

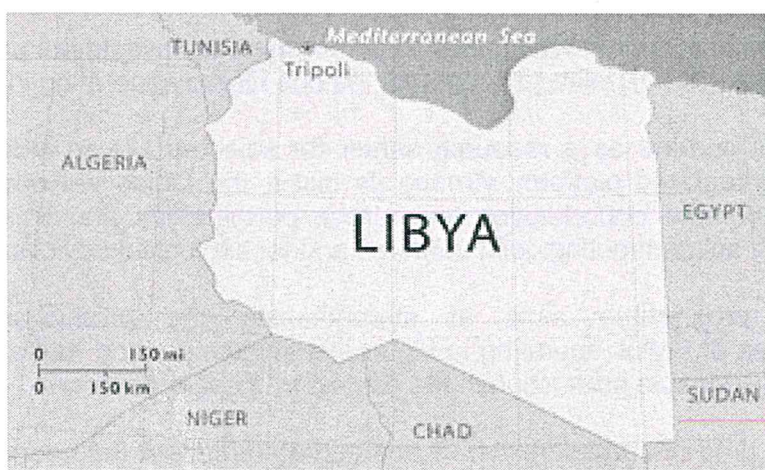
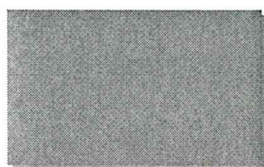


UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

DRAFT 19 February 2008

**UNIDO COUNTRY PROGRAMME
TO THE GREAT SOCIALIST
PEOPLE'S LIBYAN ARAB JAMAHIRIYA**

**STRENGTHENING PRODUCTIVITY AND TRADE COMPETITIVENESS
OF LIBYAN INDUSTRY IN THE GLOBAL ECONOMY**



**15 February 2008
(Version - Arab programme)**

Strengthening Productivity and Trade Competitiveness of Libyan Industry in the Global Economy

Summary description of the Country Programme:

After the lifting of international sanctions, Libya is entering a new stage of its development. The availability of ample foreign reserves and continued high oil revenues provide Libya with a solid macroeconomic basis. The new context offers to Libya an increasing integration with the regional and international market and greater opportunities for investment promotion, involvement of private sector in trade and productive sectors.

The multilateral trade regime has created an environment in which the most competitive countries benefit most from trade liberalization. Without efficient supply-side capabilities, Libyan industries will not be able to participate meaningfully in international trade nor will they benefit from it.

In the liberalized and competitive global markets, Libya has to: (i) enhance industrial supply capacity; (ii) conform to an increasingly complex and ever-expanding rules-based international trading system; and (iii) ensure cleaner and sustainable production.

The industrial issues to be addressed by UNIDO are in line with the development priorities identified by the government of Libya and include in particular:

- Diversification of sources of national income by increasing non-oil, including needs for innovation, and innovative technologies.
- Employment generating industrial activities.
- Trade capacity building
- Encouragement of the domestic and foreign private sector investments.

The overall objective of the Libya Country Programme is to contribute to the promotion of economic, industrial and trade growth as well as facilitate socio-economic integration.

Specifically, the programme will support in establishing an Investment and Technology Promotion Office (ITPO), taking as a model the one already operating in Bahrain.

The Office will operate as a resource center for selected Libyan industrial sectors, providing an integrated platform. Among its tasks, the Office will develop projects, identify and promote opportunities, encourage partnerships and linkages with the market through subcontracting, joint ventures and technological advices.

Further the programme aims at strengthening the production and trade competitiveness of SMEs operating in high-potential sectors and markets and ensure cleaner and sustainable production in the context of global economy.

The proposed programme addresses in an integrated manner the needs of the Libyan industrial sector for capacity building and networking, to link up with the global and regional markets in order to sustain the country's efforts for industrial development.

Over a period of 3 years the following components will be implemented:

- Enterprise creation and development,
- Upgrading and modernization of the existing ones
- Investment and Technology Promotion
- Strengthening the quality and conformity system of the country
- Develop cleaner and sustainable production

In addition, a project implementing a Solar Hydrogen Energy Pilot Project will be planned as part of the country programme.

Accordingly, the programme will have separate levels of interventions, which will mutually reinforce each other so as to support the establishment of a new business culture in the country and support the Government's effort for industrialization and economic development:

The interventions will be at the institutional and enterprises levels:

- Entrepreneurial development and enterprise creation.
- Enterprise upgrading and modernization.

The interventions will comprise provision of expertise, equipment and training at national institutional level and enterprises level, concerning productivity, quality control, competitiveness and industrial management. It is foreseen to involve in the training hundreds of Libyan nationals.

A Joint Libya-UNIDO Steering Committee established for this purpose will plan these activities and select the individuals and enterprises for participating in the activities.

Subsequently, the programme will contribute to promote investment and new technology in the country, both, from foreign direct investors and from national sources, building national capacities for preparing business plans and feasibility studies,

It will also include the establishment of incubators for enterprise development and the creation of business centers. Furthermore, the component foresees the training of the nationals involved in these activities (around thousand persons in all the country) and the provision of some electronic equipment.

The objective of the component will also be to assist investment sponsors in Libya, from industrialized countries and also, if the possibility will occur, from developing countries, to attract investment and technology. It is also intended to assist potential investors in making a decision on the establishment of an industrial partnership by providing support in the development of partnership opportunities into business proposals as well as in negotiations of these proposals.

The programme will continue with the ongoing IRC project in accreditation and will strengthen/upgrade the quality system of the Industrial Research Centre (IRC) by upgrading the laboratory capability through capacity building. In addition, the project aims to undertake the maintenance of analytical equipments and thus leading to accreditation of several scopes in various laboratories. It is also planned to make the Libyan accreditation council operational and to foster mutual recognition with foreign

countries. The accreditation process of the IRC laboratories will provide practical hands-on training to the Libyan Accreditation Council. Since there are no testing facilities to ensure electric products of high quality in Libya, the program aims to set up a new electrical/electronics laboratory to test electric products within the IRC premises. In order to protect the Libyan nationals from non-standard products from the importing countries, the quality control regime of imported and domestic industrial goods needs to be strengthened and the preparatory assistance is planned to ensure this result.

Regional cooperation among neighboring countries on testing laboratories is weak and in order to overcome this barrier, an Arab Regional Directory of Testing Laboratories will also be prepared under this program.

