Government as a first step towards strengthening the industrial basis of the economy of the area where it is located, through the transformation of the main local raw material, dates, into higher value-added products. Finally, INDUSALIM (Société Industrielle Alimentaire) addresses the issue of increasing production for the domestic edible fats market, a market which is to a large extent covered by imports. The introduction by INDUSALIM of a substitute for butter, margarine (a new product for Morocco), would help reduce imports and cover a basic need.

The report will conclude with a number of technical assistance projects. These are based on needs identified both as a result of plant analysis and of subsectoral analysis. Some of these projects can be implemented by the firms themselves; for others, outside assistance will have to be sought. A number of projects will require UNIDO assistance.

This report differs from previous reports on African countries^{1/} in that it deals with a country that can now be compared in many ways to NICs like the Republic of Korea. There is no sign of the stagnation that unfortunately is encountered in many African countries; on the contrary, the economy has experienced vigorous growth during much of the past two decades (see section 2.1). Moreover, as already noted above, the country has a stable social and political structure. The overall structure of the economy and the environment for manufacturing have been improved considerably since the early 1980s, and the mission has therefore refrained from making explicit suggestions for general policy changes. It suggests that the Moroccan Government continue and intensify its present efforts in the field of economic policies. The suggestions made by the mission on the basis of its plant-level analysis are also meant to reinforce and support existing trends and tendencies at the general policy level.

1/ The Regeneration of Zambian Manufacturing Industry with Emphasis on Agro-based Industries, Special reports on industrial rehabilitation series No.1, PPD/R.19.

The Regeneration of Angolan Manufacturing Industry with Emphasis on Agro-based Industries, Special reports on industrial rehabilitation series No.2, PPD/R.21.

The Regeneration of Liberian Manufacturing Industry with Emphasis on Agro-based Industries, Special reports on industrial rehabilitation series No.3, PPD/R.23.

The Regeneration of Tanzanian Manufacturing Industry with Emphasis on Agro-based Industries, Special reports on industrial rehabilitation series No.4, PPD/R.

CHAPTER 2

THE MOROCCAN ECONOMY - AN OVERVIEW

2.1 Economic trends and structure

The Moroccan economy experienced a difficult period from 1978 to 1983. In the early and mid-1970s, high earnings on Morocco's primary export, phosphates, had encouraged the Government to initiate large-scale public investment programmes which were partly financed by external borrowing. A number of capital-intensive manufacturing projects were included in these programmes, and a highly protected environment was created for them. With the collapse of phosphate prices later in the 1970s, the Government had to borrow increasingly to complete its investment programmes. From 1978 onwards, some attempts were made to stabilize the economy, but in 1981 another series of public investment programmes was initiated. Military action in the Western Sahara was a major focus of public expenditure. Between 1975 and 1983, public debt rose more than sixfold, reaching US \$11.2 billion in 1983, or 84.2 per cent of GDP that year and 290 per cent of exports. The current account deficit grew to 13.3 per cent of GDP in 1982. Meanwhile, international interest rates had been rising rapidly, and the amount of credit available on concessionary terms had dwindled. Morocco began to find it increasingly difficult to service its debt burden, especially as prolonged draughts in the early 1980s had significantly reduced the country's economic performance.

By mid-1983, Morocco had virtually no foreign exchange reserves left. The country had to reschedule its debts, and at the same time initiated an economic restructuring programme with IMF and World Bank assistance. The programme had two objectives:

- a rapid stabilization of the economy by a reduction of aggregate demand and the Government deficit;
- a change in the structure of the key economic and social sectors to increase the productivity and competitiveness of the Moroccan economy.

Details of the programme may be found in chapter 3. The programme has succeeded in bringing about an appreciable improvement in the performance of the economy, even if much remains to be done to secure sustained long-term growth.

As Table 2.1.1 shows, the Moroccan economy is dominated by tertiary activities, which accounted for some 40 per cent of GDP in 1987. Among these, commerce is the most important, accounting for more than 20 per cent of GDP itself. Public administration accounted for 22 per cent of GDP. The next major sector is manufacturing which accounts for 16 per cent of GDP. Agriculture, although still the major source of employment, now accounts for only 11 per cent of GDP. Mining accounts for less than 3 per cent, but both this sector and agriculture play an extremely important role as suppliers of raw materials to the manufacturing sector.

Table 2.1.1: GDP at constant 1969 prices, 1983-1987
(in millions of dirhams)

	1983	1984	1985	1986	1987 ^{a/}
Primary sector	3,844	3,833	4,296	5,283	4,598
Agricultural, forestry and fishing	3,844	3,833	4,296	5,283	4,598
Secondary sector	9,723	9,614	9,826	9,787	10,091
Mining	934	991	972	932	921
Energy and water	1,530	1,536	1,582	1,544	1,621
Manufacturing	5,735	5,638	5,736	5,934	6,172
Construction and public works	1,524	1,449	1,536	1,377	1,377
Tertiary sector	14,480	14,963	15,376	15,984	16,257
Transport and telecommunications	1,811	1,904	1,962	2,048	2,089
Other services	4,757	4,879	5,098	5,296	5,440
Commerce	7,912	8,180	8,316	8,640	8,728
Public administration	6,601	6,973	7,455	8,049	8,532
Gross domestic product	34,648	35,383	36,953	39,103	39,478

Source: Ministère du Plan.

^{a/} Estimates.

There has been no major shift with regard to GDP shares among the major sectors (commerce, public administration, manufacturing and agriculture) over the 1983-1987 period. In 1987, bad harvests caused a temporary strong decrease of agricultural production, but 1988 appears to have seen a complete recovery of agricultural production. The manufacturing sector has continued to grow by an estimated 4 per cent in both 1987 and 1988. The strongest grower, however, is public administration, which raised its GDP share from 19 per cent in 1983 to almost 22 per cent in 1987.

The growth rate of GDP (in real terms) has averaged 3.7 per cent per year since 1969. The slow-down during 1983-1987 still gives an average rate of growth of 3.1 per cent. 1988 was a record year with an estimated real growth rate of close to 10 per cent over 1987. The difficulties encountered at the beginning of the decade appear to be solved, and continued growth is also expected for 1989.

Morocco's 1988 per capita GDP was DH 6,600 (US \$800). Its recent growth is mainly due to better farming results, an increase in phosphate prices, the reduction of petrol prices and development in the industrial sector.

The growth of expenditure has remained behind the growth of GDP during recent years. This is true for both the private and public sectors. The growth of expenditure in the public sector has even been slower than in the

private sector, as a result of structural adjustment measures (described more extensively in chapter 3). Gross domestic savings (current prices) increased from DH 11.8 billion to DH 20.3 billion during 1983-1987. Moreover, net foreign income increased from DH 2.0 billion to DH 7.8 billion. This seems mainly the result of increased salary transfers by Moroccans working abroad (see also section 2.2). Increased savings have again resulted in increased investment. Gross fixed capital formation rose from DH 20.5 billion in 1983 to DH 28.2 billion in 1987 (current prices). Investment was estimated to have increased to 20.6 per cent of GNP in 1988. Although the available breakdown of investment by type does not allow a strict distinction between the sectors of the economy, the share of plant and equipment in total investment has increased from 38 to 44 per cent; this would indicate that industrial investment has increased even faster than overall investment. It reinforces the impression that manufacturing is doing better than average in an economy that is now strongly growing.

2.2 International trade

Morocco's economy is highly dependent on world markets, both for its imports and exports. As table 2.2.1 and 2.2.2 show, the country runs a deficit in international trade. Since 1985, however, the trend towards increasing deficits has been reversed. While the 1985 trade deficit was DH 16.9 billion, it had been reduced to DH 11.9 billion in 1987, and it is estimated that the deficit has gone down to DH 9.5 billion in 1988. Exports have been stimulated by the devaluation of the Dirham and the reorientation of manufacturing to export markets.

The major categories of goods exported are food and beverages, non-oil minerals, semi-manufactured goods and consumer goods. Major imports are industrial equipment, semi-manufactured goods and petroleum. The country's exports are thus fairly diversified, and include a considerable share (probably over 40 per cent, if semi-manufactures are excluded) of manufactured products; among imports, the predominance of inputs and equipment for manufacturing (probably accounting for more than 50 per cent of total imports) is striking. Trade in manufactured goods will be reviewed more extensively in section 4.6.

When older data are included in the analysis (see chapter 4), a clear trend towards a higher trade deficit for capital goods, raw materials and semi-manufactures becomes apparent. On the other hand, the trade in consumer goods and food products shows an increasing surplus.

France is still Morocco's main trading partner, accounting for almost 30 per cent of total exports and 22 per cent of total imports in 1987. The Arab countries combined are the next major trading partners for imports (fuel); for exports, Spain is the second most important partner. The FRG and Italy and - on the import side - the USA are also important trading partners. Trade with other (non-Arab) developing countries could be fairly important: "miscellaneous" partners accounted for one fifth of total imports and one fourth of total exports in 1987.

Table 2.2.1: 1986 and 1987 value (cif) of imports
(in millions of dirhams)

	1986		1987a/	
	Value	Per cent	Value	Per cent
Foodstuffs and beverages	4,329	12.5	3,980	11.3
Energy and lubricants	5,429	15.7	6,170	17.5
Crude oil	4,587	13.3	5,332	15.1
Raw materials	5,605	16.2	5,454	15.3
Animal and vegetable	2,789	8.1	2,750	7.8
Mineral	2,816	8.1	2,704	7.7
Semi-finished products	7,527	21.7	8,194	23.2
Finished products	11,718	33.9	11,473	32.5
Capital goods	8,248	23.8	7,363	20.9
Agricultural equipment	626	1.8	494	1.4
Industrial equipment	7,620	22.0	6,869	19.5
Consumer goods	3,470	10.1	4,110	11.6
TOTAL	34,608	100.0	35,271	100.0

Source: Office des Changes.

a/ Preliminary.

Table 2.2.2: 1986 and 1987 value (fob) of exports
(in millions of dirhams)

	1986		1987a/	
	Value	Per cent	Value	Per cent
Foodstuffs and beverages	6,526	29.5	6,346	27.1
Energy and lubricants	564	2.6	642	2.7
Raw materials	5,113	23.1	4,606	19.7
Animal and vegetable	689	3.1	823	3.5
Mineral	4,424	20.0	3,783	16.2
Semi-finished products	4,969	22.5	5,602	24.0
Finished products	4,932	22.3	6,194	26.5
Capital goods	416	1.9	297	1.3
Consumer goods	4,516	20.4	5,897	25.2
TOTAL	22,104	100.0	23,390	100.0

Source: Office des Changes.

a/ Preliminary.

The balance of payments has been positive in the 1986-1988 period (see Annex table 1 for 1986 and 1987), increasing from DH 741.8 million to DH 1.5 billion (estimate) in 1988. Tourism, transfers by Moroccans working in other countries and debt rescheduling have contributed to the positive result. The decreasing trade deficit and the increase in transfer payments and earnings from tourism have made a considerable contribution to the rapidly improving performance of the economy in recent years.

2.3 Debt issues and international co-operation

As indicated above, Morocco borrowed heavily during the 1970s. As a result, foreign debt increased sharply, and as Morocco was not able to mobilize sufficient foreign exchange to meet its repayment obligations, a period of repeated reschedulings with both public and private creditors was initiated in 1983. Since then, Morocco has tackled the structural problems of its economy with co-operation and support from the IMF and the World Bank. The results have been encouraging, as the section above has pointed out. Nevertheless, the debt burden is still very high. Total debt amounted to 110 per cent of GDP in 1987, and the debt service ratio, before debt relief in 1986, was 62 per cent. After relief, the ratio dropped to 32.2 per cent. Although even the lower figure means that a large part of the country's foreign exchange earnings will be channelled to debt repayments, there is no indication that this will lead to the serious "squeeze" of essential imports that took place in many other African countries.

During 1987, the last year on which detailed figures were available at the time of writing, Morocco received development assistance for a total of US \$1,487 million. Almost 90 per cent was in the form of loans. As in previous years, the World Bank was the most important partner, providing US \$802 million (all of it in the form of credit). The African Development Bank provided loans for a total of US \$341 million in 1987. Among the types of assistance, financial support predominated, with technical assistance accounting for only 10 per cent of total assistance. The major categories of activities which received support were: agriculture, forestry and fisheries (39 per cent of total assistance); transport and communications (19 per cent); and development planning (19 per cent). Support to industrial development was a very minor category. The sector received some US \$4.2 million in support from multilateral, bilateral and non-governmental sources. Support given to other sectors of the economy and to development planning should, however, also benefit industrial development.

UNIDO is involved in a number of technical co-operation projects in Morocco. These are not so much concerned with direct support to production than with activities that could be categorized as industrial services (normalization and quality control, data banks, maintenance training - see annex). This is a reflection of the comparatively advanced and healthy state of manufacturing.

CHAPTER 3

THE ENVIRONMENT FOR REHABILITATION: ECONOMIC POLICIES AND INSTITUTIONS

3.1 Introduction

Morocco's recent attempts to stabilize and liberalize her economy have made significant improvements in the country's current economic situation. The detailed arrangements for implementing Morocco's recent initiatives are very important for Morocco's co-operation partners - the World Bank, IMF and other international institutions, bilateral agencies, foreign banks and private companies - and particularly for investors interested in supporting industrial rehabilitation initiatives. Action by the Government in this area constitutes an essential prerequisite for continued and more intensive international support. Because of their importance for effective action in the rehabilitation context, the major elements of Morocco's economic reform programme are described below.

3.2 Economic reforms since 1983

As mentioned before, by 1983 Morocco's economic situation was unsustainable. The budget deficit had grown to 12.3 per cent of GDP and the current account deficit had reached 13.3 per cent of GNP. Total foreign debt had reached US \$11.2 billion, which amounted to 84.2 per cent of GDP and 290 per cent of exports, and foreign exchange reserves had been almost exhausted.

The resulting economic crisis prompted the birth of a new government which sought immediate help from the IMF and World Bank to develop an economic recovery programme. This recovery programme had two major objectives: (i) to stabilize the economy in the short term by reducing aggregate demand and the size of the government budget deficit; and (ii) to improve the country's international competitiveness and to increase the production of exportable goods.

To attain these objectives, the Government launched a broad stabilization and structural adjustment programme supported by various loans and stand-by arrangements from the international community. At the IMF's instigation, restrictive monetary and fiscal policies were introduced to correct the disequilibrium between the aggregate demand and supply of resources and to reduce government deficits. At the same time, structural reforms were implemented in the industrial and external trade sectors via industrial and trade liberalization policy reforms.

Industrial policy was directed towards making Moroccan industry more efficient and competitive by attenuating the existing bias against labour and in favour of the use of capital-intensive technologies in industry. By doing so, the Government attempted to re-align Morocco towards its natural comparative advantage in labour-intensive activities.

The aim for the trade liberalization reforms was to eliminate the bias against exports inherent in the country's protectionist external trade regime, or export and import systems. The Government sought to mitigate the existing bias against exports by liberalizing imports and exports, reducing tariff and non-tariff protection, and drastically simplifying the procedures for exports and export-related imports.

These reforms were supported by two consecutive World Bank Industrial and Trade Policy Adjustment (ITPA) loans: US \$450 million since 1984 under ITPA-1 and ITPA-2. The World Bank and IMF have also supported the reforms with additional financing in the form of commercial debt rescheduling which amount to US \$1.7 billion for the period 1983-84.

The Moroccan Government's attempts at economic reforms during 1983-87 by undertaking contracting monetary and fiscal policies at the same time as measures for trade liberalization is an explicit recognition by the Government of the importance of an appropriate macro-economic environment in which liberalization can take place. By doing so, the Government has sought to avoid the mistake made in other countries, especially in Latin America, which have undertaken liberalization programmes without an accommodating macro-economic environment that subsequently ended in failure.

The key elements of Morocco stabilization programme have been:

- fiscal reform, especially to introduce a value-added tax and improve revenue collection from existing taxes;
- caps on the growth of salaries in the civil service and public sector;
- sharp cuts in the government investment programme and consumer subsidies (prices on subsidized goods were raised 20-40 per cent);
- increases in public enterprise tariffs and charges of 10-25 per cent, limits on credit, annual limits on external borrowing; and
- devaluation of the dirham.

3.3 Key policy measures in Morocco's stabilization and structural adjustment programme

3.3.1 Exchange rate policy

Morocco has used the exchange rate as a major policy instrument to try to counter its worsening balance-of-payments situation since liberalization efforts began. Liberalization of its trade regime involved dismantling quantitative restrictions on imports and reducing tariff barriers to international external trade. However, to prevent the liberalization of the trade regime from leading to additional balance-of-payments difficulties, due to the reduction in revenues from trade taxes, it was critical for the authorities to induce a depreciation in the real exchange rate. Since 1983, the Government has undertaken an active exchange rate policy to restrain domestic demand and support trade liberalization measures to stimulate exports.

The World Bank estimates that the real effective exchange rate,^{1/} on trade-weighted basis, has depreciated by 26.0 per cent since the end of 1982. As shown in table 3.3.1, Morocco's real effective exchange rate has decreased with respect to a basket of international currencies. The depreciation in the real effective exchange rate has been obtained by devaluations of the currency. The effect of these devaluations apparently have more than offset the difference in the inflation rate between Morocco and her major trading partners. In fact, by 1987 the rate of inflation in Morocco, measured by the consumer price index, had fallen to 2.4 per cent compared to 12.5 per cent in 1983.^{2/}

Table 3.3.1: Real exchange rate indices a/ (1980 = 100)
of the dirham against the currencies of Morocco's major trading partners,
1980-1987

Year	Nominal effective rate	French Franc	Saudi Riyal	Spanish Peseta	German Mark	Italian Lira	U.S. Dollar	Real effective rate ^{b/}
1980	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1981	93.7	97.1	112.9	100.3	96.9	98.2	122.0	92.3
1982	92.5	92.9	115.1	98.3	99.3	97.6	129.3	90.3
1983	89.6	95.8	124.9	94.6	105.3	105.0	144.0	84.3
1984	82.8	99.2	131.9	103.3	106.0	109.1	160.7	79.5
1985	78.4	105.5	129.3	109.9	109.2	112.4	166.7	74.2
1986	72.6							70.9
1987	72.7							69.2

Source: World Bank Report No. 6714-MOR, 15 March 1988.

a/ A decrease indicates a depreciation for effective exchange rates whereas an increase indicates a depreciation for bilateral exchange rates.

b/ Basket with multilateral trade weights based on the geographical pattern of trade including third market effects.

1/ The real effective exchange rate measures the evolution of a country's prices relative to those of its trading partners, adjusted for exchange rate changes of currencies. Because it has the ability to capture the overall relative price effects of exchange rate changes, liberalization and fiscal, monetary, and interest rate policies of countries relative to their trading partners, the real effective exchange rate can be an important tool for assessing policy measures in many adjustment programmes.

2/ World Bank, Morocco: The Impact of Liberalization on Trade and Industrial Adjustment, Report No. 6714-Mor, p.6, 15 March 1988.

The combination of a continuous depreciation of the exchange rate (and the real effective exchange rate) and contractionary monetary and fiscal policies has led to a steady improvement in Morocco's trade balance. Since 1983 the demand for imports has been restricted due to a number of factors. The depreciation of the exchange rate has limited imports of consumption goods to sustainable levels. The higher cost of capital as a result of the reforms undertaken in the liberalization programme has dampened investment demand.

Increased domestic agricultural production has led to large declines in quantities of grain imports. Finally, the severe decline in world petroleum prices has reduced the value of imports considerably - in 1985 by 45 per cent.

It is interesting to note the offsetting effects of the depreciation in Morocco's effective exchange rate and contractory monetary and fiscal policies in the country's stabilization programme.

In theory, while reductions in the budget deficit as a result of restrictive macro-policies (monetary and fiscal policies) are unambiguously contractionary, devaluations of the exchange rate can lead to economic recession or expansion.

In Morocco's case, the devaluation of the currency has led to improvements in the balance-of-payments and an increase in GNP. Reductions in public expenditures, on the other hand, have dampened aggregate demand and led to a slow-down in economic activity. The deflationary effect of contractionary demand management policies since 1983 appears to have cushioned the effects of the downward trend in the exchange rate. It seems that devaluation has attracted resources to the export goods/tradable goods sector and stimulated efficient import substitution and export growth, and thereby led to improvements in the balance-of-payments. The improvement in the balance-of-payments has in turn offset the fall in aggregate demand and income that would normally have been the result of traditional stabilization policies alone.^{1/}

3.3.2 Industrial promotion policies and trade liberalization measures

Broadly defined, industrial policy includes measures to increase industrial incentives and also other measures which although not directly intended for regulations of industry nonetheless have a strong bearing on the development of industry. In Morocco, trade policy has been the major policy instrument used to determine the degree of external competition that is faced by industry. On the other hand, industrial policy has traditionally been used to limit the degree of domestic competition. The combination of both trade and industrial policies have been used together to strongly influence the structure and efficiency of industrial development. As such both these policy instruments have been used to attenuate existing biases against labour and exports in the Moroccan economy. In this connexion, the recent changes in the Investment and Export Codes and liberalization measures appear to be particularly important.

1/ World Bank, op.cit. pp. 5-10.

(a) Investment codes

There have been a number of investment codes in Morocco since the 1960s. The current investment code is an outgrowth of the investment code formulated in 1983. In contrast to earlier codes the current code does not allow large firms to be the major beneficiaries of fiscal incentives in the form of tax exemptions. Instead, the current code tries to balance regional objectives and the need to correct the inherent bias in earlier codes toward capital-intensive technologies by implicitly subsidizing the cost of capital. The current code also tries to stimulate employment growth by fostering the development of small- and medium-scale firms.

Under the investment code exemptions from corporate income tax and import duties as well as subsidies for employment generation and the acquisition of land are given on a selective basis for investment in three industrial regions outside the Casablanca-Mohammedia area. The code eliminates allowances for accelerated depreciation for all firms in the major industrial centres. The elimination of these allowances serves to increase the cost of capital, thereby going some way to counter the bias inherent in earlier codes towards capital-intensive technologies.

The advantages offered under the code vary according to the size of firms and their location. For example, small- and medium-scale firms which undertake investment programmes between DH 100,000 to DH 5 million receive DH 5,000 for each permanent job created, provided that the cost of each individual job does not exceed DH 70,000.

In accordance with the Government's regional objectives the code divides the country into four industrial zones:

- Zone I includes the most industrialized area of the country, the Préfecture de Casablanca-Anfa;
- Zone II includes the other Préfectures surrounding Casablanca, and the Province de Ben Slimane;
- Zone III includes the Préfecture de Rabat-Sale and the Provinces of Agadir, Fes, Kenitra, Marraketch, Meknes, Safi, Tanger and Tetouan;
- Zone IV includes the rest of the country not covered by other zones.

In order to encourage the decentralization of industrial activities, the 1983 code offers incentives which increase the farther away a firm (or a subsidiary of a firm) is created from Zone I. Enterprises in the Casablanca area are given the option of accumulating tax free funds up to 20 per cent of their gross profits, if these funds are invested in Zones III or IV within a period of three years.

Finally, for enterprises settling in Zones III or IV, the Government subsidizes up to 50 per cent of the cost of land, depending on the number of jobs created.

Other benefits given by the code include tax refunds on imported capital goods; subsidies to induce firms to save energy, water, and to preserve the environment; exemptions from import duties on materials, equipment, and spare

parts; and the reduction of stamp tax, registration fees and title fees to all industrial firms established in or extended in all zones except Zone I (Casablanca).

Small- and medium-scale firms established in areas outside of Casablanca are also granted total exemption from profit taxes for the first five years of production. This advantage is offered to large firms only if they have to be created in Zones III or IV, which are the least industrialized in the country. In addition, firms settling in Zones III and IV are offered subsidies for land acquisition and exemption from profit tax for the first 10 years. The rationale behind this measure is not only to channel investment away from the already industrialized Zones I and II, but also to encourage firms in Zones III and IV to expand their plants or to diversify their industrial activities.

Although the real impact of Morocco's investment code must await a longer term assessment, preliminary indications suggest that the code has only been partially successful in relocating enterprises to the preferred zones in accordance with the Government's regional priorities; much of the new investment has taken place in the areas directly adjacent to Zone I. More details may be found in section 4.4.

(b) Trade liberalization measures

Until as recent as 1983 the barriers to external trade and the regulatory apparatus dealing with trade in Morocco have led to a strong anti-export bias. In addition, the combination of relatively high tariffs and binding quantitative controls has led to a gradual shift in the composition of the demand for imports away from finished goods.

In an attempt to redress existing inefficiencies, the Government has undertaken an extensive programme to liberalize Morocco's trade regime which has involved:

- reforms in import and export policies and associated regulatory apparatus;
- the elaboration of an export code; and
- the accession to GATT.

(i) Changes in import policies

The changes in Morocco's import policies are aimed at reducing quantitative restrictions in imports each year and eliminating them by 1989. The extent to which quantitative controls have been dismantled can be seen in table 3.3.2 which shows the steady transference of products from import lists B and C to list A. Goods on list A can be freely imported without prior approval, goods on list B require a licence, and imports of products on list C are not permitted except in special circumstances. Since early 1986, list C has been abolished with the consequence that list A (goods which can be imported without prior approval) now accounts for 67 per cent of all tariff positions and 86 per cent of the total value of Morocco's imports. With the transfer of 332 products due to the 1987 General Import Programme, list A includes over 70 per cent of all tariff positions.

Table 3.3.2: Changes in import regime, 1983-1986
(percentage)

	Tariff position ^{a/}				Import value			
	1983 ^{b/}	1984	1985	1986	1983	1984	1985	1986
List A	49.9	52.5	58.5	66.7	38.5	84.7	86.7	86.3
List B	32.1	37.7	41.2	33.3	61.3	15.2	13.3	13.7
List C	18.0	9.8	0.4	-	0.2	0.1	-	-
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: SINTIA Customs Files and Ministère du Commerce et de l'Industrie.

a/ Six digit CCCN tariff codes.

b/ February of each year. Does not reflect the closure of the economy in March 1983 where all goods in list A were temporarily shifted to list B.

In addition to the above-mentioned changes in import policies, the protection given by the tariff structure has been rationalized by what has been described as a "concertina approach" whereby progressive reductions have been made in maximum nominal tariff rates. The aim is to achieve a state where no tariff rate can be greater than 25 per cent by 1989. The special import tax (SIT), a generalized uniform surtax, was to be abolished in 1986. In fact, SIT has been reduced from 15 per cent to 5 per cent. Finally, the maximum custom duty rate has been reduced from 400 per cent in 1983 to 45 per cent at present.

(ii) Changes in export policies

The liberalization of export regulations

A major goal of Morocco's liberalization programme is to actively promote and diversify the country's exports. Since 1983, there have been a number of important reforms aimed at abolishing barriers to exports and simplifying administrative and regulatory procedures related to exports. To this end, export-licensing requirements have been eliminated on almost all industrial, agricultural, and mining products. The levy on exports, the so-called "statistical tax", which was levied at a rate of 0.5 per cent, has also been abolished. The most important part of Morocco's attempts to stimulate exports has been its "temporary admission scheme". This is another strong indication of the country's commitment to promote exports. Under this scheme, exporters and indirect exporters - that is, local suppliers of inputs to exporters - can import all inputs duty-free without having to obtain an import licence.

Since 1983, additional measures have been taken to broaden the scope of the temporary admission scheme. These measures include:

- on-site customs clearance for imported inputs and exported products;
- widespread guarantees, on an annual basis, to provide for payment of duties on imports under the temporary admission scheme which are not re-exported;
- decentralized implementation of the prior export scheme ("exportation préalable"). Under this scheme, which one could interpret as an extension of the above-mentioned temporary admission scheme, manufacturers are allowed duty-free imports of inputs for goods that were originally meant for the domestic market, if they are now exported.
- a reduction in the time it takes to clear customs from, on average, 12 to 6 days.

Export code

Morocco's export code grants considerable fiscal and financial incentives to exporters. The export code elaborates and qualifies many of the advantages given in the industrial investment code. Under the export code established in 1973, the profits of industrial firms and artisanal exporting activities are exempt from the corporate income tax for the first 10 years if the firms are newly established. There have been recent proposals to extend the benefits to exporters under the code to 15 years and by an extra 10 years if profits are reinvested. It is also proposed to broaden the scope of the code to include agricultural, fishing, and mining exports. Exporters also benefit from the temporary admission scheme under this code.

Although clearly a step in the right direction, the export code has a major disadvantage: the fiscal incentives appear to discriminate against the use of labour in favour of investment in new capital. This may encourage firms to adopt more capital-intensive technologies, which goes against the country's natural comparative advantage in labour-intensive activities, and against recent developments that indicate a certain shift from capital-intensive to labour-intensive manufacturing (see chapter 4).

Accession to GATT

By officially becoming a contracting party to GATT on 1 June 1987, Morocco re-confirmed its commitment to trade liberalization. The country is likely to gain by its accession to GATT in several ways. First, agreements decided with the GATT system will give greater support and encouragement to Morocco's trade liberalization policies. This is because important barriers which have already been agreed within GATT cannot be increased without giving compensation to those trading partners whose exports have been adversely affected by this action. Second, Morocco can use the fact that it is bound by international trade agreements to resist the efforts of powerful interest groups who lobby for more protection. Finally, further liberalization by Morocco can be used as a basis to bargain for increased access to the markets of its trading partners.

