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POTENTIAL FOR ARAB COOPERATION IN INDUSTRIAL DEVELOPMENT*

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* This document has not been edited.

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POTENTIAL FOR ARAB COOPERATION IN INDUSTRIAL DEVELOPMENT

Final Report
Prepared for UNIDO by Professor Heba Handoussa
9 June 1994

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Executive Summary

Arab countries have placed special emphasis on the growth and diversification of their manufacturing sectors over the past three decades, with a large proportion of their investment budgets allocated to industry and its needs of infrastructure. Yet performance of Arab manufacturing has not been uniformly positive. Key problems have been the import substitution nature of industrial strategies, high levels of protection and the absence of regional coordination in individual country plans.

The growing importance of regionalism, the projected impact of GATT and the continued ascendancy of ASEAN countries are likely to divert trade away from Arab countries and in favor of members of the new trading blocs (EU and NAFTA), of ASEAN and of select developing countries that are able to respond to the global challenge. Arab countries are thus faced with a configuration of circumstances on the world market with grave implications for growth unless a concerted effort is made to change the structure of their economies away from dependence on the export of raw materials and low value added intermediates and towards the export of high value added manufactures.

Intraregional trade among Arab countries still accounts for only 10% of their trade, up from 7% in 1980. In contrast, the share of intraregional trade in total trade of the three new regional blocs has fast increased and accounted for 58.9% of total EU trade, 37.4% for East Asia and 36.3% for North America in 1989.Another feature of Arab countries' structure of industry is the large extent to which similar emphasis has been given to the expansion of certain subsectors (steel, aluminum, petrochemicals, fertilizers and other basic chemicals) and the neglect of others (e.g. capital goods, downstream petrochemicals, processed metals and various engineering products).

Another global trend is the rapid increase in the numbers of giant transnational corporations as well as in the scope of their operations in world production and trade. Transnationals from Europe and Japan have increased their market share at the expense of US based multinationals. In parallel with the process of industrial restructuring taking place across the countries of the three regional blocs is another equally important trend that involves mergers, acquisitions and the establishment of joint venture industrial projects and joint R&D programs in which several countries cooperate.

Arab states should seriously consider strengthening their existing public and private holding companies and providing appropriate incentives for more of them to be established. These Holdings should obtain full legal autonomy and independent status and should be encouraged to invite equity participation from various Arab countries as well as foreign partners. Both industry-specific as well as industry/finance, industry/trade and industry/trade/finance configurations should be envisaged as important agents of dynamic growth and flexible response to the challenges and opportunities of the increasingly oligopolistic global environment.

The conclusion of the Uruguay Round after many years of negotiations for free trade is expected to bring to an end the economic stagnation of industrialized countries and increase world GNP by some US$300 billion. However, it puts a major responsibility on the policy makers of each developing country to ensure that their country will share in the expected benefits of an increase in world trade and world GDP. For Arab countries, it is of particular importance to realize how vulnerable both their domestic and export markets will become as all economies - developed and developing - are attempting to capture maximum advantage from the progressive dismantling of barriers to trade.

The result of GATT 1994 is improved market access to OECD countries for all developing countries products except textiles and clothing which will continue to be subject to quantitative restrictions (QRs) under the Multi Fibre Agreement (MFA) which is to be phased out over a decade. However, the elimination of QRs will be accompanied by the imposition of tariffs on several commodities including agriculture and food products, shoes, leather products and consumer electronics. Yet it also means that the exports of the more competitive and aggressive developing countries may well displace those of the less competitive developing countries who are losing the shelter provided by the quota arrangements that controlled OECD imports from the more successful export oriented developing countries and NICs. The net effect on any one Arab country can therefore go either way and will depend on its ability to put in place all of the incentives and institutional elements that make for efficiency growth, market orientation and the penetration of export markets.

Global trends imply that Arab countries cannot afford to take a passive attitude to the impending trade war which can soon be expected amongst developing countries over the opening of markets of the advanced countries (accounting for 60% of developing countries exports) as well as the opening of developing countries markets themselves. What is equally obvious is that the gradual enforcement of GATT rules concerning the reduction in tariff and non tariff protection in developing countries markets will pose great difficulties to noncompetitive domestic producers in the Arab region. The only viable strategy for Arab countries is to pursue a vigorous program of rationalization, restructuring and reorientation, with many benefits to be enjoyed if the program is deliberately designed to capitalize on regional opportunities, with regional policies and measures that enforce

harmonization of investment and trade policies as a minimum, or a more ambitious plan for long term integration as a maximum.

The revolution in information, computers and telecommunications is also resulting in the dismantling of the barriers to the geographic dispersion of economic activity. This means a reduction in the degree of concentration of manufacturing in rich capitalist countries which will no longer have the edge in attracting investment since global sourcing of capital, technology and manpower gives the location advantage to those countries that are best able to provide production and organizational economies. The opportunity for Arab companies to associate and form strategic alliances with the new breed of smaller knowledge-intensive enterprises must not be overlooked since these enterprises are far more flexible in the terms they offer their partners and since they are expected to become major players in the future of the global market.

For the purpose of evaluating the performance of Arab industry, countries have been classified into three groups according to income levels per capita and the degree of reliance on the energy sector. Four observations can be made that concern the industrial structure of all three groups of Arab countries: one feature is that there is a considerable degree of complementarity (i.e. each group is relatively specialized in its own subset of manufacturing activities) across the three Groups of economies which can be exploited to their mutual advantage if industrial policies and strategies are coordinated in such a way as to encourage the process of deepening along each group's comparative advantage while promoting a parallel growth in intragroup trading. A second characteristic of all groups is that they are still concentrating on the extractive or primary processing stages of their raw materials (petroleum and basic chemicals and metals in Group One, cotton and other agricultural products, phosphates and other ores in Groups Two and Three). The opportunity to raise value added (wages and profits) from further processing of these intermediates is substantial (e.g. downstream petrochemicals, synthetic fibers, rubber, plastics, metal products, specialized chemicals, clothing etc...) and could significantly benefit from a more open trading system among the members of the Arab region since this would enable a better dispersal and allocation of investments to take advantage of locational advantages and economies of scale.

A third observation is that all Arab countries have neglected the enormous potential and importance of building up a viable capital goods industry. Data shows that imports of capital goods (excluding transport vehicles) to the Arab countries exceeded $6 billion in recent years, concentrated in three major categories - non-electric power generating machinery, office machines and electric power machinery and switch gear - which together accounted for more than two thirds of total imports of capital goods (over $4 billion). Data also shows that very few Arab countries have a significant capital goods industry, namely Egypt, Iraq and Morocco, and even these rely heavily on imports of capital

goods from the rest of the world. A fourth and final observation is that the export performance of Arab countries' manufacturing sectors has been very poor and that except for a few of the oil-rich economies, their balance of trade deficits from the industrial sector is extremely high and could be easily remedied with appropriate export promotion policies.

Meaningful and sustainable Arab cooperation in the field of industry starts from the premise that it must serve each and every member's objective of obtaining real economic gains from cooperation, i.e. it should be a non zero sum game. Gains include higher commercial profits from equity participation in projects, growing market share for the industry in question, lower costs of operation and technology acquisition, and greater leverage in negotiating with transnational corporations.

In order for Arab countries to overcome the two most critical constraints to efficient growth of industry, namely foreign market access and access to technological advances and innovations, a number of proposals are advanced for regional cooperation:

A. Investment policies Arab countries should abandon their now obsolete systems of investment licensing and fully liberalize market entry except for security related and other clearly identified sectors according to a set of commonly agreed criteria. They should harmonize their investment encouragement code for foreign investors rather than compete on the tax and other fiscal incentives each provides. Foreign investors should be given equal treatment as domestic investors. The only consistent way in which countries should discriminate against foreign investors is by selective choice of areas where such investments have been identified as detrimental to indigenous industrial development according to a clear set of criteria.

Floating shares of public enterprises on Arab capital markets is an important vehicle to activate and develop the region's capital markets, to capture a larger fraction of private savings, and to provide enterprises with corporate finance and a measure of market evaluation. Each country should combine its privatization scheme with a strong reaffirmation of its commitment to support the restructuring of public enterprises under autonomous management with a view to utilizing their strength as a principal agent for "catching up" in the process of growth and development.

B. Joint venture projects Arab countries should encourage the participation of foreign investors in joint ventures with public enterprise. The most suitable organizational structure that can promote the successful establishment of joint ventures is the public or private holding company which can negotiate from a position of strength over the terms of technology acquisition and the plans to penetrate foreign markets. Foreign partners are in fact more likely to prefer to enter joint ventures with public

guarantees that reduce risk. Transnational corporations are also known to have recently become more accommodating to the terms of agreement.

In order to take advantage of the huge Arab market, Arab countries should prepare a plan for the launching of the first Pan Arab product from the engineering industry, e.g. a specially designed car or bus with model whose specifications meet the needs of the region's climate and terrain in collaboration with a leading transnational. Data shows that the recent value of Arab imports of commercial road vehicles and passenger cars amounted to $ 5.8 billion and $ 1.8 billion respectively.

C. Trade Policies Arab governments should commission a comparative study of trade barriers (tariff and non-tariff) currently imposed by each Arab country on all manufactured products from other Arab countries and the rest of the world. The study should appraise the impact of these trade barriers on intraregional trade and propose a schedule for the gradual elimination of non tariff barriers (NTBs) and the reduction in tariffs on Arab intraregional trade.

Serious consideration should be given to the establishment of an Arab trade promotion organization that is responsible for providing potential exporters and importers with all trade-related services including: producer and product information from a data base directory linking up national data bases, market trends (regional and international), itemized trade statistics on all Arab countries on a regular basis, etc.

Arab countries should also evaluate the experience of early successes in establishing Arab trading companies and study the prospects for the creation of new ventures that can take one of the many forms that are currently operating on the global scene.

D. Industrial policy Arab countries should together design a plan that develops a number of key industries for which dynamic comparative advantage and growth prospects are expected and in which cooperation would raise the rate of return. Among the industries and subsectors that deserve attention and study are: capital goods, downstream petrochemical products, special metals, microelectronics and software. In each of these fields, a number of specific lines can be identified as potential niches.

Joint R&D programs with industrial applications can also be pursued in such areas as renewable energy, desalinization, building materials, irrigation equipment and biotechnology which would complement and support the growth of related industrial sectors and provide opportunities for new investments. Consideration should also be given to the establishment of a computerized regional reference library on ongoing R&D throughout the world in all existing industrial subsectors as well as those that have been identified as potential new industries for the future. This library should be linked

up to national and regional research centers and its use should be promoted within industry itself.

From among those industries with high growth prospects, Arab countries should proceed to identify a number of subsectors which qualify for regional integration based on market study (size of domestic markets, regional market and forecast of world demand), regional capacity, world supply forecast, technological aspects. Various scenarios and time frames for implementation should be considered. Once the choice of selected subsectors has been made, a program for the development, restructuring and integration of each of those subsector should be prepared. Special consideration should be given to expected life of existing plants and the redeployment of labor. Each program should include investments for the technical and financial structuring of viable plants, phasing out obsolete plants, relocation where necessary, and implementation of expansion projects.