Target beneficiaries of this component will be:

- Public and private institutions providing certification services (quality systems and product), testing laboratories and inspection bodies;
- The Industrial Research Centre (IRC).
- Organizations and enterprises using testing and certification services, offering the opportunity to gain international recognition;
- The whole country because of the impact of an increased export capability.

A cleaner production center will be established to build sufficient institutional and human capacity, as well as to demonstrate in the enterprises cutting edge environmentally sound technologies using locally available resources.

The cleaner production centre will enhance productivity and competitiveness of the Libyan Industry through the increased application of sustainable production methods and the transfer of cleaner technologies. The Centre will organize training programmes and awareness raising seminars for the entrepreneurs, in order to sensitize them on how to improve their production, reduce the costs, increase their competitiveness and provide investment assistance.

Finally, as part of the country programme, the implementation of a solar hydrogen energy pilot project, will be included but will have its separate budget. The project will follow up the initial study made in 1987, which recommended the construction of demonstration plants to build the scientific and technological expertise required for building large-scale solar hydrogen plants in the future. Subsequently a pre-feasibility study had been undertaken by UNIDO-ICHET. The purpose of the component is to strengthen the cooperation agreement between UNIDO-ICHET, Istanbul and the General Peoples Committee on Industry and Electricity of Libya (GPCIEL), to develop and establish scientific and technological cooperation in solar and solar hydrogen energy fields. The specific objective is to improve the local technological capacities in the field of solar hydrogen energy through the solar hydrogen demonstration pilot project.

The following results/outcomes are expected at the end of the programme:

At the general national level:

- Increased contribution of the SME sector to the Libyan economy and export;
- Improved image of the country as an investment destination;

- Greater flow of foreign investment and technology;
- Increases in the level of jobs;
- New market niches identified;

At the specific institutional level:

- Greater availability of institutional support in the country in terms of technical assistance to SMEs including the establishment of an upgrading unit;
- Capacity and capabilities of the Government counterparts, and private support institutions in the region would have strengthened so as to meet the needs, and requirements connected with SMEs development as well as attracting foreign investment, and sustaining the integration of Libya in the world economy;
- Greater skills and capacity of counterparts and support institutions to undertake training and upgrading programs;
- Industrial Research Centre strengthened through accreditation, maintenance of analytical equipments and establishment of electrical/electronics testing laboratory;
- Quality control mechanism of imports strengthened;
- A cleaner production centre established;
- A solar energy pilot unit established.

At the enterprise level:

- Two hundred (200) enterprises' competitiveness upgraded and new employment opportunities created;
- One hundred (100) national experts' knowledge enhanced on enterprise modernization;
- National capacity built-up (around 1,000 persons in all country) through training of staff of Ministries, Industrial Information Center, Development Bank, Chambers of Commerce, enterprises, institutions and consultants;
- Fifty (50) investment project profiles developed for investment promotion;
- One hundred (100) consultants trained on ISO 9001, ISO 14001, HACCP/ISO 22000;
- One hundred (100) enterprises certified for ISO 9001/ISO 14001;
- Fifty (50) enterprises certified for HACCP/ISO 22000.
- Medium-and long-term communication programme established to promote enterprise upgrading and modernization action throughout Libya

Cooperation within the region, particularly with Egypt, will be pursued, in areas of common interest and relevance. This cooperation could materialize through the organization of training programmes, study-tours, and other joint activities".

Strengthening Productivity and Trade Competitiveness of Libyan Industry in the Global Economy

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I. INTRODUCTION

The country programme was formulated ensuing the request from the authorities of the Jamahiriya of Libya to benefit from UNIDO's expertise during the visit of the UNIDO Director General, Kandeh Yumkella, to Libya (4-7 December 2006).

In this context, a mission was undertaken to Libya from 1 to 8 of November 2007, at the invitation of the Ministry of Industry (Mol). The mission aimed at identifying the operational dimensions of a country programme upon the request of the Libyan authorities as well as identifying the parameters required for the implementation of a Country Programme, based on the needs and priorities of Libya for technical assistance, more particularly the:

- Develop a special programme to improve industrial competitiveness of local products including support to small and medium industries, development of entrepreneurship and new SMEs, upgrading of existing factories (building materials-chemical-engineering-food);
- Strengthening capacities of information and technical support institutions;
- Establishment of an Investment Promotion Office;
- Preparation of programmes to monitor local and imported goods in the area of improving production and quality control;
- Sustainable development and clean production.

The UNIDO team covered all areas of expertise required to clarify the details of the requested assistance in trade capacity building, SMEs development, investment and technology promotion, as well as matters related to energy – environment.

The team met with representatives of several institutions and with UNDP resident coordinator that gave an overview of the prevailing situation in their sector and debated the country programme approach to be taken in Libya in order to suit their specific industrial needs, industrial development culture, availability of human resources and existing levels of industrial development. Moreover, the team had the opportunity to visit institutions and project sites and to present the UNIDO experience in technical cooperation, in capacity building, investment and technology promotion, enterprise upgrading, solar hydrogen energy and cleaner production centers, and quality infrastructure to Senior level officers of the Ministry of Industry, Governmental departments as well as to representatives of the private sector.

As a result of the consultations, it was agreed to address in an integrated manner the needs of the Libyan industrial sector for capacity building and networking, to link up with the global and regional markets in order to sustain the country's efforts for industrial development. Therefore it is decided to develop a programme over a period of 3 years composed of the five main subsequent components:

- Enterprise creation, modernization, upgrading and development
- Promotion of technology, investment and networking
- Strengthening the quality and conformity system of the country
- Establishment of the Libyan national cleaner production center
- Solar hydrogen energy pilot project

CONTEXT AND JUSTIFICATION

II.1 Situation Analysis

Libya belongs to the "medium human development" countries achieving the 64th position among the world's 177 countries with a Human Development Index (HDI) of 0.798 in 2006 and the first in Africa. Currently, Libya is determined to move forward in its development process by making use of the favorable international context and setting up new frameworks for action in the economic and social fields.

In this context, Libya has recently witnessed several positive developments, both in terms of governance and economic performance indicators: the country has been on a growth path for several years that culminated in 7.1 % real growth in GDP in 2003 and is estimated by the EIU to 5.8% in 2006. The overall performance benefited from favorable international oil markets, bearing in mind that this commodity remains the main source of foreign currency income for the country (up to 96 % in 2004) as well as the main source of income for the national budget (reaching 76 % in 2002).