3.4 Public enterprises: the changing role of the Government

The Government has played a preponderant role in the Moroccan economy through the public enterprises. It owns all mineral rights (including phosphates), the phosphate-, sugar- and tobacco-processing enterprises, the railroad, highway, power and telecommunications networks and the largest part of the airline and navigational services. It also owns the majority of the large-scale irrigation schemes, which gives it control over agriculture, and has participating interests in several large establishments in the manufacturing sector.

The public sector is quite extensive in Morocco. In 1986 public sector enterprises accounted for about 20 per cent of GDP and a much higher part of the value added in the corporate sector.

The performance of public sector enterprises (PEs) has been generally disappointing for three major interrelated reasons:

- inadequate pricing of outputs;
- poor investment planning and project selection;
- inappropriate financing of the enterprise.

The Government's net arrears to public enterprises amounted to about DH 6.5 billion at the end of 1985. In addition, it owed other bodies DH 1.0 billion as a guarantor for PEs that became insolvent.

Economic pressure and additional pressure from the IMF and World Bank, among others, has now induced the Government to re-assess its role and participation in PEs. Its stated intention, reflected in its Orientation Plan for Economic and Social Development 1988-1992, is to increasingly disengage itself from commercial activities. To this end, it has prepared a programme of divestiture for some of the PEs. At the same time, it has started to restructure its relations with the enterprises remaining in the public sector with a view to inducing greater efficiency by more appropriately defining responsibilities and performance objectives.

A major tool in the Government's redefinition of its relationship with PEs would be the delineation of clear objectives, performance criteria and resource requirements for PEs to enable Ministries to monitor and evaluate these institutions. The Interministerial Committee for PEs (CIPEP) is being strengthened so as to provide better overall policy advice concerning PEs to the Government.

In reforming the financing of public enterprises, the Government intends to eliminate all operating subsidies through price and sectoral or enterprise restructuring. The Government also intends that its investment financing for PEs should be limited to equity, and that it would provide no assistance to PEs able to raise funds on the capital market. A number of public enterprises have already made themselves financially autonomous.

An important part of the Government's redefinition of its position as an entrepreneur is the increasing role to be given to the private sector at the expense of government participation. The strongest argument for this policy is that the private sector has made healthy profits for more than 20 years

mainly in the non-industrial sectors, particularly trading. There is every potential that the dynamism of the Moroccan private sector can be diverted more into industry, and especially into public industrial enterprises.

3.5 Institutions involved in industrial development and regeneration

In order to promote industry and encourage the development of the export goods sector, Morocco has developed a number of institutions.

3.5.1 Banque Nationale pour le Développement Economique (BNDE)

Morocco's industrial development bank is the Banque Nationale pour le Développement Economique (BNDE). Its major objective is to foster industrialization by financing profitable and productive industrial projects. It provides most medium- and long-term lending for industry. The Moroccan Government has direct control over 34 per cent of BNDE's shares, and direct control over another 15 per cent of shares retained by other public financial institutions. The Moroccan private sector owns 27 per cent, International Finance Corporation (IFC) 6 per cent and other foreign institutions 18 per cent.

3.5.2 Other institutions

(a) The Ministry of Commerce and Industry

The Ministry of Commerce and Industry (MCI) consists of directorates for industry, international trade and domestic trade. The Minister is the president of the Centre Marocain de Promotion des Exportations (CMPE). The Directorate of Industry (DI) is the body which has the overall responsibility for industrial sector policy and management. It is responsible for the direction of industrial protection policy and, together with the Directorate of Domestic Trade and Ministry of Economic Affairs, for price control.

The International Trade Directorate (DCE) has two divisions each for exports and imports. It deals with bilateral and multilateral negotiations with GATT, EEC and other trading partners.

(b) The Office pour le Développement Industriel

The Office pour le Développement Industriel (ODI) is a public enterprise under the Ministry of Industry. All key ministries and other key government entities are represented in ODI's Board of Administration. Its mandate is to promote wider industrial development, to increase the linkages between industries, and to support industrial development in general through promotional activities, consultancy and the collection and distribution of information.

ODI participates in a number of medium- and large-scale industrial projects, mainly in the agro-industries and textiles subsectors; its largest individual projects, however, are found in the chemicals and building materials industries. Total turnover of enterprises with ODI participation was DH 1.7 billion in 1987; in the same year, ODI as a whole made a net profit of DH 4.3 million.

(c) National Commission for Simplification of International Trade Procedures

Trade procedures were established by the Prime Minister in July 1986 to simplify and streamline export and import procedures. The Commission's major goals include the reduction of delays in handling goods, the improvements in the efficiency of ports, and the standardization of documents and procedures.

3.5.3 Export support institutions

There are a number of public, quasi-public and private institutions in Morocco involved in exports promotion: CMPE (already mentioned), the Moroccan Association of Exporters (ASMEX), Chambers of Commerce and Industry (especially the Casablanca Chamber of Commerce), Professional Associations and Exporters' Clubs. It appears that all these institutions operate largely on an individual basis. There is reported to be little or no co-ordination in their respective export development programmes, nor priorities for sectors and products, market targets or other quantitative goals. Clearly, immediate attention is required on the part of the Moroccan authorities preferably with the additional help of external financial and technical assistance to correct this situation. The World Bank has already been assisting Morocco in this area.

3.6 The financing system of industry

Moroccan industrial firms derive their resources almost exclusively from borrowing from banks and specialized financial institutions, private capital subscriptions, and accrued undistributed profits. Until 1982, they also received interest rates subsidies (2 per cent) and since 1983, various forms of exports credits and protection against exchange risks.

The Moroccan financial system includes the Central Bank (Banque Al Maghrib), 15 commercial banks, as well as five specialized financial institutions and two savings banks controlled by the public sector. There is also a stock market in Casablanca, which concentrates on public and semi-public bonds transactions, and on a limited number of shares issues from private companies.

Of the five specialized financial institutions, the Banque Nationale pour le Développement Economique (BNDE) has the most important role to play in the financing of industry. It is the central institution responsible for medium- and long-term industrial loans. The BNDE, together with some public agencies such as the ODI and the Société Nationale d'Investissement (SNI), also undertakes equity participation in industry.

In 1987, industrial investment was financed as follows:

- 45 per cent covered by medium- and long-term loans, of which 36 per cent by BNDE, 31 per cent by commercial banks, and 33 per cent by suppliers credits;
- 20 per cent by the firms' own cash-flows; and
- 35 per cent by capital increases.

The BNDE is allowed to extend loans, and commercial banks need its guarantee to make their loans to industrial investors eligible for Central Bank rediscounting. The BNDE is also the sole source of external financing for leasing companies, and any loan to small-scale industries has to be reviewed by the BNDE before it can be granted by commercial banks.

The BNDE's role and operating methods have caused resentment by commercial banks as well as private investors. The BNDE reviewing process is a particular cause of concern. In addition, BNDE is perceived by many industrial firms and private banks as a slow and bureaucratic public sector bank. As a reaction against the restrictions imposed by the BNDE, commercial banks have recently expressed their interest in increasing their investment lending activity by creating subsidiary leasing companies.

There is also the problem that firms tend to consider the guarantees required by banks for extending credits excessive. The position of the banks is justified, however, given the extreme family orientation of business management in Morocco, and the delays and difficulties encountered in collecting loans through legal procedures or liquidation. As we shall discuss in the next chapter, the family orientation is among the principal constraints (bottlenecks) faced by the Moroccan manufacturing sector.

3.7 Economic co-operation parameters

Morocco has implemented an extensive economic reform programme since 1983. The country has also strengthened or established institutions to foster the development of industry and exports. These reforms have significantly altered Morocco's economic structure. Recent economic indicators show that Morocco's economic fortunes have improved considerably since it liberalized its trade regime. Since 1983, quantitative import controls have been reduced significantly and almost 86 per cent of the total value of imports is now not subject to licensing. This compares with a figure of 38 per cent in 1983. The maximum custom duty rate has been slashed from 400 per cent in 1983 to a current rate of 45 per cent; the special import tax (SIT), an across the board surtax, has been reduced from 15 per cent to 5 per cent.

All major barriers to exports have been reduced or eliminated. Export licencing arrangements have been virtually abolished, all export taxes have been repealed, and the "temporary admission" scheme has been revamped and made more attractive to exporters. A high level committee has been established to simplify foreign trade procedures to foster the further development of international trade. Finally, Morocco's strong commitment to free trade was reconfirmed by its accession to GATT on 15 June 1987.

In short, Morocco's trade liberalization reforms appear to have the potential to successfully attenuate the previous bias in the country's system of incentives against exports.

The implementation of the industrial promotion policies, codified especially in the 1983 investment codes, also appear to have gone some way in attenuating an earlier bias against labour-intensive activities. By increasing the cost of capital, the investment code appears to realign factor prices in accordance with Morocco resource endowments and redirect industry towards the adoption of more labour-intensive production in line with its natural comparative advantage.

The dual effect of the investment codes and the export codes has been to restructure Moroccan industry such that it can achieve increased efficiency and competitiveness. The stimulus given to the export sector has subjected an increasing portion of Moroccan industry to international competition.

Judicious management of the exchange rate and appropriate macro-policies coupled with the dismantling of external trade barriers appears to have promoted exports and led to a more sustainable level of imports, as will be detailed in the next chapter.

There is, however, a danger in Morocco's trade liberalization programme that fiscal incentives - tax exemptions - may prove to be increasingly costly as trade liberalization proceeds and resources are increasingly directed to the export sector. With exports practically exempt from all forms of taxation, an expansion of exports will lead to declining tax receipts. This could worsen the budget situation and dampen the progress of trade liberalization in the country. If the progress achieved as a result of the liberalization is not to be undermined, macro-economic policies will have to be developed which more than compensate for the serious decline in revenues as the liberalization programme proceeds.

As the recent reforms recognize, the country's economic recovery and return to international creditworthiness is not possible without a significant structural change to transform the Moroccan economy into an efficient producer of goods and services for both the domestic and export market. The country's continued economic recovery requires a sustained and intensified commitment to the type of economic reforms, and the strengthening of institutions to promote industry and exports, already begun in 1983.

On current showing, such a commitment is likely to be forthcoming given the difficult reforms that have already been undertaken. An essential element in the country's continued efforts towards economic recovery and industrial regeneration is the extent to which donor support will be forthcoming to help alleviate some of the obstacles the Government is facing in implementing its reform programme, and thereby accelerate the country's industrial regeneration. The recent reforms should, however, prove attractive to increased donor support and international investment.

CHAPTER 4

THE MANUFACTURING SECTOR OF MOROCCO

4.1 Introduction

When Morocco gained its independence in 1956, it had a modest manufacturing sector entirely owned and administered by foreigners. However, Moroccans early engaged themselves in a progressive transition from economic dependency towards a programme of national industrial development.

During the decade after independence, Morocco followed a policy of import substitution for most consumer goods and for some intermediate goods. Stimulated by the growth of domestic demand and heightened protection of the domestic market, industrial production expanded rapidly during the 1960s, especially within the branches which have been oriented to the domestic market, such as mechanical engineering, cement, textiles and food.

The import substitution strategy continued in the 1970s. According to the Ministry of Commerce and Industry,^{1/} the 1973-1978 period can be considered as the "take-off and expansion" stage of Moroccan industrial development. In effect, average annual investment rose from DH 240 million in 1965-1972 to DH 1,100 million in 1973-1977, and the share of manufacturing in total investment rose to a peak of 29 per cent in 1977 (15.3 per cent for the public sector and 13.7 per cent for the private sector). Nearly two-thirds of the industrial enterprises active in 1986 were launched in or after 1973.

Induced by economic policies, manufacturing growth progressed during this period at a relatively rapid pace (6.6 per cent per year). This unprecedented rate was permitted initially by the phosphate boom in 1974-1975 and was mainly led by public enterprise investment. The phosphate boom ended in 1975-1976, however, and the former terms of trade gains were reversed. The investment programme was nevertheless continued and financed by increased foreign borrowing, grants and large public sector deficits.

The ensuing excessive increases in both the balance of payments deficits and budget deficits made it necessary to restrain domestic demand from 1978 onwards as part of the 1978-1980 stabilization plan. The rate of growth in the manufacturing sector decreased to 2.9 per cent per year.

The more liberal investment code which was issued in 1983 established the new export-oriented industrialization strategy. The promotion policies applied by the Government since then seem to have had positive effects on manufacturing activities. A World Bank report^{2/} indicates that, from 1977 to 1985, "outward-oriented industries had grown at relatively higher rates than import substituting industries. This finding is clearly linked to the export-promoting policies which have occurred since 1983...".

1/ Ministère du Commerce et de l'Industrie, Evolution et Perspectives des Industries de Transformation, Oct. 1988.

2/ World Bank, Morocco; the Impact of Liberalization on Trade and Industrial Adjustment, Washington 1988.

4.2 General trends and structure

In 1987, manufacturing output was estimated at DH 71 billion in current prices, compared to DH 49 billion in 1984.^{1/} This gives an annual growth rate of over 11 per cent. When a production index based on constant 1978 prices is used (see table 4.2.1), growth over the 1984-87 period was 2.5 per cent annually, with 4 per cent annual growth in 1985-86 and 1986-1987. In 1987, total MVA was DH 21 billion (current prices); the average annual MVA growth rate over 1984-1987 was 18.7 per cent. Fast growth during recent years has not yet compensated for the effects of slow growth during earlier years: manufacturing's share in GDP decreased from 17.5 per cent in 1981 to 15.6 per cent in 1987.

As Table 4.2.1 shows, growth has been concentrated in four branches: food products, textiles, electrical equipment and chemicals. The latter two have been the fastest growers, with the 1987 index for chemicals at 260 and for electrical equipment at 154 (1978=100). However, neither of these branches is very important yet,^{2/} and much of the overall growth in the manufacturing sector is therefore due to growth in the food products and textiles industries. The production index of the former stood at 137 in 1987, the index of the latter at 125. Some of the smaller branches - timber and wood processing, the various metal-processing branches (transport equipment, metalworking, other metal products) - show almost continuous decline, although the situation in the metal-processing branch stabilized during 1986-1987. The unsatisfactory performance of the various metal-processing branches is puzzling. A World Bank source,^{3/} using a somewhat different categorization, suggests fast growth in the transport equipment and basic metals industries during 1981-1985: the latter industry exhibited an annual growth of its share in total output of no less than 19.3 per cent. Unfortunately, the available data do not allow a definite statement with regard to the actual trends (downwards or upwards) in production in these branches, which are likely to be of key importance for the future development of the sector.

Table 4.2.1 does not show the present weights of the various branches in total manufacturing production. Since 1978, there has been a shift in the contribution of the various branches, as the table already indicates. In 1987, according to UNIDO figures, the agro-food subsector (comprising food products, beverages and tobacco) contributed 35 per cent of total output and 36 per cent of MVA. Chemicals (presumably including phosphate products - see footnote 2) accounted for 32 per cent of output and 29 per cent of MVA.

1/ Banque Al Maghrib, Rapport Annuel 1987.

2/ In the case of chemicals, the very important phosphate derivatives industry seems to have been excluded from the table. UNIDO data for selected years suggest that the chemicals subsector, when phosphate products are included, is the second most important subsector (after agro-processing) at present.

3/ World Bank, op.cit., p.53.

Table 4.2.1: Indices of production of manufacturing sector,

1981 to 1987
(1978 = 100)

	Weight	1981	1982	1983	1984	1985	1986	1987
Total manufacturing	1,000	107	110	116	114	116	120	124
Food products	233	115	117	125	127	125	124	137
Beverages and tobacco	181	103	96	101	108	107	106	109
Textiles	116	94	109	113	100	120	130	125
Tanning and leather footwear	23	117	145	136	141	137	140	110
Timber and woodworking	24	113	106	104	114	105	98	88
Paper and board	26	117	110	114	101	107	107	112
Processed quarry products	81	116	119	119	106	107	105	106
Metalworking industries	7	117	107	118	114	100	85	89
Other metal products	84	90	83	88	79	73	59	61
Transport equipment	55	63	62	61	35	56	53	55
Electrical and electronic equipment	24	114	129	128	113	128	146	154
Chemicals and paracheical	99	137	161	195	206	198	240	260
Rubber and plastic manufactures	47	84	84	83	80	82	88	84

Source: Ministère du Plan.

Textiles and clothing come next, with a 17 per cent share for both output and MVA. The same UNIDO data suggests a rapid increase in the MVA shares of the agro-industrial subsector, and a decrease in the MVA shares for the chemical industries since 1981. Although its output share is decreasing, the agro-industrial subsector has gained through the manufacturing of products with higher value added.

In 1987, the highest MVA/employee ratios were found in the agro-industrial subsector (see table 4.2.2), followed by the metal and electrical products subsector. The figures for agro-processing are well above the overall average. The lowest figure was found in textiles and leather. There has been an increase in MVA/worker in all subsectors during 1981-1987, but the increase was strongest for metal and electrical products, followed by agro-processing. The MVA/worker figures again confirm the importance of the agro-processing industry in the development of the Moroccan manufacturing sector.

Table 4.2.2: Value added per employee in manufacturing sector
(in thousands of current dirhams)

Subsector	1981	1983	1985	1987
Agro-processing	56	64	66	87
Textiles/clothing	22	24	29	32
Chemicals	64	85	68	79
Mechanical and metallurgical; electrical and electronic	45	62	29	81
TOTAL average	80

Source: Ministère du Commerce et de l'Industrie.

4.3 Employment and firm size

In 1987 some 320,000 persons were employed in the manufacturing sector, of which 190,000 were in modern manufacturing firms. This implies that there is a sizeable traditional, artisanal sector; information on this sector, however, is very scarce. Seasonal labour accounted for some 18 per cent of total manufacturing employment. Nearly 60 per cent of the seasonal workers were employed in the agro-processing subsector; the remainder is employed mainly in the textiles and garments subsector. Real wages in manufacturing decreased by some 6 per cent between 1980 and 1986 and have helped to make Moroccan manufactured exports more competitive.

The employment structure of the manufacturing sector by major subsectors in 1987 is indicated below:

Table 4.3.1: Structure of employment by major subsectors, 1987
(percentage)

Subsector	1981	1983	1985	1987
Agro-processing	20	21	20	27
Textiles/clothing	35	34	36	35
Chemicals	28	28	27	24
Mechanical and metallurgical; electrical and electronic	17	17	17	14
TOTAL	100	100	100	100

Source: Ministry of Industry.

The available data referring to firm size show that small-scale industry is predominant when one looks at the total number of enterprises. Enterprises with a turnover of less than DH 1 million, however, only accounted for 1.4 per cent of industrial output and for 7 per cent of employment in 1987. Those with a turnover of over DH 20 million, on the other hand, accounted for 56 per cent of employment and 32 per cent of output, although they represent only 14 per cent of the total number of firms.

Classifications of firms according to number of employees contain more detail. In 1985 68 per cent of the 4,000 Moroccan manufacturing firms employed 5-33 persons. These firms accounted for 14.3 per cent of total employment in the sector. Their contribution to output was much lower, amounting to 8.8 per cent, and their contribution to exports was only 7.4 per cent. On the other hand, the 250 firms employing more than 190 persons (their share in the total number of enterprises was 6.2 per cent) accounted for 44.5 per cent of total employment, almost 60 per cent of output and over 70 per cent of manufactured exports.

Large establishments are typical of the chemicals, transport equipment and textile (spinning, weaving) industries; in the agro-industries subsector, large-scale manufacturing is predominant in the beverages and tobacco products branches. Otherwise, the size distribution of companies within branches is well spread and is not skewed. In some cases (chemicals, transport equipment), the smaller enterprises serve as subcontractors or suppliers to larger units, but this does not appear to be common for industry as a whole.

The Moroccan Government has introduced a number of support measures for small- and medium-scale industry (SMI). As the above figures indicate, output in the smallest enterprises (those with less than 34 workers) was well below average in 1987. Therefore, the productivity in these firms will have to be raised if the small-scale sector is to make a greater contribution to manufacturing development, as intended by the Government.

4.4 Geographical distribution of industrial activities

The Région du Centre, of which Greater Casablanca is a part, has the largest concentration of industrial activities in the country. It accounts for two thirds of the total number of enterprises, 60 per cent of Morocco's manufacturing output, 40 per cent of exports and 60 per cent of employment. The second most important region is the north-west, in terms of share in the total number of firms and the share in total output (20 and 18 per cent, respectively). The Tensift region comes third. Here, most manufacturing is concentrated in Safi province, where phosphate processing is located. Fish canning is also an important industry. These two industries in Safi combined account for 45 per cent of Morocco's manufacturing export earnings, although the number of firms and the contribution to total production is small.

The most diversified industrial structure is found in the Casablanca area, where the full range of manufacturing branches is represented, including a considerable part of the important food-processing industries. In the north-west, which has been growing more rapidly than the Casablanca area in recent years, the food products, textiles and tobacco products branches stand out. As indicated above, manufacturing in the Safi province centres on phosphate derivatives and fish canning.

The impact of the other regions on manufacturing development is rather limited at the moment. The Moroccan Government is trying to encourage industrial decentralization, especially location outside the Casablanca area. It uses a variety of credit schemes, subsidies and tax privileges to achieve this. The ODI is promoting a number of industrial estates (zones industrielles) outside the Casablanca area. Twenty of these have been completed so far; a total of 35 is to be established.

Agro-industry is to be expanded to improve employment prospects in the rural areas, especially in areas where there is ample food supply but no industrial base. In view of the many different climatic regions of the country, specific agro-industries can be established in various areas. In the north-west region, for instance, the Gharb zone is important for sugar cane, sunflower and beets, as well as for intensive breeding. In the Er-Rachidia and Ouarzazate regions, dates are the major product in areas of virtually no industrialization but with relatively large populations. It is in such areas that the Government is encouraging new industries to establish themselves.

Table 4.4.1: Regional distribution of investment
(by investment code zones^{a/})

	1979	1983	1985
Zone I	50.1	22.5	9.0
Zone II	4.5	29.4	41.0
Zone III	39.4	38.4	35.7
Zone IV	6.1	9.8	14.1
Zones I and II	54.6	51.9	50.0

Source: Ministry of Industry and World Bank.

a/ The country is divided into four zones: I - Casablanca-Anfa; II - Mohammedia, Ben-Slimane; III - Rabat, Salé, Kenitra, Fes, Marrakech, Meknès, Safi, Tanger, Ictaran; and IV - all other provinces.

The success of the plans and measures to redistribute manufacturing seems rather limited so far. The most conspicuous shift in industrial investment per development zone (see table 4.4.1) has been from Casablanca-Anfa (zone I) to Mohammedia-Ben Slimane (zone II), a "suburbanization" of industrial investment, so to speak, which can be witnessed in congested areas everywhere in the world. Admittedly, zone IV (the peripheral provinces) has seen its investment share more than doubled over the 1979-1985 period, but these provinces still accounted for no more than 14.1 per cent of total investment in 1985. A review of the locational aspects of the investment code may be needed to make its contribution to the diffusion of manufacturing development more substantial.

4.5 Ownership and investment

Total equity capital in the Moroccan manufacturing industry amounted to DH 12 billion in 1987, an increase of 5.4 per cent over the previous year. The private sector owns 55 per cent of equity; the public sector and foreign investors own 31 per cent and 14 per cent, respectively.

France predominates among foreign investors, with almost 45 per cent of total foreign-owned equity in 1987. All EC countries combined held 60 per cent of this total. Foreign investors are mainly involved in the building materials, chemicals, textiles and garments and electrical goods industries.

Altogether, some 100,000 Moroccans worked in industrial enterprises that were partly foreign-owned. Most of these are to be found in the large-scale sector, as defined above (more than 190 employees and/or DH 20 million turnover). These enterprises produced 31 per cent of gross output and 28 per cent of total manufactured exports. Foreign ownership, in other words, has a large impact on development in the manufacturing sector, but it does not play a conspicuous role in agro-processing.

Enterprises which are wholly or partly owned by the Government contributed 29 per cent of gross output in 1987. The great majority of these are to be found in agro-processing (tobacco, sugar) and in the chemicals industry. Other industries in which government ownership plays a role are paper and pulp, petroleum refinery, cement and metal products and machinery. Large-scale enterprises predominate. Some of the firms are jointly owned with foreign investors.

In the absence of similar information on private ownership, it may be concluded, on the basis of the above and of what has been said about manufacturing in general in previous sections, that the private sector is characterized by relatively small enterprises and a predominance of agro-processing. The characteristics of this subsector will be analysed in more detail in chapter 5.

With regard to industrial investment trends, there has been continuous growth from 1983-1986 (average annual increase: approximately 25 per cent), followed by a 9.5 per cent drop in new investment in 1986-1987. Total 1987 investment was DH 3.5 million. The decrease was strongest in the chemicals subsector (-20.6 per cent); the metal products and machinery subsector and the agro-processing subsector also showed double-digit decreases. Growth continued in the textiles and leather subsector, and resumed (after a decrease in 1985-1986) in the electrical products subsector.

In the absence of sufficiently detailed information it is difficult to interpret the different trends at the subsectoral level. Generally speaking, however, it would seem that the expansion of manufacturing activities is becoming more a matter of increasing employment than increasing investment. Between 1983 and 1986, there had been a steady increase in industrial employment which, however, was slower than the increase in investment. But during 1986-1987, when new investment decreased, the number of newly created jobs jumped from 34,800 to 54,200. This would substantiate the hypothesis formulated in the World Bank document quoted in chapter 3^{1/}, that reforms have succeeded in removing the policy bias in favour of capital-intensive industries, and are stimulating the use of Morocco's present comparative advantage in cheap labour.

4.6 Trade in manufactured products

The process of trade liberalization, described in chapter 3, has had a strong influence on patterns of trade as a whole and on trade in manufactured products in particular. Manufactured products have continuously increased their share in total exports, and represented 50.4 per cent of exports in 1987. At the same time, however, the share of manufactured goods in imports also grew (see tables 2.2.1, 2.2.2).

Table 4.6.1: Evolution of the trade deficit for manufactured products

by category of goods, 1983 to 1987
(in millions of dirhams)

	1983	1984	1985	1986	1987
Foodstuffs	-475	-673	-113	-127	+203
Semi-manufactures	-1,157	-1,363	-2,136	-2,558	-2,592
Capital goods	-4,774	-6,333	-6,367	-7,832	-7,066
Consumer goods	+402	+746	+930	+1,046	+1,787
TOTAL	-6,002	-7,623	-7,686	-9,471	-7,668

Source: Based on data of the Office des Changes.

As Table 4.6.1 shows, there was an increasing trade deficit for manufactured goods^{2/} between 1983 and 1986, with a recovery in 1987. The totals are the result of two opposing trends. In the foodstuffs and consumer goods categories, Morocco has consistently improved its position. In the case of foodstuffs, this was in some years the result of decreasing imports rather than increasing exports. The deficit in trade in semi-manufactured and capital goods has worsened continuously. The major increase in the former category is in the unspecified category "others", but in the case of capital goods, the major cause of the increasing deficit is industrial equipment imports, which increased by DH 3 billion over the 1983-1986 period, and then

1/ World Bank, op.cit., p.11-12.

2/ The table excludes energy products, as Morocco's trade in these largely consists of crude oil imports. The category foodstuffs may include small amounts of unprocessed food.

decreased by DH 750 million in 1986-1987 (see annex table 3) - another indication of the slowdown in the growth of capital-intensive manufacturing.

Exports of finished manufactures rose by over 11 per cent per year on average during the 1983-1986 period, compared to an annual average of 2 per cent in 1980-83. This upward trend continued in 1987 with exports of finished manufactures growing by over 20 per cent in real terms.

The merchandise trade figures do not include exports of goods produced by firms that are subcontractors of foreign firms. These are mainly exports of clothing and electronics, and the products are highly labour-intensive. The share of these exports in total exports rose from 1.3 per cent in 1980 to 6.9 per cent in 1985. This is an indication of the success of efforts towards labour-intensive manufacturing.

Looking now at the composition of manufacturing exports (table 4.6.2), it appears that performance has varied considerably across individual industries. Processed food exports declined between 1980 and 1985 with a strong upturn in 1986, while electrical products and clothing have exhibited particularly robust growth throughout. The vigorous growth of chemical products exports, which are mainly phosphate products, ended in 1984. At present, non-traditional manufactures (excluding phosphate derivatives) account for over 30 per cent of total exports, compared to approximately 20 per cent in 1983, whereas the share of phosphates and derivatives has fallen from 45 per cent to 34 per cent over the same period. This illustrates the extent of export diversification which has occurred since 1983.

The contractionary economic policies that have helped to control the growth of total imports have had less of an impact on the growth of manufactured imports. The overall growth of manufactured imports during 1983-1987 was 64 per cent, with a noticeable slow-down in 1986-1987 (see table 4.6.3). The most conspicuous growth has taken place with regard to imports of consumer goods, which expanded by 2.3 times during 1983-1987. Imports specifically intended for the manufacturing sector - intermediates and most of the capital goods - showed growth rates of 52 per cent and 66 per cent, respectively. The decrease in capital goods imports in 1986-1987 has already been the subject of earlier comment.