Three criteria are proposed for the selection of viable candidates for regional cooperation: opportunities for import substitution with dynamic comparative advantage, opportunities for forward integration into high value added products and opportunities for horizontal integration of existing sectors with high comparative advantage. The first criterion can be used to select new projects whose feasibility is contingent on taking advantage of the vast Arab market as a single market in situations where economies of scale on the supply side have prevented any one country from making a viable import-substituting investment based on its local market alone. The second criterion can be used to identify new projects whose feasibility relies on exploiting existing manufacturing subsectors whose resource advantage provide the Arab region with low cost intermediates which can be further processed into high value added products for the regional and export markets. The third can be used to select existing subsectors for which regional integration along horizontal lines will promote mergers and subcontracting arrangements among firms of different Arab countries and would enhance productive efficiency, competitiveness and the scope for rapid expansion to meet the demand of a fast growing regional market, especially in consumer goods.

Arab countries should also promote the setting up of regional industry-specific state of the art institutes that engage in R&D, training in production, designing, modernization, quality control and market study. These institutes would provide consulting services and technical assistance both regionally and internationally and would act as a major support to capacity building of technical staff in each industry in the region. Each such institute would establish a computerized directory with index of regional consultants and consultancy houses by fields of expertise in all services related to industry.

Moreover, special attention should be given to the development of human resources. One viable option for upgrading human skills in the realm of industry is by paying special attention to industrail training. The field of industrial training is one of the major areas that would benefit from cooperation

among Arab countries, at both regional and sub-regional levels due to the existence of a large number of specialized training institutions and institutionalized in-plant training programs within the region.

The assessment of human resources capabilities in the region undertaken by AIDMO has indicated that there is an urgent need to develop training programs on a regional or sub-regional level in the following areas:

- training of skilled and semi-skilled workers,
- training of middle management,
- short term training courses for high level management,
- Industrial consultancy and engineering services training programs.

Accordingly, it has been proposed that the "special program" will work towards establishing a network between training centers in order to facilitate joint training programs, and the strengthening or expansion of the capabilities of the existing centers.

E. Environmental Policy. A commitment by Arab governments to adopt a common policy package concerning environmental legislation and its enforcement, opportunity cost pricing of energy, and incentives at the national level would have important positive implications in avoiding further degradation of the environment, in sharing fairly the burden of waste control among Arab countries and in helping those industries whose costs of introducing environmental standards are exceptionally high including large scale energy intensive industries (e.g. cement and fertilizers) and the small and relatively older plants operating in specific subsectors such as metals and plastics. Incentives can take the form of fiscal measures and direct financial support for enterprises to install cleaner production technologies. On balance, it would seem that the long term gains to each economy from environmental protection - in the form of higher production efficiency, lower direct and indirect costs of pollution and in better access to OECD markets - outweigh the capital costs to entrepreneurs and the financial costs to governments from providing incentives, regulating, monitoring and maintaining the regionally agreed common standards for the protection of the environment.

F. Action program. In order for regional cooperation to follow a coherent and feasible action plan, a number of concrete steps should be taken prior to the enactment of the proposed policy measures to be undertaken by the relevant government authorities, after these have been approved through inter-government consultation. Both AIDMO and UNIDO could be assigned the different tasks involved in elaborating on the various options for cooperation and more specifically on the identification and evaluation of subsectors for industrial development and integration in the Arab region. These specialized institutions could bring their valuable expertise into play in defining the technical and economic parameters and determining the critical variables that will guide the choice of fields of cooperation and policy measures for integration.

Introduction

Arab countries have yet to reach the stage of self sustainable growth and development. While all except the least developed of their economies made large temporary gains either directly or indirectly from the oil boom of the 1970s, none has been able to harness its windfall income and secure a sustainable growth path into the future. Ever since the mid 1980s, one country after another has experienced economic stagnation, unemployment, internal and external deficits and growing foreign debt. Forecasts are bleak for any resurgence in petroleum prices or petroleum demand. The terms of trade for other raw material-based exporting Arab countries (e.g. phosphates, cotton) are also likely to remain unfavorable.

Moreover, the growing importance of regionalism, the projected impact of GATT (refer to section I.A.2) and the continued ascendancy of ASEAN countries are likely to divert trade away from Arab countries and in favor of members of the new trading blocs (EU and NAFTA), of ASEAN and of selected developing countries that are able to respond to the global challenge. Arab countries are thus faced with a configuration of circumstances on the world market with grave implications for growth unless a concerted effort is made to change the structure of their economies away from dependence on the export of raw materials and low value added intermediates and towards the export of high value added manufactures. The Arab world's most abundant and least developed asset is human resources, with another 53 million people added to its population over the past decade. Policies have yet to be devised that raise the labor force participation rate in each country, reduce the rate of open and disguised unemployment, promote the productivity of labor and hence wages and incomes, and exploit this vast and growing consumer market to the benefit of domestic industries which in turn create jobs, incomes and future growth. What is needed is to smooth the cycle whereby the benefits of higher incomes in Arab countries translate to higher domestic economic activity including industrial output and employment rather than the continued dependence on imported manufactures. Arab countries must turn from being consumer economies to becoming producer economies, with the appropriate combination of incentives and institutional reforms both within each country and regionally.

The performance of Arab industry has been uneven. Some countries have made enormous strides in setting up world competitive industries using the most modern technologies that can enable them to develop horizontal and vertical linkages for further industrialization. Other countries in the region have not instituted those mechanisms that are necessary to absorb technical progress and maintain their competitive edge. One example can be found in the engineering sector which was developed early on by some middle sized Arab countries, and yet failed to keep up with technical progress (e.g. automotive industries). Another example is the sub-optimal performance of the pharmaceutical industries, which was also started more than 20 years ago in certain Arab countries (e.g.

Egypt, Tunisia and Syria) but have failed to become export oriented or to undertake sufficient investment in R&D and in the development of human skills and to increase their share of the domestic market. The result is that a very large number of industrial subsectors in the Arab world are losing their capacity to compete with the international market or to grow along a sustainable path that generates employment, savings and foreign currency.

International evidence shows that the manufacturing sector is the most capable sector to act as an engine of growth if it is allowed to develop along an efficient path that promotes its ability to capture technological progress, provide employment, earn net surpluses for the balance of payments and become the leading source of savings and capital formation in the economy. For the Arab region, the challenge is to redeploy its significant industrial base so that it takes advantage of its installed capacity, restructures its weaker segments and turns from its inward orientation towards a dynamic competitor on the world market. Actions are needed on the macro and micro policy front, at the institutional and incentives levels, both domestically and regionally.

The current process of structural adjustment provides a real opportunity for domestic reforms to translate into regional coordination and cooperation which in themselves would enhance the prospects for the manufacturing sector of each Arab country for accelerated growth and increased competitiveness. In parallel with the ongoing process of economic reform and structural adjustment, Arab countries would significantly benefit from designing effective industrial policies that aim at responding to the challenges and opportunities for fast catching up of their industrial sector, especially if these individual industrial policies are well coordinated among Arab countries. Three sets of opportunities must be sought to raise the level of competitiveness and the degree of diversification of manufacturing industry across the Arab world: opportunities for further import substitution, opportunities for forward integration, and opportunities for horizontal integration. In 1992, total imports of manufactured goods by Arab countries were valued at $83.4 billion of which only $ 5.0 billion (6%) were from the region. Arab exports of manufactured goods stood in the same year at $3.0 billion, only 1% of world exports of manufactures ($32.0 trillion). The challenge is great and the potential for improving the performance of Arab manufactured exports enormous.

I. MAJOR CHANGES IN THE INDUSTRIAL SECTOR WORLDWIDE

A. The changing international environment facing industrial activity.

1. The emergence of three leading regional blocs.

Unlike military and political power which has become unipolar with the US monopolizing the international scene (after the collapse of the Soviet Union), economic success has shifted from a US hegemony to be shared by another two equally powerful centers revolving around the European Community and Japan - the world's new economic giants. Regional integration around those three poles is at a rapid pace, based on the economic, organizational and technological advances made at the core. Competitive strategies of these three groups of players are strongly capitalist oriented yet vary in their styles of operation and scope of government intervention. In the rest of the world, socialist modes of industrialization are fast disappearing (with Eastern European countries actively seeking to integrate into the EU), and giving way to varying forms of industrial and commercial cooperation.

Competitive cooperation within each of the three regional blocs involves significant and continuous rationalization and restructuring of one industry after another, in response to the reduction in level of protection in each country relative to other members of the region. In the EU for example, this early began with the coal and steel industries, followed by textiles and more recently with passenger cars. In South East Asia, the "Flying Geese" model allowed a more staggered approach to restructuring, with Japan followed by the first generation of tigers gradually restructuring and relinquishing those industries that were labor-intensive (e.g. textiles, electronics and engineering products) and opening up their markets to other members of ASEAN. The same process of restructuring is expected in NAFTA with US and Canadian labor-intensive industries gradually losing ground to Mexico and vice versa. The result is increasing specialization and complementarity among the countries in each region as well as a reduction in the level of vertical integration to the benefit of smaller and more efficient plants producing components on a subcontracting basis, and increased intraregional trade. The figures show a tremendous rise in the share of intraregional trade in total trade of each of the three regions. By 1989, intraregional trade accounted for 58.9% of total EU trade, 37.4% for East Asia and 36.3% for North America.

In contrast, intraregional trade among Arab countries still accounts for only 10% of their trade, up from 7% in 1980. Another feature of Arab countries' structure of industry is the large extent to which similar emphasis has been given to the expansion of certain subsectors (steel, aluminum, petrochemicals, fertilizers and other basic chemicals) and the neglect of others (e.g. capital goods, downstream petrochemicals, metals and various engineering products). Three major factors are behind the absence of much trade or complementarity across the industries in the Arab world: one is the relatively high level of tariff and non tariff barriers to intraregional trade, second is the similar resource

base of the oil-rich group which has prompted similar investments oriented to the international market and third is the common legacy of import substitution patterns of industrialization which have ignored the opportunities for integrating within the regional and international markets. Today, both rapid trends globalism and regionalism - as well as the disappearance of managed trade opportunities with former Soviet economies are making it increasingly difficult for countries that are not part of one of the three emerging blocs to retain their previous share of the global market for manufactures. This makes it imperative for Arab neighbors to harmonize their trade and investment strategies so as to consolidate their past achievements and maximize their chance of sharing in the fruits of the expected large expansion in world trade that will follow from GATT.

In parallel with the process of restructuring taking place across the countries of the three regional blocs is another equally important trend that involves mergers, acquisitions and the establishment of joint venture industrial projects and joint R&D programs in which several countries cooperate. National identity goals and policies have given way to regional identity goals and policies, and the objective of these various forms of cooperation is to realize efficiency gains at the level of the group that can sustain its competitive position in the face of the unprecedented speed with which innovations can turn the ranking of industrial leaders. Although each advanced country has had its leadership in particular industries, all three economic giants are moving away from concentrating on a niche towards competing on all fronts (e.g. Airbus industry, the joint European venture worth US$26 billion managed to break the US monopoly and succeeded in gaining 20 % of the aircraft market with plans to reach one third by mid 1990s).

Another global trend is the rapid increase in the numbers of giant transnational corporations as well as in the scope of their operations in world production and trade. Transnationals from Europe and Japan have increased their market share at the expense of US based multinationals, as shown in worldwide figures on the 100 largest industrial corporations:

	USA	EU	Japan	Other
1970	64	26	8	2
1990	27	47	12	12

New conglomerates from South East Asia, Brazil, India, Turkey and some Gulf states are starting to acquire the organizational and marketing skills to compete with transnationals from the advanced countries. In most cases, these national holding companies have been given special support by their governments in the form of legal and fiscal incentives which allows them to take advantage of scale economies in production and sales so as to face the international oligopolies with equal strength. They often combine industrial, finance and trading activities, either alone or with foreign partners.