Several initiatives were undertaken during the last few years aiming to integrate Libya in the world economy¹, among others, the formal introduction of Libya's application to the WTO, the opening of domestic markets for foreign investment (the law allowing foreign investment was passed in 1996), the announcement of a privatization programme for 360 public companies and increasing the scope of activities for the domestic private sector.

With an estimated population of 6 millions in 2006, an average population growth rate of 2.0 % in 2006, a life expectancy at birth rate of almost 73 years and a per capita income of US \$ 8470 in 2006, Libya stands in a very satisfactory position to achieve the Millennium Development Goals (MDGs) by 2015. It is worth noting that Goal number 2 related to the right to Universal Primary Education (UPE) was practically achieved with an enrolment rate of over 97 % in primary education.

Nevertheless, the pace for development over the past decades has been accompanied by new phenomena, unemployment, affecting mainly the younger and female population (over 80 % of the Libyan population is below 35 years of age).

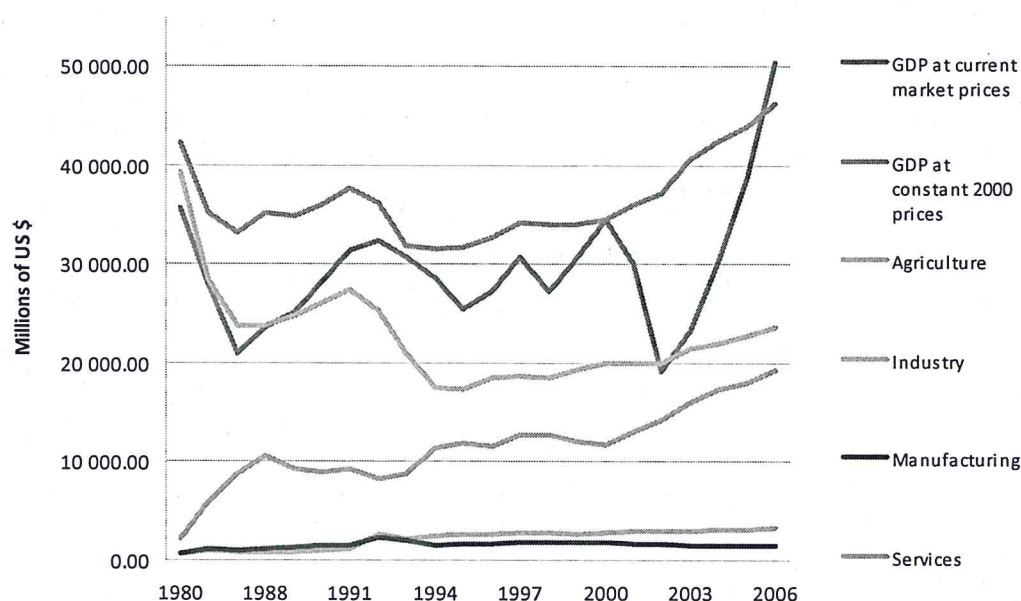
After years of international sanctions, the Libyan authorities are looking forward for foreign technical help in rebuilding the country's poorly maintained infrastructure and industries. In keeping with this desire, the country expects to reap substantial rewards in the form of foreign direct investment (FDI) following its decision in July to release six foreign medics, a move that brought an end to a long-running dispute with the EU. The reestablishment of diplomatic relation with the US and its election as non-permanent member of the United Nation's Security Council is additional stakes Libya intends to take advantage of for its benefits.

Economic reforms remain the focus of government policy; with particular attention being placed on drawing FDI into the hydrocarbons sector which is supposed to help to maintain the real GDP growth strong and the fiscal and external surpluses. Indeed, since the late 1990s the government has been trying to strengthen the economy, principally by changing it from a command system into a liberalized market economy

¹ For more information, refer to the study undertaken by M. Porter and a team of Libyan experts on "Improving competitiveness in the global economy".

and external trade policies, by strengthening the private sector and drawing in much-needed foreign investment.

Libya, Main Macroeconomic Indicators



Source: Statistics Department, African Development Bank

Furthermore, Libya's current situation provides a better context for reform efforts than the early 1990s when Libya previously sought to liberalize the economy. This is due especially to the availability of ample foreign reserves and continued high oil revenues that provides Libya with a solid macroeconomic basis.

II.2 Libya's Economic Performance

Libya's economy is dominated by the hydrocarbons sector. According to the EIU, in 2006 it contributed to approximately 98% of export earnings and 93% of government receipts, and constituted an estimated 79% of nominal GDP. Since the lifting of sanctions, the oil sector has expanded at a rapid rate—in 2000 its share of GDP was just 39%.

As a result, the contribution of both manufacturing and agriculture is weak respectively estimated in 2003 to 4.3% and 8.6%. Trade, transportation and services are the other key areas, although their contribution to GDP has also been squeezed as the oil sector has grown.

Pressure for diversification has lessened following the revival of oil prices and the renewed international interest for investment in the hydrocarbons sector. Notwithstanding this, the government is keen to attract foreign investment in other areas, particularly heavy manufacturing and tourism.

Most of the population is concentrated along the Mediterranean coast, which is also where the majority of the country's agricultural activity takes place. According to the IMF, in 2004 agriculture employed around 7% of the workforce. Oil production has

traditionally been concentrated in the east of the country, notably the Sirte basin area south of Benghazi, although in recent years major discoveries have opened up new tracts in the south-western Fezzan region, as well as offshore.

Despite the sanctions regime of 1992-99, the standard of living of ordinary Libyans remains one of the highest in the region, with revenue from the hydrocarbons sector being used by the government to subsidize basic foodstuffs, education, health and housing.

In addition, the end of sanctions has set the stage for major programs of infrastructure renewal and expansion, which can provide increased support to activities in the industrial and trade sectors.

Estimates indicate that the government employs up to 70% of all salaried Libyans. Growth in the private sector and in foreign investment is likely to create some new jobs. At the January 2007 convention of the General People's Congress (Libya's parliament) the prime minister announced that the government would be looking to modernize the public sector, thereby releasing thousands of workers to help the development of the private sector and restrain the government's huge wage bill.

Despite Libya having a long tradition of enrollment in higher education, it has become crucial to improve the quality of education and to make school curricula more relevant to business and to the needs of the job market. There is a growing mismatch between outputs of education and vocational training but also lack of modern work abilities and unrealistic expectations of permanent white-collar jobs in the public sector.