Morocco's major trading partner, the Economic Community, is also the most important importer of Moroccan manufactures. But whereas in 1985 the EC's share in total Moroccan exports was over 50 per cent, the share in manufactured exports was 43 per cent. Although most Moroccan exports qualify for preferential treatment in the EC, and although the quota for Moroccan textiles are relatively generous, the country has been looking for ways to diversify its export markets. Since 1983, there has been an increase in exports of manufactured goods to developing countries, which now account for 36 per cent of total manufactured exports. A continuation of the export diversification strategy should benefit the long-term development of the manufacturing sector, as the EC market potential is not unlimited. There has, however, been little change with regard to sources of imports, with France still being the most important single supplier of manufactured goods.

Table 4.6.2: Value of manufactured exports by sector
(in thousands of US dollars)

	1983	1984	1985	1986
Food	176,449	171,860	191,861	251,861
Beverages and tobacco	6,463	5,477	4,664	5,687
Textiles	155,307	152,729	162,283	221,442
Clothing	114,314	138,273	151,148	216,015
Leather footwear	41,801	37,982	44,859	57,327
Wood and wood products	15,975	14,289	13,704	17,424
Paper/cardboard and printing	18,610	24,839	17,512	29,738
Non-metallic mineral products	5,064	4,241	4,238	7,163
Basic metals and industry products	8,111	10,065	9,635	8,013
Metalworking	6,575	7,093	8,443	7,965
Mechanical equipment	2,724	2,732	2,398	5,851
Electrical and electronic products	6,704	7,407	8,125	15,695
Office machines, precision instruments, watches, etc.	437	168	633	321
Chemical products	439,657	500,879	454,948	457,098
Rubber and plastics	3,461	4,750	5,212	6,342
Other manufactured products	9,238	12,2378	16,596	18,186
TOTAL	1,010,890	1,095,162	1,096,259	1,325,528

Source: Office des Changes.

Table 4.6.3: Value of manufactured imports, 1983-1987
(in millions of dirhams)

	1983	1984	1985	1986	1987
Food products	1,964	2,493	2,527	2,844	2,534
Intermediate inputs	4,934	6,494	7,423	7,527	8,194
Capital goods	4,854	6,460	6,533	8,248	7,363
Consumer goods	1,773	2,092	2,758	3,470	4,110
TOTAL	13,525	17,539	19,241	22,089	22,201

Source: Annex table 2.

4.7 Linkages

Recent input-output tables that would allow a detailed analysis of linkages are not available. However, an analysis of import contents based on 1978 input-output tables is available, and this analysis gives an impression of the extent to which the manufacturing sector has domestic linkages. It should be noted that import dependency is related to a number of factors (technological choice, domestic agricultural performance, and so forth) which will change over time. The figures in table 4.7.1 should therefore be interpreted as indicating orders of magnitude only - they are unlikely to give an exact picture of branch-level import dependence in the late 1980s.

The lowest import contents are found in the beverages and tobacco and leather and footwear branches; domestic inputs represent four fifths of the value of production. Relatively low figures are also found in other food industries and clothing. The other food industries include key export industries such as vegetable and fish canning, and it can therefore be said that the major export-oriented industries rely strongly on the domestic resource base. One implication is that the success of Morocco's industrial export drive depends to a considerable extent on a strong agricultural sector that has good linkages with industry. The highest degree of import dependence (and therefore the lowest degree of domestic linkages) is found in the various branches producing metal and electrical products. In the machinery branch, over 80 per cent of the value of production can be traced to imports.

The indirect import contents show the extent to which production in one branch generates a need for products from other manufacturing branches that are based on imports. In a way, these figures therefore show inter-industry linkages. In the case of clothing, for example, the indirect import contents are far higher than the direct contents. The most probable explanation is that the branch buys inputs (cloth) from the textiles branch, which again shows a relatively high direct import content. The highest indirect import contents figures are found in the "other" industries, metalworking, electrical products, non-metallic minerals and wood and furniture. In the food products subsector, the figures are relatively low. The branches in that subsector are, in other words, mainly linked to the domestic agricultural sector.

Table 4.7.1: Import content by branch 1978

	Import contents ^{a/}		Total
	Direct	Indirect	
Flour, sugar and bakeries	0.287	0.086	0.373
Other food industries	0.165	0.081	0.246
Beverages and tobacco	0.085	0.060	0.145
Textiles	0.221	0.108	0.329
Clothing	0.070	0.144	0.214
Leather and shoes	0.70	0.117	0.187
Wood and furniture	0.273	0.215	0.488
Paper and paper products	0.163	0.084	0.247
Non-metallic mineral products	0.162	0.154	0.316
Metallurgy	0.672	0.064	0.736
Metalworking	0.256	0.177	0.433
Machinery	0.748	0.112	0.860
Transport equipment	0.589	0.131	0.720
Electrical products	0.556	0.181	-.737
Office machinery, measure inst.	0.546	0.072	0.618
Chemicals	0.346	0.077	0.423
Rubber and plastics	0.391	0.064	0.455
Other industries	0.325	0.240	0.565

Source: World Bank, Morocco, Industrial Incentives and Export Promotion, Washington 1984. Calculations based on the 1987 preliminary input-output table for Morocco.

a/ Imports generated by one dirham of production in each sector.

4.8 Capacity utilization and production constraints

A 1988 study^{1/} indicates that overall capacity utilization had gone down from 66 per cent to 60 per cent over the 1984-1987 period. The 1987 capacity utilization rates in percentages by sub-sector were:

Agro-industries	64
Textiles and leather	55
Chemicals	63
Metal products	50
Electrical goods	46

1/ Ministère du Commerce et de l'Industrie, Situation des Industries de Transformation. Exercice 1987, Rabat 1988.

In individual branches, capacity utilization was highest (80 per cent or more) in sugar products, pulp, wooden panels^{1/} and industrial equipment. The lowest figures (below 30 per cent) were found in structural steel and pesticides. Low figures are quoted for vegetable and fish canning (42 per cent) and garments (49 per cent). This seems surprising, given the prominent and successful role of these industries in export markets. (The beverages, tobacco and miscellaneous food products branches, which also export a considerable part of their products, have utilization rates of 72-74 per cent.) What are the problems that lie at the root of these low utilization rates?

The most important overall constraints mentioned by industrial entrepreneurs are:

- insufficient domestic demand (in unspecified industries producing for the home markets);
- shortages of imported inputs and intermediates, which are often caused by delays in obtaining foreign exchange;
- difficulties in obtaining credit for manufacturing firms;
- high energy costs (among the major industries, this is especially a problem of textiles);
- shortages of qualified employees of the middle level;
- shortcomings of industrial services such as transport, maintenance insurance and export insurance in particular.

The most commonly quoted bottleneck is the delay in obtaining the foreign exchange for imported inputs, which usually amounts to 90 days according to the World Bank study quoted before. Virtually all enterprises are therefore constrained to hold stocks of imported inputs at levels higher than would otherwise be necessary; this pushes up financial costs, which again lowers competitiveness.

Moroccan importers are currently required by foreign suppliers to open letters of credit confirmed by correspondent banks. Unlike large enterprises which have high credit-worthiness and good connexions with the central bank and foreign suppliers, medium-sized or small firms encounter great difficulties in obtaining such letters of credit.

Other measures, such as deposit requirements for imports, increasing lending rates and authorizations to seek credit abroad to pay foreign suppliers, are also likely to discriminate against the smaller firms, with their limited financial means and credit-worthiness.

The constraints outlined above would, to an extent, also explain the low capacity utilization rates in some of the major export industries, such as the relatively small-scale vegetable-processing industries. Transport and export insurance problems may keep enterprises from exporting as much as they could,

^{1/} Wood products are included with the chemicals subsector.

which again may force them to reduce production. Delays in the delivery of essential imports (an estimated one fourth of the inputs used in food processing is imported) may result in drastic production cuts.^{1/} But another reason may be the very fast growth of capital stock over the past years. If markets do not expand fast enough, and if the industrial infrastructure and the supply of middle level personnel are not keeping pace with the expansion of manufacturing capacity, then it is only logical that plants cannot operate at full capacity. Unfortunately, the available information does not allow specific explanations for separate industries.

Finally, the traditional structure of Moroccan business is a constraint on manufacturing development as a whole. As pointed out before, tight family structures and concentration on commercial activities, with their relatively rapid gains, are not conducive to industrial development, which requires both social dynamism and long-term investments.

The traditional business structures, with their deep cultural and social roots, will probably take a long time to change. The Moroccan manufacturing sector is nevertheless going through a process of rapid development, the basis for which has been laid by the reforms of the 1980s. The remaining imbalances seem to a large extent related to trade policy. Further adjustments in trade policy will contribute to stable manufacturing growth in the future.

^{1/} The import dependency of the machinery industry is more than three times as high as that of the food industry - yet this industry attains very high capacity utilization rates.

CHAPTER 5

FOCUS ON AGRO-RELATED INDUSTRY

5.1 Introduction

The role of agro-related industries in economic development has become increasingly recognized. The backward linkage effects of these industries serve as a strong stimulus to agricultural growth and development. Since most of the inputs for agro-industry are produced domestically, the drain on foreign exchange tends to be smaller than in other industries. The forward linkages are also important, as these industries produce key outputs for agricultural growth. In addition to their great export potential, agro-industries also meet the needs of domestic consumers by providing a greater variety of goods over longer time intervals than is possible with unprocessed foods.

Agro-related industries occupy a particularly important position in the Moroccan economy. Agro-industry firms satisfy a large part of the domestic market for basic consumer goods, and help to sustain the demand for local agricultural and animal products. Agro-industry accounts for nearly 30 per cent of all firms and employs about 20 per cent of all workers in the manufacturing sector. In comparison with the manufacturing sector as a whole, agro-industry has kept pace with the rate of growth in production and has exceeded the rate of growth in value added. It also has served as a major source of Morocco's foreign exchange earnings.

The Government of Morocco has shown a particular interest in encouraging the growth of agro-industry as part of its programme of decentralization and rural development. It has sought to improve employment prospects in rural areas, especially where agricultural products provide the basic raw materials for the growth of agro-industry. It also has recognized the importance of agro-industry in building-up an industrial tradition, together with the associated technical and managerial skills for sustained progress in industry.

In order to increase the contribution of agro-industry to overall economic growth, the Government of Morocco in recent years has sought to persuade local agro-industrial firms to substitute local food and raw materials for imported food, and to encourage the social and economic development of the collectives and farmers which supply the raw materials to agro-industrial firms.

5.2 Characteristics of the agro-industry subsector

5.2.1 Size

In 1987, the agro-industry subsector numbered 1,354 firms, of which 83.6 per cent had been established since 1961, amounting to 20 per cent of the total number of manufacturing companies. The growth in the number of agro-industrial firms, 6.7 per cent between 1986 and 1987 (from 1,269 to 1,354) was slightly more than that in the total of manufacturing enterprises (6.2 per cent - see table 5.2.1)

Table 5.2.1: Changes in the number of agro-industrial & manufacturing firms
1986-1987

	1986	1987	Percentage change
Manufacturing sector firms	4,354	4,624	+6.2
Agro-industry subsector firms	1,269	1,354	+6.7
Agro-industries as percentage of all industrial enterprises	29.1	29.3	+0.6

Source: Administration de l'Industrie, Secteur des Industries Agro-Alimentaires. Rabat

5.2.2 Employment in agro-industry

The number of permanent employees in the agro-industry subsector has increased by approximately 31 per cent between 1981 and 1987, compared with 34 per cent in the entire manufacturing sector (see table 5.2.2)

The permanent employment in the agro-industry subsector has registered a annual growth of approximately 5.8 per cent during that period, which was also higher than the growth of employment in all the manufacturing industries, 4.5 per cent annually, apart from a temporary stagnation in 1986-1987.

Table 5.2.2: Changes in the number of permanent employees in manufacturing sector & agro-industry, 1981-1987

	1981	1983	1985	1986	1987
Permanent employees in manufacturing sector	193,827	206,398	224,361	241,795	260,461
Permanent employees in agro-industry subsector	38,394	44,319	45,326	50,027	50,327
Employees in agro-industry as percentage of manufacturing	19.8	21.5	20.2	20.7	19.3

Source: Administration de l'Industrie, op.cit.

In addition to the permanent employees of agro-industries, another 35,000 persons were employed in agro-industry on a seasonal basis in 1987, which accounts for 58 per cent of the 60,000 seasonal workers hired in the manufacturing sector. Seasonal workers thus account for 41 per cent of all

85,000 persons who were employed in the agro-industry branch in 1987, but account for only 18 per cent of workers in the manufacturing sector as a whole.

Table 5.2.3 indicates the creation of new employment was lower in the agro-industries than in the manufacturing sector.

Table 5.2.3: New employment in agro-industry and manufacturing sector,

	<u>1981-1987</u>				
	1981	1983	1985	1986	1987
New employment in manufacturing sector	24,584	26,500	30,573	34,768	54,158
New employment in agro-industry subsector	4,149	6,880	4,295	4,473	4,235
New employment in agro-industry as percentage of manufacturing	16.9	26.0	14.0	12.9	7.8

Source: Administration de l'Industrie, op.cit.

With the exception of 1983 the creation of new employment stagnated in agro-industries and this is reflected by the decrease of the share of new agro-industry employment in the total employment of the manufacturing sector from 16.9 per cent in 1981 (and 26 per cent in 1983) to 7.8 per cent in 1987.

The number of permanent employees was approximately one third less in agro-industrial enterprises than in the other manufacturing companies in 1986 and 1987 (see table 5.2.4), slowly decreasing in this period.

Table 5.2.4: Permanent employment per firm in manufacturing and agro-industries, 1986-1987

	1986	1987	Percentage change
Manufacturing sector	55.5	56.3	+ 1.4
Agro-industry	39.4	37.2	- 5.6

Source: Administration de l'Industrie, op.cit.

In terms of the total number of employees there is a much smaller difference between agro-industry and the manufacturing sector as a whole. In 1987, for example, agro-industry firms hired an average of 63.6 employees (37.2 permanent and 25.4 seasonal) per company, compared with 69.6 employees (56.3 permanent and 13.0 seasonal) per firm in the manufacturing sector. Employment of seasonal employees per firm was double that in agro-industries.

5.2.3 Investment in agro-industry

According to table 5.2.5 agro-industrial investments increased irregularly between 1981 and 1987 from DH 304 million to DH 649 million, the average annual investments over the period amounting to DH 706.6 million.

Table 5.2.5: Investment in agro-industry, 1981-1987
(in millions of current dirhams)

	1981	1982	1983	1984	1985	1986	1987
Manufacturing sector	1,510	2,681	2,266	2,778	2,832	3,546	4,692
Agro-industries	304	849	949	553	672	970	649
Investment in agro-industry as percentage of manufactur- ing sector	20.1	31.7	41.9	19.9	23.7	27.4	13.8

Source: Administration de l'Industrie, op.cit.

The investments in the manufacturing sector increased substantially and regularly with an average of 21 per cent per year during the last seven years. The share of agro-industries in the global investment, however, decreased over this period.

5.2.4 Trends in production and value added

The agro-industries accounted for about one third of the global production of the manufacturing sector since 1981 (see table 5.2.6).

The value added of agro-industries more than tripled between 1981 and 1987 (see table 5.2.7), in spite of the decrease in 1983. The global value added of the manufacturing sector increased more slowly between 1981 and 1987 (2.4 times only). This accounts for the increase of the share of agro-industries in the global value added of the manufacturing sector, from a quarter in 1981 to over one third (35.8 per cent) in 1987.

The productivity of agro-industries (see table 5.2.8) was much higher than that of the manufacturing sector, leading to the reinforcement of the position of the agro-industries within the Moroccan economy.

The average productivity of the employee of the agro-industry subsector was 1.2 times that of the average productivity of the employee of other manufacturing industries in 1981 and 1.8 times higher in 1986 and 1987.

In 1987 the productivity of agro-industries was 166 per cent higher than in 1981 (value added per employee: 56 in 1981 and 149 in 1987), while the productivity of the manufacturing sector increased by only 77.8 per cent during the same period (45 in 1981 and 80 in 1987).

Table 5.2.6: Production in agro-industry and manufacturing sector,

	<u>1981-1987</u>						
	(in millions of current dirhams)						
	1981	1982	1983	1984	1985	1986	1987
Production in manufacturing sector	31,994	37,051	42,057	49,467	59,930	66,908	71,541
Production in agro-industry subsector	11,685	13,311	15,513	16,918	19,492	23,076	25,368
Agro-industry production as percentage of manufacturing	36.5	35.9	36.9	34.2	32.5	34.5	35.5

Source: Administration de l'Industrie, op.cit.

Table 5.2.7: Value added in agro-industry and manufacturing sector,

	<u>1981-1987</u>						
	(in millions of current dirhams)						
	1981	1982	1983	1984	1985	1986	1987
Manufacturing sector	8,629	10,113	11,566	12,468	15,019	17,855	20,928
Agro-industry subsector	2,157	3,605	2,818	3,554	5,018	6,537	7,494
Agro-industry as per cent of manufacturing	25.0	35.6	24.4	28.5	33.4	36.6	35.8

Source: Administration de l'Industrie, op.cit.

Table 5.2.8: Value added in agro-industry and manufacturing industry,

	<u>1981-1987</u>						
	(in thousands of current dirhams)						
	1981	1982	1983	1984	1985	1986	1987
<u>Value added per employee</u>							
Manufacturing sector	45	53	56	57	67	74	80
agro-industry subsector	56	90	64	71	110	131	149

Source: Administration de l'Industrie, op.cit.

5.2.5 Ownership pattern

About 35 per cent of the capital of agro-industrial companies is public, compared with 47 per cent for manufacturing as a whole. Within agro-industry, the rate of public participation varies considerably, ranging from 67 per cent for flour, sugar and baked goods, to 23.3 per cent for beverages, and 15.5 per cent for canned vegetables and fish.

No separate figures are available for distribution of foreign capital in the agro-industry branch, but the UNIDO mission estimates that it is as high as it is for manufacturing industry in general, and that the general trend toward privatization also applies here.

5.2.6 Agro-industry exports and imports

Table 5.2.9 presents data on exports and imports in two parts, relating respectively to the manufacturing sector as a whole and to the agro-industry subsector. The table indicates that the agro-industry subsector accounts for a smaller and steadily decreasing share of the foreign trade deficit in the manufacturing sector as a whole; the agro-industry export deficit declined during the period 1981 to 1986, and in 1987 turned into an export surplus. Another way of expressing this favourable trend is that coverage of imports of agro-industries by the exports amounted to 146.4 per cent in 1987, which was more than twice as much than the coverage of the manufacturing sector as a whole, amounting to 164 per cent.

Table 5.2.9: Manufacturing sector and agro-industries imports
and exports, 1981-1987
(in millions of current dirhams)

	1981	1982	1983	1984	1985	1986	1987
<u>Manufacturing sector:</u>							
Exports	4,852	5,523	7,361	10,198	11,365	12,918	15,334
Imports	12,690	15,635	14,639	19,178	21,328	23,815	23,922
Net exports (imports)	(7,838)	(10,112)	(7,278)	(8,980)	(9,963)	(10,897)	(8,588)
<u>Agro-industry subsector:</u>							
Exports	876	999	1,179	1,498	1,956	2,337	2,930
Imports	2,331	2,200	1,780	2,451	2,720	2,626	2,001
Net exports (imports)	(1,455)	(1,201)	(601)	(953)	(764)	(289)	929

Source: Banque Marocaine du Commerce Extérieur.

The improvement in the balance of trade of the agro-industry subsector came about largely through the maintenance of a relatively stable level of imports, throughout a period when agro-industry exports rose at a slightly more rapid rate than the manufacturing sector as a whole. The agro-industries covered 18 per cent of the global exports and imports of the manufacturing sector in 1981. Their share in the exports of manufactured products increased slightly to 19.1 per cent in 1987, while their participation to imports decreased to 8.4 per cent.

5.2.7 Linkages

The linkages between agricultural production and agro-based industries is poorly developed. Some agro-industries are poorly linked with other related industries, and thus do not have a dynamic effect on them. Some of the export-oriented agro-industries, such as fish- and vegetable-canning, are linked with raw material sources and the packaging industry, while the margarine industry, for example, has practically no linkage with vegetable oils (importing up to 90 per cent of its needs).

The general problem results from the distinctly different characteristics of demand relating to goods destined for the domestic and export markets. Production for the domestic market satisfies traditional consumption needs, which provides little incentive for value-added processes or for diversification. Export-oriented products are much more likely to involve value added through industrial processes.

The output of Morocco's food industry is highly dependent on the level of consumption. For 20 years the Moroccan food industry has continually focused its activity on the same market, with habitual foreign customers purchasing the same products. The static level and type of market demand has thus had little effect on stimulating agro-industry, which in turn gives little stimulus to agricultural production.

5.2.8 Major problems and constraints

Major problems are related to the relatively low rate of the utilization of production capacity caused by irregular supply of raw material, non-modernization of equipment and low efficiency of the production.

There is not a sufficient linkage between agriculture and industry to give confidence to either the suppliers or purchasers of agro-industry raw materials that their respective needs will be met.

There is insufficient quality control over production processes and finished products, especially for the fats and oil, sugar and canning industries.

5.3 Profile of food-processing branch

5.3.1 General trends and structure

Within the agro-industries subsector, the food products branch is the most important. Most of Morocco's agro-industrial exports, such as canned fish, fruit and vegetables, are supplied by this branch. It also provides a wide range of basic needs goods to the domestic market. The importance of

the branch was stressed during the mission's discussions with the Ministry of Industry, the Ministry of Agriculture and other institutions. Therefore, the food-processing branch has been chosen for further study.

In 1987 the food products branch consisted of 453 firms, which employed 9 per cent of permanent employees in the manufacturing sector. The food-canning sub-branch accounted for 25.9 per cent in quantity and 59.6 per cent in value of the total exports of food products, against 19.5 per cent and 61.4 per cent respectively in 1988. Given the importance of these industries, a vegetable canning factory has been considered for study.

5.3.2 Food-processing branch exports and imports

Table 5.3.1: Export and import of food products 1987-1988

	<u>January-September 1987</u>		<u>January-September 1988</u>		<u>Weight Value</u>	
	<u>(tonnes)</u>	<u>('000 DH)</u>	<u>(tonnes)</u>	<u>('000 DH)</u>	<u>(Percentage change)</u>	
Imports	1,956,864	2,924,873	1,419,256	2,811,087	-27.47	-3.9
Exports	708,797	4,421,076	972,701	4,874,897	37.23	10.3

Source: Banque Marocaine du Commerce Extérieur, Revue d'Informations.

The imports of food products decreased by 3.9 per cent in value and 27.5 per cent in quantity between September 1987 and September 1988 (see table 5.3.1). This decrease was due to the reduction in imports of the following products:

- cereals : reduction of 18.4 per cent, from DH 1,088 million to DH 883 million;
- tobacco : reduction of 11.1 per cent, from DH 276.1 million to DH 245.6 million.

The importation of other food products increased by approximately 7 per cent.

Exports of food products in quantity tripled during the same period and the value of exports increased by 10.3 per cent, mainly due to the increase by 8.3 per cent of the exports of fish preserves (up to DH 561.3), and the rise by 10.1 per cent of the exports of vegetable preserves (up to DH 410.8 million - see table 5.3.2).

The main trading partners of Morocco for the purchase of processed fruits and vegetables are given in table 5.3.3, according to the latest information provided by the Moroccan Bank of Foreign Trade in September 1988.

Table 5.3.2: Food and beverage exports by groups of products, 1987-1988

	<u>January-September 1987</u>		<u>January-September 1988</u>	
	(tonnes)	('000 DH)	(tonnes)	('000 DH)
Citrus fruit	285,268	639,500	342,099	852,339
Canned vegetables	40,300	373,060	42,110	410,785
Fruit/vegetable juice	8,523	77,569	21,414	316,222
Fruit preserves/jam	10,572	91,326	9,472	69,497
Other fruit/vegetable products	153,437	781,724	141,546	716,549
Canned fish	34,848	518,749	36,843	561,263
Other fish products	89,427	1,575,244	79,456	1,637,182
Other food products	86,422	163,904	299,761	311,060
TOTAL	708,797	4,421,076	972,701	4,874,897

Source: Banque Marocaine du Commerce Extérieur.

Table 5.3.3: Principal customers of food and beverage exports,

Sept. 1988

	Weight (tonnes)	Value (DH millions)
<u>Citrus fruit</u>		
France	131,198 (38%)	330.2 (39%)
United Kingdom	40,798 (12%)	102.6 (12%)
Netherlands	35,870 (10%)	89.5 (11%)
Federal Republic of Germany	34,282 (10%)	80.9 (10%)
<u>Canned vegetables</u>		
France	33,636 (80%)	313.4 (76%)
United States	1,635 (4%)	23.9 (6%)
Italy	2,234 (5%)	20.5 (5%)
Federal Republic of Germany	1,434 (3%)	13.7 (3%)
<u>Fruit/vegetable juice</u>		
France	10,203 (48%)	147.6 (47%)
Federal Republic of Germany	8,972 (42%)	126.9 (40%)
Netherlands	1,960 (5%)	36.4 (11%)
United Kingdom	136 (3%)	2.6 (1%)
<u>Fruit preserves/jam</u>		
France	7,990 (84%)	57.7 (83%)
Federal Republic of Germany	550 (6%)	5.0 (7%)
Belgium/Luxembourg	267 (3%)	1.7 (2%)
Switzerland	284 (3%)	1.6 (2%)

Source: Banque Marocaine du Commerce Extérieur.

The exports of preserves and fruit juices are excessively concentrated on three to four countries of the EEC, which absorb over 90 per cent of the total trade in quantity and value. France is by far the major trade partner of Morocco.

5.3.3 Linkages

The food industries have well developed backward linkages with the agricultural sector, while the forward linkages with other industries, such as packaging and chemicals are yet insufficiently developed. The utilization of by-products and the wastage of the food industries in general and the preserves industries in particular, could provide new linkages with animal feed or fertilizer manufacturers.

The most important and current linkages of the food industries are shown in Figure 5.3.1.

5.3.4 Spatial distribution

(a) Vegetable and fruit canning

In 1988 the canned vegetable sector consisted of 85 industrial units, which were situated along the Atlantic coast at Larache and Agadir and at large cities in the interior of the country. The following products are manufactured:

- condiments;
- vegetables preserves;
- fruit preserves;
- frozen and deep-frozen fruits and vegetables;
- fruit and vegetable juices; and
- dried and dehydrated fruits and vegetables.

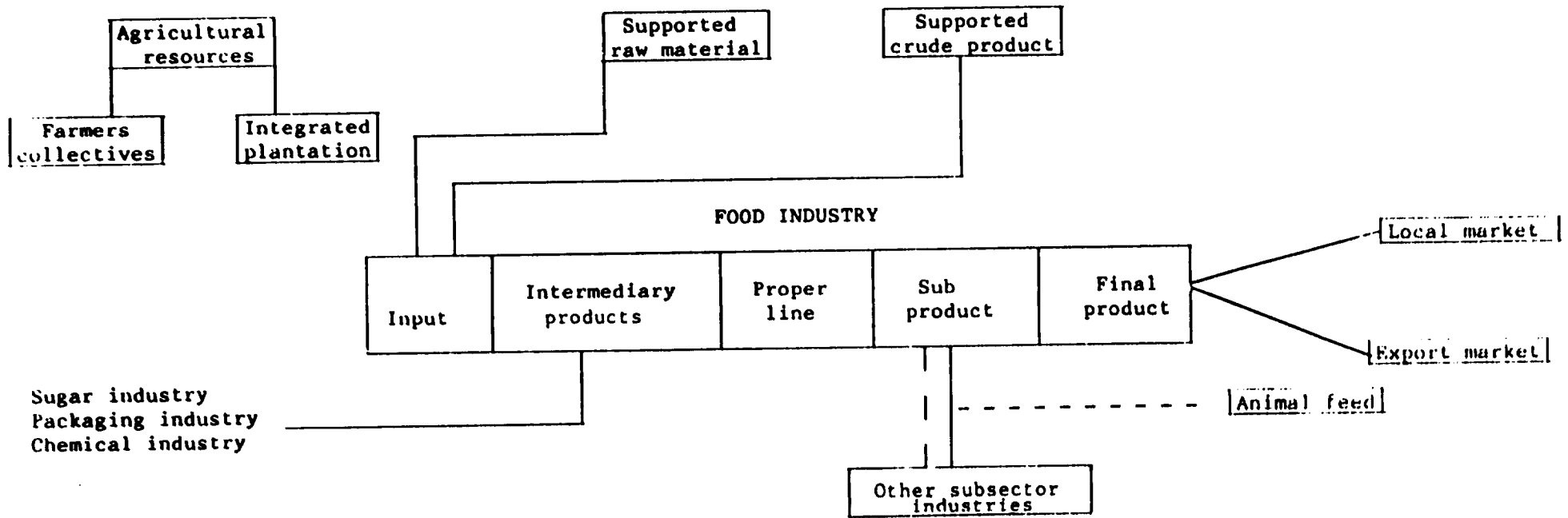
These industrial units are unequally situated across the country due to the fact that most of them are located near zones of agricultural production and/or ports of embarkation. This criteria is due to the heavy dependence on the export market for each of these types of products, except for condiments, which are also sold in volume on the domestic market.

Marrakech is the most important production centre, with 26 units (31 per cent), followed by Casablanca with 13 units (15 per cent). The provinces of Fes and Agadir each have 10 units (12 per cent). The other 26 units are spread among 11 other provinces.