Arab states should seriously consider strengthening their existing public and private holding companies and providing appropriate incentives for more of them to be established. These Holdings should obtain full legal autonomy and independent status and should be encouraged to invite equity participation from various Arab countries as well as foreign partners. Both industry-specific as well as industry/finance, industry/trade and industry/trade/finance configurations should be envisaged as important agents of dynamic growth and flexible response to the challenges and opportunities of the increasingly oligopolistic global environment.

2. Trade liberalization (GATT) and trade diversion (regional blocs).

The conclusion of the Uruguay Round after many years of negotiations for free trade is expected to bring to an end the economic stagnation of industrialized countries and increase world GNP by some US$300 billion. However, it puts a major responsibility on the policy makers of each developing country to ensure that their country will share in the expected benefits of an increase in world trade and world GDP. For Arab countries, it is of particular importance to realize how vulnerable both their domestic and export markets will become as all economies - developed and developing - are attempting to capture maximum advantage from the progressive dismantling of barriers to trade. Not only have members of the three competing regional blocs positioned themselves to exploit the new opportunities of freer trade, but many developing countries who are outside these blocs as well as the economies in transition (former members of the Soviet Union and Eastern Europe) are fast restructuring their economies and liberalizing their investment and trade regimes to become major exporters.

The result of GATT 1994 is improved market access to OECD countries for all developing countries products except textiles and clothing which will continue to be subject to quantitative restrictions (QRs) under the Multi Fibre Agreement (MFA) which is to be phased out over a decade. However, the elimination of QRs will be accompanied by the imposition of tariffs on several commodities including agriculture and food products, shoes, leather products and consumer electronics. On balance, the removal of quotas on products in which developing countries have a comparative advantage means that overall developing countries penetration of OECD markets will grow. Yet it also means that the exports of the more competitive and aggressive developing countries may well displace those of the less competitive developing countries who are losing the shelter provided by the quota arrangements that controlled OECD imports from the more successful export oriented developing countries and NICs. The four Asian tigers (Korea, Hong Kong, Taiwan and Singapore) already account for more than half of developing country manufactured exports, and the second generation of tigers are fast increasing their shares. The net effect on any one Arab country can therefore go either way and will depend on its ability to put in place all of the incentives and institutional elements (the legal and regulatory framework) that make for efficiency growth, market orientation and the penetration of

export markets.

For Arab countries that have already acquired a competitive advantage in particular industrial subsectors such as basic petrochemicals and other natural resource based products, they will have to be prepared to respond to some of the remaining or newly imposed barriers to trade that they are likely to face. These include restrictive business practices by giant OECD corporations, environmentally justified restrictive trade measures, voluntary export restraint, and anti-dumping and countervailing measures which are increasingly being reverted to. According to UNCTAD, the number of anti-dumping cases initiated almost trebled between 1990 and 1993. Other less transparent forms of protection than tariffs also include government procurement contracts, public capital transfer and the introduction of quality control procedures such as EU's system of ISO 9000. The latter market restrictions relate to quality and specifications and can be a major obstacle to exports of developing countries to EU. The Arab region will need to strengthen the role of specialized institutions that can undertake the necessary inspection, quality control and the confirmation of ISO 9000 standards.

The implications of GATT are therefore that Arab countries cannot afford to take a passive attitude to the impending trade war which can soon be expected amongst developing countries over the opening of markets of the advanced countries (accounting for 60% of developing countries exports) as well as the opening of developing countries markets themselves. What is equally obvious is that the gradual enforcement of GATT rules concerning the reduction in tariff and non tariff protection in developing countries markets will pose great difficulties to noncompetitive domestic producers in the Arab region. The only viable strategy for Arab countries is to pursue a vigorous industrial program of rationalization, restructuring and reorientation, with many benefits to be enjoyed if the program is deliberately designed to capitalize on regional opportunities, with regional policies and measures that enforce harmonization of investment and trade policies as a minimum, or a more ambitious plan for long term integration as a maximum. Such a program must aim at fully exploiting the current level of demand for industrial products, and expanding those particular industrial sub-sectors that enjoy the potential for dynamic comparative advantage as detailed below.

Although GATT 1994 is intended to activate international trade, the new system of quasi trading blocs that is emerging - particularly EU and NAFTA - will have serious implications in replacing an open trading system with managed trade and thereby neutralizing some of the gains from freer trade. The principle that governs each trading bloc is that it eliminates tariffs (and sometimes also removes controls on factor movements: capital and labor) between its members but imposes a unified set of barriers against the rest of the world (ROW). The results are both trade creation (more total imports by the regional bloc) and trade diversion (replacing producers from ROW with producers inside the regional bloc).

On balance, trade diversion becomes more likely if market access for ROW is restricted for a transitional period to help the region's producers to restructure their operations (hence the fears of Fortress Europe) or if members of the bloc have very different resource endowments and productive structures prior to integration, such that the elimination of protection within the bloc leads to increased trade among its members at the expense of ROW. For Arab countries, the prospects of Fortress Europe (which has mostly affected US and Japanese exporters of specific products such as cars) may not be as serious as for more industrialized countries, and trade diversion is also unlikely to take place on account of similar resource balance among EU members. On the other hand, NAFTA does imply trade diversion for Arab countries - or to be more precise, reduced export potential to NAFTA - to the extent that Mexico's resource endowment is distinctly different from that of the US and Canada. Mexico's increased sales of labor intensive products within NAFTA is therefore expected to divert other developing countries exports of these products (e.g. garments, electronics and automotive components). Other Latin American countries are now considering joining NAFTA. However, it must be observed that a major trend that has worked in the 1980's in favor of developing countries that are not members of any regional bloc is the operation of transnationals which are based in the OECD and ASEAN countries and are increasingly moving part of their operations to those developing countries which enjoy comparative advantage and offer attractive terms to investors.

Arab countries are therefore likely to find that competition from other developing countries, who are adopting aggressive export policies (e.g. Latin American exporters such as Brazil, ASEAN countries and the transitional economies) will become the most formidable challenge over the coming decade as these countries increasingly rely on transnationals as a vehicle to penetrate the global market. The two largest economies - China and India - have considerably reduced their controls over foreign investment and have liberalized their trade regimes so as to become increasingly export oriented. The flow of foreign direct investment into China reached $4.4 billion in 1991. China's exports of manufactured goods to the OECD have grown from US$ 14 billion in 1987 to reach US$ 46 billion in 1991. The growth rate of China's total exports was 11.5% per annum over the decade of 1980s. India's economic reform program has begun in 1991 with a series of measures to reduce tariff levels and import licensing and to move towards the convertibility of the Indian rupee. Export processing zones have also become eligible to include trade activities as a means of promoting exports. India's garments exports grew by 21% in 1993/94, footwear by 13% and exports from its chemicals sector exceeded US$1 billion in 1989 and are expected to experience large growth rates. After a serious shock to its exports caused by the dislocation of its market in the former Soviet Union, India's total manufactured exports have regained their previous peak and are likely to continue growing at an accelerating rate.

B. Trends in structure, location, technology and organization of industry.

1. New growth industries and their implication.

The era where large-scale, capital intensive manufacturing projects are the core of any modern industrial structure is being replaced by a new structure where technology intensity, skill intensity and the ability to better organize production characterizes the seven leading industries of the future:

1) microelectronics
2) biotechnology
3) new materials-science
4) telecommunications
5) civilian aviation
6) robotics + machine tools
7) computers + software.

These growth industries are not adaptable to a high degree of centralization and require relatively little raw materials as compared to the older generation of industries. The implications are that the basis for economic growth and material progress is no longer based on a country's availability of natural resources and that the centralized control structure of large industrial plants will not be suitable in these new industries. Instead, the stress is now towards smaller flexible organizational structures that can better respond to fast changing technologies and market conditions.

2. Impact of revolution in information and communications technology.

The revolution in information, computers and telecommunications has led to the dismantling of the barriers to the geographic dispersion of economic activity. This means a reduction in the degree of concentration of manufacturing in rich capitalist countries which will no longer have the edge in attracting investment since global sourcing of capital, technology and manpower gives the location advantage to those countries that are best able to provide production and organizational economies. The increased mobility of capital and the development of institutions and organizations that can measure the degree of risk with accuracy means that even the most remote and least endowed of countries in terms of physical infrastructure stand a good chance of attracting investment.

Process technologies are becoming more important than product technologies. Rapid innovations introduced in the production process itself are providing continuous reductions in total cost of production, especially in the cost of holding inventories and in the use of modular design in each functional step from purchasing, storing and processing to marketing and distribution. This has meant that those firms that are able to introduce these process innovations can become more competitive than the originator of new products.

World competition is forcing improvements in organization and management. On the other hand, the globalization of production has been aided by the information/communications/computer technologies which allow transnational corporations to modularize, separate and micro-manage their affiliates in great detail. On the other hand, the rise of the small, efficient, knowledge-intensive enterprise that provides components and services to the large corporation has meant that the latter are increasingly shedding many activities which can now be subcontracted. The era of centralized and highly integrated production operations is giving way to a far more flexible organization with increased interdependence among large and small producers across countries, increased transactions and increased specialization. The opportunity for Arab companies to associate and form strategic alliances with the new breed of smaller knowledge-intensive enterprises must not be overlooked since these enterprises are far more flexible in the terms they offer their partners and since they are expected to become major players in the future of the global market.

II. PROBLEMS AND OPPORTUNITIES FOR ARAB INDUSTRIAL DEVELOPMENT

A. Overview of Arab Industrial Development

According to UNIDO data, the growth and diversification of the manufacturing sector of Arab countries has been above the average for developed and developing countries over the past two decades. Growth rates of manufacturing value added (MVA) for the Middle East and North Africa (MENA) averaged 5.9 percent in the decade of the 70s, and 4.3 percent in the 80s. These rates compare with average world growth rates of 3.1 percent and 2.0 percent respectively for the two decades. Over the period 1975-93 the MENA region has also increased its share in world total MVA by 1.5 percent, with only the East and South East Asian region exceeding that average. Moreover, the share of the newly introduced manufacturing sub-sectors such as basic chemicals and basic metals have increased at the expense of traditional sub-sectors such as food processing and textiles, implying a rapid rate of diversification (see UNIDO, Global Report 1993/94). For many of those economies, the emergence of a manufacturing sector began from a very modest base but is now accounting for a significant share of total economic activity. Following the standard classification adopted by most regional economists, Arab countries have been grouped into three categories according to their standard of living (per capita income) and their degree of reliance on the petroleum sector, as shown in annex tables.

Group One - the oil based economies - have allocated considerable investments to the manufacturing sector which has raised their manufacturing value added (MVA) per capita to close to that achieved by middle income economies as defined by the world development report (see annex table 1). Output of manufactures is concentrated in the energy and capital intensive subsectors: petroleum refining petrochemicals and other heavy chemicals as well as some heavy metals including steel and aluminum (annex table 2). Although the emphasis on using energy as a major raw material

is in line with Group One's comparative advantage and has had very positive results on these countries' balance of payments (annex table 3, 4), there is much scope for these countries to expand their industrial structure in the direction of forward integration that is in downstream activities that further process their output of basic petrochemicals, other chemicals and metal products.