Following the establishment of an Economic Development Board in February 2007, Saif al-Islam Qaddafi announced a raft of economic reforms, most notably an initiative to raise public-sector wages and housing allowances. Under the initiative, the minimum monthly wage for civil servants would rise from its current level of US\$155, at which it has been fixed throughout the sanctions era. Those civil servants remaining in the healthcare and education sectors are to receive a 25% increase, and other public-sector employees will receive an increase of up to 110%. Employees in the oil sector will see their salaries rise by 275%.

II.3 Justification of the Country Programme

The serial of substantive meetings held during the formulation mission highlighted the range of economic challenges the Libyan policymakers are facing, among others, the over-reliance on oil limited resources which led the government to centre its economic strategy on industrial development to diversify non-oil and non gas production sectors, to foster a private sector in order to create jobs as well as to improve its productive capacities and efficiency.

The industrial issues to be addressed by UNIDO are in line with the development priorities identified by the government of Libya and include in particular:

- Diversification of sources of national income by increasing non-oil, including needs for innovation, and innovative technologies.
- Employment generating industrial activities.
- Trade capacity building
- Encouragement of the domestic and foreign private sector investments.

Since the development of Libya's industrial sector, a stated priority in the 1970s, faltered in the 1980s as oil revenue slumped and government funding for development projects dried up. Most government support was given to several large heavy industry schemes that could make use of the country's cheap energy and gas feedstock. Many major projects, such as a planned fertilizer complex at Sirte and an aluminum smelter complex at Zuwara, have never been completed owing to funding constraints.

Those industrial complexes that are active suffer from poor maintenance and a shortage of spare parts. With the constraints of sanctions now lifted, the Libyan Foreign Investment Board has been seeking to establish joint ventures to upgrade four cement plants, a number of electrical engineering factories, and the country's main iron and steel plant at Misurata.

The Misurata complex, owned by the Libyan Iron and Steel Company (Lisco), and built by a conglomerate of foreign firms including Krupp Hoesch Stahl of Germany, Voest-Alpine of Austria and Kobe Steel of Japan, began production in 1988. The absence of a railway linking the iron ore reserves at Wadi Shatti to the Misurata complex is a further constraint.

In 2002 the Arab Union Contracting Company, a state-owned enterprise, agreed a €160m (US\$167m) contract with a Danish company, F L Smidth, to build a new cement plant near Zliten. A number of smaller contracts were also agreed with European companies for investments in factories for prefabricated buildings, lubricant oils and treatment of oil waste by-products. However, the government has been advertising more than 50 other investment proposals for a range of state-owned companies for several years now, with little success so far.

Diversification away from oil has been a common aim of economic policy and new investment programmes, but so far has met with little success. Although the government has stepped up its promotion of foreign investment in areas such as infrastructure, telecommunications and tourism, progress has been slow and moreover, completely surpassed by the rapid recent expansion of the oil sector.

The most other important problems facing Libyan industries are related to:

- The lack of productive and supply capacity needed to ensure necessary quantity and quality of supply;
- Inability to prove compliance of potential export products with international standards and;
- Problems with integration into the multilateral trading system.

Lack of supply capacity

The foremost impediment is a lack of capacity to produce a surplus of exportable goods of sufficient quantity, stable quality and required standard that can be traded internationally. Libyan enterprises need to develop value chains with public enterprises and link with global supply chains to market their products internationally. SMEs, which predominate in Libya economy, have inherent difficulties with access to capital, productive capacity, technology and servicing because of resource limitations. If these enterprises are to trade on global markets, they need to build capabilities to increase their supply capacity, quality, competitiveness and conformity with importer-mandated product standards. This involves both increased investment

at the enterprise level and government backing in introducing and improving support to productivity and technology extension services, training, export consortia and cluster development. Clearly, in the present global setting the role of such intermediaries becomes even more important. They can provide support for building capabilities to use new technologies, adapt and improve processes and products and move up the value chain into more sophisticated production activities.

In the final analysis, upgrading productive capacity yields improved competitiveness which, in turn, allows industries to: (i) produce higher value-added products; (ii) enter/capture more markets; iii) experience trade growth; and (iv) enjoy the benefits of employment creation and poverty alleviation.

Inability to meet market standards, conformity and certification requirements

Increasing supply capacity is essential to, but not sufficient for, gaining entry into world markets. Proving conformity with standards and technical regulations requires establishing efficient testing, certification and accreditation mechanisms that conform to the requirements of the SPS and TBT agreements and enjoy international recognition. Testing, calibration and certification facilities thus take on extreme importance for developing countries wanting to benefit from trade opportunities.

Recent enterprise surveys in both developed and developing countries show that the highest non-tariff barriers include performance standards, product quality standards, technical measures, product requirements relating to standards and technical regulations, conformity assessment, labeling and testing, and certification requirements. Meeting those market requirements call for upgrading skills and capabilities, mastering new technologies, and enhancing old and establishing new institutions (e.g. accreditation bodies, metrology, standardization and technical support facilities).

Libyan producers must be able to prove the reliability of their test data and inspection procedures, as well as the conformity of their products to international standards and/or those applied in the recipient country. Testing, calibration and certification facilities are therefore of extreme importance. In the industrialised countries this infrastructure is taken for granted; for the most part, it passes unnoticed. The majority of developing countries lack even the most rudimentary elements of the complex infrastructure. If such facilities are not recognised internationally, a country's trade potential is seriously hampered and the prices its products can command on global markets are correspondingly low. Moreover, local metrological and testing capabilities reduce the associated costs for products that would otherwise either have to be tested abroad or locally by international certification companies at very high rates. Effective assessment also provides domestic companies with objective results that are essential to improving designs and technologies and assuring quality.

Since the Libyan economy was closed for international investments for about one decade, the government authorities were unable to procure spare parts or appropriate maintenance services for analytical equipment of IRC testing laboratories.

Many of the costly equipment of the IRC are non-operational due to improper repair and maintenance.

As the Libyan economy grows, the consumer's awareness on safe and quality products are increasing and it is a challenge to meet with those demands for the

national human safety. It needs to be ensured that Libya does not become a dumping ground for non-standard products from the importing countries. The electrical and electronic appliances imported or manufactured in Libya must comply with the electrical safety requirements, conforming international standards. An appropriate electrical/electronics testing laboratory is vital for the safety of the Libyan consumers.

Access to market

SMEs traditionally seem to operate mainly on the very local market. This is mainly due to lack of information, specific training and institutional support. Most of the entrepreneurs seem to ignore where to find relevant information on new products, new markets, consumer demand trends and they do not receive enough support in this strategic field. Moreover, private enterprises face problems in penetrating international markets, even their poorest segments, because they tend to have scarce knowledge of market and trade rules and procedures. Looking at the experiences of many industrialized and developing countries in this field, it is possible to infer some concrete policy actions able to encourage SME sector penetration in non-local markets.