The distribution of vegetable and fruit canning factories is quite different in terms of production capacity and numbers of units. With a total annual production capacity of 773,284 tonnes, the average production per enterprise is approximately 9,100 tonnes. In Casablanca, however, with a total capacity of 259,440 tons, or 33 per cent of the national total, the average capacity of each enterprise is 19,956 tonnes.

In Marrakech the capacity of canned vegetables is 134,944 tonnes, or 17 per cent of the national capacity, each enterprise having a capacity of about 5,190 tonnes.

Figure 5.3.1 Linkages of the food-processing branch



- - - - - = no linkage

Table 5.3.4: Distribution of vegetable and fruit canning factories

Province	Number of units	Products
Larache	5	Vegetables, condiments, tomatoes
Kenitra	3	Green beans, citrus fruits
Casablanca	13	Condiments, vegetables, citrus and other fruits
Mohammedia	1	Vegetables
Rabat	1	Vegetables
Agadir	10	Tomatoes, fruits, gherkins, carobs, bitter almonds
Taroudant	1	Vegetable juice, tomatoes
Fes	10	Olives, capers, fruits
Meknes	5	Olives, vegetables, fruits, gherkins
Marrakech	26	Condiments, pimientos, fruits, carobs
El Kelaa	2	Fruits, olives, pimientos
Safi	3	Fruits, vegetables
Sidi Kacem	1	Olives
Oujda	3	Vegetables, fruits, dried and dehydrated fruit
Khemisset	1	Dried prunes and raisins
TOTAL	85	

Source: Ministry of Agriculture, Report on Canned Vegetables, September 1988.

The third most important area is Larache, with 105,600 tonnes or 13 per cent of the national total. This is the most important centre in Morocco for the canning of tomatoes, with an annual capacity of 81,000 tonnes.

The many different climatic regions within the country dictate the types of product which can be grown in each particular area. Marrakech is an important centre for apricots and olives, with 75 per cent and 69 per cent of the national total, respectively. Larache cans or concentrates 58 per cent of the national production of tomatoes, while Casablanca is the most important area for vegetable concentrate and fruit juice, with 59 per cent of the national capacity.

(b) Dates

In Morocco there are only three main date-producing areas, Er-Rachidia, Ouarzazate and Tata, all characterized as fertile river valley systems within an otherwise desert area. The date-growing areas are at an altitude varying between 700 and 1,000 metres, with high summer temperatures and rainfall between 60 and 150 millimetres per year, which give good growing conditions for date-palms.

The degree to which date-palms are concentrated in these three areas is shown in the following table.

Table 5.3.5: Distribution of date-palms by province

Province	Number of palm trees	% of total
Ouarzazate	1,700,000	35.8
Er-Rachidia	1,200,000	25.3
Tata	1,222,431	25.8
Figuig	140,352	3.0
Agadir - Tiznit	147,407	3.1
Other provinces	330,320	7.0
TOTAL	4,743,510	100.0

Source: Ministry of Agriculture, Plan National du Développement du Palmier Dattier, May 1986.

The two main areas are also characterized by the different distribution of the types of dates within each area, as shown in the following table:

Table 5.3.6: Distribution of date-palms within provinces (percentage)

Date type	Er-Rachidia	Ouarzazate
Khalt [la Sair]	42.0	37.1
Bouslikhène	28.0	-
Feggous	24.0	5.2
Las Lehmer	1.5	-
Mejhoul	1.0	-
Boucerdoun	0.5	-
Belhazit	0.5	-
Jihel	-	25.3
Bousthani	-	16.3
L'Iklane	-	4.7
Bourara	-	3.8
L' Aguehid	-	2.8
Ahardane	-	2.6
Other types	2.5	2.2
	100.0	100.0

Source: Ministry of Agriculture, ibid.

This differing distribution of date types, their yields and cultivated surfaces has led to quite different production characteristics in these two main regions, which is shown in the following table:

Table 5.3.7: Date-palm production characteristics
(annual average for periods indicated)

	1968/72	1973/77	1978/79	1981/85
Yield (kg/tree)				
Ouarzazate region	18	14	21	13
Er-Rachidia region	30	32	7	10
Production (tonnes)				
Ouarzazate region	36,000	27,000	40,000	24,000
Er-Rachidia region	30,000	35,000	8,000	10,000

Source: ORMVAO & ORMVAT.

In both regions, but particularly in the Er-Rachidia area, the yield per tree and also the total production level has fallen considerably over time, partly due to the age of the plantations.

Attempts have been made to establish a date-processing industry in both of the two valley systems which are noted for the production of dates. In the Ouarzazate region the company Dattes de Zagora was established in 1981, but the operation collapsed within two years, despite assistance from UNIDO during the planning stage, feasibility stage and commissioning stage of the factory. The factory has operated intermittently since that time but is currently almost at a standstill.

In the Er-Rachidia area, another date-processing factory was first established in 1977, but this factory also suffered from many technical, marketing and financial problems, which eventually caused it to close down completely in 1983. Attempts are now being made to revive this company.

In addition to these two companies, date conditioning is also done by many small farmers, located in the date-producing areas of the country, who process the dates by traditional means.

(c) Margarine

There is only one table margarine factory in Morocco, INDUSALIM, which is located at Settat, approximately 75 kilometres east of Casablanca.

In addition, there are three manufacturing companies providing industrial margarine for the biscuit and cake industries. These companies, MARGA/Margarinerie Nouvelle located in El Gara, Casablanca, MARGA Afrique and OUBAHA, also in the Casablanca area, have a total combined production of 5,000 tonnes of industrial margarine per year.

5.3.5 Major problems and constraints

The most important problems and constraints are those related to supply of inputs, production methods, cost and price structure, and marketing.

(a) Inputs

The liberalization of prices on the market offers several possibilities for the sale of agricultural products to the food industry or to the free market. The strong competition in the market between the large number of buyers of raw materials has had a speculative effect on prices, and consequently on the cost of the final product.

(b) Production

Technology and process lines are not adapted for the production of high quality goods as required by international markets. In addition, the utilization rate of installed capacities does not exceed 60 per cent, largely due to the seasonal availability of most fruit and vegetable inputs.

(c) Cost and price structure

Food industries do not generally provide high value-added finished products and the production costs are generally too high mainly because of the high price of raw materials and packaging materials. The high level of production costs adversely affect the competitiveness of Moroccan products on the export market.

(d) Markets

The local consumption of preserves is very limited because fresh products are cheaper and preferred; the canning industry is therefore highly dependent on the export demand. Exports are determined by the demand of a very limited number of European Community countries (three or four), which prefer to buy the same traditional type of Moroccan products. Export markets as well as the export products are therefore insufficiently diversified.

CHAPTER 6

THE CHOICE OF PLANTS

6.1 The selection process

The choice of plants for this study was made by the mission after consultation with representatives of the Ministry of Commerce and Industry and other government institutions; the Ministries of Agriculture, Fisheries and Merchant Shipping, and Planning, as well as the ODI. The other two main organizations that provided input were the Chamber of Commerce of Casablanca and the National Economic Development Bank (BNDE). Additionally, discussions were held with representatives of several financial institutions such as the Banque Marocaine pour le Commerce Extérieur (BMCE) and Caisse du Crédit Agricole (CNCA), as well as with the main bilateral co-operation partners - UNDP, USAID, and the EC delegation.

During the preparatory mission in November-December 1988, a pre-selection of ten domestic enterprises was initially presented by the Ministry of Commerce and Industry, the Casablanca Chamber of Commerce and BNDE. At that time, a questionnaire was sent to a number of companies, including the ten suggested, which were considered to be the most representative of the manufacturing sector in Morocco. The purpose of the questionnaire was to obtain as much detailed information as possible at enterprise level to facilitate in the decision-making process.

When the full mission arrived in Rabat in March 1989, the initial list of ten companies had been expanded considerably. The Ministry, Chamber of Commerce and BNDE had added companies that fell into 3 main categories: those in financial trouble that owed at least DH 3 million to the bank; those that had answered the preliminary questionnaire, assuming that those companies needed to be modernized; and several dynamic companies in the subsectors of fish canning, olives, capers and fruit canning, poultry and cattle feed that were in the process of expansion and/or restructuring.

The following eight criteria were used to make the final selection:

- (a) The plant should have potential for rehabilitation and should not require totally new investment;
- (b) The plant should be attractive to outside (European, US etc.) investors;
- (c) The plant must be in a strategic industry as identified in the Government's development policies;
- (d) The plant should be Moroccan-owned; or with a majority of Moroccan capital.
- (e) The plant should use, or have the potential to use, domestic raw materials;
- (f) The plant should exhibit significant backward linkages to agriculture, and forward linkages to other important industries/sectors;

- (g) At least one of the plants should be in the private sector;
- (h) The plant should have the potential to save foreign exchange and reduce import dependence.

6.2 Selected plants

After visiting a number of firms and meeting with management representatives, the mission selected three enterprises that complied largely with the above criteria and could be subjected to detailed studies. These were:

- IPHIM (Industria Pimentonera Hispano Marroqui)
- SOTCODAT (Société de Traitement et de Conditionnement de Dattes)
- INDUSALIM (Les Industries Alimentaires Réunies S.A.)

Each of these companies belongs to strategic agro-industries: Vegetable canning, manufacture of fats and fruit processing. These selected products deserved special attention, since several other food industries important to Morocco, i.e. olives, jam, and fish canning, are already included in various national or international programmes.

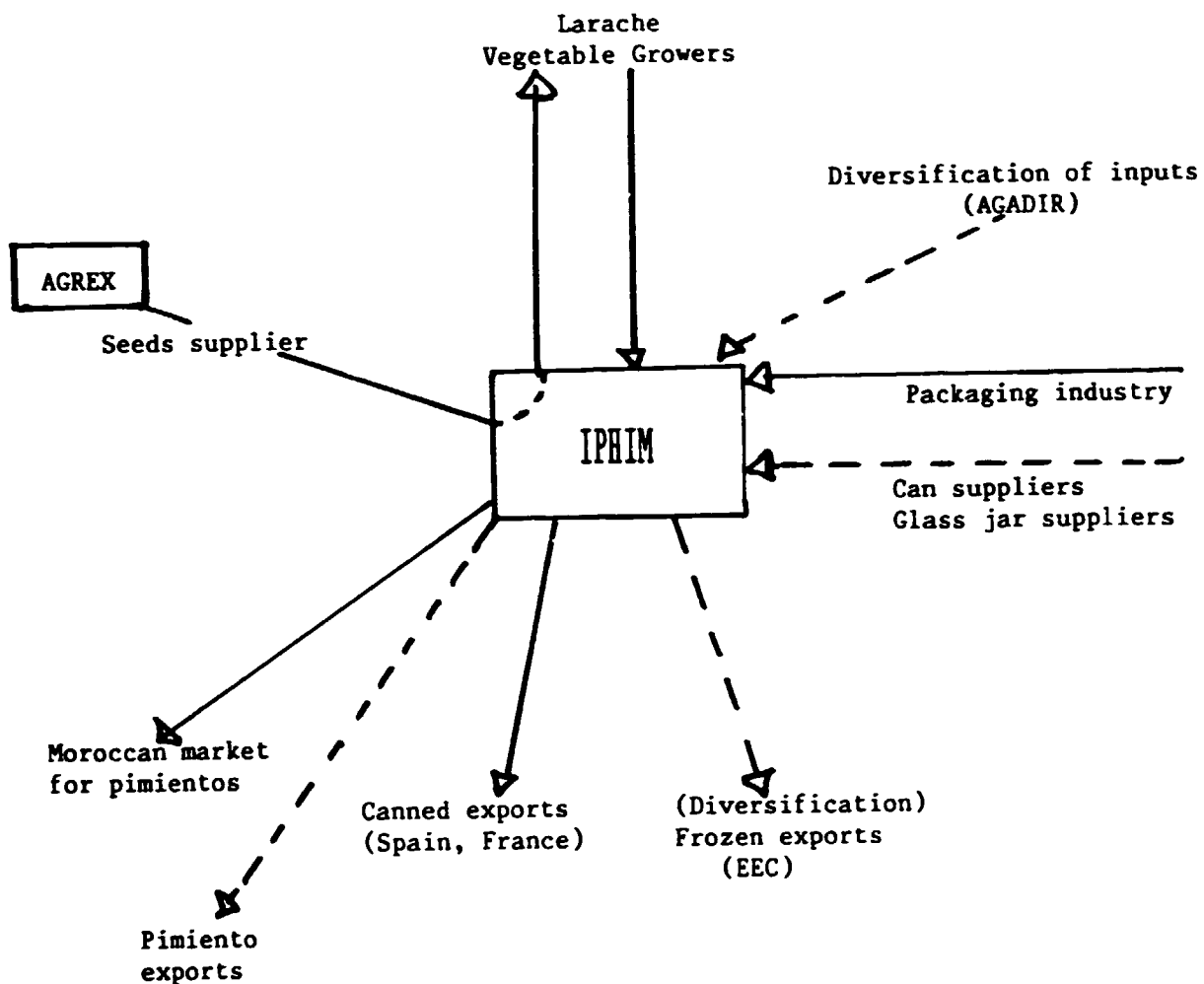
In the mission's opinion, the problems of these enterprises can be remedied through rehabilitation in a comparatively short period of time and with limited financial support. The rehabilitation or modernization of the selected enterprises should therefore be seen as a pilot project, whereby experience can be gained for other the rehabilitation of other manufacturing plants.

6.3 Justification and linkages

IPHIM

IPHIM is a privately-owned company that produces pimiento powder and canned vegetables such as green beans, peeled tomatoes, celery and gherkins. The company is also introducing two new product lines - jams and frozen vegetables including artichokes, carrots and turnips. This expansion will increase national vegetable production and is likely to serve as an example of diversification for other industries in the region. IPHIM's dynamic effect on the overall agro-business in the province is the main reason for choosing this company.

Figure 6.3.1: IPHIM - Linkages



Note:

- _____ before rehabilitation
- after rehabilitation

SOTCODAT

This semi-public company has processed dates since 1977, but the factory has been virtually closed since 1983 due to problems concerning operations, raw material supply, and selling the product. The very insignificant and sporadic current production of the company is adversely affected by the low quality of input dates.

SOTCODAT's location in Er-Rachidia, in one of the two main oasis valleys of Morocco's desert region, makes the company interesting for rehabilitation from the point of view of regional development. An important development objective is to secure jobs in a region without any important industries. Several hundred thousand people in the Tafilalt region depend directly or indirectly on the existence of a local date conditioning industry. SOTCODAT's plans to diversify (apples and seed potatoes) might further increase employment opportunities. For the past eight years, extensive development programmes have taken place in the Tafilalt area, ranging from irrigation to a new date plantation. The rehabilitation of this company is considered a vital part of the region's general overall development, and the undertaking has strong support from the local Government and its Governor.

INDUSALIM

INDUSALIM, a private company, is Morocco's only producer of table margarine. Although the plant is new, INDUSALIM has encountered specific problems in starting up. The Government of Morocco has indicated that the general problem of the butter supply - 95 per cent of which is imported - must be addressed as soon as possible. In this regard, the marketing of butter substitutes will assume an important role in reducing the country's current dependence on imported butter.

All three selected enterprises have significant and potential linkages both within the agro-industries and with other economic sectors (see Fig. 6.3.1 and 6.3.2). The existence of these linkages between the individual agro-industrial plant, the sub-sector, and the national economy makes each of the plants a logical choice for our "top-down" approach to industrial rehabilitation. The successful rehabilitation or modernization of these companies will contribute to the development of agro-industries, in particular, as well as the complete moroccan manufacturing sector.

Figure 6.3.2: SOTCODAT linkages

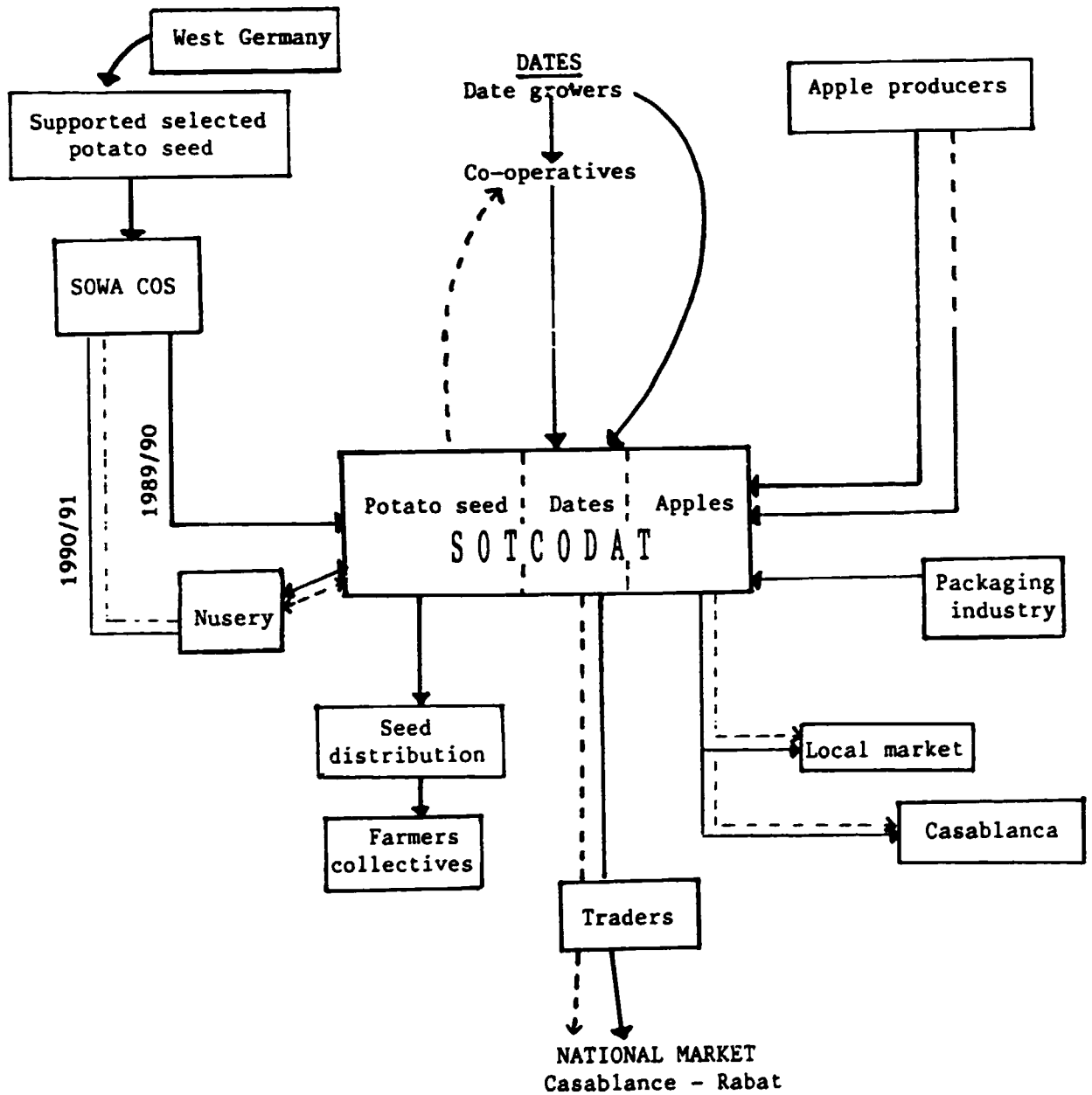
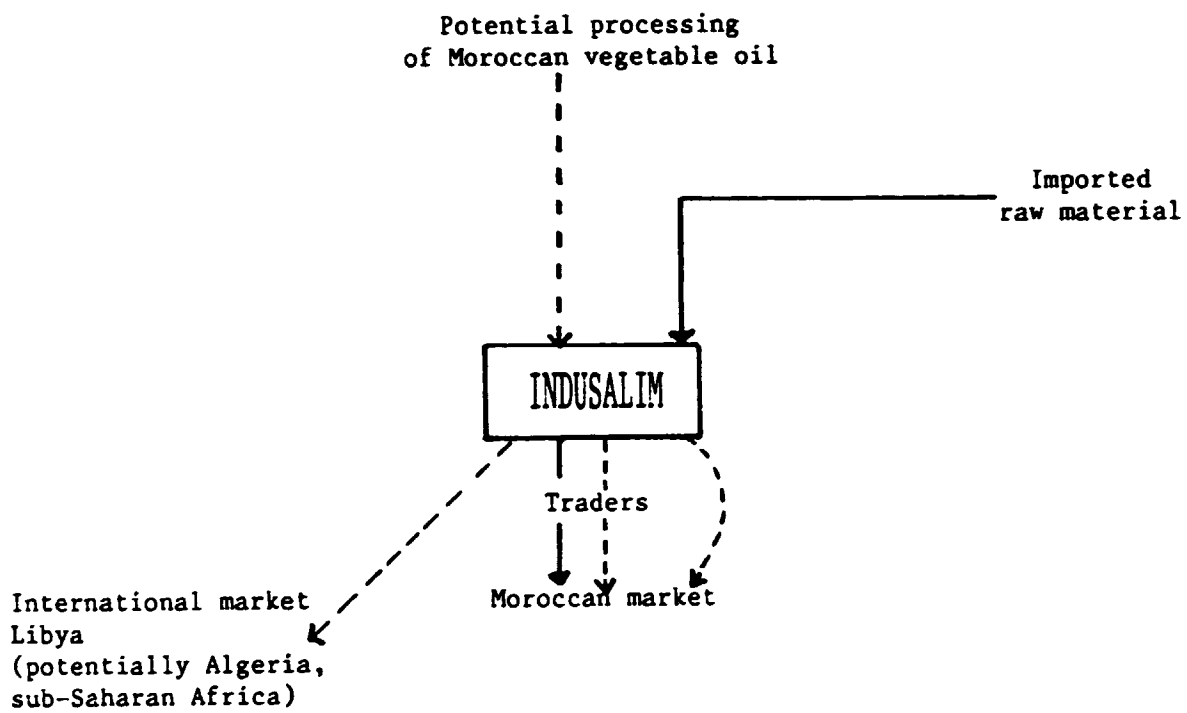


Figure 6.3.3: INDUSALIM linkages



CHAPTER 7

PLANT PROFILES

7.1 IPHIM

7.1.1 Existing situation

(a) Plant history

IPHIM (Industria Pimentonera Hispano Marroqui) is a privately owned company founded as a "société anonyme" in 1953 and located in Larache on the highway between Rabat and Tanger on the northern coast of Morocco. The sales office dealing with domestic sales, is located in Casablanca.

The original factory was established by a private Spanish-Moroccan company to produce pimiento powder. In 1982 the company diversified into canned vegetables by installing a line for processing green beans. This was followed by a second expansion, processing peeled tomatoes, in 1984.

In 1988 the company was restructured when IPHIM joined with another company, AGREX MAROC, to form a new company, SOPRAM, together with French and other foreign partners.

Since 1982 there has been continued diversification into other products and investment in additional facilities. In 1988 a second-hand tomato concentrate unit and a crusher unit were purchased and commissioned. Other improvements included modifications to the dryer aeration systems and the purchase of a new freezing production unit. In 1989 investments in new processing lines for green peas and gherkins will further diversify the product range. The purchase of additional automatically controlled sterilization units, a new boiler, and a new 500 KVA generator and transformer will improve the production capability of the existing facilities during the current year.

Despite this new investment, the company still has to upgrade some of the present facilities as well as the production process in order to correct hygiene deficiencies and to improve the quality of the product.

(b) Management and organization

The Board of Directors consists of the following two persons:

Mr. Chami Louafi, Chairman
Mrs. Fatima Taoudi Benchkroun

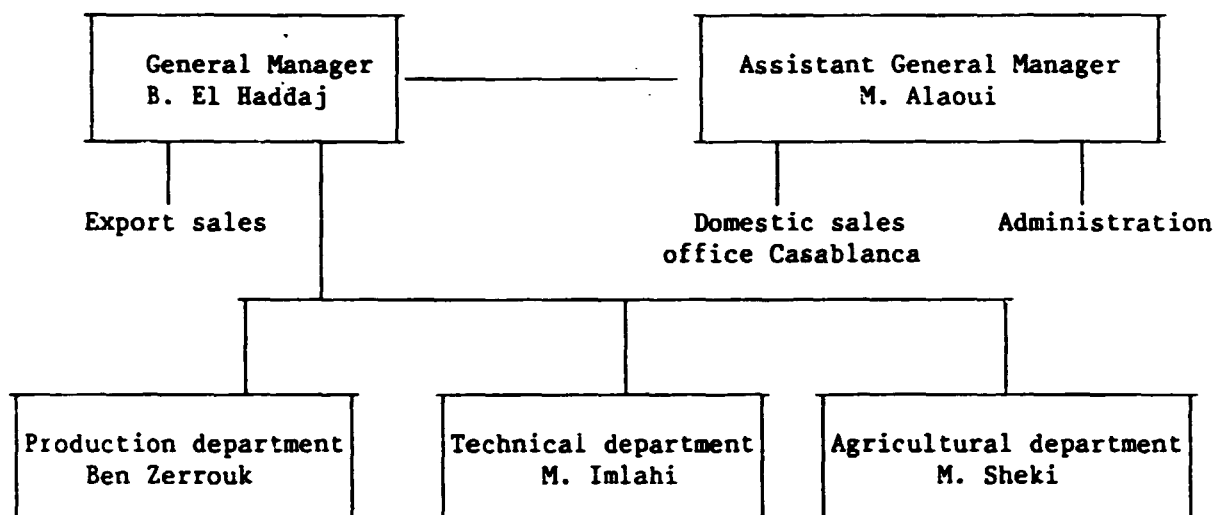
Share capital is DH 5 million (after merger with Agrex Maroc in 1988).

The main shareholders are Mr. Chami Louafi and Mrs. Fatima Taoudi Benchkroun, who own 74.3 per cent and 22.2 per cent respectively. 3.5 per cent is distributed among relatives of these individuals.

The General Manager, Mr. Bouchaib El Haddaj, is not a member of the Board of Directors and is not related to any of the owners, which is unusual in a Moroccan company. He has been General Manager since 1987 and attends Board

meetings as secretary. Mr. El Haddaj has a degree in economics from a university in France where he worked several years after graduation. Prior to joining IPHIM he worked for other companies owned by Mr. Louafi for four years.

Figure 7.1.1: Management organizational structure of IPHIM



Staff at the middle management level is comparatively young, with an average age of about 30 years, and everyone seems to co-operate well with each other. This was confirmed by the General Manager.

The responsibility for sales is presently divided between the office in Larache, which is responsible for exports under the control of the general manager and the Casablanca office, which is responsible for domestic sales under the control of the assistant general manager.

In past years certain difficulties existed in the relationship between the owner and management, due in part to the owner's residing in Fes, a considerable distance from the plant. Decisions could not be made by the General Manager because authority was not delegated or for the simple reason that the owner was absent from Board meetings or out of reach in his Fes office. Since 1985, however, the company has been given significant autonomy, which has improved its overall efficiency. There are now very few problems between owners and management.

There are no major changes contemplated in the organization except for a possible expansion of the sales office in Casablanca. This office will grow in importance both for sales of the company's products on the local market and for purchasing raw materials in the Casablanca and Agadir area.

The supply of agricultural raw material is very irregular and during periods of high activity the factory operates 24 hours/day. During those periods there is often a need for additional technical assistance to ensure that the factory operates at optimum capacity. With about 60 per cent average utilization rate of the production capacity, the employment of one or two more technicians would impose a significant economical burden on the company.

To overcome this problem temporarily, a trained programme for some of the temporary workers could be introduced. The trained workers could assist the staff with maintenance and repair work until a technician can be employed on a permanent basis.

In order to lessen the dependence on seasonal inputs, certain diversification is planned with regard to the purchase of raw material. Contacts have been made with suppliers in the southern part of the country around Agadir and Casablanca where crops are harvested at slightly different seasons than in the northern part of Morocco. This is intended to increase the average level of utilization of the production facilities and may very well justify an additional technician for maintenance.

The above-mentioned seasonal variations in the availability of raw material stresses the importance of very strict and careful planning and management of the various steps in the chain of input - production - finance - marketing. A serious problem in this context is the continuous contractual disputes with the farmers delivering raw material to IPHIM.

(c) Financial structure

As mentioned above, IPHIM is a privately owned company - société anonyme - with an issued share capital of DH 5 million. The majority shareholder is Mr. Chami Louafi, with a substantial shareholding also held by Mrs. F. Toudi Benchkroun.

The distribution of shares is as follows:

	<u>Share value (DH)</u>	<u>Per cent</u>
Mr. Chami Louafi	3,715,000	74.3
Mrs. F. Toudi Benchkroun	1,107,500	22.2
Various relatives	177,500	3.5
Total issued share value	5,000,000	100

Table 7.1.1 shows the financial structure of IPHIM for the financial year 1987.

Depreciation rates for the fixed assets are as follows:

	<u>Per cent</u>
Buildings	5
Machinery	10
Transport equipment	20
Office equipment, furniture	10

The depreciation rates seem to be well chosen and reflect closely the expected lifetime of the various assets. The remaining value of buildings and machinery also appears to be correct.

Available records cover only 1987 and show that the company suffered a loss of DH 258,620 that year. Accumulated loss from previous years is DH 82,380.