Group two countries have a relatively older manufacturing history and a more diversified structure of manufacturing activities that supplies a significant range of products for the local market and relies on their more balanced resource endowment, especially the availability of abundant and relatively low cost labor. The three largest manufacturing subsectors in Group Two economies are food processing, textiles and non metallic mineral products. These three subsectors have also been important sources of export income, especially yarn, textiles and clothing, but some of these countries have also relied on exports from their chemicals subsectors(nitrogenous and phosphatic fertilizers and petroleum refining) and metal sector (aluminum). Prospects for expansion of the textile and food processing industries along export orientation lines are favorable for these economies, and so are some niches they can individually pursue in the production and export of special products within each of the chemicals, metals and engineering subsectors (e.g. pharmaceutical, cosmetics, plastics, rubber, shaped metal and various types of capital goods and consumer durable subsumed under engineering).

In Group Three countries - the least developed Arab economies - manufacturing industry still accounts for a very small share of GPD and MVA averages less than $40 per capita (annex table 1). Manufacturing is concentrated in primary processing of some agricultural products - especially food and textiles - and there is little manufacturing diversification. Exports of manufactures in Group Three countries are minimal in relation to imports and they show the relatively highest degree of import dependence as measured by the ratio of exports to imports of manufactures except for Mauritania for which 82% of manufactured exports consist of iron ore and related products. These countries still have considerable scope for expanding their manufacturing sector under import substitution lines to meet with domestic demand for a variety of non-durable consumer products and for selecting one or two sectors of specialization that can become export oriented, especially if capital flows are forthcoming from the richer Arab countries to finance such projects.

Some general observations can be made that concern the industrial structure of all three groups of Arab countries: One feature is that there is a considerable degree of complementarity (i.e. each group is relatively specialized in its own subset of manufacturing activities) across the three Groups of economies which can be exploited to their mutual advantage if industrial policies and strategies are coordinated in such a way as to encourage the process of deepening along each group's comparative advantage while promoting a parallel growth in intragroup trading. A second characteristic of all groups is that they are still concentrating on the extractive or primary processing stages of their raw

materials (petroleum and basic chemicals and metals in Group One, cotton and other agricultural products, phosphates and other ores in Groups Two and Three). The opportunity to raise value added (wages and profits) from further processing for these intermediates is substantial (e.g. downstream petrochemicals, synthetic fibers, rubber, plastics, metal products, specialized chemicals, clothing etc...) and could significantly benefit from a more open trading system among the members of the Arab region since this would enable a better dispersal and allocation of investments to take advantage of locational advantages and economies of scale.

A third observation is that all Arab countries have neglected the enormous potential and importance of building up a viable capital goods industry. Annex table 5 shows that imports of capital goods (excluding transport vehicles) to the Arab countries exceeded $6 billion in recent years, concentrated in three major categories - non-electric power generating machinery, office machines and electric power machinery and switch gear - which together accounted for more than two thirds of total imports of capital good (over $4 billion). The table also shows that very few Arab countries have a significant capital goods industry, namely Egypt, Iraq and Morocco, and even these rely heavily on imports of capital goods from the rest of the world. A fourth and final observation is that the export performance of Arab countries' manufacturing sectors has been very poor and that except for a few of the oil-rich economies, their balance of trade deficits from the industrial sector is extremely high and could be easily remedied with appropriate export promotion policies.

B. Macroeconomic imbalances and implications of adjustment for industry.

All Arab countries have experienced to one degree or another an artificial appreciation of their local currencies, as a result of the windfall gains which accrued from the petroleum boom over the mid 1970s to mid 1980s period. In response to the sudden inflow of foreign exchange from petroleum exports, workers' remittances or related transfers, the balance of payments of Arab countries became excessively dependent on a few large but volatile sources of income which created an overvaluation of domestic currencies and a strong bias against tradables other than petroleum. In practical terms, this has meant that the cost of production in domestic manufacturing became too high relative to competitive international prices and this discouraged production either for the domestic or export markets since it became cheaper to import many commodities and local products lost their competitiveness. A related problem was the temporary skill shortages in those particular Arab countries with a significant manufacturing sector (e.g. Egypt in the 1975-85 period) due to labor migration to the oil exporting countries, and the corresponding increase in real wages which also contributed to the rising costs of production in manufacturing and reduced competitiveness.

In spite of the unprecedented flows of foreign exchange from petroleum and labor migration, many Arab economies proceeded to borrow massively in order to implement ambitious programs in their infrastructure, in heavy industries and in agricultural expansion, expecting a continuation of the boom in the petroleum market which would maintain their creditworthiness. However, the sharp reversal experienced in oil prices has multiplied the debt servicing problem of most Arab countries, with total Arab foreign debt estimated at US$140 billion in 1993. Macroeconomic imbalances which became increasingly serious since the mid 1980s have forced many governments to implement comprehensive economic reform and structural adjustment programs (ERSAPs). Stabilization has been the relatively easier component of ERSAP in most countries, with the manipulation of exchange rates, interest rates and budget expenditure so as to reduce internal and external deficits and in order to bring down inflation. As to structural adjustment, this is a much more complex process that entails reforms in both the incentives and institutional frameworks and will hopefully bring about a much needed reorientation of the manufacturing sector towards an efficient and sustainable growth path that is based on each Arab country's resource balance, on its potential to attract domestic savings into viable investment opportunities and to shift a significant proportion of its industrial output from domestic to export sales.

Liberalization of the incentives structure in each economy involves getting prices right reflecting international prices and opportunity cost - so that domestic producers restructure their investments and revise their product mix in the face of a reduced level of protection, a reduced bias in favor of import-substitution, reduced distortions in the cost of intermediates, reduced shelter and increased transparency for public enterprise operations. The liberalisation and revision of the incentive structure will gradually eliminate those particular industries that do not enjoy a comparative advantage, and were able only to produce behind high levels of protection, moreover a parallel displacement of such industries by the more competitive export oriented ones will take place. The elimination of price distortions is equally important in the markets for factors of production: capital, labor and foreign exchange. Domestic interest rates have long suffered from being too low and often negative in real terms, and their increase will correct the bias which has favored excessive capital intensity in production techniques and will stimulate the adoption of new technologies that are capital saving and hence more internationally competitive. ERSAP is also working to reduce real wage rates, especially in labor-abundant economies whose industries will benefit from the restoration of equilibrium wage rates and competitive labor costs. Exchange rate liberalization is perhaps the most important measure that will solve the problem of overvaluation, redress the balance of incentives away from nontradables and towards tradables (especially manufacturing investment and output), and in favor of the more competitive manufacturing subsectors both in the import-substituting and export oriented industries.

In terms of institutional structure, many Arab economies suffer from overcentralization and bureaucracy, from the absence of a clear and consistent regulatory framework and from poor

enforcement of laws and regulations. Those deficiencies have a negative impact in attracting domestic and foreign investment in the manufacturing sector and cause unnecessary burdens on investors, producers and exporters. Institutional reform is an essential component of successful ERSAP and will often need to be complemented with additional measures that are tailor-made to each country's conditions including the revision of legislation concerning labor and capital markets, banking and finance, property rights, the regulation of monopolies and the autonomy and accountability of public sector enterprises. Successful decentralization and deregulation is especially important for previously socialist-oriented economies and is the key to reducing transaction costs incurred by industry and hence improving their overall performance.

C. Major Weaknesses of Industrial Strategies and Policies

Non-oil Arab countries have mostly pursued import-substituting industrial strategies and have failed to design effective industrial policies that respond to the rapid pace of technical progress and changing market conditions at the global level. The following is a summary of the main problems faced by manufacturing industry.

1. Weak technological base and full dependence on imported technology and turn-key projects from advanced countries. Education and training have been deficient in the industrial sector. R & D expenditure has been low, fragmented and isolated from industrial sector needs.
2. Lack of coordination between the educational system, the labor market and industrial development. Effects on unemployment, brain-drain and labor productivity.
3. Concentration of industrial investments in upstream activities with limited value added that does not benefit employment or revenue generation. Transformation of natural resources (energy, phosphates, cotton) into intermediates with little further use in downstream activities. Another side effect is vulnerable position on international markets.
4. Low investments in expanding and strengthening industry because of low revenues of public investments and low attraction of private capital (domestic and foreign).
5. Absence of export orientation.Industrial imports are far surpassing industrial exports. As a result of ISI strategy, industrial expansion has negative impact on balance of payments.
6. Absence of leading subsectors that are being promoted to become growth nucleus for future growth. Industrial policy fails to consider dynamic comparative advantage.
7. At regional level, lack of success in integration of markets related to industry. Neither specialization and trade nor intrasectoral cooperation (car assembly, computers). Joint ventures have not been successful as measured by growth rates or market share.

D. Need for reorientation from ISI to export promotion.

Almost all non petroleum Arab countries have long pursued ISI policies which are now resulting in diminishing returns on account of a number of trends:

1. Domestic markets cannot grow as fast as the production capacity of new and existing enterprises. In contrast, outward oriented industry does not meet with constraints from the limitation of markets.

2. Expansion of industries along ISI paths means diversifying into fields that require increasing capital, skill and technology intensities which are not easily attained.

3. The continuation of ISI beyond the stage where economies of scale and natural advantage (transportation costs) can be reaped means that country is foregoing the opportunity to specialize in areas in which it has acquired knowledge and skills with which it can enter foreign markets and is instead diversifying in areas where it has less scope for becoming competitive.

4. Persistence of ISI in fact results in growing import dependency since it means the gradual entry into fields in which the country has less and less domestic resources that are suited to the production of further import substitutes. The experience of several Arab countries gives evidence of their having prolonged the ISI phase beyond that dictated by economic viability.

5. Insulation from global competition has constrained total factor productivity (TFP) growth, a situation that has very high costs as evidenced by former socialist countries. Not only have most Arab countries pursued ISI with vigor until recently, but in many cases ISI strategies have been combined with a heavy dose of socialist-type central planning, state-ownership and bureaucratic control.

6. The period of the oil boom is over. Many sectors that are inward oriented, especially non tradables such as building materials and that were fast expanding during that period have no further scope for growth. Alternative is reorientation and restructuring.

7. Excessive protection leads to serious price distortions, and the greater the departure from a unified level of protection, the greater the degree of relative price distortions . Price distortion, in turn, lead to unintended biases against particular activities, namely those that are oriented to exports and those in the production of capital goods and intermediates.

E. The need for an industrial Policy

There is strong evidence that state intervention has played a significant role in the transformation of developing countries which have graduated to become Newly Industrialized Countries (NICs). Evidence is also accumulating on the nature of intervention that has characterized successful growth models and points to special features that are neither applicable in the strictly neoclassical nor socialist prescriptions for growth and development. Economists are therefore being forced to reconsider the notion of barriers to competition, comparative advantage and to recognize the role of social and legal institutions in promoting the acquisition and utilization of knowledge and the role of the system of property rights in reducing uncertainty and minimizing transaction costs.