Lack of effective market integration

Establishing a successful presence in foreign markets is considerably more difficult than in domestic markets. SMEs, which constitute the large majority of Libyan enterprises, are often deterred from exporting by the complexities of the export business and the high risks involved. Without significant knowledge and preparation, attempts to export are doomed to failure and may even jeopardize the financial stability of the enterprise as whole. Evidence suggests that particularly during the early stages of exporting, failure rates are relatively high. To develop export markets, significant know-how, effort and financial resources are needed. Foreign markets have their particularities and stringent requirements. By cooperating within an export consortium that combines the expertise and financial resources of several firms, the enterprises can reduce their risks, improve their profitability, secure efficiency gains and accumulate know-how.

Lack of competitiveness analysis

Given that 75% of global trade today is in industries, attaining and maintaining competitiveness in the industry sector calls for continuous monitoring and assessment of global and regional trends in both manufacturing and trade. Identifying sectors or sub-sectors that have the greatest competitive potential and are sustainable in the medium and long term takes on particular importance. Starting from an overview of competitive performance of the industrial sector as a whole, it is possible to work down to an assessment of sectoral performance and of performance at the product level and see which stages in the production process yield the greatest share of manufacturing value-added or at which stage competition from peers is weakest or strongest. Competitive analyses become essential tools in ensuring that scarce resources are allocated efficiently and are focused on a sector or sub-sector that stands to benefit most from industrial upgrading, productivity enhancement or enterprise restructuring.

Access to technology

A common problem for SMEs is their limited and difficult access to technology. Moreover, technological obsolescence tends to become a characteristic of SMEs, since enterprises encounter several difficulties in technological upgrading, in absorbing and adapting foreign technologies to local needs. In many industrialized and developing countries technological obsolescence is a problem for SMEs. However, also in this case, international best practices may offer interesting suggestions for policy intervention related to the introduction of specialized technical support centers and the development of linkages with university and research centers. In addition, through technological institutions, entrepreneurs in other countries have positively benefited from the provision of specific information about latest innovations, as well as from the organization of technical seminars and workshops. The limited number of relations also causes the technological gap towards international competitors with foreign companies. In other countries, in spite of some difficulties, firms may benefit from positive transfer of technologies processes thanks to continuous firm-to-firm interaction within the international business community.

Access to credit

SMEs in many circumstances suffer from a lack of credit facilities. First of all, it is not easy for this kind of companies to obtain relevant information about financing schemes. Then, SMEs in many cases do not have the structure and the capabilities of processing this information. Finally, they face more problems related to the shortage of collaterals. However, the comparison with the international literature and best practices in this case may be misleading, because Libya has today a banking system, which offers SMEs several opportunities for funding which substantially differs from many other countries, both in Europe and in the Arab Region.

Other problems affecting competitiveness

The problems faced by industrial enterprises in Libya converge with the ones typically cited as regards other Mediterranean countries, in general such as a fragile legal and regulatory framework, high production factor costs, small size of local markets, low plant capacity utilization, medium purchasing power, weak linkages between agriculture and industry as well as within industry. Moreover, it is not easy to secure well-qualified labor, or to obtain institutional and technical support services. Another key factor limiting competitiveness is related to the quality system: local suppliers are unable to meet the markets demands in terms of process performance as well as safety and quality related requirements, in particular those relating to enterprise management systems for hygiene, quality management and environmental management (HACCP, ISO 9001, ISO 14001). Enterprises are also not in a position to introduce in their operations new standards and technical regulations such as for traceability systems required exporting to the EU in compliance (as of January 2005) of the EU Directive on Food Safety 178/2002.

III. PROGRAMME PROPOSAL

III.1 Programme approach

The issues highlighted in the previous sections can be addressed in a comprehensive manner through the proposed programme. The thrust of the programme will be on promoting investments in the SME productive sector by mobilizing domestic resources through capacity building, upgrading and modernization, networking, raising awareness for quality issues, supporting local laboratories as well as fostering acquisition of technology and forging of partnerships. It will be articulated into two components, the first one addressing enterprise development, and the second one focusing on the establishment of a Cleaner production Center.

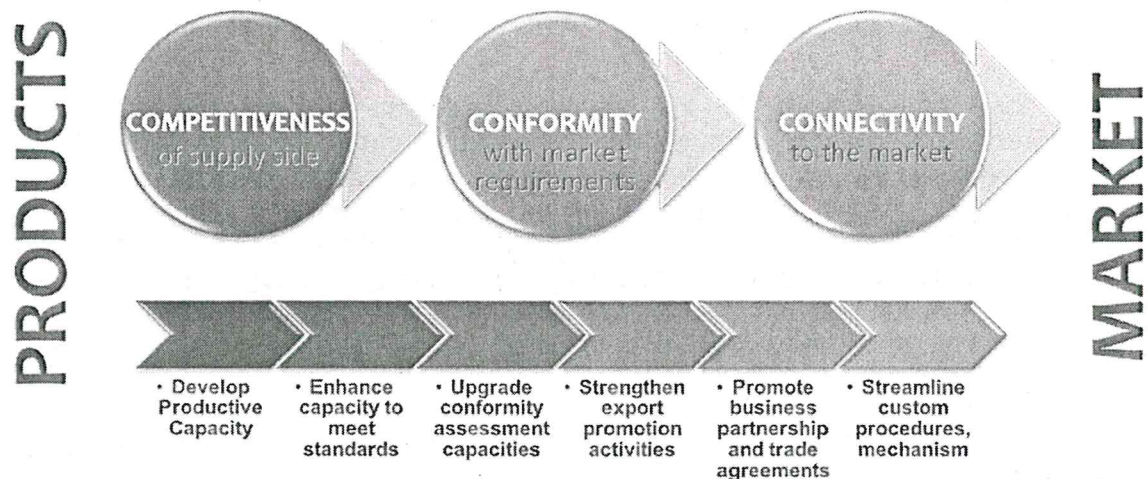
UNIDO has a long track record of developing supply capacity (technology transfer activities in such areas as agro-processing, cluster development, cleaner production, hygiene and quality management and export consortia), building standards and conformity infrastructure (standards bodies, product testing laboratories, inspection services, certification bodies and accreditation systems) and promoting cleaner production and energy over the past 30 years. The Organization currently holds the largest trade capacity building (TCB) portfolio among all the multilateral agencies listed in the WTO/OECD database.