Table 7.1.1: Total assets and capital employed
(DH)

Assets	End-1987
Fixed assets	1,821,883
Losses (current and previous)	341,000
Current assets	
Raw material	2,350,000
Work in progress	1,070,000
Finished products and packing material	2,460,875
Customer debts	2,359,262
Other debts	225,718
Banks, cash, etc.	381,386
Total assets	11,010,524
Capital employed	
Share capital (1987)	1,100,000
Reserves	
(minus "report a nouveau" DH 312,763)	1,797
Long-term debts	92,000
Suppliers	2,110,993
Current account, partners	350,716
Other debtors and obligations	5,060,431
Banks	2,254,587
Total capital employed	11,010,524

Source: Company files.

From the records it can be seen that customer debts have been allowed to build up to 2,359,262 DH - about 25 per cent of total sales - which is considered much too high. The collection of outstanding debts needs to be improved.

The net value of stock is DM 5,880,874, amounting to nearly two thirds of the total sales of 9,486,933/DH is also far too high and contributes to an abnormally high capital cost for the company. A careful analysis of stock keeping and an investigation into the reasons for this stock build-up is called for.

(d) Buildings and installations

All factory buildings are in good condition, being of a standard reinforced frame structure with concrete block walling and corrugated steel sheet roofing. However, the shape of some of the older buildings is a constraint on the proper and efficient organization of work within the factory. The total covered area amounts to approximately 2,000 m². An expansion of an additional 2,000 m² is planned over the next two years.

Pimiento powder production line

Pimiento powder was the factory's original product and it remains extremely profitable today. The majority of the grinding machines are very old but present few problems and can be expected to give many years of useful life, assuming that the present highly labour-intensive system is maintained. The production process is a very simple multiple grinding operation and consists of the following stages:

1. Receiving of fresh and sun-dried pimiento seeds and leaves.
2. Manual washing to remove contaminants.
3. Pre-crushing by a simple crushing machine to reduce the volume of the material input.
4. Drying in one of the steam-heated dryers.
5. Secondary crushing [manual].
6. Separation of leaves and seeds into separate stockpiles.
7. Mixing of leaves and seeds manually into specific proportions based on visual colour for the three grades of pimiento produced. The first grade [grade 0] is a mixture of 70 per cent leaves and 30 per cent seeds. Depending on local supplies, various mixtures of fresh and sun-dried pimiento plants are used.
8. Fine crushing in six stages utilizing 16 grinders (type ALCANTUD, Spain), which are arranged in two sections of six grinders and one section of four grinders.
9. Final grinding with sunflower oil in a Müller-mixer unit. The input is fed by hand into the Müller-mixer via a hopper and screw feeder from a pile of fine-ground material stored on the concrete floor by the machine. The discharge from the Müller-mixer is by screw feeder over a

vibrating screen to a portable bin of approximately 0.3 cubic metres capacity. The screen, with a mesh size of 2mm, is effective only for removing any large pieces of contaminant or coagulated powder.

10. The final ground pimiento products are then transferred to the storage bays (20m x 15m) in the packaging area, where canning of the pimiento is carried out manually on two canning tables into two types of containers, 180g capacity and 370g capacity. The latter containers are subsequently packed into cardboard cartons of 18kg net weight for distribution, while the smaller containers are packed into shrink-wrapped units which are transported on wooden pallets. Pimiento is also packaged into polythene bags with capacities of 0.5 kg, 1.0 kg, 5.0 kg and 50 kg.

The whole process is highly labour-intensive, with 8-10 persons required in the grinding area on each of the two shifts and an additional 20 persons in the packaging area, which normally works on a single shift basis. In this production area ground pimiento is stored at the intermediate stages on the concrete floor, which is open to contamination from personnel walking through the plant. If pimiento production is increased above the present levels, which would satisfy local demand and require consistent exports, it would be advisable to alter the process flow to include pneumatic transfer of the powder and intermediate storage silos, so that the manual handling can be eliminated and health risks reduced. Pneumatic transfer of material would also reduce the losses of material during the production process.

Green bean canning line

This unit, supplied by FEMIA, France, was installed in 1982 and has a capacity of producing approximately 40 tonnes per day of extra-fine quality beans based on a working day of 20 hours. The equipment line consists of the following units:

1. Feeder unit comprising a horizontal conveyor and inclined conveyor.
2. Cylindrical vegetable washing unit.
3. Wire mesh screen.
4. Inclined conveyor.
5. Horizontal elevated feed conveyor.
6. Two parallel cylindrical rotating drum separators, which separate the green beans into two grades, (a) extra-fine and (b) fine. At this stage, most, but not quite all, of the extra-fine fraction of beans are separated and are transported by conveyor to:
7. A line of 10 rotating trimmer units [ebouteur].
8. A cylindrical hot water colour stabilizer unit [bleaching].
9. The oversize fraction of beans from the first set of two parallel separators is fed through a second set of four parallel rotating drum separators. The extra-fine fraction from this set of separators is then delivered onto the same extra-fine conveyor, which delivers the extra-fines from the first two separators to the series of ten trimmer units.

10. The fine fraction from the second separation is then fed through a separate cylindrical hot-water colour stabilizer unit.
11. From the two hot-water colour stabilization units the two grades of beans are delivered by conveyor to the canning section, where cans are filled with cut beans by hand.
12. After being filled with cut beans the cans pass through a 14 unit liquid-filling machine, which uses a water and salt mixture for this particular product.
13. Once filled with liquid, the cans pass to the can sealing machine. The factory has a total of five machines, two units for 5 kg cans, one for 1 kg cans and two for the standard 0.5 kg cans. The maximum capacity of the 0.5 kg canning machine is 335 cans per hour; with a normal 20 hour working day the maximum daily capacity of this type of machine equates to 6,700 cans per day. The management would like two more of the standard sized machines for times when both the green bean line and the tomato line are working simultaneously.
14. After sealing, the cans are loaded by hand into the steel perforated cages of the sterilization units. The factory has six vertically loaded sterilizers (type H.P. AURIOL, France) for standard 0.5 kg cans, which have a sterilization cycle of 35 minutes at a temperature of 118-121 deg C. In addition to these vertically loaded units the factory also has one horizontally loaded sterilizer (type STERIFLOW from RODABE INGERIOS, Spain), with a capacity of approximately 3,000 standard size cans and a slightly shorter cycle of 30 minutes for sterilization. Owing to the advantage of automatic temperature, pressure and time controls, this sterilization unit is more energy efficient. A Datsun forklift truck is utilized to lift the loaded cages into the sterilization units.
15. Labelling of the cans is carried out by hand and the cans are then packaged into cardboard cartons for distribution to customers.

With this entire production line there are currently no technical or maintenance problems and all machines at the time of the mission's visit appeared in good condition. In the event of any serious technical problem the company has an agreement with the French equipment supplier FEMIA to supply any necessary personnel to solve the particular problem. To improve the thermal efficiency of the sterilization process, the company plans to buy more of the larger automatically controlled sterilizers in the near future from its own financial resources. There are therefore no rehabilitation requirements for this particular section of the factory.

Tomato skinning line and tomato concentrate

This line, supplied by SAVI ANTONIO, Italy, has a capacity of 50 tonnes per day of peeled tomatoes and, since the addition of concentrators, it has the capacity of 70 tonnes per day of tomato concentrate. The line consists of the following sequence of equipment:

1. Horizontal feed conveyor.
2. Inclined feed conveyor.

3. Sterilizer unit.
4. Inclined elevator.
5. Skinning (peeling) unit.
6. A second-hand tomato concentrator unit designed for a double concentrated product of 28-30 brix quality. The unit includes two separator tanks, a pre-cooker and a two-stage evaporator.

From the concentrator unit or the peeling unit the individual products are then transferred to the common canning, sterilizing and packaging sections outlined in the previous section.

All equipment in this section is well maintained and there are no technical problems with any of these items.

Celery canning line

The celery canning operation is entirely manual, except for the final can-sealing and sterilization operations. Outside the main factory production area a team of women workers remove the outer leaves of the cut celery bunches. The inner stalks are then washed by hand in a static cold water tank and transferred to the canning line feed conveyor, where another team of women workers cut the celery into the required sized pieces for canning. The cut pieces are then transferred for secondary washing to another static cold water tank, where each piece is manually cleaned by scrubbing the surface with a brush to obtain an attractive white colour. From this point the celery pieces are placed by hand into cans.

As there is no clean water circulation or filtering system in either of the two washing tanks, the water rapidly becomes dirty during the working day and this could pose a definite health hazard. If the production of canned celery is increased with the export market in mind, then more hygienic and controlled primary and secondary washing facilities must be installed in the factory to meet recognized international standards.

Frozen vegetable production unit

This production facility has recently been installed and is just being commissioned. Based on frozen green peas, which is the standard reference produce, the output capacity of the SAMIFI-BABCOCK freezer unit is rated at between 500 kg and 750 kg per hour. The unit is however only producing frozen artichokes at present to complement the canned range of products. Frozen green peas are planned to be produced within the next one to two years, once the current expansion plans which include a green pea processing line are completed.

As with the canned celery production, the preparation of artichokes for canning or freezing is totally manual. The various stages of production for freezing are as follows:

1. Artichokes are brought into the factory by truck and are stored temporarily in large piles outside the main production building.

2. The artichokes are then transferred to the far side of the production building, where a team of women workers manually cut the artichokes, separating the heart from the leaves.
3. After the separation of the leaves, the hearts are cut into two pieces and cleaned by removing the centre part with a spoon.
4. The artichoke hearts are then transferred to a double-unit static cold water washing tank, size 5m x 1m. In the first 1.5m long section of this tank the team of workers cut the hearts into small pieces, which are then transferred to the second 3.5m long section of the water tank for washing. The water in this section contains citric acid to stabilize the colour of the product.
5. After washing, the pieces of artichoke are transferred to a 3.5m long warm water bath before being placed in plastic baskets, which are then immersed in boiling water for a short period. This short immersion is the only attempt at any sterilization procedure, but it is unlikely to achieve its objective because the time period is so short. As the artichokes are being washed in static water tanks with no fresh water recirculation or filtration system, there appears to be a definite potential health risk at this point in the process.
6. From the boiling water the plastic baskets of artichokes are transferred to the bucket elevator, which feeds the chain mesh conveyor into the freezer itself. At the present time the artichoke pieces are fed very slowly onto the bucket elevator by hand, as attempts to achieve higher than 20 per cent of rated capacity have failed due to insufficient freezing of the artichoke pieces. Because of their size, a lower output than that for green peas is to be expected; however, it seems a higher output could be achieved than has been to date. Some changes to this freezer unit will therefore have to be made in order to achieve a reasonable commercial output of frozen artichokes at an acceptable production cost. On the discharge side of the freezer unit a team of three women workers transfer the frozen artichoke pieces into plastic bags. These are then emptied into other plastic bags inside the cold store room. The cold store is sized 18m x 10m x 4m and is held at a temperature of -20 to -25 deg C.

Once the freezer unit has been properly commissioned, it is intended to package the artichoke into well designed boxes, but no packaging equipment or supplies have yet been ordered. Customers presently have to collect the frozen product from the factory, as the company has no refrigerated trucks for distributing the product. The company presently has no standby generator for the cold store, so in the event of a power cut from the public electricity supply the stored products could be ruined. This potential problem should be addressed by the company as soon as possible.

It should be noted that the canned artichokes are initially prepared in the same way as the frozen artichokes but they are not cut into small pieces. Only the half pieces of artichokes are canned, again after being immersed in hot water.

Dryers

For the production of dried vegetables and pimiento the factory is equipped with a total of six steam dryers. Four of the dryers are type Schilde, Germany, each with a volume of 4 cubic metres. These dryers can reduce the moisture content of vegetables from 80-90 per cent to 8 per cent, utilizing an inlet temperature of 70-80/C. The timing is variable depending on the ambient temperature and the efficiency of operation of the steam radiators. Control of the dryers is solely by eye and depends on the experience of the operator.

Consequently, the control of the final moisture content of the product is difficult. The energy consumption of these dryers is high, and as each dryer requires four operators the labour costs are also high. At the time of the visit none of these units were in use, but the management informed the mission that the organization of labour and work practices in this area had to be improved in order to improve efficiency. (Because the units were not in use due to the winter season, the precise weaknesses in work practices could not be identified at this stage.)

The dryers themselves appear to be in excellent order. As they are only utilized for 2.5 to 3 months per year, there is ample time for a thorough check and any maintenance work to be carried out prior to each season.

To supply the dryers with steam the factory is equipped with two boilers:

- One 5 tonnes per hour unit, type EFGI [Fours Industriels Chaudieres Installations Thermique].
- One 2 tonnes per hour unit.

As the factory now requires a total capacity of 10 tonnes per hour, a second 5 tonnes per hour boiler has already been ordered. The factory will therefore have excess steam capacity when this has been installed.

The boiler system is equipped with a full water treatment system and all items, including the boilers themselves, appear in excellent condition with no major maintenance work required.

In addition to the four Schilde dryers, the factory also has one brick built concurrent 2.5m wide x 30m long belt dryer and one 6m wide x 34m long parallel belt dryer. The concurrent dryer is designed for a three-stage drying process, each of the three sections being equipped with recirculation fans and exhaust. The pimiento or vegetables are loaded on the chain link steel belt in a continuous bed and hot air from a large radiator unit at the end of the dryer is blown both beneath and on top of the bed. The dried material is discharged into a screw conveyor and is transferred pneumatically by a 5 HP blower unit into the storage area. Of these two dryers, the concurrent dryer was stated to be the most efficient and plans are already underway to build a second concurrent dryer during 1989. However, the quality of the dried product from all dryers was stated to be extremely variable. Technical assistance in both dryer design and operation and in the general organization of work was stated to be required by the production management in order to improve the energy efficiency and productivity of the factory. As the dryers

were not operating at the time of the visit, it was not possible to assess independently the precise work practices used or to determine the precise weaknesses in the operation of the dryer. As far as maintenance was concerned, both of the two belt dryers appeared in good order.

Maintenance spare parts

No difficulty is experienced by the company in obtaining its spare parts requirements because, although the main spare parts came from France, Italy and Spain, 90 per cent can be purchased locally in Morocco through the local agents in Casablanca. Certain specific items of an unusual nature have to be imported directly, but this causes no real problems for the company. Adequate finance is available within the company to purchase all spare parts, which currently amount to DH 280,000 per year out of a total production cost of approximately DH 4 million, equivalent to approximately 7 per cent of the costs. This is a normal requirement in such an enterprise.

New developments

The company is already committed to the installation of two new production lines for new products.

- A green pea production unit, to be supplied by HERO, Spain for a rated capacity of 8-10 tonnes per day.
- A gherkin production unit to be supplied by PICARD, France together with a three year technical assistance programme for the production of two million bottles of gherkins per year.

Foundation work for the buildings has already commenced and the lines are due to be installed in the current year. Finance for the planned expansion has already been agreed upon, and, as technical assistance is to be supplied by the machine suppliers for an extended period, no further assistance is considered necessary for the commissioning of these two new lines.

(e) Inputs

All vegetables and pimiento are generally grown in the Larache province, which is ranked second in terms of agriculture after Casablanca province. In terms of purchase policy, 50 per cent of IPHIM's input is contracted from the farmers; the other 50 per cent is purchased directly on the open market.

Figure 7.1.2: Flow diagram of green bean canning

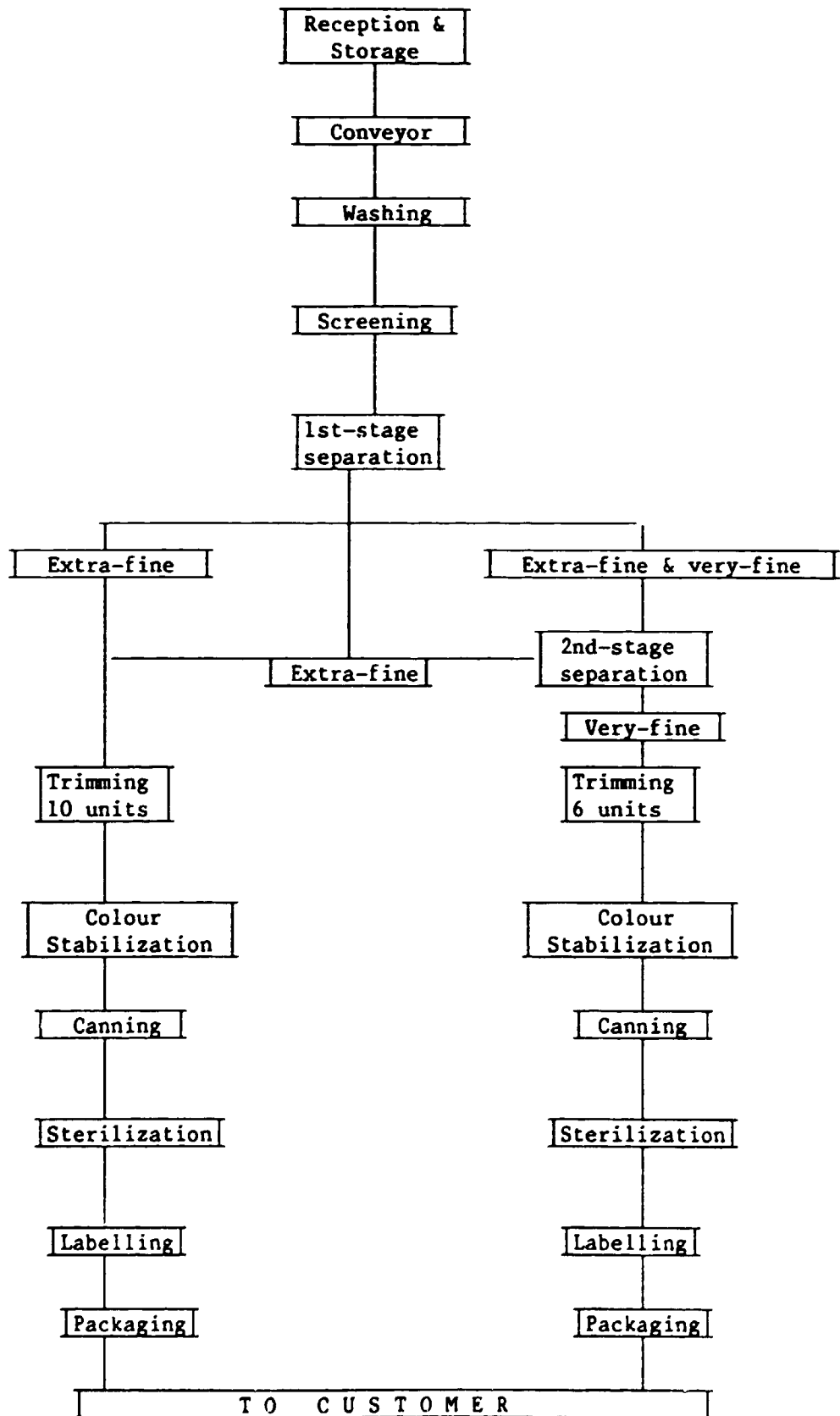
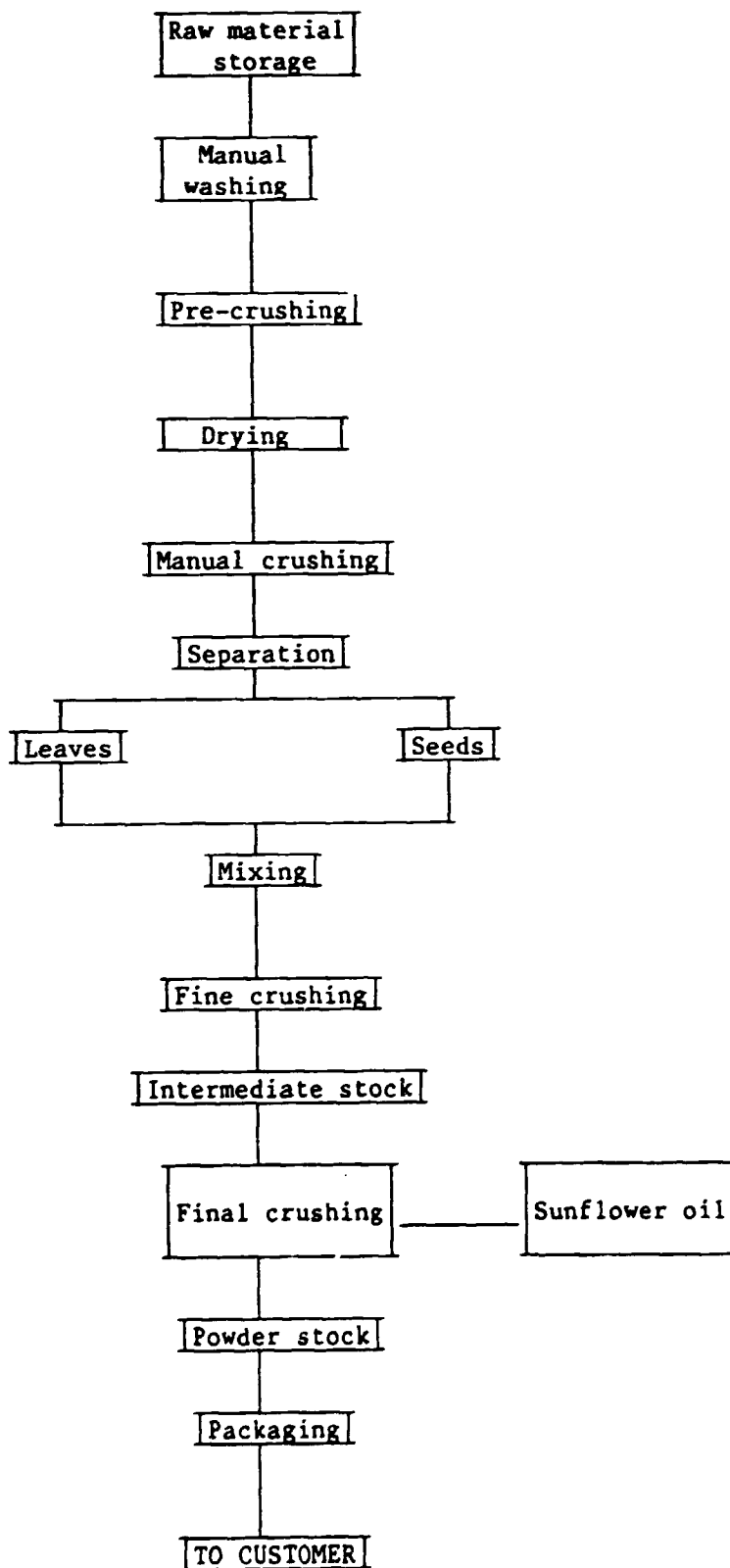


Figure 7.1.3: Flow diagram of pimiento canning

(i) Vegetable and pimiento inputs

By season, the production of crops and percentage of total input are:

<u>Product</u>	<u>Number of months of supply</u>	<u>Period</u>	<u>Percentage of total input</u>
Artichokes	5	February to April	80
		May to June	20
Garden beans	4	February to May	50
Gherkins	6	April to July	30
		September to October	40
Tomatoes	6	July to August	70
		September to December	30

Depending on the period of maturity for some special varieties of vegetables, some quantities of raw material are purchased in other provinces such as Fez and Agadir. Taking into account the agricultural development, the crop's period, weather and the purchase policy with farmers, IPHIM has combined the quality control of raw material with a programme of technical and financial assistance to farmers, including the supply of selected seeds, fertilizer, agriculture training and financial advance. Generally, in terms of quantity and quality, the vegetable production of Larache province does not present any problems. The main concern is buying the required quantity from the farmer before another merchant with a good price.

Collection and transportation of vegetables are controlled by IPHIM. Normally the factory receives the raw material early in the morning and processes it the same day or the following day to ensure the best fresh quality in the final product.

(ii) Intermediate inputs

The main intermediate inputs are white-steel cans supplied locally by the companies CARNAUD and COUVERNEC and glass jars supplied locally by SEVAM. No problems exist with regard to quantity and quality, but the price of packaging is generally too expensive compared with the total price of the final product.

Some foreign firms supply cans under temporary import licences on the understanding that they will be re-exported with the final product. The cans and glass jars are in accordance with the general standards of the food industry.

(f) Product range

IPHIM produces canned pimiento powder, which is its most profitable product at present, in addition to various vegetable products such as canned green beans, peeled tomatoes, tomato concentrate, celery, artichokes and gherkins.

Commercialised production during 1988 and budgeted production for 1989 appears roughly as follows:

Table 7.1.2: IPHIM volume of sales, 1988-1989

Product	Unit	1988	1989 (estimated)
Green beans	cans (4/4)	1,600,000	1,860,000
Peeled tomatoes	cans (4/4)	1,000,000	1,000,000
Tomato concentrate	cans	0	900,000
Celery	cans	0	50,000
Garden beans	cans	n.a.	50,000
Gherkins	jars 72 cl	240,000	2,000,000
Pimiento (powder)	tonnes	1,000	1,500

The following are new products that are being or will be introduced by IPHIM shortly:

Frozen vegetables

<u>Product</u>	<u>Estimated volume 1989</u> tonnes
Green beans	500
Tomatoes	500
Paprika (sweet pepper)	140
Artichokes	50
Carrots	45
Chives (small)	15
Turnips	45
Mushrooms	7

Jams

<u>Product</u>	<u>Estimated volume 1989</u> jars 37 cl
Strawberry	400,000
Apricot	200,000
Nectarine	200,000
Orange	200,000

Equipment for freezing vegetables is now installed, but at present IPHIM is producing only frozen artichoke hearts for a customer in France. Production of other frozen products will commence soon.

(g) Plant performance

Plant performance depends on the quantity of input that can be processed and the market demand. IPHIM has planned the production for 1989 based on the following input possibilities:

Table 7.1.3: Planned inputs of raw material and production, 1989
(percentage)

	Artichokes	Green beans	Gherkins	Pimiento	Sweet pepper
January	-				
February	10	10			
March	30	40			
April	40	40	5		
May	10	10	20		
June	10	-	10		
July			10	10	10
August			10	20	20
September			10	20	20
October			15	20	30
November			10	20	10
December			10	10	10
TOTAL	100	100	100	100	100

The production capacity of each product line before the common canning process line is as follows:

- Green beans production line is completely mechanised with a production capacity based on an extra-fine product of 40 tonnes/day (20 hours).
- Tomato concentrate line is 80 per cent mechanised with a production capacity of 70 t/day.
- Peeled tomato line is 60 per cent mechanised with a production capacity of 50 t/day.
- Pimiento semi-mechanised highly labour-intensive line with a production capacity of 10 t/day.
- Gherkin bottling line with a capacity of 20,000 bottles per day.

Because the frozen processing is completely new, the input is not adapted in terms of capacity (manual feeding) and the technical characteristics proposed by the supplier are not obtained. The production capacity for many products is as follows: green beans 500 kg/h, cut tomatoes 200 kg/h, artichoke hearts/360kg/h, carrots 400 kg/h, celery 350 kg/h, turnips 400 kg/h.

For other products such as canned artichokes and celery IPHIM's process line is 80 per cent manual, with capacity depending on the number of non-permanent workers and number of teams per day.

The global rate of utilization is 60 per cent, considerably more than the average rate of utilization of similar plants in Larache Province, which is estimated at 35 per cent.

(i) Efficiency and productivity

To become more efficient and productive, all manual lines must be reorganized and reimplemented logically in relation to the final product. The first step is to provide better conditions for workers by mechanical assistance for some operations such as preparation, cutting, and washing.

Additionally, IPHIM should collect and separate all wastes resulting from different steps of the production and recycle them.

(ii) Quality control and general hygiene

IPHIM has an internal laboratory with very limited equipment for quality control of the final products. When IPHIM processes a special product for a particular customer, the quality of the final product is controlled in the laboratory by the customer's agent before shipment. This is the customer's responsibility. Quality control and general standards of hygiene can certainly be improved, especially by controlling the quality of water used during the different steps of production, controlling the sterilization effect on the final product, and improving general hygiene conditions of workers by providing gloves, etc.

(h) Cost and price structure

Very little information was made available to the mission on cost and price structure. There was, however, some information on the cost of cans. Generally the price rate of cans on the total price is above 35 per cent, with a variation of between 20 to 50 per cent depending on each product. The rate for two of the products is:

- Garden beans: Price of can 4/4 is 45 per cent of total production cost and 44 per cent of selling price.
- Green beans: Price of can 4/4 is 23 per cent of total production cost and 22 per cent of selling price.

One solution used by IPHIM to help avoid this high cost is to import cans under temporary import licenses, which are given on the understanding that the canned products will subsequently be exported.

(i) Markets and competitors

Ninety-five per cent of the company's products are exported, including canned green beans, peeled tomatoes, tomato concentrate, celery, gherkins and in the future, frozen artichoke hearts.

France and Spain are the main export markets, where the products are sold through commissioning agents, representatives or directly to important customers such as supermarkets. IPHIM has various licence agreements with companies in both of these countries, and the corresponding products are sold under the name of the licensor without mentioning the country of origin on the label. Thirty per cent of the export sales are through commission agents in France, Spain, Belgium and USA.

Pimiento powder is the only product on the company's sales programme that is not exported but sold exclusively on the local market. The company's market share is about 30 per cent, while the most important competitor "LUCOS" has about 35/per cent of the total local market. At present the local market for pimiento is more or less saturated. Consumption of pimiento is concentrated almost entirely in the urban areas, as in the rural areas it is prepared and supplied by subsistence farmers.