Research is making it clear that dynamic comparative advantage- the key ingredient to successful industrialization- can only be achieved if enterprises (in the production, trading and other service sectors) can acquire knowledge with sufficient speed and adapt to rapid change which now characterizes the global economy. Several elements of the structural adjustment and economic reform programs currently underway in Arab countries will have a positive impact on redirecting industry towards self sustaining growth. Other elements are needed to enhance technical progress and ensure adequate support to industry during its transition. These can only be provided by a well designed industrial policy emanating from the government, and in consolidation with the private sector.

Until recently, governments of advanced market economies believed that state intervention in the industrial sector should be minimal and have been against the concept of an "industrial policy". Yet with the challenge of Japan and ASEAN countries' penetration of the global market, even the US has been instituting new forms of government promotion for technology acquisition, organization and management skill formation and export growth in the manufacturing sector.

The US federal government only started industrial extension activities in 1988. In 1993, Congress passed legislation to appropriate $200 million for industrial extension from the $ 1.7 billion Department of Defense conversion and reinvestment package. Financial support for the Department of Commerce's National Institute of Standards and Technology (NIST) which administers industrial extension programs is expected to reach $500 million for 1996 and 1997. Federal funding will support over 100 technology extension centers, each equipped with the most modern of production tools and providing advanced knowledge of the spectrum of proven manufacturing techniques and technologies including strategic business planning, total quality management, flexible manufacturing, computer-based production, manufacturing resource planning, statistical process control, and just-in-time inventory control.

In the US also, a group of 19 governments agencies, the Trade Promotion Coordinating Committee (TPCC) chaired by Secretary of Commerce Ronald Brown has announced in 1993 its carefully designed "National Export Strategy" to coordinate export promotion and export financing programs into a more streamlined, coherent, efficient, responsive and effective government - wide export promotion program. Key elements of the strategy include co-locating (export promotion, trade finance specialists, small business administration, eximbank and others) appropriate agencies in "one-stop shops", developing a comprehensive export financing counselling/training programs for US government employees providing counselling services to exporters, and creating strategic commercial plans for each market.

F. The Need to Switch from a Domestic to a Regional Orientation.

Closely related to Arab countries' ISI strategies of the past decades has been the narrow focus of investment plans on the domestic market in each individual country at the expense of looking at the larger regional or global market. This attitude has served to replicate many capital intensive projects across Arab countries and to increase the dependence of each project on the rest of the world rather than to achieve regional economies, regional interdependence and regional integration. This strategy is not sustainable for a number of reasons:

1. The rapid pace of regionalization in the rest of the world means that Arab countries are facing an increasingly aggressive international market with the emergence of higher real barriers to entry for nonmembers of regional blocs.

2. Net financial flows to Arab countries from the West (especially Europe and the US) are declining as a result of the priority that has been placed in responding to the unusually high demands for capital in Eastern Europe. Both commercial lending and direct investment are therefore much more limited.

3. Arab countries are also facing the threat of being further marginalized in the global market if they do not act cooperatively in response to the ascendancy of Far Eastern exports including the ASEAN group and China. The share of the seven tigers alone (Korea, Hong Kong, Singapore, Taiwan, Indonesia, Malaysia and Thailand) out of total developing country exports has risen from 21% in 1980 to 16% in 1990.

4. The impending Peace settlement with Israel will have serious implications to the competitive position of domestic producers even within their own territory. On the one hand, lifting the embargo on foreign firms doing business with Israel means that a large number of multinationals will be

attracted to shift their regional base from Arab countries to Israel, diverting significant foreign direct investment away from Arab countries and at their expense. Secondly, lifting the embargo on Israeli products means that significant changes in regional trade flows may displace existing intra regional exporters. On balance, it can be expected that Israel's exports to Arab countries will exceed its imports. Although much of this trade diversion may be at the expense of the Rest of the World exporters to the region, nevertheless, some Arab exporters may lose part or most their markets. Thirdly, Israel has expressed its interest in establishing a regional bloc with its immediate neighbors (at least Palestine and Jordan) and whatever mode of economic integration will imply relative strength of this bloc vis a vis the rest of the Middle East region if it remains fragmented. Lastly, one should not ignore that today, Israel can be considered by far the most advanced economy in the region in terms of its skills and technological base and the level of sophistication of its industrial structure.

All of the above factors point to the need for Arab countries to pool their resources and take a common stand on a number issues that concern their industrial development.

G. The Need to adopt a Common Policy for the Protection of the Environment

Arab countries have to varying degrees instituted rigorous legislation for the reduction of industrial pollution. In many cases however, the enforcement of rules concerning industrial location and relocation, the restricting of plants to reduce harmful emissions and the adoption of management techniques for cleaner production processes has been lax and ineffective. On the one hand, this situation implies that the distribution of the environmental burden is inequitable across countries of the region, with the costs of meeting environmental standards carried alone by those who enforce strict standards. On the other hand, delays in undertaking environmental investments has negative repercussions not only on human welfare but on the sustainability of a country's natural resources, especially water. Continued neglect of the environment standards enforced in developed countries also threatens to result in penalties paid by Arab country exporters to the advanced countries.

Technological progress has recently provided industry with cost-effective capital equipment and management techniques which minimize industrial pollution and these will only be adopted by individual firms if governments take a firm stand with respect to environmental legislation and support policies to promote investments for a cleaner environment. Training in the application of cleaner production techniques has been shown to result in important reductions in the harmful effects of pollutants in-house (health hazards affecting workers and employees within the factory), reductions in the negative externalities causing damage to air, soil and water, as well as in significant reductions in unit costs of production related to good housekeeping, to energy and other raw material savings and to decreased waste management costs at the plant level.

A commitment by Arab governments to adopt a common policy package concerning environmental legislation and its enforcement, opportunity cost pricing of energy, and incentives at the national level would have important positive implications in avoiding further degradation of the environment, in sharing fairly the burden of waste control among Arab countries and in helping those industries whose costs of introducing environmental standards are exceptionally high including large scale energy intensive industries (e.g. cement and fertilizers) and the small and relatively older plants operating in specific subsectors such as metals and plastics. Incentives can take the form of fiscal measures and direct financial support for enterprises to install cleaner production technologies. On balance, it would seem that the long term gains to each economy from environmental protection - in the form of higher production efficiency, lower direct and indirect costs of pollution and in better access to OECD markets - outweigh the capital costs to entrepreneurs and the financial costs to governments from providing incentives, regulating, monitoring and maintaining the regionally agreed common standards for the protection of the environment.

III. THE ACHIEVEMENT OF ARAB INDUSTRIAL COOPERATION.

Industrial cooperation among Arab countries should not be understood as the flow of grants and financial assistance from the rich to finance industrial projects in the poorer countries. Neither should it be seen as the market for selling the surplus output of domestic producers and solving problems of excess capacity on an irregular basis. Nor should it mean the implementation of joint ventures across the region that are simply motivated by political consideration and/or by Arab nationalist goals, even through such objectives can boost cooperation. Meaningful and sustainable cooperation starts from the premise that it must serve each and every member's objective of obtaining real economic gains from cooperation, i.e. it should be a non zero sum game. Gains include higher commercial profits from equity participation in projects, growing market share for the industry in question - both regionally and internationally -, lower costs of operation and technology acquisition; greater leverage in negotiating with transnational corporations.

Where can advantages be reaped by the region and then be distributed among countries that are members to such regional cooperation? and what are those specific industrial subsectors that could benefit from regional cooperation?.

A. Lower Barriers to Intraregional Investment Flows Across Arab Countries

The major reason why industrial capital flows among Arab countries have been unusually low is the significant level of institutional barriers, especially in the form of investment licensing which grants advantages to domestic producers whose technological dependence on the advanced countries naturally tends to favor relations with multinationals from outside the region at the expense of partners in the region. As a matter of fact, the situation has often been one in which it is the multinationals themselves who study Arab markets, identify their choice location and then enter into agreements with individual country partners - public or private.

The operation of a large and better integrated Arab market would mean one in which the tables are turned around so that instead of each country competing with its neighbor in attracting foreign partners, it is the multinationals who would have to compete among themselves to get a stake in this much larger market where the flow of goods is relatively free. Whatever commercial transactions obtain under this new scenario of competitive cooperation, they are bound to mean lower costs (economies of scale), more competitive prices (in favor of domestic consumers) and larger exports.

The most important gain to be achieved by integration is the higher leverage which any one government or domestic firm will have vis a vis the rest of the world in its transactions: in purchasing intermediates and technology from giant corporations, in borrowing from the international and national

capital markets, in marketing its output in the rest of the world

B. Lower Barriers to Intraregional Trade Flows Across Arab Countries

The single most significant constraint to a "normal" flow of trade among Arab markets is the level of tariff and non tariff barriers which is presently very high. Although implementation of ERSAP and the Uruguay round will result in some tariff reductions by all Arab countries, there is a pressing need for an in depth evaluation of present structures and levels of protection across Arab countries and their implications, with proposed alternative scenarios that can be presented to policy makers. This becomes all the more important given the global challenges facing Arab countries on the one hand, and attempts by particular Arab neighbors to forge new regional alliances on the other.

As a first step towards regional cooperation in the field of industrial development, Arab countries should strive to give some preferential treatment to intra Arab trade which effectively discriminates in favor of Arab producers in the region. It is often the case that although protocols and agreements have been ratified which give preferential access to Arab manufactures in Arab markets, the enforcement of these agreements has not materialized. It would therefore be most useful for a study to be undertaken to review the actual implementation status of regional trade agreements and to suggest possible options for further expanding the scope of these agreements.

A second step towards regional trade liberalization is to identify a subset of manufactured goods for potential regional coordination/cooperation (see next section). Based on these subsectors, a sequence for trade liberalization that gives priority for relaxing trade barriers for these products would be proposed. In many cases, the existence of tariff and non tariff barriers in any one Arab country bears no relationship to the operation of domestic industries that require protection and simply works to discourage the implementation of investment projects that can take the larger Arab market as their domestic market in conducting feasibility studies.

A third and additional step towards regional trade cooperation is to undertake a sequenced approach in trade liberalization by country groups. For each industrial subsector, analysis of the strengths and prospects of each Arab country vis a vis that subsector would place that country in a specific category with respect to the speed with which it can undertake trade liberalization. This form of cooperation would be similar to the "Flying Geese Model" of the successful South East Asian economies whereby each country has gradually opened up its market for each group of commodities (e.g. processed food, followed by textiles, capital goods, electronics, cars etc ...) with respect to its neighbors. This is how ASEAN intraregional trade has grown from a negligible proportion of its total international trade to reach more than one third of its total trade by the early 1990s.

C. Identification of Industrial Subsectors for Regional Cooperation

There are three criteria according to which one can judge whether a particular manufacturing subsector is a viable candidate for regional cooperation: opportunities for import substitution with dynamic comparative advantage, opportunities for forward integration into high value added products and opportunities for horizontal integration of existing sectors with high comparative advantage. The first criterion can be used to select new projects whose feasibility is contingent on taking advantage of the vast Arab market as a single market in situations where economies of scale on the supply side have prevented any one country from making a viable import-substituting investment based on its local market alone. The second criterion can be used to identify new projects whose feasibility relies on exploiting existing manufacturing subsectors whose resource advantage provide the Arab region with low cost intermediates which can be further processed into high value added products for the regional and export markets. The third can be used to select existing subsectors for which regional integration along horizontal lines will promote mergers and subcontracting arrangements among firms of different Arab countries and would enhance productive efficiency, competitiveness and the scope for rapid expansion to meet the demand of a fast growing regional market, especially in consumer goods.