The growing realisation of the need for this type of technical assistance has also led UNIDO to formulate a more holistic approach to trade capacity building, drawing into the initiative many established and successful programmes such as competitiveness analysis, enterprise development and upgrading, cluster development and the promotion of investment and cleaner technology. It can be summarised around the three key areas of intervention, the 'three Cs': supply Competitiveness, demand Conformity, market Connectivity.

UNIDO responds to these problems through its three-pronged trade capacity building approach: the 3Cs:

- Developing competitive manufacturing capability;
- Developing and promoting conformity with market requirements;
- Enhancing connectivity to markets.

Diagram 1: UNIDO trade capacity building



Reasons for UNIDO Assistance

UNIDO implements technical cooperation projects worth of \$ 110 million annually and substantial part of this implementation is related to the productivity and trade competitiveness improvement. UNIDO possesses a number of databases related to industry and develops software packages needed for industrial upgrading. Moreover, UNIDO's rich experience in analysis of industry contributes to the production of high profile publications. Within the Trade Capacity Building area UNIDO is the largest technical assistance agency within the UN System.

The cooperation with the multinational agencies, such as WTO and ITC provides a platform in Libya for coordinated efforts in industrial development. Recently UNIDO has been invited to act as an implementing agency for Aid For Trade Initiative and Enhanced Integrated Framework. In short, UNIDO's global experience related to industrial development and its committed staff enables efficient project implementation in the field.

During the course of the project implementation UNIDO's intangible resources, such as the databases, publications, tools and other methodologies will be made available to Libya.

III.2 Overall objective

The overall objective of the Libya Country Programme is to contribute to national capacities building in the industrial sector, promotion of investment opportunities, promotion of economic, industrial and trade growth, as well as to facilitate socio-economic integration.

Specifically the programme aims at strengthening the production and trade competitiveness of SMEs operating in high-potential sectors and markets and will ensure cleaner and sustainable production.

III.3 Components and results expected

The proposed programme addresses in an integrated manner the needs of the Libyan industrial sector for trade capacity building and networking, to link up with the global and regional markets in order to sustain the country's efforts for industrial development.

The Components will have separate levels of interventions, which will mutually reinforce each other so as to support the establishment on a new business culture in the country and support the Government's effort for industrialization and economic development, including

- Enterprise creation, modernization, upgrading and development
- Promotion of technology, investment and networking
- Strengthening the quality and conformity system of the country
- Establishment of the Libyan national cleaner production center
- Solar hydrogen energy pilot project

Furthermore, the components will contribute to build sufficient institutional and human capacity as well as to demonstrate cutting edge in environmentally sound technologies using locally available resources. The establishment of a cleaner production centre will enhance the productivity and the competitiveness of Libyan Industry through the increased application of sustainable production methods and the transfer of cleaner and environmentally friendly technologies.

Technical assistance in the implementation of a solar hydrogen energy pilot project will also be an achievement of the programme.

III.4 Outputs and activities of the Components

For Component 1:

A. Enterprise creation, modernization and development

- Development of entrepreneurial development curricula
- Local capacity for entrepreneurial development established
- New enterprises established
- Enterprise incubators established

B. Upgrading and modernization of existing enterprises

- Two hundred (200) enterprises' competitiveness upgraded and new employment opportunities created
- One hundred (100) national experts' knowledge enhanced on enterprise modernization
- National capacity built-up through training staff of Industrial Information Center, Development Bank, Chambers of Commerce and consultants
- Fifty (50) investment project profiles developed for investment promotion

- One hundred (100) consultants trained on ISO 9001, ISO 14001, HACCP/ISO 22000
- One hundred (100) enterprises certified for ISO 9001/ISO 14001
- Fifty (50) enterprises certified for HACCP/ISO 22000
- Medium-and long-term communication programme established to promote enterprise upgrading and modernization action throughout Libya

For Component 2:

Promotion of Technology, Investment and networking

- Establishment of the Investment and Technology promotion Office
- Promotion of technology transfers (Identification of technology opportunities, training on technology negotiations and acquisition, consolidation of technology information and profiles, capacity building of sectoral technology centers)
- Promotion of investment and partnerships (Identification of investment opportunities, capacity building for the development of feasibility studies (COMFAR methodology), assistance for the development of investment profiles, evaluation of projects viability, assistance for the identification of foreign partners, partnership promotion,)
- Establishment of investment and technology platform (Definition of databases, development of user interface, consolidation of data, linking of local institutions, training on utilization of platform)

For Component 3 ²:

Strengthening the quality and conformity system of the country

- Implemented ISO 17025 in selected laboratories of IRC
- Repaired and maintained analytical equipments of IRC
- Set up electronics/electrical products test laboratory
- Strengthened the Libyan Accreditation Council
- Improved Quality control of imported and domestic industrial goods
- Prepared Arab Regional Directory of Testing Laboratories

For Component 4:

Institutional set up of the Libyan National Cleaner Production Centre established and the Business Plan prepared.

- Selection of the host institution
- Creation of the Advisory Committee
- Preparation of the offices
- Installation of the equipment

² See Annex 1 page 25 for detailed list of activities with the timeframe

- Basic training and awareness seminars
- Preparation of the Business Plan

The following core services will be delivered in line with the Business Plan:

- Awareness-Raising
- In-Plant Demonstrations
- Training
- Technical Assistance
- Advise in Investment Promotion to upgrade industrial equipment and increase production capacity and competitiveness
- Technical Information Dissemination
- Policy Dialogue
- NCPC Management and Networking with similar UNIDO's Centres in the world.

For Component 5:

Technical assistance will be provided in the establishment of a solar hydrogen energy pilot project, in cooperation with UNIDO-ICHET, Istanbul and the General Peoples Committee on Industry and Electricity of Libya (GPCIEL).

This Component is part of the Programme but its budget will be calculated separately.