The possibilities for expansion in both established and new export markets for IPHIM's traditional products are considered very good. Interesting future markets are Canada, USA, the other Maghreb countries (Algeria, Mauritania, Tunisia and Libya) and west Africa. Although the Spanish and French markets are already penetrated to a great extent, they are believed to have room for further expansion. The demand for the company's products there cannot be satisfied for the moment.

In general, it is the mission's opinion that demand for canned and frozen vegetables on the European market will slow down in the next few years, but it is also believed that this will be compensated for by expansion of exports in new markets, as well as by the increase in sales on the local market.

An interesting agreement has been concluded with Algeria for the supply of 3,000 tonnes of tomato concentrate financed by a short-term credit line from BNDE (Banque Nationale pour le Développement Economique).

(j) Constraints

In terms of physical plant, there will be only a few major constraints once the new investment in additional equipment and facilities is implemented during the current year. To improve the productivity of the plant and quality of the product the following constraints must be removed:

(a) Pimiento production line

- Manual mixing of the seeds and leaves.
- Lack of proper storage silos at any point in the production process, leading for instance to inadequate hygienic conditions in the storage of pimiento powder.
- Manual transfer of material between the grinding processes and the from the grinding area to the store.

(b) Vegetable processing production line

- Lack of organized production flowline.
- Poor hygienic conditions throughout the production process.
- Lack of any water treatment and the use of static tanks for washing pose a potential health risk, which is a constraint on the quality of canned and frozen products for the export markets.
- Lack of any properly organized collection and use of the waste material produced by the factory.

- Insufficient canning capacity for the periods when both production lines are in use. resulting in a bottleneck at this point in the production process. This is a major restraint.
- Lack of any refrigerated trucks for the delivery of the frozen products to the customer.
- Lack of a second generator to prevent power interruptions to the cold store.

With respect to inputs the constraints are:

- Inadequate pricing policy with farmers for the supply of raw materials to the factory.
- Lack of adequate planning in obtaining raw materials from other geographical areas with different seasons and varieties of vegetables to extend the operational period of the factory during each year and thereby improve output and the rate of utilization of installed capacity.

With respect to marketing the constraints are:

- Lack of a sales manager post to coordinate both the local and the export sales, in anticipation of expansion of factory operations.
- The present division of the sales organization into two departments, located one in Larache and one in Casablanca.

7.1.2 Rehabilitation requirements

(a) Financial structure

The company registered a loss of DH 258,620 in 1987 (latest available figures). This loss could probably be reduced considerably by introducing certain measures on the production and financial side of the operations, as well as better planning in purchasing raw materials.

Judging from the financial statements a more stringent financial management is called for and a careful analysis of stock-keeping and collection of outstanding customer debts is recommended. The value of stock at the end of 1987 (Dh 5.8 million), equivalent to two thirds of total sales, is considered too high and is increasing the capital cost considerably. Outstanding debts from customers (DH 2.3 million), equivalent to 25 per cent of total sales are also far too high.

(b) Management and organization

The factory is very dependent on a steady and adequate influx of raw material in order to be able to utilize its production capacity to its optimum. Unless the company makes its purchases of raw materials outside the immediate vicinity of Larache, looking for suppliers in the southern part of the country, it will not be able to fill out the lean periods of raw material supply. Also, the frequent disputes over suppliers' contracts should be avoided through carefully drawn up agreements.

Very careful planning of raw material purchases, production, financial management and marketing is necessary for increasing the level of capacity utilization and the profitability of the plant.

The increased capacity utilization will without doubt create a need for additional technical competence for maintenance and stand-by repair service. and also for qualified supervisory staff.

It is recommended that a new position of Sales Manager be created with full responsibility for all sales on both the local and export markets. This would allow the General Manager to concentrate on important duties in connection with the overall operation of the company. Also, the Casablanca office should be under the responsibility of the Sales Manager rather than the Assistant General Manager. The Assistant General Manager would then be able to devote more time to financial management, which at the moment needs all the attention it can get.

It is also recommended that the company purchase the necessary equipment to computerize its purchasing, sales, administration, stock and financial analysis operations.

(c) Physical plant

No actual rehabilitation requirements are necessary for the existing physical plant, as all is in good condition and well maintained but the modernization of the plant should include improvements of drying systems, water treatment and transport systems, as well as the recovery and further processing of plant wastage. Adequate finance appears to be available within the company for the purchase of all necessary spare parts. However, in order to obtain maximum efficiency of the drying system, energy usage should be reduced. Better organization of personnel is another area requiring attention in order to increase productivity. Technical assistance to address these problems is a priority as the necessary expertise is not available within the company.

With respect to the production of canned celery, frozen artichokes and canned artichokes, there is a potential health problem posed by the practice of using static water tanks, with no fresh water recirculation, filtration or water treatment for washing the vegetables. Even for the local market, this practice should be halted; for the export market, investment in hygienic washing facilities is absolutely essential. In addition, proper equipment for colour stabilization should be obtained and a back-up generator purchased.

In order to increase the volume of production and to reduce production costs, the flow-line must be properly reorganized in order to achieve a smooth and efficient production flow, utilizing where possible some of the existing conveyor systems. The new equipment for efficient and hygienic washing and colour stabilization should be incorporated into this production line. Waste material from the production process, which is considerable, should be collected, stored and used for either animal feed or biogas production, depending on the precise economics of the two potential uses. More investigation should be conducted into these potential uses.

If the company is to enter export markets the pimiento production unit should be developed so that it can produce sufficient amounts to enable the company to enter the export market with a controlled quality product and reduce production losses. It would then be necessary to modernise the process line as follows:

1. Introduce automatic proportioning and mixing of the seed and leaf for every grade of product.
2. Replace the manual transfer of powder at the intermediate grinding stages and to the packaging store with a pneumatic transport system.
3. Provide correctly sized silos for the hygienic storage and conservation of the pimiento powder.

(d) Inputs

IPHIM could improve its supply of raw materials by improving its purchasing policy. It should diversify its sources of supply, taking advantage of the differences in growing seasons and crops between the various provinces of the country. Further, it should review the contracting conditions with supplying farmers, making it more attractive for them to supply inputs in the quantities and qualities needed. IPHIM might also consider running its own farms, as there is enough land available.

It is recommended that a feasibility study be conducted to survey the various ways of processing vegetable waste (for example, biogas production, composting and animal feed production) and the technical and economic issues involved in such processing.

(e) Cost and price structure

In the absence of sufficient information on IPHIM's cost and price structure, the mission has no recommendations to make.

(f) Marketing

As mentioned earlier, 95 per cent of IPHIM's production is exported, with the most important markets being Spain and France.

This high dependence on only two markets makes the company very vulnerable with respect to market fluctuations; therefore, diversification is recommended.

It is recommended that strong marketing efforts and a market study is recommended for diversification of the export markets towards Maghreb and west African countries, several of which have already expressed their interest in IPHIM's products and a few business deals have been concluded.

It is recommended that a new position of Sales Manager be created with full responsibility for all sales, both on the local and export markets. The Casablanca office should be the responsibility of the Sales Manager rather than the Assistant General Manager.

Pimiento powder, the most profitable product, is sold only on the local market, but this might be an interesting export product providing that the production facilities are expanded. It is strongly recommended that a market study be conducted to determine potential export markets for this product.

7.2 SOTCODAT

7.2.1 Existing situation

(a) Plant history

In 1961 the agricultural services of the province organized the producers of dates into a co-operative (Cooperative Dattière à Erfoud) to condition dates. However, this co-operative did not have any equipment, and therefore did not develop.

In 1972-73 ORMVAT commissioned a study by SCET International, but the conclusions regarding investment in a date processing facility were not compelling. The form of the ORMVAT organization changed in 1975 when SORI [Société Régionale d'Industrialisation], under its President Mr. Alami Tazi, joined ORMVAT and the Collectivites Ethniques as the principal promoters in the effective realization of the SOTCODAT [Société de Traitement et de Conditionnement des Dattes du Tafilalt].

The company was created on 29 October 1975, the factory was built during 1975 and 1976, and the facilities were commissioned in February 1977.

Since it was commissioned the factory has never utilized its full installed capacity of 2,000 tonnes of processed dates per year. The average production of the factory was approximately 266 tonnes between 1977 and 1983 and fluctuated as follows:

<u>Year</u>	<u>Tonnes produced</u>	<u>Installed capacity (Per cent)</u>
1977-78	417.1	20.9
1978-79	207.4	10.4
1979-80	-	-
1980-81	751.5	37.6
1981-82	71.0	3.6
1982-83	148.0	7.4

Since 1983 the factory has been closed due to problems concerning its operations, raw material supply, and marketing of the product. Attempts are now being made to restart production of processed dates and also to diversify into other products, such as apples and seed potatoes. The company now has an exclusive distribution agreement with the government agency SONACOS for seed potatoes, and expansion into the development of a nursery for the breeding of potatoes is planned. Quotations for a date syrup unit and a second-hand biscuit manufacturing plant are also currently being examined.

From July 1988 to December 1988, Mr. Tazi invested a further DH 1.2 million into the company to reinforce his commitment to its survival. However, SOTCODAT has strong competition from the Maghreb countries,

especially Algeria, which produce cheaper and better quality dates. This makes the export of dates a difficult proposition for SOTCODAT. On the local market, packaged dates are not accepted, due to the higher price and the traditional preference of most consumers to choose their product from large open boxes. Currently the company lacks trained personnel, has severe financial problems, and has problems operating the fumigation equipment.

(b) Management and organization

"Société de Traitement et de Conditionnement de Dattes" (SOTCODAT) is a semi-public company with a legal status "société anonyme"; founded in 1975 the company has its office and production facilities in Er-Rachidia in the Tafilalt area.

The Board of Directors consists of the following persons:

Mr. Alami Tazi, Chairman
 Mr. Larbi Sebbari
 Mr. Brahim Makhoulf
 Mr. Mohammed Hadj Regragoni
 Mr. Jamal Tazi
 Mr. Abdellatif Sayarh
 Mr. Moulay Abdelkader Bouhamid
 Mr. Mohammed Hadj Hadjjioui
 Representative of "des collectivites Ethnique du Ministre de l'Interieur"

Board meetings are held once every 4-5 months.

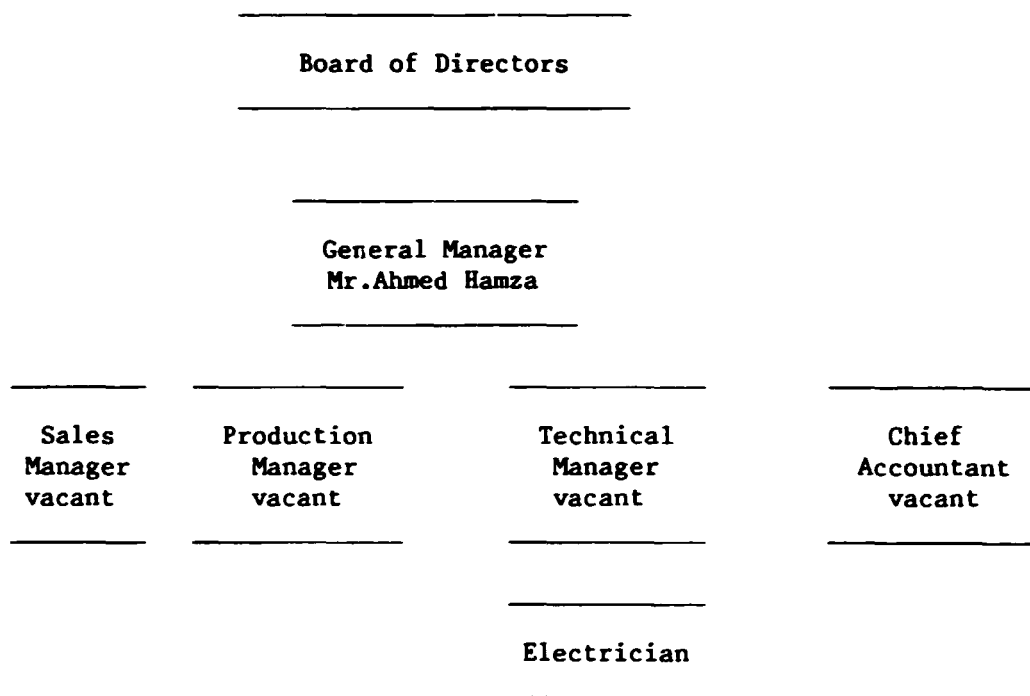
The General Manager, Mr. Ahmed Hamza, takes part in the Board meetings but is not a formal member of the Board.

The budget is made in July and the company's financial year runs from September to September.

The initial capital of the company of DH 3 million (30,000 shares of DH 100) was increased to DH 3.4 million in November 1976 and increased further to DH 6.81 million in 1983 (to 68,100 shares of DH 100). The share capital is distributed as follows:

<u>Shareholders</u>	<u>Number of shares</u>	<u>Value</u>	<u>Participation (Per cent)</u>
ORMVAT	20,000	2,000,000	29.4
Collectivites Ethniques	17,990	1,799,000	26.4
Mr. Alami Tazi	15,820	1,582,000	23.2
S.O.R.I.	8,800	880,000	12.9
SOCOMIT	1,490	149,000	2.2
Various (145)	4,000	400,000	5.9
TOTAL	68,100	6,810,000	100.0

The company has experienced many difficulties since it started operations. It stopped production completely in 1983 and commenced a marginal production again in 1988.

Figure 7.2.1Organizational structure of SOTCODAT

Because of the reduced activity of the company, all middle management positions are vacant. The General Manager performs all the duties of the accountant, sales manager and production manager. He is also doing all the purchasing of raw material.

The company presently employs ten permanent and 50 temporary employees. When there is a need for technical assistance in the factory ORMVAT, the major shareholder usually provides engineers or technicians.

The General Manager, Mr. Ahmed Hamza, studied public law in France and has a masters degree from Academie de Lyon II. He has worked as a civil servant in the Ministry of Internal Affairs in Rabat and he was employed by Credit Imobilier et Hotelier in their financial department. Before joining SOTCODAT in September 1988 he worked as a consultant for a French consulting firm in Rabat.

Mr. Hamza gives a good impression of a serious and dedicated manager with many good ideas. He could probably do a good job as General Manager once the company is rehabilitated and the worst financial problems have been solved.

According to previous studies, the company has a history of badly managed raw material purchasing and marketing of finished products. The extremely complex situation regarding the purchase of dates in Morocco demands a very skilled purchasing manager. The same is valid for the marketing side of the operation.

(c) Financial structure

SOTCODAT's financial structure is very unbalanced, with no correspondence between assets and the capital employed. The last complete figures, available for 1984-85, were used as the basis for an estimated balance sheet which might apply as of March 1989.

Assets

A specific evaluation of the assets was carried out by the Cy Galtier Frères Afrique on 30 November 1984, based not on the effective purchase price of the assets but on the replacement, insured and actual market value of the assets.

Table 7.2.1: Evaluation of assets - SOTCODAT
(in thousands of dirhams)

Capital assets	Purchasing value (1973-75)	Replacement value (1985)	Insured value (1985)	Market value (1985)
Land	100	660		612
Buildings	3,125	5,967	5,072	4,475
Ancillary works	572	143		71
Machinery	2,872	11,118	8,247	5,564
Vehicles	126	346	72	72
TOTAL	6,795	18,234	13,391	10,794

Source: Cy Galtier Frères Afrique, 30 November 1984.

No updating has been made since that period. The present negotiation between the shareholders, the lenders and the regional authorities does not mention the value or even the existence of assets for the company.

The following observations are made by the mission, regarding a tentative re-evaluation of the capital assets of the company:

1. SOTCODAT land property is under-valued, according to the new housing development of the area. The current trade value of the land can reach up to two to three times the 1985 value.
2. Buildings, which have been repaired with 1988 investments, may have a 1989 market value fairly comparable to that of 1985.
3. The value of machinery and vehicles, on the other hand, has to be considerably depreciated. Vehicles are in bad condition and some machinery does not conform with the new start-up commitments of the company.

The total actual value of these assets is significantly lower than the figures estimated in 1985.

The estimated total assets of SOTCODAT, therefore, should be depreciated by one-third or one-fourth in comparison with 1985 figures.

Capital employed

The evaluation of the major three items of capital employed is the following:

	<u>DH</u>
Share capital	6,810,000
Long-term debts and unpaid interests	17,591,000
New capital investment made in 1988 to repair the building and pay debts	700,000
	<hr/>
TOTAL	25,091,000
	<hr/>

This statement shows a huge imbalance between the value of assets and the capital employed; the ratio being approximately from 1 to 5. The situation is still very serious with no work in progress, no stock of raw material or packaging material and no finished goods on stock. The company has no short-term debts but against this has no working capital.

(d) Buildings and installations

SOTCODAT owns two parcels of land, one of 19,400 m², which is occupied by the factory, and a second parcel of 7,000 m², which is reserved for a new factory. The existing factory buildings consist of the following:

<u>Existing buildings</u>	<u>Area</u> (m ²)	<u>1984 value</u> (DH)
Main factory facilities	4,435	3,983,700
Office	309	370,900
Small house	18	17,550
Transformer station	45	40,500
WC	28	35,150
Water pump station	35	26,200
	<hr/>	<hr/>
TOTAL	4,870	4,474,000
	<hr/>	<hr/>

All buildings are of concrete block construction with a reinforced frame structure. All roofing is of steel corrugated sheets and floors are finished in terrazzo. The entire factory is in excellent condition and no repair work is required to any part of the building.

The equipment consists of the following items in order of the normal process flow:

1. Dates are first weighed on a MOLEN weighing machine, capacity 2,000 kg, as they enter the factory and again as they are delivered from the factory store to the production line.
2. On arrival the dates are fumigated in an autoclave type fumigation chamber [type: Mallet, France], which has a volume capacity of 10 cubic metres and can fumigate approximately 12 tonnes of dates per day in normal operation. The fumigation agents used are ethylene oxide at a dosage of 100 grams/m³ 90mm and methyl bromide [Photostoxin]. The dates are then transferred to the production area or to the cold store to await subsequent processing.
3. The cases of dates are then unloaded onto the selection unit, which consists of the following parts:
 - (a) Inclined feed conveyor, 4m long.
 - (b) Screen mesh with 20mm opening to remove any large contaminants from the dates.
 - (c) Horizontal first-stage selection conveyor, 10m long, having five work stations on each side of the conveyor for a normal team of ten personnel. The width of the conveyor is split into three sections by steel dividing strips. First quality dates are left in the centre of the belt; second quality dates (which include all dry dates) are placed on the outer two sections of the conveyor by the selection team.
 - (d) At the end of this first-stage selection, the dates are fed onto the two second-stage selection conveyors, each of which is 6m long with three work stations on each side of the two parallel conveyors for a team of six personnel on each conveyor. The width of each of these conveyors is also split into three sections by steel dividing strips.

The two grades of dates from the first-stage selection conveyor are divided such that the first quality dates from the centre of the first-stage conveyor flow directly onto the first conveyor of the second-stage selection unit. The second quality dates from the two outer sections of the first-stage conveyor are diverted onto a 200mm wide cross-conveyor, which feeds the second second-stage selection conveyor. Four date qualities are therefore produced, and these are deposited into plastic baskets at the end of the conveyor system. The normal quality of dates received at the factory were stated to give the following proportional split of qualities:

<u>Quality</u>	<u>Per cent of total</u>
1st grade	80
2nd grade	10
3rd grade	4
4th grade	6

The fourth grade is either made into date paté or is totally rejected.

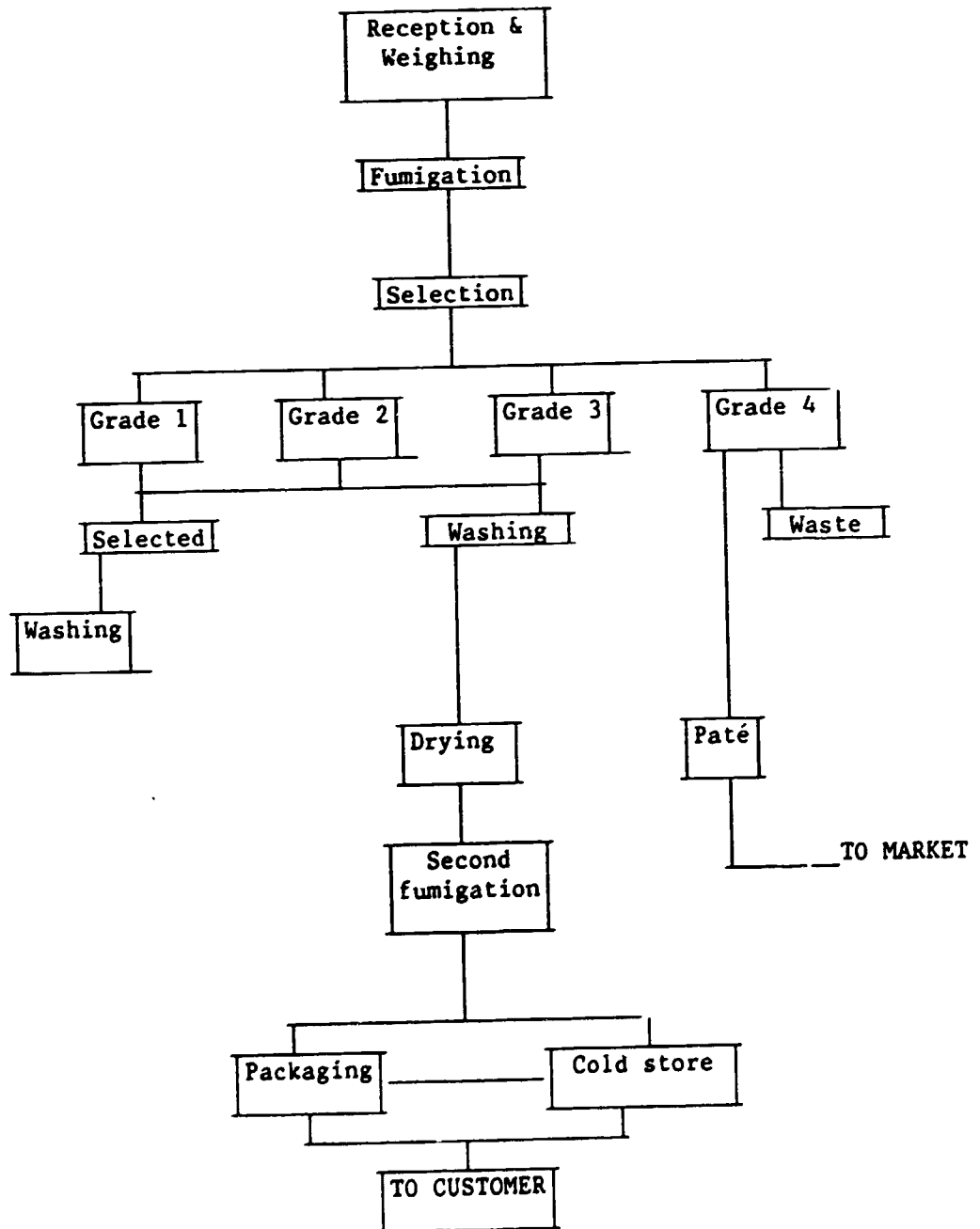
4. After the dates have been graded they are then transferred from the plastic baskets to wire mesh frames and are then washed. The majority of the dates are washed in six concrete static water tanks, each sized 1.2m x 1m x 1m, by immersing the wire mesh frames in the water bath. Gentle swirling of the frame with some hand washing of the dates is the normal cleaning procedure. For a small quantity of the highest quality dates, more efficient washing is carried out in a small washing unit which delivers high pressure water through an inclined perforated grid plate, on which the dates are deposited. The dates from this plate then move onto a bucket type elevator, above which is a series of water jets which clean the dates again. The elevator then deposits the dates onto a screen mesh for draining and transfer to the dryer.
5. The factory is equipped with two dryers, type Sechois Roucadil, each of which is 1.4m wide x 5.9m long x 2m high. Each of the two dryers is heated by a Hofamat oil burner [capacity 5.5 - 16 kg hour]. A temperature of 45-60/degrees C inside the dryer is maintained by means of high temperature and low temperature controllers. The drying time is approximately two hours but this depends on the moisture content of the dates. It should be noted that the dryers have no hygrometric control.
6. Following drying, the dates are transferred to the fumigation chamber for a second fumigation cycle, after which they are transferred to the three weighing and packaging lines. Two of the lines consist of eight weighing stations with 12 kg balances, which feed a central feed conveyor. At each weighing station a woman worker manually fills the boxes with the correct weight of the product and places them onto the conveyor. The standard 500g boxes^{1/} with a cut-out top are first wrapped in thin polythene film, which is glued onto the box by hand, then packed in cardboard cartons, each holding thirty 500g boxes. The boxes are then sealed by scotch tape. Each of these two lines is equipped with a packaging unit, type RAPIDEX, France, for the packaging of wooden cases. These packaging units are no longer used, as dates are no longer sold in wooden cases, but the machinery is still in working order.

The third weighing and packaging line was supplied by Autocouturier, France and is used only for the packaging of 500g boxes. The line consists of ten weighing stations, each equipped with a 3 kg capacity balance.
7. After packaging, the boxes of dates are transported on wooden pallets by hand trolleys, type Fenwick, and by forklift truck either to the despatch area or to the cold stores.
8. The factory is equipped with four cold stores, each with a capacity of 500 tonnes of dates, i.e. a total of 2,000 tonnes or one year's production at designed capacity. Each of the cold stores is equipped with two compressor units, type Hutogergyar (Hungary), rated at 2,300 kcal per hour, and fan recirculation units. The temperature is maintained between 1 degree C and 5 degree C. Humidity within the cold store is monitored at only one position close to the entrance to the store.

^{1/} Other box weights: 0.75, 3.5, 10, 15 and 20 kg.

All the equipment, dryers, fumigation unit and cold stores is in good condition but the personnel have some problems in operating the fumigation unit and there is some difficulty obtaining spare parts from Hungary for the refrigeration units. For better monitoring of the cold store temperature and humidity it would be advisable to have three additional measuring instruments within these large chambers.

Figure 7.2.2: Process flow - SOTCODAT



(e) Inputs

About 22 per cent of Morocco's 1.2 million date palm trees are grown on the plain of Tafilalt and the Ziz-Cheris-Ferkla-Guir valley. Dates come in different varieties, and the best quality are Mejhoul and Feggous.

Table 7.2.2: Variety of dates cultivated in the Tafilalt region

Variety	Number of trees	Percentage of total
Khalt ou Saïr	504,000	42
Bouslikhene	336,000	28
Feggous	288,000	24
Las Lehmer	18,000	1.5
Mejhoul	12,000	1.0
Boucerdoun	6,000	0.5
Belhezit	6,000	0.5
Others	30,000	2.5
TOTAL	1,200,000	100

Source: Plan National de Développement du Palmier Dattier, 1986.

Depending on the year and variety, the yield by tree is expected to be from 15 to 45/kg. The average total production of dates in the region averages 30,000 tonnes of which 33 per cent is commercialized.

(i) National development plan of date palms

After the destruction of more than 15 per cent of the palm trees by the virus "Bayoud", ORMVAT applied the provisions of the national development plan for this fruit with two action programmes:

- Short-term action programme: Planting of 147,500 palm trees of a better quality variety such as Mejhoul and Feggous between 1988 and 1990.
- Medium- and long-term action: Planting of 1,852,500 palm trees, type Khalt.

(ii) Date supplies

The harvesting season is from September-December. During this period, it is estimated that more than 20,000 tonnes of dates are produced, of the following four main varieties:

<u>Variety</u>	<u>Harvest share (Per cent)</u>
Khalt	53
Bousliken	22
Boufeggous	20
Mejhoul	5

The quality and quantity of the input is highly dependant on two factors:

- the harvesting method used by farmers; and
- the purchasing policy of the factory, which should take into account the farmers' stipulations and the strong competition on the free market in the province.

All input requirements must be contracted for with the suppliers in June and July prior to the harvesting season, and the necessary finance must be provided by the company for the purchases during this period. For purchases after this period the prices are higher and the quality of the available dates is poor.

(iii) Other inputs

SOTCODAT is planning to develop new business in the cultivation and distribution of apples, buying the crop during the harvesting period at low prices and the crop being stored in the cold stores until it is sold later in the year at higher prices. The harvesting period of Golden Delicious apples is during the same period as dates but both the harvesting period and purchase period are limited to only 1.5 months. A similar business is also planned for seed potatoes.

Planning for the two inputs, dates and apples, is as follows:

<u>Dates</u>	<u>Period</u>
Advance payment for purchase	June-July
Collection and transport to factory	October
Storage, treatment and packaging	November
 <u>Apples</u>	
Advance payment for purchase	July-August
Collection and transport to factory	mid-September-October

SOTCODAT's input requirement can easily be supplied by existing available sources and in addition, ORMVAT has already begun an extensive development programme in the province to further increase agricultural production of farmers and rural collectives.

(f) Product range

SOTCODAT has three main products on its sales programme:

<u>Product</u>	<u>Quantities sold 1988</u>	<u>Provisional sales 1989</u>
Dates	18	47.5
Apples	240	116.4
Seed potatoes	50	100.0

Plans for diversification of production include introduction of a higher degree of date-processing. Quotations have been received from France and Belgium for second-hand machinery for processing of dates to biscuits and date syrup.

There are also plans for growing and selecting seed potatoes for the local market.