1. Import Substitution with dynamic Comparative Advantage

The first criterion is the scope for import substitution at the regional level for products whose import value by the Arab region is significant both in absolute terms and in relative proportion to actual and projected levels of regional consumption. In addition, such products must enjoy some of the minimum prerequisite characteristics for medium and long term economic viability for production within the region (such as potential for acquiring up-to-date technology, training for appropriate skills). Transport equipment (including passenger cars) is one area where there is great scope for import-substitution industrialization, given the value of total imports (see table 1). Other capital goods that can benefit from further expansion are power generating machinery, office machines and electric power machinery and switchgear. Together these three subsectors account for the largest shares of capital goods imports (see table 5 in annex).

Table (1): Imports and Exports of Selected Capital Goods By Arab Countries (1992)
(US $million)

	Non-Elec.Machinery	Elec. Machinery	Transport Equipment
Total Arab Imports	10,228	6,057	13,315
Imports From Arab Countries	181	120	90
Total Arab Exports	324	606	322

Note: Countries included are total Near East as defined by UNIDO except for Turkey, Iran and Cyprus which were subtracted from total. The figures therefore cover all Arab Countries except for Somalia, Lebanon, Mauritania and Djibouti.
Source: UNIDO, Industrial Statistics branch, Information and Research Division, Global Economic Database, 1994

Industrial policy at the national and regional level will be of the utmost importance for successful entry into new products for the regional market, and extensive consultation and evaluation will be necessary in considering alternative options in the choice of specific subgroups within any one category such as capital goods. Previous modes of identifying and planning new projects must be avoided since they have tended to approach industrial investment with a narrow focus on such variables as size of national market, crude estimates of savings for the balance of payments and employment implications of projects. Instead, the focus of evaluation should take a broader view of the prerequisites for efficient operation, and market research should consider the dynamic global aspects and prospects of the market. In addition to the standard variables employed in making project evaluation, careful analysis must be made of the technological, managerial and skill requirements on the supply side, so that investments are not confined to plant and equipment but to human resource development and R & D for continuous upgrading of skills and sustained technical progress in those selected areas where the Arab region has decided to concentrate its efforts.

Another traditional bias which must be avoided in selecting the "winning horses" is the notion that backward integration is a necessary condition for successful industrial projects. Economic viability of any one stage of processing is independent of the availability of raw materials and/or processed intermediates used in that process, and this has been empirically verified by the success stories of ASEAN industrialization. The costs and benefits of concentrating on tractors, irrigation equipment or textile weaving machinery will depend far more on the knowledge and skills of their production processes and technologies to keep abreast of innovations and on the value added by these processes than on the domestic production and availability of engines, motors, rubber products, special metals and other components used as intermediates.

Moreover, it will also be important to calculate costs and benefits at international prices and avoid the pitfall of assigning domestic prices which undervalue or overvalue the opportunity cost of

inputs and output. This is particularly true of assembly industries in the engineering sector where a large number of Arab countries have promoted public and private investments based on the high level of tariff protection offered for such products as consumer electronics and passenger cars. In most cases, these projects have negligible or even negative value added and could have been avoided if project evaluation had made use of world prices. In contrast, a large selection of capital goods projects which enjoy considerable value added are ignored because they receive no protection. Appropriate cost/benefit analysis will therefore be essential in identifying from within the category of capital goods, transport vehicles and other engineering goods those selected product groups which lend themselves to Arab cooperative investment for high and sustained rates of return.

2. Forward integration into high value added products

The second criterion is the scope for vertical forward integration into high value added processes for products which enjoy comparative advantage both in the regional and the international market. Regional cooperation would ensure coordination on the design and size of proposed projects to avoid regional duplication and enhance the advantage such projects can gain from using the larger Arab market as their base for entering world markets. Table (2) illustrates the scope for expanding the production of some selected downstream manufactures, that enjoy the support of a wide resource base. in addition to being energy intensive. A first candidate is the downstream petrochemicals industry, which currently accounts for $ 225 million of imports into the Arab region of which only 24 % are imports from Arab countries themselves and for which total Arab exports had only reached $125 million in 1992, out of a world market of $5554 million. Likewise, synthetic rubber, iron and steel and other metal products are fields that can benefit from further expansion. (see table 6 in annex for average apparent consumption of selected manufactures).

Table (2): Imports and Exports of Selected Downstream Industries By Arab Countries (1992)

(US $million)

	Misc.Petroleum & Coal Products	Synthetic Rubber	Iron & Steel	Metal Products Excluding Machinery
Total Arab Imports	225	1,441	5,846	4,536
Imports From Arab Countries	55	54	597	233
Total Arab Exports	125	58	694	318

Source: same as Table (2)

Many Arab countries, particularly those oil-rich economies which enjoy comparative advantage in energy-based manufacturing have made vast investments in the primary processing of products from their extractive industries (petroleum and gas) as well as in the secondary stages such as petrochemicals, fertilizers and building materials. This rapid development of the 1980s has created a new physionomy of the Arab region's industrial structure and paves the way for further successful diversification in the downstream activities of these subsectors. These promise significant value added when undertaken at the optional scale and in conjunction with carefully studied market prospects within the Arab region and in the rest of the world.

As is the case with the first import substituting "category of subsectors proposed for Arab regional cooperation, this second "forward integration" category offers a very broad range of potential candidates for coordinated investment projects. Again, the two key variables that need to be considered in making the choice from among feasible options are the technological/skill requirements on the production side and the rapidly changing configuration of supply and demand conditions on the market side. Several specific proposals for downstream investments have been proposed by specialized bodies and these proposals should be given careful consideration by Arab governments.

3. Horizontal Integration for Competitive Expansion

The third criterion is the scope for horizontal integration of existing industries which enjoy current and prospective comparative advantage so as to capture the benefits of restructuring along the regional dimension. The types of benefit to be gained from regionalization are the larger size of market for anyone producer, and all of its related benefits in terms of economies of scale, as well as economies of relocation to take advantage of sourcing for intermediates, labor and industrial services available across the Arab region. Table (3) points to some selected consumer goods that account for significant portions of total imports, and can be further expanded so as to allow the already existing productive

capacities to cater for current demand which is being met by imports

Consumer goods industries (food processing, tobacco, textiles and clothing, leather, furniture, pharmaceutical, cosmetics and various home appliances from the engineering sector) still account for more than half of the Arab region's total value added in the manufacturing sector. Policies of trade protection, price controls and biases that discriminate against the small scale producers (in terms of access to credit, serviced land, skill formation and training) have all worked to minimize the scope for raising efficiency, productivity, capacity utilization, rehabilitation, technological catching up, and export marketing. Yet all of these industries enjoy comparative advantage and have good prospects for growth based on a rapidly growing population and incomes within the Arab region as well as prospects for exporting to the rest of the world if policies are put in place to correct for existing biases.

Regional cooperation in this third group of industries will benefit most from the reduction of trade barriers and investment constraints which limit the scope for effective competition and cooperation among the multitude of firms that operate in these subsectors across the region. By looking at the outcome of regional integration across the European Community, one can estimate that prospects for gains by all members of the Arab regional community would improve in the medium and long term. As trade liberalization proceeds, this enhances the process of restructuring and mergers in each subsector such that efficiency is raised in all existing production plants, and growth of competitiveness is also accelerated vis-a-vis producers in the rest of the world. This process becomes of the utmost urgency at a time when the Uruguay Round imposes a strict timetable on the gradual lifting of tariff an non-tariff barriers worldwide.

Table (3): Imports and Exports of Selected Consumer Goods By Arab Countries (1992)
(US million)

	PharmaceuticalProducts	Processed Food	Textiles	Footwear
Total Arab Imports	1,569	26,506	5,233	438
Imports From Arab Countries	n.a.	766	266	58
Total Arab Exports	n.a.	1,161	1,628	245

Source: same as Table (1)

IV. PROPOSALS FOR REGIONAL COOPERATION

The two most critical constraints to efficient growth of Arab industries have been foreign market access and access to technological advances and innovations. One route is to insist on the development of indigenous skills and talent to penetrate export markets and to catch up on the technological level. The other is to take the short cut route of inviting transnational corporations which have the most developed marketing networks and own frontier technologies.

A. Investment policies

- Arab countries should abandon their now obsolete systems of investment licensing and fully liberalize market entry except for security related and other clearly identified sectors according to a set of commonly agreed criteria. The use of a negative list for sectors that require approval makes the system transparent and reduces the scope for bureaucratic delays and discretion.

- Arab countries should harmonize their investment encouragement code for foreign investors rather than compete on the tax and other fiscal incentives each provides. Foreign investors should be given equal treatment as domestic investors. The only consistent way in which countries should discriminate against foreign investors is by selective choice of areas where such investments have been identified as detrimental to indigenous industrial development according to a clear set of criteria.

- Floating shares of public enterprises on Arab capital markets so as to activate and develop the region's capital markets, to capture a larger fraction of private savings, and to provide enterprises with corporate finance and a measure of market evaluation.

- Each country should combine its privatization scheme with a strong reaffirmation of its commitment to support the restructuring of public enterprises under autonomous management with a

view to utilizing their strength as a principal agent for "catching up" in the process of growth and development.

B. Joint venture projects

Encourage the participation of foreign investors in joint ventures with public enterprise. The most suitable organizational structure that can promote the successful establishment of joint ventures is the public or private holding company which can negotiate from a position of strength over the terms of technology acquisition and the plans to penetrate foreign markets. Foreign partners are in fact more likely to prefer to enter joint ventures with public guarantees that reduce risk. Transnational corporations (TNCs) are also known to have recently become more accommodating to the terms of agreement. Currently new strategies adopted by TNCs imply greater flexibility in terms of how production is organized across borders. Such strategies allow for stand-alone affiliates engaged in international production to serve a host country or a host region and enjoying a high degree of autonomy from the parent firm. This allows them responsibility for most of the activities that comprise their value chain, and in some instances can act as self contained entities. TNCs are also resorting to outsourcing for parts of their value-adding operations, and strengthening their links with their foreign affiliates and with separate firms operating as subcontractors. The existence of outsourcing is based largely upon the cost advantages of a particular host country for a particular component.

- Prepare a plan for the launching of the first Pan Arab product from the engineering industry, e.g. a specially designed car or bus with model whose specifications meet the needs of the region's climate and terrain in collaboration with a leading transnational. (Poland has entered agreement with Fiat to produce first Western car from scratch in Eastern Europe, joint venture with Polish public sector car producer). Data shows that the recent value of Arab imports of commercial road vehicles and passenger cars amounted to $ 5.8 billion and $ 1.8 billion respectively (see annex table 4).

C. Trade Policies

- Conduct a comparative study of trade barriers (tariff and non-tariff) currently imposed by each Arab country on all manufactured products from other Arab countries and the rest of the world. Appraise the impact of these trade barriers on intraregional trade and propose a schedule for the gradual elimination of NTBs and the reduction in tariffs on Arab intraregional trade.

- Establish an Arab trade promotion organization that is responsible for providing potential exporters and importers with all trade-related services including: producer and product information from a data base directory linking up national data bases, market trends (regional and international),

itemized trade statistics on all Arab countries on a regular basis, etc.

- Evaluate the experience of early successes in establishing Arab trading companies and study the prospects for the creation of new ventures that can take one of the many forms that are currently operating on the global scene.