III.5 Expected results and impact of the programme

At the end of the programme, the Libyan authorities, institutions and enterprises will have acquired the information and tools needed for the development of SMEs and modernization of selected industries as well as the capacity and capability to teach UNIDO methodologies to other Libyan institutions, and consultants. It is expected to achieve the following results:

At the national level:

- Increased contribution of the SME sector to the Libyan economy and export;
- Improved image of the country as an investment destination;
- Greater flow of foreign investment and technology;
- Increases in the level of jobs;
- New market niches identified;

At the institutional level:

- Greater availability of institutional support in the country in terms of technical assistance to SMEs including the establishment of an upgrading unit;
- Capacity and capabilities of the Government counterparts, Bank of Development and private support institutions in Libya would have strengthened so as to meet the needs, and requirements connected with SMEs development as well as attracting foreign investment, and sustaining the integration of Libya in the world economy;

- Greater skills and capacity of counterparts and support institutions to undertake training and upgrading programs;
- Laboratory capacities of IRC strengthened for accreditation
- An electronics/electrical test laboratory established
- Libya accreditation council strengthened for international recognition
- Quality control regime of imported and domestic goods of Libya strengthened
- A national cleaner production centre established;
- Cleaner Production and EST included in the curriculum of 01 national university or a research center;
- A solar energy pilot unit established.

At the enterprise level:

- Two hundred (200) enterprises' competitiveness upgraded and new employment opportunities created;
- One hundred (100) national experts' knowledge enhanced on enterprise modernization;
- National capacity built-up (around 1,000 persons in all country) through training of staff of Ministries, Industrial Information Center, Development Bank, Chambers of Commerce, enterprises, institutions and consultants.
- Fifty (50) investment project profiles developed for investment promotion;
- One hundred (100) consultants trained on ISO 9001, ISO 14001, HACCP/ISO 22000;
- One hundred(100) enterprises certified for ISO 9001/ISO 14001;
- Fifty(50) enterprises certified for HACCP/ISO 22000;
- A minimum of 20 national experts trained in UNIDO methodology on Cleaner Production;
- 200 national participants trained on the implementation of CP assessments;
- 20 companies assisted to complete Cleaner Production In Plant Assessments in the targeted industrial sectors;
- 05 EST investment promotion projects prepared and submitted to the financial institutions.

Furthermore the following short-term impact is expected at the end of the duration of the programme in Libya:

- Sales: average increase per year for beneficiary enterprises: 10-20%.
- Employment: average increase per year of 5-10%
- Investment: average increase of 20-40%.

For comparative, and indicative purpose, it is important to mention that in Tunisia, the impact achieved by the modernization and upgrading programme for beneficiary enterprises is as follows:

- Sales: average increase by 18% per year
- Export: average increase by 65% for the first three-year period
- Employment: average increase of 9% per year

- Investment: average total investment per enterprise is around US\$1.3 million.

III.6 Coordination and Monitoring

A Joint Libya-UNIDO steering committee will be established as the main vehicle for the overall management of the programme. The steering committee will have the following responsibilities:

- Strategic direction at national level;
- Overseeing overall programme performance;
- Providing assistance to the Ministry of Industry in overall coordination and management of the Programme;
- Ensuring coherence with Government priorities in the field of enterprise development and upgrading;
- Selection of individuals and enterprises for participating in the activities.
- Appropriate linkage with relevant donor-funded programmes and projects;
- Support to public-private partnerships;
- Assistance in mobilizing complementary funding, where appropriate.

The Committee performs as a final decision-making institution. It will also be charged with the endorsement of the final list of participating enterprises for modernization, the approval of the diagnoses and business upgrading plans, review of the quarterly progress reports and the formulation of any recommendations arising from them, endorsement of the companies participating.

The membership of this steering committee will comprise the national coordinator of the programme in the Ministry of Industry, a representative of the Industrial Information Center, a representative of the Industrial and Technology Partnership Office in Libya, a representative from the Libyan Association of Chambers of Commerce, a representative of the Development Bank and representatives from various stakeholders concerned with the development of private sector and SMEs in Libya. The representative of the Ministry of Industry will chair the steering committee. In case of any decisions or voting to be carried out by the steering committee, the chairman has the right to exercise a casting vote where necessary.

An upgrading and modernization unit will administer relations with enterprises and is expected to intervene during the following phases of the Programme implementation:

- Conducting promotional and communication activities at national level;
- Identification of potential enterprises according to predefined criteria of eligibility at the national level;
- Review the diagnosis of the upgrading programme and enterprise profile;
- Ensure the follow-up of upgrading programme implementation;
- Act as secretary for the National Steering Committee;
- Assessment of the Programme's impact on beneficiary companies.

ANNEXES

Annex 1

List of Activities for Component 1/A Enterprise creation, modernization and development

Output 1.1

Establishment of an institutional framework to sustain the enterprise creation process

Activities	Responsibility
1.1.1. Development of liaisons with the local institutional system.	UNIDO; MOI,
1.1.2. Analysis of current activities and formulation of appropriate curricula	UNIDO;MOI
1.1.3..Definition of programme of activities in selected areas and for selected sectors	UNIDO;MOI
1.1.4. Training of trainers	UNIDO;MOI
1.1.5. Marketing of programme	UNIDO;MOI
1.1.6. Selection of participants.	UNIDO;MOI

Output 1.2

Groups of potential entrepreneurs trained and strengthened

Activities	Responsibility
1.2.1. Training on setting up an enterprise (rules and procedures)	UNIDO; MOI,
1.2.2. Training on identification of business opportunities	UNIDO;MOI
1.2.3..Training on market assessment	UNIDO;MOI
1.2.4. Training development of specific competencies	UNIDO;MOI
1.2.5. Training on development of business plans (integrated with 2.3.2).	UNIDO;MOI

Output 1.3

Industrial projects defined, through counseling and tie-ups

Activities	Responsibility
1.3.1. Identification of business counsellors	UNIDO; MOI,
1.3.2. Establishment of counselling tie-ups	UNIDO; MOI,
1.3.3. Market research	UNIDO; MOI,
1.3.4. Identification and assessment of technologies (integrated with 2.2.1)	UNIDO;MOI
1.3.5..Development of business plans (integrated with 2.3.3)	UNIDO;MOI
1.3.6. Development of implementation plans	UNIDO;MOI

Output 1.4
Industrial projects established (integrated with 2.3)

Activities	Responsibility
1.4.1. Identification of potential partners	UNIDO; MOI,
1.4.2. Promotion and consolidation of partnerships	UNIDO; MOI,
1.4.3. Identification and finalisation of appropriate financial schemes	UNIDO; MOI,
1.4.4. Assistance and counselling throughout the implementation plan	UNIDO;MOI