(g) Plant performance

The factory, having been closed for several years now, is just beginning to resume activities, therefore information on present plant performance is not available.

(h) Cost and price structure

The structure of the production costs for conditioning dates during an unspecified three-month period in 1988 was estimated as follows:

	<u>Percentage</u>
Raw material	29.2
Financial charge	26.5
Amortization	19.2
Salary and wages	11.3
Social taxes	7.9
Taxes	4.2
Transportation	1.2
Other charges	<u>0.5</u>
TOTAL	100.0

This cost structure cannot, however, be representative of SOTCODAT's actual average production costs but it does give an indication of the importance of the cost factors in the production cost.

(i) Markets and competitors

Marketing of processed dates is rather complicated in Morocco and several obstacles have to be overcome, as the buying habits of the population are very traditional. Packaged dates are a relatively new product, or seen as a new, more expensive way to market a known product. The average buyer wants to buy his dates loose to be able to see and check the product before buying. Packed dates have therefore received a certain buying resistance from the Moroccan public.

In addition, demand is seasonal. Approximately 85 per cent of dates are consumed during the Achoura and Ramadan periods, which change each year. This makes it very difficult to match supply and demand. A similar problem exists on most export markets where the demand for dates is also seasonal, being concentrated on the Christmas and New Year periods. More serious problems on the export markets are related to product quality and packaging, which must be improved if SOTCODAT is to be successful.

A great obstacle, which is most important for the marketing of dates from SOTCODAT is that their sales have significant competition from both legal imports and smuggled imports of high quality dates from Algeria and Tunisia. This competition is likely to increase due to the expected effects of the new Maghreb market. Packed conditioned dates from Algeria are of better quality and 10-15 per cent lower in price than the dates from SOTCODAT.

SOTCODAT's only export consisted of 18 tonnes of date paste delivered to Belgium before 1985. This was not the result of an extensive marketing effort, but due to the fact that the customer in Belgium is a relative of Mr. Tazi, the main shareholder. The mission compared the dates from SOTCODAT with those sold on the souks of Er-Rachidia and Erfoud and found that the quality of dates in the souks were of a considerably higher quality and the prices were also lower than those of SOTCODAT.

The cost of storage in cold stores increases the price of the product in comparison with the prices of the local competition; the farmers condition the dates in accordance with traditional methods, without cold storage.

Apples, products having low added value, are resold without any processing. The company has plans to start growing apples in the Er-Rachidia area. This could become an important barter product with Algeria (exchanging apples for dates). Algeria's market for apples is judged to be very good and is relatively high priced.

Seed potatoes are currently imported by SONACO, a government monopoly; and exclusively distributed by SOTCODAT. Imports come mainly from West Germany and are sold unprocessed by SOTCODAT. There are plans to grow this product in the area under the supervision of SONACO, with SOTCODAT acting as an intermediary processor (seed selection) and wholesaler.

(j) Constraints

Constraints with respect to the physical plant are:

- Lack of properly trained personnel in processing techniques.
- Poor washing facilities for the majority of the production.
- Lack of hygrometric control in the dryers.
- Lack of know-how regarding fumigation techniques, according to the variety of dates.
- Insufficient control on the humidity and temperature inside the cold stores and lack of knowledge of adequate storage techniques for each variety of dates.
- Lack of technical control throughout the production process.

Financial, management and marketing constraints are:

- A serious lack of financial resources.
- Poorly designed packaging, especially for the export markets.

Constraints with respect to inputs are:

- Poor and inadequate methods of harvesting and storing the dates on the farms.
- Lack of an appropriate purchasing policy from farmers and collectives keeping into account the purchasing methods used in the province by all the competitors.
- Insufficient funds to contract and make advance payments for the best quality dates, three or four months in advance of the harvesting period.

7.2.2 Rehabilitation requirements

(a) Financial structure

SOTCODAT's financial rehabilitation requirements must be examined under 3 different aspects which are inter-related. The company can pay the outstanding debts only if there is an immediate start-up of activities together with the implementation of medium-term actions for diversification. But each of these activities are distinct and involve specific measures of support.

Even if the company becomes operational and profitable in the future, the geographical location of the plant is an handicap; the additional expenditures of transport and gas for the cold stores, for example, can be minimized but will still penalise the company, in comparison with its competitors.

Immediate start-up and financing of current assets

The restart of SOTCODAT activities requires an injection of working capital. The 1988 operations required DH 500,000 in cash for a total production value of DH 1,400,000. The production budget for 1989 is based on a total production value of DH 5,200,000 and necessitates a total cash amount of DH 2,000,000. New funds amounting to DH 1,500,000 are the minimum to be put at SOTCODAT's disposal by June 1989, in order to allow the company to make the advance payments for dates and apples by July.

It would be a mistake to restart the activities of the company with total long-term debts and share capital which exceed the actual value of the assets. Most of these debts, if not the total, would have to be capitalized; the dividends being indexed to the profitability of the company activity, rather than on a fixed interest rate.

The ratio between fixed assets and capital employed is 1 to 5 and readjustments have to be made in consequence by the company. The recent contribution of 0.7 million DH made by the principal shareholder can be considered as an injection of new funds towards that required for restarting the company. If the 1989 activities provide the expected results, the normal development will lead to increased needs of working capital by June 1990.

Medium- and long-term rehabilitation

The development and diversification of the activities of the company, related to processing agro-products of the Tafilalt region, necessitates the formulation of a medium and long-term rehabilitation plan, which should be prepared during the current period of slow growth of activities. This plan, which could be developed with UNIDO's technical assistance, will lead to new processing activities, which will increase the value added of the products. Those activities may include date syrup, Mejhoul top quality dates packed for export, biscuits, apples and seed potatoes; they will all need new investments, estimated to be approximately DH 2-3 million.

As a whole, the recommendations and solutions for the financial problems are the following:

- A reduction in the value of shares;
- A rescheduling of all long-term debts or, more preferably, a capitalization of these debts into share capital;
- New funding of DH 1.5 million for the next budget year, not including the DH 1.2 million already provided;
- New funding of several million Dihams within about one year for long-term restructuring of the company.

(b) Management and organization

The history of the company clearly shows that it has had severe problems since the start, both regarding purchasing of dates and the marketing of products. Both activities appear to have been performed in a very inadequate manner.

If the financial restructuring is obtained it is essential that the present vacancies at the middle management level are filled with qualified staff.

A successful recovery of the company will call for the creation of the position of purchasing manager and the recruitment of a skilled person to fill this position. Equally important is the recruitment of a good sales manager who can deal with the complicated domestic market and the penetration of the export markets.

The company's difficult financial situation needs urgent attention; the financial department should be staffed as soon as possible with a qualified person capable of resolving the actual problems and of finding the working capital necessary for the operation of the company.

(c) Physical plant

There are no major rehabilitation requirements with respect to the existing machinery, dryers, fumigation unit and cold stores. However, relatively minor improvements will upgrade the quality of the final product. These include:

1. The installation of more efficient and hygienic washing facilities for dates, assuming that the current harvesting methods employed by farmers is maintained. It should be noted, however, that if the harvesting methods could be improved, the installation of new washing facilities may not be necessary.
2. The control of the humidity in the dryers should be improved by the installation of hygrometric controllers, so that the moisture loss for each type of date can be minimized.
3. The control of the temperature and humidity in the cold stores should be improved by the installation of additional instrumentation.
4. Due to lack of working capital the factory cannot purchase certain essential spare parts and consumable items with an estimated total cost of DH 200,000; however, the factory must find the means for their procurement, so that it is possible for the the factory to resume operation. The spares include:
 - electrical contactors for the refrigeration units;
 - batteries for the forklift trucks;
 - hygrometer units for the dryers;
 - freon gas and oil for the refrigeration units;
 - ethylene oxide for the fumigation unit;
 - analytical chemicals for routine quality control;
 - miscellaneous spare parts for equipment and vehicles.
5. Adequate training of the production personnel and supervisors, by means of a technical assistance programme, in the operation of the existing equipment and in routine quality control testing is necessary in order to produce quality products.

In the mission's opinion, options such as purchasing of a date syrup plant or a second-hand biscuit production unit should not be considered until the basic problems relating to the date processing have been resolved.

(d) Inputs

SOTCODAT has so far not pursued an attractive purchasing policy for farmers, in order to provide the firm with sufficient supply of first-rate fruits. The establishment of such a policy would be particularly important for successful penetration in export markets. The firm should therefore modify its purchasing contracts. Farmers should be given incentives to provide the firm with the best quality dates, for example by introducing differentiated prices for the various grades. The financial restructuring of the firm should make it possible to allocate extra funds for the purchase of good quality inputs. The firm should also think of other ways to increase the farmers' interest in SOTCODAT, for example through a profit-sharing scheme. Finally, the firm should assist the farmers ways to improve their harvesting methods.

(e) Cost and price structure

An analysis of the cost and price structure was not made, as the company was in the process of financial restructuring. At present, pricing is done on an ad hoc basis. The mission suggests that, as part of the modernization and rehabilitation programme, the methods of calculating costs and prices be given special attention.

(f) Marketing

Before any significant investments are made regarding production for export marketing, it is essential that market studies be performed regarding both the domestic and the export markets. The purpose of these studies would be to determine where potential sales can be envisaged and the most effective means to penetrate these markets.

SOTCODAT's previous marketing system for dates through representatives in Casablanca, Rabat and Fes (selling as they could or wanted, and returning the rest to the factory) - has to be modified.

The new agents and representatives, who are to be appointed by the company should be experienced and should be more strictly supervised; they should also be directly involved in increasing sales by means of an incentive scheme. One method would be for the company to conclude an agreement with wholesalers already established in the large urban centres, to profit from their existing distribution system.

Marketing only one seasonal product may prove expensive. Diversification and further processing of dates, apples and seed-potatoes might prove a profitable decision.

The company has one truck for the distribution and the collection of raw material. Contacts have been made with transport companies that make frequent deliveries to Er-Rachidia and return empty trucks to Casablanca and Rabat; these companies are willing to transport SOTCODAT's finished products to these places for a third of the current price.

7.3 INDUSALIM

7.3.1 Existing situation

(a) Plant history

INDUSALIM (Les Industries Alimentaires Réunies S.A.) was established in 1983 with a share capital of DH 5.1 million. The idea of a margarine production unit had first been raised in September 1983, when the purchase of a second-hand margarine plant from Spain was considered. However, the Banque Nationale de Développement Economique [BNDE] refused to provide a loan for second-hand equipment and insisted that only new equipment would be considered for any loan.

In 1984 a market study for margarine was conducted, which gave a positive indication of the potential market. A decision was made to go ahead with the factory on the basis of new equipment.

In June-July 1986 the BNDE agreed to provide loans for 70 per cent of the total investment requirements, which amounted to DH 7,900,000, and with a two year grace period. The other 30 per cent of the required finance, amounting to DH/4,000,000, was provided by a consortium of banks, as follows: BMCI - 40 per cent; BMCE - 25 per cent; SGMB - 25 per cent; Central Popular Bank - 10 per cent.

The first equipment for the factory arrived on site in November 1986 and the factory became operational in August 1987.

While the original market survey indicated Morocco's large consumption of butter, which is mostly imported, it did not take into consideration the reluctance of the consumers to change their eating habits and buy packaged margarine instead of blocks of butter. This is still the case even though a considerable amount of money has been spent on advertising the benefits of margarine in journals, pamphlets and letters to doctors.

(b) Management and organization

"Les Industries Alimentaires Réunies S.A." (INDUSALIM) is a Moroccan-Spanish-Libyan privately-owned company. The office is situated in Casablanca and the factory in Settat, about 60 km south-east of Casablanca. The legal status of the company is that of "société anonyme".

The Board of Directors consists of the following persons:

Mr. Zouir Abdellah, Chairman
 Mr. Kriskhi, SALIMA Holding
 Mr. Belkhat, SALIMA Holding
 Mr. Fossi Enrique, General Manager
 Mme. Rohr Francine
 Mme. Leroy Jeanine

The General Manager is both a major shareholder and member of the Board of Directors.

Share capital of DH 5,100,000 consists of 51,000 shares of a nominal value of DH 100 each.

Shares are distributed as follows:

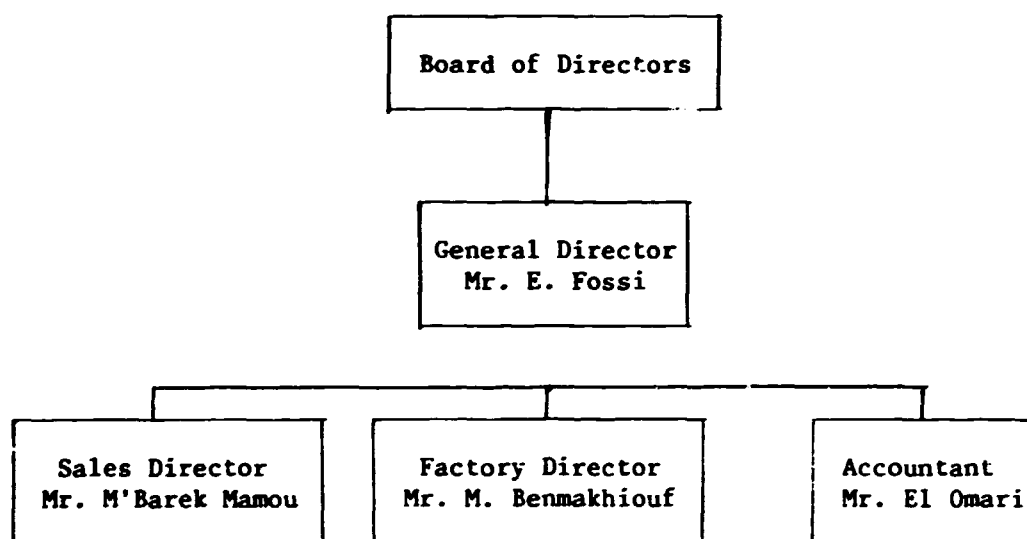
	<u>No. of shares</u>	<u>Value</u> (DH)	<u>Participation</u> (Per cent)
Mr. Zouhir Abdellah	15,300	1,530,000	30
Mr. Fossi Enrique	15,300	1,530,000	30
SALIMA Holding	15,300	1,530,000	30
Mr. Joudaly A. and others	5,100	510,000	10

The General Manager, Mr. Fossi, is a Spanish citizen who has lived in Morocco for 20 years. He graduated as an agricultural engineer from technical institutions in Madrid and Sevilla. Before starting at INDUSALIM he worked for a Spanish engineering company in Casablanca.

Mr. Fossi describes his working day as follows:

<u>Activity</u>	<u>Percentage of daily time</u>
- Routine work in the office	50
- Assistance in sales work	15
- Purchase of raw materials	10
- Technical work in the factory	10
- Contacts with banks, authorities, etc.	10
- Planning of future work	5

Figure 7.3.1: Organizational structure of INDUSALIM



Mr. Mamou, sales director, graduated from a commercial high school in France. He worked for BASF for many years before joining INDUSALIM.

Mr. Benmakhlof, factory director, has an engineering degree and was previously employed as a production manager for Coca Cola. He also worked for the oil refinery in Casablanca.

Mr. El-Omari, accountant, has no formal training in accounting but has had extensive work experience.

The General Director says that he is very content with the present staff but that there is a need for a financial director. The introduction of such a position is the only change that is contemplated in the structure of the organization.

Regarding strength and weaknesses in the organization, Mr. Fossi says that production is the company's strong side, whereas absence of a skilled financial manager and a computer system are the weak points.

(c) Financial structure

INDUSALIM is a private limited company (societe anonyme) with an issued share capital of DH 5,100,000 owned by Spanish, Moroccan and Libyan interests.

SALIMA Holding is a Moroccan company with some Libyan shareholders. The company started its operation in September 1987, and the following balance sheet and profit and loss account reflects the situation for the last three months of 1987 (These are the latest available figures). The company suffered a minor loss of DH 53,120 which must be considered normal in its first year of operation when costs usually exceed high income.

Table 7.3.1: INDUSALIM: Fixed assets and capital employed, 1987
(in dirhams)

Start-up expenses	3,453,484
Fixed assets	15,847,725
<u>Current assets:</u>	
Raw material	1,175,955
Finished products	696,891
Advances to suppliers	2,500
Customer debts	1,619,324
Other debtors	559,130
Regularization account (active)	78,172
Receivables	1,752
Banks	1,862,943
Cash	20,969
Loss	53,120
Total assets	25,371,965
<u>Capital employed:</u>	
Share capital	5,100,000
Reserves (report à nouveau)	(6,073)
Long-term debts	12,681,450
Suppliers	2,081,315
Current account (partners)	3,020,755
Other debtors	358,982
Regularization account (passive)	72,669
Various debts	2,125,868
Total capital employed	25,371,965

Customers' debts are DH 1,619,324, which must be considered far too high as they represent 32 per cent of total sales. The company's system for collecting outstanding debts should be made more efficient. Also, financial costs are cause for alarm as they represent as much as 26 per cent of total sales, or DH 1,305,348.

Depreciation rates used are as follows:

	<u>Depreciation rate</u> (per cent)
Start-up expenses	20
Buildings	5
Machinery	10
Vehicles	20
Office equipment, furniture	10

The rates are realistic in terms of the expected useful life of the various assets.

(d) Buildings and installations

The factory building consists of standard concrete block and clay brick walling construction with steel roofing sheets. All floors are finished in terrazzo. The production area is sized 39m x 27m with an office section at the front of the factory. As the factory is only 1.5 years old, the whole structure is in excellent condition and there is no requirement for any repairs or alterations.

The equipment is also virtually brand new, having been in use for a total of only three months since the factory opened. The equipment, in order of the process flow, consists of the following items:

1. Seven hydrogenation tanks, each with a capacity of 20 tonnes of oil. All tanks are fitted with thermometers.
2. Two oil tanks, each with a capacity of 20 tonnes of oil.
3. One decolourization tank, utilizing Fuller's Earth powder as the decolourizing agent. The production capacity of this unit is three tonnes per two hours or 12 tonnes per eight hour shift.
4. Three cooling tanks.
5. One deodourizing tank, located on the upper level above the other tanks. This has a capacity of three tonnes in four hours or six tonnes per eight hour shift.
6. Two filter presses, type Caldereria Gil SA, one operating with 15 plates and the other with 20 plates, both at one bar pressure.

From the oil storage facility, the vegetable oils are transferred to the production building to:

7. One proportioning tank (1m diameter and 2 ton capacity), in which sunflower oil and palm oil are automatically blended.
8. One storage tank for the blended oil.
9. One line of six tanks, each with a capacity of 500 litres, for the following additives:
 - two tanks for lecithin
 - two tanks for monoglycerine
 - two tanks for sugar

10. Two tanks, each of 300 litres capacity, for salt water addition.
11. One milk pasteurization unit, type Stork, with an independent heater unit and two milk storage tanks of 2,00 litres each.
12. One mixer tank fitted with a single paddle mixer for the final margarine mixture. To this tank are pumped the blended vegetable oil, the additives and the milk. The margarine mixture is pumped to:
13. Two production line storage tanks, each with a capacity of 2 tonnes. One of these tanks is normally being used by the production line while the second is being filled. Returns from the production line are stored in a third storage tank with a capacity of 1.5 tonnes.
14. A high pressure pump, type TMCi Chemtech Ltd., U.K., working at 140 psi delivers the margarine mixture to a double-insulated horizontal crystallization tank, type TMCi, This unit utilizes ammonia at 0 deg C as the cooling agent and the margarine mixture emerges at a temperature of 20 deg C.
15. The margarine passes through a horizontal mixing and texturizing unit before being pumped to the automatic carton filling unit.
16. The plastic box forming unit, type STPP Formapack, Spain, forms a continuous four-wide stream of 500g sized boxes from a 500mm wide sheet of rolled plastic. The boxes are thermoformed at 150 deg C and pass immediately beneath the margarine automatic filling unit, which fills two boxes simultaneously utilizing two filling pipes per box. The flow is controlled by constant pressure and a piston feed arrangement, the capacity of the machine being 950 kg of margarine per hour or 7.6 tonnes per 8-hour day. The box forming unit and filling unit can also be adjusted for 1kg boxes.
17. Once the rows of boxes are filled with margarine, a continuous sheet feeder unit, type Calocacion, feeds a sheet of aluminium coated paper on top of the four-wide stream of boxes. The top of the sheet is colour printed with the promotional design for each product type. A photocell controls the feed by black stop marks printed on the top edge of the paper at intervals of one-carton length, stopping the feed intermittently to allow lateral cutting of four-carton blocks from the continuous band. Longitudinal cutting to separate the individual boxes from the four-carton blocks is then carried out by five fixed rollers.
18. The individual boxes then flow onto an off-bearing conveyor, where a team of five women workers package the boxes into cardboard cartons containing 6kg of margarine. Cardboard inserts are placed between each layer of boxes. The 6kg boxes are packed onto wooden pallets, 90 boxes per pallet, and are transferred by an electric pallet truck, type BV, into the 120 tonnes capacity cold store, which is fitted with pallet racks enabling the pallets to be stacked four-high.

In addition to the production equipment, the factory is also equipped with a small laboratory, which undertakes routine quality control tests on both the raw materials, the margarine mixture and the final product. The product is manufactured to formulations proposed by the Institut des Corps Gras, Paris and the quality of the product is controlled according to their quality standards.

10. Two tanks, each of 300 litres capacity, for salt water addition.
11. One milk pasteurization unit, type Stork, with an independent heater unit and two milk storage tanks of 2,00 litres each.
12. One mixer tank fitted with a single paddle mixer for the final margarine mixture. To this tank are pumped the blended vegetable oil, the additives and the milk. The margarine mixture is pumped to:
13. Two production line storage tanks, each with a capacity of 2 tonnes. One of these tanks is normally being used by the production line while the second is being filled. Returns from the production line are stored in a third storage tank with a capacity of 1.5 tonnes.
14. A high pressure pump, type TMCI Chemtech Ltd., U.K., working at 140 psi delivers the margarine mixture to a double-insulated horizontal crystallization tank, type TMCI. This unit utilizes ammonia at 0 deg C as the cooling agent and the margarine mixture emerges at a temperature of 20 deg C.
15. The margarine passes through a horizontal mixing and texturizing unit before being pumped to the automatic carton filling unit.
16. The plastic box forming unit, type STPP Formapack, Spain, forms a continuous four-wide stream of 500g sized boxes from a 500mm wide sheet of rolled plastic. The boxes are thermoformed at 150 deg C and pass immediately beneath the margarine automatic filling unit, which fills two boxes simultaneously utilizing two filling pipes per box. The flow is controlled by constant pressure and a piston feed arrangement, the capacity of the machine being 950 kg of margarine per hour or 7.6 tonnes per 8-hour day. The box forming unit and filling unit can also be adjusted for 1kg boxes.
17. Once the rows of boxes are filled with margarine, a continuous sheet feeder unit, type Calocacion, feeds a sheet of aluminium coated paper on top of the four-wide stream of boxes. The top of the sheet is colour printed with the promotional design for each product type. A photocell controls the feed by black stop marks printed on the top edge of the paper at intervals of one-carton length, stopping the feed intermittently to allow lateral cutting of four-carton blocks from the continuous band. Longitudinal cutting to separate the individual boxes from the four-carton blocks is then carried out by five fixed rollers.
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In addition to the production equipment, the factory is also equipped with a small laboratory, which undertakes routine quality control tests on both the raw materials, the margarine mixture and the final product. The product is manufactured to formulations proposed by the Institut des Corps Gras, Paris and the quality of the product is controlled according to their quality standards.

The factory appears to be operating well, as far as all technical aspects are concerned, and no additional technical assistance appears necessary in the production areas or the laboratory. With regard to health aspects, the floor of the factory should be kept in a cleaner condition, all staff should wear clean overalls at all times, and all production line workers should wear plastic gloves while working in order to avoid any potential bacterial contamination of the margarine.

(e) Inputs

The production of margarine is based on the blending of different vegetable oils, mainly sunflower and palm oils with some other ingredients, according to different given formulations for the various types of margarine.

INDUSALIM is producing a fine table margarine and is also testing a new margarine, formulated for use by bakeries in the production of various baked goods.

The main input, vegetable oil, is imported in the refined state from Europe because in Morocco only artisanal oil refining takes place. For the fine table margarine, INDUSALIM processes a blend of refined sunflower oil and hydrogenized colza and palm oils.

Lecithin and monoglycerine inputs are also imported from Europe. Salt and milk are supplied locally.

In the absence of vegetable oil refineries in Morocco, INDUSALIM must purchase all its refined oil and fats on the international market. However, should supplies of domestically produced oil become available, INDUSALIM has the equipment needed for the final stages of refining. If this were the case, INDUSALIM could adapt easier to the fluctuation of the international prices of refined oils, purchasing locally if the domestic prices were lower.

(f) Product range

INDUSALIM produces only one product, margarine in two different grades of processing - table margarine and fine table margarine, which is extra refined and of higher quality.

Production is divided between the two products as follows:

Table margarine	85 per cent
Fine table margarine	15 per cent

There have been discussions to start production of industrial margarine as a diversification of the present production programme. However, this would require considerable new investment since the present production facilities are geared only to the production of table margarine.

(g) Plant performance/cost and price structure(i) Plant performance

The existing physical plant is new and in perfect condition.. Its production capacity is 8,000 tonnes/year of hydrogenized oil and 10,000 tonnes/year of table margarine.

(ii) Cost and price structurePrice of inputs

A simple calculation enables the cost of the mixture of vegetable oils and other ingredients included in the manufacture of margarine to be computed on the price of sunflower oil, which was DH 6.52 per kg in February-March 1989 and that of the mixture of colza and palm oils maintained at DH 8.70 per kg.

The mixture of lecithine and monoglycerine is made in a way that its price is a good twenty times less than that of the mixture of the fatty materials.

These contents and the price of the fatty material contents in one kilogram of margarine is calculated as follows :

80 per cent mixture of [30 per cent sunflower oil + 70 per cent of a mixture of colza and palm oils] = $0.80 (0.30 \times 6.52 + 0.70 \times 8.70) = 0.80 \times 8.046 = \text{DH } 6.43$ for the fatty material per kilogram of margarine.

- The price of the contents of the mixture of lecithine and monoglycerine would therefore be DH 0.32 per kilogram of margarine.

- The price of the prime materials of the base for the manufacture of one kilogram of margarine is therefore : $\text{DH } 6.43 + \text{DH } 0.32 = \text{DH } 6.75^{**1.1/}$ $0.80 [(0.30 \times 6.52) + (0.70 \times 8.70)] + (0.5 \times 6.43) = 6.75^*$.

The cost structure of production and the unit sales price for table margarine are as follows :

	<u>DH/kg</u> <u>margarine</u>	<u>Structure</u> <u>of cost of</u> <u>production</u> (per cent)	<u>Structure</u> <u>of cost of</u> <u>sales</u> (per cent)
Prime materials	6.75	52.7	50.2
Packaging materials	2.80	21.9	20.8
Salaries and social expenses	2.35	18.4	17.6
Financial charges	0.45	3.5	3.3
Taxes	<u>0.45</u>	<u>3.5</u>	<u>3.3</u>
<u>Cost of production</u>	12.80	100.0	95.2
Marketing costs	0.64		4.8
<u>Sales price</u>	<u>13.44</u>		<u>100.0</u>

Comparing the above with the following retail prices :

Margarine DH 16/kg
Butter DH 24/kg

The price of packaging is very high, approximately one fifth of the production costs and of the selling price of the margarine. The type of packaging used is essential for the the preservation of the quality of the product, also for its presentation to achieve a rapid penetration of the market.

The retail price of table margarine is about two-thirds that of butter; the difference in price should assist the substitution of butter in favour of margarine. The company, however, has to face the reluctance of the moroccan consumers to change their habits of consumption.

(h) Markets and competitors

The penetration of table margarine in the moroccan market is rather difficult for several reasons. Until recently, the Government heavily subsidized the price of butter, the majority of which was imported, to assist the consumer. The respective prices were DH 20/kg for butter and DH 16/kg for margarine, ie: a difference of only DH 4/kg. The increase in the price of butter followed the reduction in the subsidy, which resulted in an actual price difference of DH 8/kg.

According to an old french regulation, butter can still be sold loose; one can buy for instance 1 DH worth of butter or even ask the shop keeper to spread some butter on a piece of bread. This is, however, not allowed for margarine, which must be sold in packages of 250, 500 or 1,000 grams. In this situation the purchase of butter becomes more economic and the consumers prefer butter to margarine.

Contrary to Europe and USA, there are no public information programmes on the health risks of consuming foods, which are high in saturated fats, such as butter.

The only information concerning the advantages of substituting butter by margarine is given by INDUSALIM during their publicity campaigns.

Table margarine has been subjected to very high customs duties and was therefore virtually never imported; the only margarine that has been available to customers has been the industrial margarine, which because of its less agreeable taste and consistency, in comparison with butter, has been rejected by the public.

INDUSALIM is spending a considerable amount of funds - DH 1 million in 1988 - on promoting its product via advertisements on television, in the press and directly in shops. They also carry out product demonstrations for the personnel in factories.

The company also participates in most international exhibitions, where Morocco is represented. This participation has resulted in an order from Libya worth 400,000 dollars of table margarine. INDUSALIM has also taken part in exhibitions in Baghdad, Cairo, Dakar, Algiers and Tripoli, and product samples have been sent to Mauritania. The Maghreb countries are considered

very promising export markets for table margarine, since they have very little or no manufacture of this product. However, exports to north and west African countries imply the use of refrigerated containers which would increase the price of the product.