- The issue of tariffs and taxes on capital goods must be resolved since it is an effective discouragement to investment in the capital goods industry (if tariff protection is low) and a significant extra cost to overall investment (if tariff protection is high).

D. Industrial policy

- Arab countries should together design a plan that develops a number of key industries for which dynamic comparative advantage and growth prospects are expected and in which cooperation would raise the rate of return. Among the industries and subsectors that deserve attention and study are: capital goods, downstream petrochemical products, special metals, microelectronics and software. In each of these fields, a number of specific lines can be identified as potential niches.

Joint R&D programs with industrial applications can also be pursued in such areas as renewable energy, desalinization, building materials, irrigation equipment and biotechnology which would complement and support the growth of related industrial sectors and provide opportunities for new investments.

- Establishment of a computerized regional reference library on ongoing R&D throughout the world in all existing industrial subsectors as well as those that have been identified as potential new industries for the future. This library should be linked up to national and regional research centers and its use should be promoted within industry itself.

- Identify a number of subsectors which qualify for regional integration based on market study (size of domestic markets, regional market and forecast of world demand), regional capacity, world supply forecast, technological aspects. Various scenarios and time frames for implementation should be considered.

- Design a number of programs for the development, restructuring and integration for those subsectors that have been identified as deserving regional integration. Special consideration should be given to expected life of existing plants and the redeployment of labor. Each program should include investments for the technical and financial structuring of viable plants, phasing out obsolete plants,

relocation where necessary, and implementation of expansion projects.

- Establishment of a computerized directory with index of regional consultants and consultancy houses by fields of expertise in all services related to industry.

- Promote the setting up of regional industry-specific state of the art institutes that engage in R&D, training in production, designing, modernization, quality control and market study. These institutes would provide consulting services and technical assistance both regionally and internationally and would act as a major support to capacity building of technical staff in each industry in the region.

- Upgrade human skills in the realm of industry by paying special attention to industrial training. The field of industrial training is one of the major areas that would benefit from cooperation among Arab countries, at both regional and sub-regional levels due to the existence of a large number of specialized training institutions and institutionalized in-plant training programs within the region. The broad range of occupational categories that are essential to industrial development include managers, scientists, technologists and professional engineers, supervisors and technicians. At the same time there is also need for a support service of trained personnel in a variety of skills such as engineering design, production technology, testing and quality control.

The assessment of human resources capabilities in the region undertaken by AIDMO has indicated that there is an urgent need to develop training programs on a regional or sub-regional level in the following areas:

- training of skilled and semi-skilled workers,
- training of middle management,
- short term training courses for high level management,
- Industrial consultancy and engineering services training programs.

Accordingly, it has been proposed that the "special program" will work towards establishing a network between training centers in order to facilitate joint training programs, and the strengthening or expansion of capabilities of the existing centers.

E. Environmental Policy

A commitment by Arab governments to adopt a common policy package concerning environmental legislation and its enforcement, opportunity cost pricing of energy, and incentives at the national level would have important positive implications in avoiding further degradation of the

environment, in sharing fairly the burden of waste control among Arab countries and in helping those industries whose costs of introducing environmental standards are exceptionally high including large scale energy intensive industries (e.g. cement and fertilizers) and the small and relatively older plants operating in specific subsectors such as metals and plastics. Incentives can take the form of fiscal measures and direct financial support for enterprises to install cleaner production technologies. On balance, it would seem that the long term gains to each economy from environmental protection - in the form of higher production efficiency, lower direct and indirect costs of pollution and in better access to OECD markets - outweigh the capital costs to entrepreneurs and the financial costs to governments from providing incentives, regulating, monitoring and maintaining the regionally agreed common standards for the protection of the environment.

F. Action program

In order for regional cooperation to follow a coherent and feasible action plan, a number of concrete steps should be taken prior to the enactment of the proposed policy measures to be undertaken by the relevant government authorities, after these have been approved through inter-government consultation. Both AIDMO and UNIDO could be assigned the different tasks involved in elaborating on the various options for cooperation and more specifically on the identification and evaluation of subsectors for industrial development and integration in the Arab region. These specialized institutions could bring their valuable expertise into play in defining the technical and economic parameters and determining the critical variables that will guide the choice of fields of cooperation and policy measures for integration.

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Table 1: Major Indicators of Industrial Development.

Country	(1) Population Mid 1991 (Millions)	(2) GNP Per Capita 1991 US $	(3) MVA Per Capita 1992 US $	(4) MVA/GDP 1992 (percent)	(5) Rate of Growth of Manufacturing 1980-90 anuual %	(6) GFCF/GDP 1990 (percent)	(7) Total Employment In Industry 1992 (in thousands)
Group One							
UAE	1.6	20140	1622	8.6	2.9	20.0	183
Bahrain	0.5	7130	1098	16.9	0.7	36.5	74
Algeria	25.7	1980	207	9.4	5.6	* 27.1	1950
Saudi Arabia	15.4	7820	883	10.8	8.1	16.0	584
Iraq	18.6	n.a.	(8)****434	(8)****11.0	1.3	19.0	1246
Oman	1.6	6120	235	2.4	21.5	14.9	46
Qatar	0.5	14770	1576	8.7	8.7	12.3	31
Kuwait	1.4	n.a.	914	7.5	1.1	14.1	183
Libya	4.7	4706	397	5.7	10.3	** 12.5	305
Group Two							
Jordan	3.70	1050	158	14.5	3.1	** 18.4	260
Tunisia	8.2	1500	265	15.8	6.2	* 21.1	917
Syria	12.5	1160	(7) 101	(7) 11.4	4.0	11.5	1224
Palestine	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lebanon	3.7	n.a.	11	8.4	-21.5	6.2	356
Egypt	53.6	610	(7) 124	(7) 17.6	5.5	* 12.8	5130
Morocco	25.7	1030	179	18.4	4.2	** 22.4	1957
Group Three							
Mauritania	2.0	510	48	9.9	6.7	**12.1	51
Yemen, South	n.a.	n.a.	***30	***9.2	6 3	42.1	n.a
Yemen, North	n.a.	n.a.	***34	***6.3	7.6	9.9	n.a.
Dgibouti	0.4	n.a.	101	11.3	1.8	17.1	12
Somalia	8.0	120	10	3.0	2 0	12.3	n.a
Sudan	25.8	n.a.	36	11.0	1.4	** 18.6	1010

Note. * 1992
** 1991
*** 1990
****1989
Employment in the industrial sector (column 7) includes manufacturing, extraction, construction and energy sub-sectors

Sources:
(1) to (2) World Development Report. Published for the World Bank, 1993
(3) to (6) UNIDO, Industrial Statistics Branch, Information and Research Division.
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(7) Unified Arab Economic Report. Published by The Arab Fund for Economic and Social Development, Arab Monetary Fund and OAPEC. 1993
(8) Statistical Abstract of the Region of the Economic and Social Commission of Western Asia 1981-1990 ESCWA, United Nations

Table 2: Gross Output , Value Added in Manufacturing and Value Added of Largest Three Manufacturing Sub-groups for Each Country

US $ million

Country	Gross Output 300	Value Added 300	311	314	321	322	351	352	353	369	371	381	Year
Group One													
UAE	1,751	521	54							75		144	1985
Bahrain		544											
Algeria	* 9,191	5,411	825							483	537		1990
Saudi Arabia	16,297	4,898					1,746		745	604			1989
Iraq	7,126	3,919						455	1,016	583			1986
Oman	66	22											1978
Qatar	1,333	917					327		369		885		1991
Kuwait	7,075	2,793	132						1,853	139			1988
Libya	1,133	343		53					76	50			1980
Group Two													
Jordan	2,371	715	968	934						896			1991
Tunisia	5,481	1,391	177			116				252			1990
Syria	5,461	1,105	196	136	223								1990
Palestine													
Lebanon		302	37			15							1975
Egypt	18,314	5,926	1,232		9,295					537			1990
Morocco	10,003	3,148		407	370							205	1990
Group Three													
Mauritania													
Yemen, South													
Yemen, North													
Dgibouti													
Somalia	49	13	2	4				2					1986
Sudan	791	234	31		46			40					1976
Total	86,442	32,202	3,656	1,534	9,933	131	2,074	497	4,059	3,619	1,422	349	

Note: * 1980
Figures are provided according to the most recent year available.
Original figures in local currency were converted to US $ at exchange rates given in the World Tables, Published for the World Bank, 1992
For classification see attachement (1)

Source:
UNIDO, Industrial Statistics Branch, Information and Research Division.
A Statistical Review of Economic and Industrial Performance.UNIDO, 1994.

Attachement (1)

TOTAL MANUFACTURING(300)
Food products(311)
Beverages(313)
Tobacco(314)
Textiles(321)
Wearing apparel,except footwear(322)
Leather products(323)
Footwear,except rubber or plastic(324)
Wood products,except furniture(331)
Furniture,except metal(332)
Paper and products(341)
Printing and publishing(342)
Industrial chemicals(351)
Other chemicals(352)
Petroleum refineries(353)
Misc. petroleum and coal products(354)
Rubber products(355)
Plastic products(356)
Pottery,china,earthenware(361)
Glass and products(362)
Other non-metallic mineral prod.(369)
Iron and steel(371)
Non-ferrous metals(372)
Fabricated metal products(381)
Machinery,except electrical(382)
Machinery electric(383)
Transport equipment(384)
Professional & scientific equipm.(385)
Other manufactured products(390)

Table 3: Total Exports of Manufacturing and Percentage Shares of Three Largest Manufacturing Sub-groups

(US $ million)

Country	Total Exports	513/4	5611	5612	331	332	651	653	841 Less 8413	661	281	282	6821	684	722	732 Less 7321	7321
Group One																	
UAE	297					6				7				41			
Bahrain	2347				77									15			
Algeria	7888				49	21											
Saudi Arabia	25916				72	15											
Iraq	60					34											
Oman	239				89								7				18
Qatar																	
Kuwait	709				53	28										6	
Libya	12141				87	10											
Group Two																	
Jordan	371		32							10							
Tunisia	2848			7	18				39								
Syria	2244				36	16		23									
Palestine																	
Lebanon	147								3	8							
Egypt	2079				19		15							8			
Morocco	2248	15		17					30								
Group Three																	
Mauritania	98										74	24					
Yemen, North	12															41	
Yemen, South																	
Dgibouti	1																
Somalia	4																
Sudan	160																

Note: Table has been compiled by scanning through each country's major exports at the three digit level ISIC.
For classification see attachement(2)
Source: Same as Table 2

Table 4: Total Imports of Manufactures, and Percentage Shares of Largest Three Manufacturing Sub-groups.