The company hopes to achieve sales in 1989 of DH 11 million for table margarine and DH 2-3 million for fine table margarine.

The sales organization consists of one sales manager, in charge of the northern part of Morocco and two sales managers for the southern part of the country. Four salesmen regularly visit customers in the Casablanca area. The company uses wholesalers as well as direct sales to bigger customers in the rest of the country.

INDUSALIM has no competition for table margarine in the country; the product is not imported at present and no other company manufactures the product locally.

Three manufacturers produce industrial margarine and have the following market shares :

	<u>Market share, per cent</u>
Marga Margarinerie Nouvelle	40-45
Marga Afrique	15-20
Oubaha	40

INDUSALIM is considering the possibilities of entering this market.

To distribute the products the company leases trucks for transport; it does not own any transport vehicles.

(i) Constraints

With respect to the existing physical plant there are no constraints, as all equipment is new.

There are a number of important constraints with respect to marketing :

- Regulations regarding the sales and the pricing of butter and margarine had the effect of protecting the market for butter, even though much of it is imported. Current regulations allow butter to be sold in open containers or blocks, while margarine has to be sold in closed packets. Many consumers in Morocco prefer to buy butter in small amounts from containers.
- The previous very small price difference between the subsidized price of butter and the price of margarine did not encourage consumers to change to margarine.
- The eating and purchasing habits of the population are such that butter became a traditional purchase, and most people prefer the taste of butter to margarine.

- The company has no refrigerated transport for distribution either within Morocco or for possible export.

With respect to inputs the constraints are:

- Refined vegetable oils must be imported, as there is no local supply.
- With the exception of salt and milk, all other ingredients for the manufacture of margarine must be imported.

7.3.2 Rehabilitation requirements

(a) Financial structure

No recommendations.

(b) Management and organization

INDUSALIM's management and organization appears to function very well. The only change recommended would be the, already envisaged, creation of a new position of financial director who would also be responsible for administration, personnel, and budgeting.

A computer and management information system is also recommended to be introduced in order to process accounts, sales and purchasing, and administrative data.

(c) Physical plant

There are no rehabilitation requirements with respect to the existing plant. However, in order to improve the distribution of the product both within Morocco and also possibly on the export market, the company should purchase refrigerated trucks.

(d) Inputs

Input's purchasing policy of the company seems well adapted to its needs and the mission has no suggestions for improvements.

(e) Cost and price structure

The various components of the price of margarine appear to be well-calculated; the mission has no suggestions for improvements. It does, however, note that the present retail price of margarine, although lower than that of butter, is not low enough to cancel out the competitive advantages of butter. However, as the price of butter is likely to rise, margarine would become increasingly competitive in the future.

(f) Marketing

INDUSALIM took well adapted measures in order to overcome the public's buying resistance for margarine; this is, however, a lengthy process and may take years to change.

The most important step at present in this process is a Government change of the existing regulations regarding sales of butter and margarine. This would have an immediate positive effect on margarine sales. The current advertisement efforts should be continued and, if possible, be intensified.

Even if certain difficulties exist with regard to transportation (i.e. refrigerated transport is needed), the company should concentrate its efforts on the development of the potential export markets, until sales on the local market increase. The Maghreb area and certain west African markets appear very promising and INDUSALIM has already achieved some sales in Libya. It is recommended that a detailed market study be conducted for this region before more costly attempts are made to penetrate the markets.

CHAPTER 8

OBSERVATIONS AND RECOMMENDATIONS

8.1 General observations and recommendations

The general environment for industrial development in Morocco is much better than in many other developing countries. Major elements contributing to this supportive environment are recent improvement in macro-economic and industrial policies, domestic finance looking for investment opportunities, rapid improvements in physical infrastructure, and the assistance provided to the agricultural sector (i.e. irrigation networks and crop improvements) which again helps to improve the raw material base for agro-industries.

Moreover, Morocco's political and economic position in the Maghreb region and vis-à-vis the EC is strong. The price of petroleum, a major import, has not been prohibitive, while the price of Morocco's most important single export product group, phosphate and phosphate derivatives, has increased. This has helped to improve the trade balance, while tourism and remittances from Moroccans working overseas have had a very favourable impact on the balance of payments.

The overall situation and trends in the economy show many parallels to those in Newly Industrializing Countries (NICs). With regard to the manufacturing sector, the similarities between Morocco and NICs are brought out by the fact that industrial modernization and restructuring have become central issues. The country has recognized that industrial development is a key to overall economic growth, and it has made considerable progress in manufacturing. However, a number of obstacles are still to be surmounted. Domestic banks and private investors do not yet show sufficient appreciation for the future importance of industry, and prefer to invest in economic activities with the fastest possible returns, such as trade. The increased availability of long- and medium-term investment for industry will be essential for the further expansion of the sector. Other important issues to be addressed are:

- training of employees, especially middle-level technicians, accountants and managers;
- better recruitment procedures and adequate pay for middle-level managers to fill the many vacancies at this level with capable graduates;
- improvement of work efficiency, with emphasis on performance-related pay;
- a reduction of the very tight family control over private business. Family control has been the starting point for financial accumulation in Morocco through the very strong networks it created; however, it has become a handicap as it has also been the cause of nepotism, risk aversion and isolation - among firms and from other economic activities.

Recommendations

The environment in which plants operate in Morocco has been much improved in recent years. The new investment code, the restructuring of the public sector, the increased role of the private sector, the development of a new tax

system, the balancing of the budget, the increased support for small enterprises, the liberalization of the trade regime and so on, are all concrete signs of the Government's commitment to reforms which have put Morocco firmly back on the path to economic recovery. The mission fully supports the Government's efforts in this regard and feels it unnecessary to give detailed suggestions for policy changes. Instead, the mission strongly recommends that ongoing economic reforms be intensified. A number of specific problems have been identified by the mission, however, and the following recommendations are made to help solve these problems:

1. The standardization and quality control of exports must be enforced;
2. In-house quality control should also systematically take place;
3. The quality of water for agro-industrial purposes needs to be improved (better supply by local or regional Water Boards, treatment and recycling of water used in food processing);
4. Quality control can be improved by investing in appropriate equipment and attracting qualified technicians with good salaries. Generally speaking, wages are too low to be an incentive for good work, especially for skilled workers and middle-level personnel;
5. A review of the existing regulations for subsidizing and protecting the domestic consumption of imported butter against the locally produced margarine should be undertaken;
6. The issue of utilizing waste products should be addressed more systematically. Often, agro-industrial waste products can be transformed into animal food, compost or biogas.
7. The very tight family control over private business has helped to lay the foundation of Morocco's present strong economy. The same structure, however, is too static for modern business, because of such characteristics as risk-avoidance, nepotism and an unwillingness to enter into joint ventures with other, especially foreign, businesses. Greater openness will help future growth of the manufacturing sector.
8. Strong efforts should be made to improve the training facilities for middle-level management. One of the most pressing problems at this level is the shortage of personnel capable of making cost and price analyses and controlling production costs. Training in the use of personal computers could help to solve this problem.

8.2 Food-processing branch - summary of observations and recommendations

The mission found that the food-processing branch, in spite of a positive overall trend towards further development, is still suffering from several shortcomings. These mainly concern inputs and the quality of middle-level management and production supervisors.

Although the food-processing branch already has strong links with agriculture, the quality, quantity, price and seasonality of agricultural raw materials often prevent individual firms from attaining full capacity

utilization and delivering a first-rate product at a competitive price. To a large extent, this is due to the lack of co-operation among farmers and manufacturing firms. But the present state of Moroccan agriculture, which is still largely a very traditional sector, presents obstacles as well. In the long-term, the relative lack of technological sophistication in the food-processing branch will also be an obstacle to further expansion of the production and to the competitiveness of Moroccan products, as it will not allow the firms to make the most of the inputs available from local sources.

Technologically more sophisticated plants can function well only if skilled employees are already available. In the short-term, today's relatively unsophisticated plants would need better skilled middle-level employees in particular to enhance the quality of production. In this connection, the insufficient availability of well-trained middle management and production supervisors is an issue that must be addressed soon.

Recommendations

- Firms in the fruit and vegetable-processing industries should improve their system of obtaining local supplies of raw material inputs, taking account of the different harvesting seasons, the different cultures and the differences in prices in the provinces, in order to assure themselves of a continuity of production and reduce the costs of production;
- Efforts should be made in improving contractual relationships between farmers and food-processing industries;
- Food-processing industries could help to increase the performance of the agricultural sector by offering farmers logistical and technological support as part of a supply agreement. Initiating and supervising such support schemes could possibly be entrusted to a special unit to be created by the Federation of Agricultural Products Canning in Morocco (FICOPAM). Important issues that come to mind in this context are the identification and introduction of better crop varieties and the improvement of traditional harvesting and stockage methods on farms.
- Middle-level production management and production supervisors should receive instruction in factory hygiene and quality standards. They should, in turn, pass on their knowledge to production workers. The supervisors who specifically deal with seasonal workers have a special responsibility in this case, as seasonal workers are less acquainted with day-to-day production routines and requirements.

8.3 IPHIM - Summary of observations and recommendations

8.3.1 Financial structure

The company's loss in 1987 could probably be reduced considerably by reorganizing part of production and financial operations, as well as by better planning of raw material purchases. Judging from financial statements, a more stringent financial management is called for, and a careful analysis of stock-keeping and collection of outstanding customer debts is recommended.

8.3.2 Management and organization

Sales are now covered by two offices. In Larache, the general manager is responsible for export sales. The assistant general manager in the Casablanca office is responsible for domestic sales.

It is recommended that IPHIM create a new position of sales manager in Larache who would be given full responsibility for all sales, both export and domestic.

The constant problems with the purchasing of fruits and vegetables should be resolved by changes in the clauses of the purchase contracts and the definition of a buying policy adapted to the conditions of the province and with more interest to the farmers.

The judicial planning of purchases is recommended, in order to assure a more regular provision of raw material inputs.

A stricter financial management and more diligent recovery of outstanding debts are recommended, to reduce the indebtedness to the company, which exceeds DH 2 million.

8.3.3 Marketing

IPHIM has two important markets for its canned vegetables, Spain and France. With 95 per cent of its sales dependent on these two markets, the company is very vulnerable to changes in those markets.

It is recommended that a market survey be performed for the Maghreb region. The study could be the basis for directing strong marketing efforts to selected countries.

Pimiento is the company's most profitable product. It is recommended that a market study be made to establish whether exports of this product are possible.

8.3.4 Physical plant

(a) Pimiento powder production line

Although the equipment in this section is very old, it has been well maintained and can be expected to give many more years of useful life. However, the practice of manually mixing the pimiento mixtures can lead to variations in the quality of the final product.

The practice of manual transfer of the pimiento around the grinding room between grinding operations, and the lack of intermediate storage facilities lead to considerable inefficiencies and product loss. There is also a potential health risk as the pimiento powder can easily become contaminated.

It is recommended that:

- An automatic weighing and proportioning machine be installed in the pimiento production line, so that the various mixes are consistent, improving the quality of the product;

- A pneumatic transfer of pimiento powder be installed together with intermediate storage silos and a final storage silo for the finished product in the packaging area.

(b) Vegetable-processing lines

All of the equipment in this section is well maintained, and all is operational. The company has a technical agreement with the French supplier of the green bean line, so that assistance can rapidly be given in the event of any serious problem occurring. The tomato-processing line works efficiently and presents few problems.

When both of the green bean and the tomato processing lines are working simultaneously, there are insufficient canning machines to allow the lines to operate at full capacity. This is the bottle-neck during periods of peak production.

The use of static water tanks, with no water recirculation, filtration, or chemical treatment for the washing of artichokes and celery prior to canning or freezing poses a potential health risk to consumers.

All waste material from the production lines is discarded and no attempt has been made to utilize this waste, which is substantial, for the production of compost, biogas or animal feed.

The newly installed freezing unit, which is still being commissioned, is operating far below its expected production level; this, however, is a contractual problem which must be solved between the company and the machine supplier.

The company does not possess any refrigerated trucks to distribute frozen vegetables to the customer. It therefore has to rely on the customers collecting this product from the factory cold store.

The company production supervisors are not sufficiently aware of operational procedures to increase productivity and to minimize energy usage, especially regarding the dryers.

It is recommended that:

- Two additional canning machines be purchased to overcome the production constraint at this point;
- Water treatment facilities, more efficient and hygienic vegetable washing facilities and a colour stabilization unit be installed for artichoke and celery processing, as part of a reorganized product flow line to improve both efficiency and the quality of the product;
- At least one refrigerated truck be purchased for distribution of frozen products;
- A technical assistance programme be designed for the general improvement of plant productivity and improved efficiency of energy usage.

8.3.5 Inputs

The low utilization of the installed capacity of the production lines is attributed to, primarily the irregularity of supplies. Changes in the methods of buying by the company to make the return more attractive to the farmers and by the diversification of the sources of supply towards other provinces (with earlier and later seasons and with different cultures), will permit a more regular delivery of the base inputs, in sufficient quantities to increase the production and consequently reduce the costs of production. The company should also consider setting up its own farms in view of the necessary land at its disposal.

The processing of the raw materials, such as artichokes and celery results in much waste, only one quarter of the inputs are actually used, the rest is rejected. From this, it would be of interest to carry out a feasibility study of the collection and reuse of the waste, for example, for the production of biogas, compost and animal feed.

8.3.6 Cost and price structure

In the absence of sufficient information on IPHIM's cost and price structure, the mission has no recommendations to make.

8.4 SOTCODAT - Summary of observations and recommendations

The rehabilitation of SOTCODAT follows the Government policy of priority development of provinces with poor resources and addresses the direct request of the Governor of the province to maintain the plant in operation and safeguard the employment generated by the plant.

8.4.1 Financial structure

SOTCODAT's financial situation is extremely unbalanced. The ratio of long-term debts to the real value of assets is approximately one to five. In order to readjust this situation the company should negotiate with all the shareholders a reduction of the value of the shares. Otherwise, the company cannot be considered viable. Simultaneously, additional working capital must be acquired for the continuation of the firm's present activities. The shareholders and the banks must decide on a restructuring process and future capital investments to ensure the company's long-term development.

8.4.2. Management and organization

SOTCODAT today has no management at all except for the General Manager, who also performs all the duties of middle management. The company has had very weak management in the course of its history. The purchasing of raw material is and has been a very weak point, and the sales organization needs drastic improvement as well.

A general recommendation is that all managerial vacancies should be filled as soon as a successful financial recovery of the company is accomplished. Moreover, it is recommended that particular attention is paid to recruiting a highly skilled purchasing manager and a sales manager.

8.4.3 Marketing

The previous system of marketing the date products shows significant weaknesses, especially the selection and supervision of representatives and the agreements made between them and SOTCODAT.

It is recommended that the company create its own domestic distribution system in order to have full control over the sales. As the firm produces only one important product it is necessary to diversify the markets for this product; it is recommended that an extensive market study be performed both for the local market as well as for exports. The firms should also study the best possibilities of diversifying its product lines (types of date syrup and biscuits etc.).

8.4.4 Physical plant

All of the equipment at SOTCODAT is in good order, although certain spare parts, amounting to approximately DH 200,000, are required for the dryers, fumigation equipment and cold stores. These cannot be purchased now due to lack of working capital.

More hygienic washing facilities for washing the dates are required, assuming that the present date collection methods are maintained. Improvements in the collection of dates would possibly mean that the present facilities would be adequate, if correctly operated.

The control of the humidity in the dryers and also the control of the temperature and humidity in the cold stores is inadequate and should be improved, as the quality of the products is affected.

Further training of factory personnel is required for the efficient operation of the factory equipment or the quality control procedures.

It is recommended that:

- Purchases of the essential spare parts to prevent problems with the machinery;
- Improvements in the harvesting and storage methods on the farms should be made to obtain clean dates for the factory; if this cannot be achieved, the factory should install improved washing facilities;
- Additional instrumentation should be provided for both the dryers and the cold room;
- A technical assistance programme should be provided for the training in proper operational procedures and in quality control procedures.

8.4.5 Inputs

The quality and the quantities of dates available for processing in the Tafilat area is highly dependent on the harvesting methods used by the farmers, and on the price they receive.

Various aspects of the quality of inputs, such as overall appearance, maturity and absence of germs and insects (both on the surface and within the dates), are closely linked to the way in which the farmers select and collect

the fruit. SOTCODAT has so far not pursued a purchasing policy that has been attractive enough for farmers to provide the firm with a sufficient supply of first-rate fruit. This would be particularly important for successful operations in export markets. The firm should therefore modify its purchasing contracts. Farmers should be given incentives to provide the firm with the best possible dates, for example by introducing differentiated prices for various grades of their product. The financial restructuring of the firm should make it possible to allocate extra funds for the purchase of good quality inputs on the competitive local market. The firm should also think of other ways to increase the farmers' interest in SOTCODAT, for example through a profit-sharing scheme. Finally, the firms should discuss with the farmers ways of assisting them to improve their harvesting and storage methods.

8.4.6 Cost and price structure

As the company was in the process of financial restructuring, an analysis of the cost and price structure was not made. At present, pricing takes place on an ad hoc basis. The mission suggests that, as part of the rehabilitation programme, the methods of calculating costs and prices be given special attention.

8.5 INDUSALIM - Summary of observations and recommendations

8.5.1 Financial structure

The company suffered a minor loss during the first three months of 1987 which must be considered acceptable - it was INDUSALIM's first year of operation, when cost usually outweighs income. Depreciation rates are generally realistic in terms of the expected useful life of the various assets. Clients' debts must be considered far too high as they constitute 32 per cent of total sales. The mission's recommendation is that the company's system and efficiency of collecting outstanding debts should be improved.

8.5.2 Management and organization

INDUSALIM appears to be a well-organized firm. The only recommendations that can be made is that the company should employ a financial director and the computerization of all administrative, purchase, sales and personnel operations.

8.5.3 Marketing

It is recommended to study the potential and the best means of penetrating the local markets and export markets in the Maghreb and west Africa with the products of the company. It is also advisable for the company to strengthen its distribution system of margarine in the urban areas.

8.5.4 Physical plant

All of the buildings and equipment at INDUSALIM are in perfect condition, as they are only 1.5 years old. No repairs or alterations are envisaged.

The production and quality control personnel appear very competent in their work and no additional training appears necessary.

The only shortcoming that the factory has, in terms of physical plant, is that it does not possess a refrigerated truck for the distribution of the product to the market. It is therefore recommended that a refrigerated truck be purchased by the factory.

8.5.5 Inputs

The company imports virtually all of the inputs, as Morocco does not have sufficient available resources of vegetable oils or a local oil refinery. The company has the equipment required for the final stages of refining and could use domestically produced oil should it become available.

The purchasing policy for inputs seems well adapted to its needs and the mission has no suggestions for improvements.

8.5.6 Cost and price structure

The price of the table margarine is well structured, the high cost of packaging has a significant effect on the cost of production and the sales price of the product. The mission has no other comment on this subject, except however, to remark that the actual difference in the selling price of the locally made margarine and the imported butter is not sufficient to encourage the rapid substitution of butter by margarine.

CHAPTER 9

SUMMARY OF PROJECT CONCEPTS

9.1 General

- Assistance to the BNDE to increase its capacity to analyse projects
- Study of possible methods to improve the training of middle-level management
- Investigation of the improvement of quality control methods at the plant level (possible extension of UNIDO project DP/MOR/86/015 - see Appendix)

9.2 Branch level

- Branch-level study of ways to improve raw material supplies to food-processing industries
- Instruction in factory hygiene and quality standards

9.3 Plant level

IPHIM

- Improvement of quality of potential export products
- Improvement of hygienic conditions in the production process
- Increase of productivity and reduction of energy consumption

SOTCODAT

- Financial assistance for spare parts purchases
- Training (equipment handling, quality control procedures) of lower-level personnel and foremen
- Improvement of date washing equipment
- Provision of additional equipment for humidity and temperature control
- Reorganizing and improving management and marketing

INDUSALIM

- Identification of potential export markets for table margarine.

ANNEX

UNIDO's Approved and/or Operational Technical Co-operation ProjectsKingdom of MOROCCO

<u>Project Number</u>	<u>Backstopping Responsibility</u>	<u>All.Acc.Code</u>	<u>Project Title</u>
DP/MOR/86/015*	IO/IIS/INFR Mr. Goubet	J12102	Assistance dans le domaine de la normalisation, le contrôle de la qualité et la métrologie
US/MOR/87/173*	IO/IIS/INFR Mr. Nickels	J12103	Développement de la coopération industrielle entre le Royaume du Maroc et la République Fédérale d'Allemagne dans le domaine des petites et moyennes industries électro-mécanique basée sur l'emploi de la méthode ACT (Analyse de la Complexité Technologique)
DP/MOR/87/017	IO/IIS/INFR Mr. de Crombrughe	J12104	Assistance à l'établissement d'une bourse de sous-traitance et du partenariat dans les Industries Métallurgiques Mécaniques Electriques et Electroniques (IMMEE) (related to DP/RAB/86/001)
US/MOR/88/248*	IO/T/AGRO Mr. Galat	J13103	Redéploiement et modernisation du secteur des industries de transformation de poisson
XA/MOR/88/664	IO/SD/TRNG Mr. El Gallaf	J14203	Programme de formation à la maintenance entretien et réparation industrielle y compris méthodes et techniques de formation

* Large-scale project (= total allotment \$150,000 or above)

** Total allotment \$1 million or above

List of principal organizations, companies and persons
contacted by the mission in Morocco

<u>Organization/company</u>	<u>Persons met</u>
1. <u>Government departments</u>	
Ministry of Foreign Affairs	Mr. Abdellatif Nacif, Chef de la Division de la Coopération
Ministry of Industry	Mr. Mossadeg, Directeur Général de l'Industrie
	Mr. Mohamed Ali Ghannam, Directeur de la production industrielle
	Mr. Lahcen Benomar, Directeur des études et de la planification
	Mr. Benchekroun, Directeur, Division de l'Industrie Alimentaire et Agricole
	Mr. Azzedine El Ghissassi, Directeur, Division de la Planification Industrielle
	Melle Wafae Chraibi, Ingénieur, Service de la Conserve
	Mr. Rahmoun, Service des Industries Alimentaires diverses
Ministry of Agriculture and Agricultural Reform	Mr. Annechoum, Chef de la division des études et projets
Ministry of Planning	Mr. Omar El Bahraoui, Directeur de la Planification
Ministry of Fisheries	Mr. Rachad Bouhlal
ODI, Office pour le Développement Industriel	Mr. Belhassem, Secrétaire Général
Mr. Belkhat, Directeur Général	
Chambre de Commerce de Casablanca	Mr. Lahcen El Wafi, Président
Chambre de Commerce de Safi	Mr. Mohamed M'Jid, Président
Chambre de Commerce de Meknes	Mr. Alani Tazi, Président

2. Companies visited

IPHIM - SOPRAM Mr. Bouchaib El Haddaj, Directeur Général

SOCTODAT

Mr. Alami Tazi, Président du conseil d'administration

Mr. Ahmed Hamza, Directeur

INDUSALIM

Mr. Enrique Fossi Ariza, Directeur Général

Mr. M'Bareki Mamou, Sales Director,

Mr. M. Ben Makhloul, Factory Director

SABRI

Mr. Omar Sabri, Directeur de la production

Conserveries Chérifiennes

Mr. Youssef Alaoui, Secrétaire Général

Mr. George Barbe, Directeur Commercial

Mr. Joseph Azran, Responsable des achats

Mr. Solly Chriki, Directeur Technique

Société d'Armement et de Pêche "Nadia"

Ms. Khadija Doukkali, Vice Président

3. Business and banking sector

BNDE, Banque Nationale pour le Développement Economique

Mr. Ahmed Rhoulami, Directeur Général adjoint

Mr. Mohamed Amraoui, Directeur Central

Mr. Ghalim Ameer, Chef du département du suivi des opérations engagées

Mr. Hassan Mikou, Chef du département du recouvrement

Mr. Mohamed Benazzou, Chef adjoint du département au suivi des opérations engagées

BMCE, Banque Marocaine pour le
Commerce Extérieur

Mr. Abdelkader Bennani, Directeur
Central

Mr. Mohamed Lebbadi, Directeur
Central Adjoint

Caisse Nationale du Crédit Agricole, CNCA

Société Marocaine de Dépôt et de Crédit

Mr. Brahim Elamiri, Directeur
adjoint

4. Embassies and international agencies

UNDP Office, Rabat

Mr. Christoph Jaeger, Représentant
résident du PNUD

Mr. Samih Chakra, Représentant
résident adjoint

Ms. Margareta Herbert, JPO

EEC, European Economic Community

Mr. Patrick Renauld, Conseiller

French Embassy

Mr. Jacques Delpey, Conseiller
commercial adjoint

Embassy of Federal Republic of Germany

Mr. Wolfram Rainer, deuxième
secrétaire

USAID

Mr. Hoffman

Mr. Doison

Annex table 1: Balance of payments, 1986-1987
(in millions of dirhams)

	1986			1987*		
	Credit	Debit	Net	Credit	Debit	Net
A. Goods and services	33,056.3	49,121.9	-16,065.6	35,525.6	48,823.8	-13,298.2
1. Merchandise fob	21,946.0	31,654.9	-9,708.9	23,250.7	32,184.0	-8,933.3
2. Shipping freight and insurance	1,599.2	3,134.3	-1,535.1	1,582.9	3,194.9	-1,612.0
3. Other transport	595.4	291.1	+304.3	559.7	364.7	+195.0
4. Travel	6,730.0	910.0	+5,820.0	7,800.0	1,100.0	+6,700.0
5. Investment income	136.4	6,405.1	-6,268.7	130.1	6,505.4	-6,375.3
6. Government transactions not included elsewhere	713.9	6,048.9	-5,335.0	712.6	4,594.5	-3,881.9
7. Other services	1,335.4	677.6	+657.8	1,489.6	880.3	+609.3
B. Transfer payments	14,584.0	480.7	+14,103.3	15,244.4	542.1	+14,702.3
8. Private	13,742.9	194.7	+13,548.2	14,361.9	227.3	+14,134.6
9. Public	841.1	286.0	+555.1	882.5	314.8	+567.7
Current account (A+B)	47,640.3	49,602.6	-1,962.3	50,770.0	49,365.9	+1,404.1
C. Non-monetary capital	11,687.8	6,386.5	+5,301.3	8,234.5	7,231.6	+1,002.9
Private	2,346.9	838.0	+1,508.9	941.2	1,585.1	-643.9
10. Commercial credits	1,217.3	-	+1,217.3	-	988.6	-988.6
11. Loans and investment	944.3	838.0	+106.3	941.2	467.2	+474.0
12. Others	185.3	-	+185.3	-	129.3	+129.3
Public	9,340.9	5,548.5	+3,792.4	7,293.3	5,646.5	+1,646.8
13. Commercial credits	3,707.6	2,769.1	+938.5	2,448.6	2,244.5	+204.3
14. Foreign currency loans	5,599.5	2,676.4	+2,923.1	4,810.1	3,269.8	+1,540.3
15. Dirham loans	-	62.1	-62.1	-	41.2	-41.2
16. Others	33.8	33.5	+0.3	34.6	36.9	-2.3
17. Foreign liabilities	-	7.4	-7.4	-	54.3	-54.3
D. IMF facilities	319.4	2,916.6	-2,597.2	1,734.2	2,639.2	-905.0
Total	59,647.5	58,905.7	+741.8	60,738.7	59,236.7	+1,502.0

Source: Office des Changes.

Annex table 2: 1986 and 1987 value (cif) of imports
(in millions of dirhams)

	1986		1987 ^{a/}	
	Value	Per cent	Value	Per cent
Foodstuffs and beverages	4,329	12.5	3,980	11.3
Energy and lubricants	5,429	15.7	6,170	17.5
Crude oil	4,587	13.3	5,332	15.1
Raw materials	5,605	16.2	5,454	15.3
Animal and vegetable	2,789	8.1	2,750	7.8
Mineral	2,816	8.1	2,704	7.7
Semi-finished products	7,527	21.7	8,194	23.2
Finished products	11,718	33.9	11,473	32.5
Capital goods	8,248	23.8	7,363	20.9
Agricultural equipment	628	1.8	494	1.4
Industrial equipment	7,620	22.0	6,869	19.5
Consumer goods	3,470	10.1	4,110	11.6
TOTAL	34,608	100.0	35,271	100.0

Source: Office des Changes

^{a/} Preliminary.

Annex table 3: 1986 and 1987 value (fob) of imports
(in millions of dirhams)

	1986		1987 ^{a/}	
	Value	Per cent	Value	Per cent
Foodstuffs and beverages	6,526	29.5	6,346	27.1
Energy and lubricants	564	2.6	642	2.7
Raw materials	5,113	23.1	4,606	19.7
Animal and vegetable	689	3.1	823	3.5
Mineral	4,424	20.0	3,783	16.2
Semi-finished products	4,969	22.5	5,602	24.0
Finished products	4,932	22.3	6,194	26.5
Capital goods	416	1.9	297	1.3
Consumer goods	4,516	20.4	5,897	25.2
TOTAL	22,104	100.0	23,390	100.0

Source: Office des Changes.

^{a/} Preliminary.

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