(US $ million)

Country	Total Imports	541	581	331	332	243	652	653	656	841 Less 8413	661	673	678	711	722	732 Less 7321	7321
Group One																	
UAE	3148				5			5								7	
Bahrain	1746			41										2			3
Algeria	4608	4													4	5	
Saudi Arabia	9977	2								4						12	
Iraq	2059											4			4	11	
Oman	1252				4											5	11
Qatar	609												3			6	11
Kuwait	3447									6	3						10
Libya	1896									4					5	10	
Group Two																	
Jordan	1355	4		26	8											6	
Tunisia	3302				8		9	7								3	
Syria	1094			4								5					
Palestine																	
Lebanon	843				8											4	4
Egypt	4367		3			4										3	
Morocco	4027		3	14												3	
Group Three																	
Mauritania	33				15											9	12
Yemen, Northern	785				16						6					15	
Yemen, Southern																	
Dgibouti	87									2						2	5
Somalia	167				14						5						14
Sudan	926			11	8											6	

Note: Table has been compiled by scanning through each country's major imports at the three digit level ISIC.
For Classification see attachement (2)
Source: Same as table 2

Table 5: Imports and Gross Output of Capital Goods

Country	Total	6951	6952	711	71212	7123	7125	714	715	717	7181	7183	7195	722	Year
	Imports $ million														
Group One															
UAE	373			180				57	12	16				109	1986
Bahrain	102			45			3	24	2	1		1	1	25	1988
Algeria	1118	1	80	311	18	8	41	80	170	57	5	58	30	260	1990
Saudi Arabia	1340	4	62	255	46	2	21	423	34	27	7	21	21	417	1989
Iraq	483		10	135	8	5	5	7	9	87	42	21	8	146	1976
Oman	128		3	13	1		2	36	1	4	1	3	1	64	1990
Qatar	53			12	1		1	14	1	1	0	1	2	19	1988
Kuwait	290			91		4	4	75	3	5	3	4	20	82	1989
Libya	373	1	28	63	13	1	15	23	8	14	1	11	12	184	1985
Group Two															
Jordan	62		5	2	1	1	2	14	4	13	2	2	2	14	1990
Tunisia	513		20	95	9	1	25	52	26	141	8	2	10	123	1990
Syria	119	1	12	41	4			6	2	19	1	1	1	33	1989
Palestine															1972
Lebanon	96		5	49				5	6	5	2	1	5	17	1985
Egypt	646	1	34	101	7	4	32	66	35	138	12	13	8	135	1990
Morocco	579	2	23	89	18		30	69	27	190	8	25	16	82	1990
Group Three															1972
Mauritania	6		1					3							
Yemen, South														3	1990
Yemen, North								2						7	1982
Djibouti	8		1	1				1							1976
Somalia	15			2											
Sudan	101		3	19	12		17	2	1	8	2	11	2	24	1981
Total	6,404	9	286	1,504	137	27	197	959	340	725	92	175	140	1,805	

382	383	384	385	Total	Years
Gross Output $ million					
16	11	21	1	49	1985
120	319	467	76	982	1980
325	548	151	10	1034	1989
321	340	140		802	1986
					1991
57	84	37		179	1988
33	39	4	6	82	1991
11	251	117	6	385	1990
96	117			213	1990
					1972
686	449	466	73	1674	1990
	498	680		1177	1990
					1986
					1976
1,665	2,656	2,083	172	6,576	

Note
Figures are provided according to the latest year available

Selected capital goods are classified as follows
Hand tools used in agriculture (6951)
Tools for use in hand or machine (6952)
Power generating machinery, non-electric (711)
Agricultural machinery (71212)
Dairy equipment (7125)
Tractors (7125)
Office machines (714)
Metal working machinery (715)
Textile and leather machinery (717)
Machines for paper, pulp and paper articles (7181)
Industrial food processing machinery (7183)
Machines tools for working minerals, wood, etc (7195)
Electrical power machinery and switchgear (722)

Shaded columns refer to largest three categories of imported capital goods in terms of value
Value of gross output of capital goods was converted from local currency to US $ at exchange rates given in The World Tables The World Bank 1992

Source Table was compiled using same source as table 2

Attachement (2)

OILS AND FATS
- Animal oils and fats(411)
- Fixed vegetable oils and fats(421/2)
- Processed animal and vegetable oils and fats(431)

CHEMICALS
- Organic chemicals(512)
- Inorganic chem., oxides and halogen salts(513/4)
- Dyeing, tanning and colouring materials(531)
- Medicinal and pharmaceutical products(541)
- Plastics, cellulose and artificial resins(581)

FERTILIZERS
- Nitrogenous fertilizers & related materials(5611)
- Phosphatic fertilizers and related materials(5612)
- Potassic fertilizers and related materials(5613)

PETROLEUM
- Petroleum, crude or partly refined(331)
- Petroleum products(332)

RUBBER
- Crude rubber, synthetic and reclaimed(231)
- Rubber materials, e.g.sheets, threads, piping(621)
- Articles of rubber, e.g. tyres, tubes(629)

WOOD AND FURNITURE
- Wood, shaped or simply worked(243)
- Pulp paper, including waste(251)
- Veneers, plywood, improved wood(631)
- Wood manufactures(632)
- Paper and paperboard(641)
- Articles of pulp, paper or paperboard(642)
- Furniture(821)

TEXTILES AND CLOTHING
- Wool and other animal hair(262)
- Cotton(263)
- Jute(264)
- Vegetable fibres, flax and hemp(265)
- Synthetic and regenerated fibres(266)
- Textile yarn and thread(651)
- Woven cotton fabrics(652)
- Woven textile fabrics(653)
- Made-up articles chiefly of textiles(656)
- Travel bags, handbags, etc.(831)
- Clothing, excluding leather(841 less 8413)
- Calf leather(6113)

LEATHER AND PRODUCTS
- Other leather, including artificial(611 less 6113)
- Leather manufactures(612)
- Apparel and accessories of leather(8413)
- Footwear(85)

BUILDING MATERIALS AND GLASS
- Lime, cement, fabricated building materials(661)
- Construction and refractory materials of clay(662)
- Glass(664)
- Glassware and pottery(665/6)

IRON AND STEEL
- Iron ore and concentrates(281)
- Iron and steel scrap(282)
- Pig iron and sponge(671)
- Ingots and other primary forms(672)
- Bars, rods, shapes, sections(673)
- Universals, plates and sheets(674)
- Hoop and strip(675)
- Iron and steel wire(677)
- Tubes, pipes and fittings(678)
- Unworked castings and forgings(679)

NON-FERROUS METALS
- Non-ferrous ore and concentrates(283)
- Copper, blister, refined, alloys(6821)
- Copper bars, shapes, sections, wire, etc (6822)
- Aluminium, unwrought or worked(684)
- Lead, unwrought or worked(685)
- Zinc, unwrought or worked(686)
- Tin and alloys, unwrought or worked(687)
- Wire products, e.g. cables, ropes(693)

SELECTED CAPITAL GOODS
- Hand tools used in agriculture(6951)
- Tools for use in hand or machine(6952)
- Power generating machinery, non-electric(711)
- Agricultural machinery(7121/2)
- Dairy equipment(7123)
- Tractors(7125)
- Office machines(714)
- Metal working machinery(715)
- Textile and leather machinery(717)
- Machines for paper, pulp and paper articles(7181)
- Industrial food-processing machinery(7183)
- Machine tools for working minerals,wood,etc.(7195)
- Electrical power machinery and switchgear(722)

MAJOR CONSUMER DURABLES
- Commercial road vehicles(732 less 7321)
- Passenger motor cars(7321)
- Television and radio sets(7241/2)
- Domestic electrical equipment(725)

Table 6: Average Apparent Consumption of Selected Manufactures, 1986-1988

Country	312201				311510				324000				351301			
	Average apparent consumption per 1000 inhabitants	Imports as % of apparent consumption	Average Annual Production	Growth rate of apparent consumption	Average apparent consumptio per 1000 inhabitants	Imports as % of apparent consumption	Average Annual Production	Growth rate of apparent consumption	Average apparent consumption per 1000 inhabitants	Imports as % of apparent consumption	Average Annual Production	Growth rate of apparent consumptio	Average apparent consumption per 1000 inhabitants	Imports as % of apparent consumption	Average Annual Production	Growth rate of apparent consumption
Group One																
UAE													0 46	102	0	50 70
Bahrain	5 95	100	0	-9 98									0 01	100	0	49 85
Algeria	70 39	1	1582	61 09				9 76	751 70	2	17070	0 16	0 13	100	0	-2 05
Saudi Arabia								27 26				28 24	0 02	100	0	70 86
Iraq				11 38					313 98	20	429	7 21	0 28	100	0	12 44
Oman					8 45	101	0	12 95					0 00	100	0	-8 80
Qatar				5 78												
Kuwait				-11 46				21 00					0 33	100	0	31 89
Libya								12 24				6 28				75 15
Group Two																
Jordan	18 50	85	44	4 26				14 88				7 06	0 03	100	0	-5 03
Tunisia				25 92				-4 41				4 62	0 33	100	0	10 54
Syria													0 08	104	0	-1 81
Palestine																
Lebanon				2 78									0 10	100	0	4 95
Egypt	32 01	5	149	0 62				4 26	1234 97	0	60691	4 52	0 12	100	0	-0 22
Morocco								6 41				2 53	0 30	100	0	0 77
Group Three																
Mauritania													0 00	100	0	2 78
Yemen, North									374 62	93	217	13 55	0 03	100	0	87 28
Yemen, South																
Ogibouti												9 03	0 01	100	0	-10 50
Somalia																
Sudan									384 39	6	85250	-0 07	0 08	100	0	31 20

Table 6 (cont.)

Country	362010B				371076				372034			
	Average apparent consumptio per 1000 inhabitants	Imports as % of apparent consumption	Average Annual Production	Growth rate of apparent consumption	Average apparent consumption per 1000 inhabitants	Imports as % of apparent consumption	Average Annual Production	Growth rate of apparent consumption	Average apparent consumption per 1000 inhabitants	Imports as % of apparent consumption	Average Annual Production	Growth rate of apparent consumption
Group One												
UAE	5.66	105	0	18.89	38.90	106	0	-2.95				75.17
Bahrain	11.20	100	0	17.64				55.91				
Algeria	1.85	15	36	1.97	1.60	53	19	-4.40	0.07	100	0	4.48
Saudi Arabia					14.34	100	0	7.02				
Iraq				11.13	4.02	100	0	24.56	0.02	100	0	-9.79
Oman	5.72	100	0	28.76	39.36	102	0	25.98	0.08	198	0	16.87
Qatar									0.02	100	0	37.88
Kuwait	0.12	110	0	-27.27	13.94	100	0	4.50				
Libya								58.98				-6.02
Group Two												
Jordan					9.06	107	0	25.85	0.03	105	0	10.10
Tunisia	2.06	8	16	2.21	0.54	102	0	-11.73				
Syria					2.45	100	0	5.84	0.09	100	0	15.09
Palestine												
Lebanon					0.83	100	0	3.11				
Egypt	1.93	5	96	6.93						117	0.01	-26.23
Morocco								9.65				14.96
Group Three												
Mauritania					0.52	100	0	11.10	0.00	100	0	102.17
Yemen, North					0.51	100	0	17.75	0.00	100	0	10.33
Yemen, South												
Dgibouti												
Somalia					0.12	156	0	4.78	0.00	100	0	-7.15
Sudan				0.99	0.08	100	0	-6.04	0.00	100	0	-1.57

Note: Table has been compiled by scanning through each country's average apparent consumption, imports, average annual production and growth rate of selected maunfactures.
Growth rate of apparent consumption covers the period between 1975-1988
Units of mesurement are in thousands of metric tons, except for footwear which are in pairs
Selected Manufactures are classified as follows
Prepared Animal feed (312201)
Oils of vegetable origin (311510)
Footwear, excluding rubber footwear (324000)
Rubber, synthetic (351301)
Glass bottles and containers (362010B)
Iron and steel tubes, seamless (371076)
Aluminium tubes and pipes (372034)

Source: Same as Table 2