COMPONENT 1/A

Enterprise Creation, modernization and development

TIMEFRAME OF ACTIVITIES

Timeframe of Activities																	
Enterprise Creation, Modernization and Development	Quarters (2008, 2009, 2010 and 2011)																
	2008				2009				2010				2011				
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	
Output 1.1 Establishment of an institutional framework to sustain the enterprise creation process																	
Output 1.2 Groups of potential entrepreneurs trained and strengthened																	
Output 1.3 Industrial projects defined, through counseling and tie-ups																	
Output 1.4 Industrial projects established																	

List of Activities for Component 1/B Enterprise upgrading and modernization

Output 1.1

National programme for industrial modernization/upgrading and development formulated including proposal for funding mechanisms and instruments

Activities	Responsibility
1.1.1. On the basis of the data and information available and discussions with all stakeholders, including chambers of commerce, professional organizations,...), assess the needs for upgrading of industrial enterprises in the field of policy and institutional levels, management, technology, investments, human resources and funding.	UNIDO; MOI,
1.1.2. Formulate in close coordination with representatives of public and private sectors a national programme for industrial restructuring and upgrading and make estimation of the impact of the programme on production, sales, employment, value added and export.	UNIDO;MOI
1.1.3. Organise a study tour for five high staff from the MoI and private sector representatives in order to study the upgrading/modernization programmes in Tunisia and Egypt.	UNIDO;MOI
1.1.4. Organise a workshop for presentation of the programme and validation	UNIDO;MOI
1.1.5. Analyse options and scenarios of funding material and immaterial investments for restructuring/upgrading including possibility of establishments of a fund for competitiveness development.	UNIDO;MOI

Output 1.2

National Capacity-Building in the field of industrial modernization and upgrading – Strengthening of the Ministry of Industry through establishment of an Upgrading and Modernization Unit (UMU)

Activities	Responsibility
1.2.1. Define the structure of the UMU and prepare job descriptions for one international and three national experts.	UNIDO;MOI
1.2.2. Proceed after approval of CV recruitment of International staff for UMU through UNIDO and three national consultants through the Ministry of Industry	UNIDO;MOI
1.2.3. Establish office facilities, place administrative and secretarial staff and launch UMU activities	UNIDO;MOI
1.2.4. Provide first-step upgrading services to selected enterprises information, advise, training	UNIDO;IRC
1.2.5. Prepare and launch communication programme and promotional communication material (site web, newsletter, brochures in English and Arabic and update them every three months.)	UNIDO;MOI
1.2.6. Prepare progress report on activities of the programme	UNIDO;MOI

Output 1.3**National Capacity-Building in the field of industrial modernization and upgrading – Strengthening of Investment Office and Department for Private Sector in Investment and Technology Promotion**

Activities	Responsibility
1.3.1. Review the structure of the Investment Office and the Dept. for Private Sector within the Ministry of Industry, their staff structure and current activities, define a new structure suitable for the enterprise upgrading and modernization programme, including appropriate job descriptions for the staff.	UNIDO;MOI
1.3.2. Establish office facilities, recruit and place administrative and secretarial staff, as needed	UNIDO;MOI
1.3.3. Provide methodological tools (UNIDO manuals, guidelines, software, etc.) related to investment and technology promotion, enterprise upgrading and modernization	UNIDO;MOI
1.3.4. Provide formal training in investment promotion strategies and techniques, Investment project identification, Preparation and appraisal of investment Projects, including application of COMFAR, Joint Venture negotiation, Business Alliances, Project Financing, Project implementation.	UNIDO;MOI
1.3.5. In addition, provide training in enterprise upgrading/modernization methodologies, preparation and evaluation of upgrading plans, etc. as part of the national capacity building activities	UNIDO;MOI
1.3.6. Involve the staff in the enterprise upgrading exercise so as to facilitate timely inputs of investment and technology promotion and on-the-job training	UNIDO;MOI

Output 1.4**National Capacity Building in the field of industrial modernization and upgrading – National consultants trained on upgrading techniques (elaboration of strategic diagnosis, evaluation of upgrading programme and follow-up)**

Activities	Responsibility
1.4.1 Identify 2-3 training institutions to be strengthened in the field of upgrading techniques (technical centers, consulting firms, etc.) and identify 100 national consultants and staff of support institutions (banks, business associations, etc.)	UNIDO, MOI
1.4.2 Provide five training sessions (TOT) 8 days each on strategic diagnostic and upgrading techniques, evaluation of upgrading plans, including application of related software PHAROS, Produce-Plus, COMFAR, etc in cooperation with the selected training institutions. 15/20 participants per session.	UNIDO, MOI
1.4.3 Review UNIDO tools/guide on industrial upgrading and adapt it to the Syrian context for continuous use.	UNIDO, MOI

Output 1.5

Diagnostic studies and upgrading programmes in several sectors

Activities	Responsibility
1.5.1. Discuss and finalize criteria for selection of enterprise (SMEs) from various sectors	UNIDO, MOI
1.5.2. Preparation of TOR for undertaking the diagnostic studies and preparation of upgrading plan (one per enterprise)	UNIDO, MOI
1.5.3. Selection of the consulting firms/consultants	UNIDO, MOI
1.5.4. Preparation and validation of the diagnostic report and business plan (one per enterprise)	UNIDO, MOI
1.5.5. Organise a one-day seminar for presentation of conclusion and recommendation of the diagnostic and upgrading for dissemination (100 participants)	UNIDO, MOI

Output 1.6

A minimum of 200 enterprises upgraded (intangible investments)

Activities	Responsibility
1.6.1. Select priority actions (per group and by enterprises) for implementation with focus on immaterial investment actions with high impact on productivity, quality, export and partnership	UNIDO;MOI
1.6.2. Provide direct technical assistance for implementing mainly immaterial investments related to upgrading a minimum of 100 selected enterprises with focus on enhancement of productivity, quality, export and partnership (minimum 0.7h x m international expertise, 2h x m national expertise per enterprise)	UNIDO;MOI
1.6.3. Organize 50 training sessions for technical staff from selected enterprises and present training support on issues such as marketing, production management, partnership, cost accounting, and quality. Twenty participants per session.	UNIDO;MOI

Output 1.7***150 enterprises assisted for ISO certification***

Activities	Responsibility
1.7.1. Select among the beneficiaries 100 enterprises for introduction of ISO	UNIDO;MOI
1.7.2. Prepare for ToR/job description and identify consulting firms/consultants	UNIDO;MOI
1.7.3. Organise a training for internal quality auditors	UNIDO;MOI
1.7.4. Provide assistance for introduction of quality management systems in the 100 enterprises	UNIDO;MOI
1.7.5. Proceed with a “white audit” of the 100 enterprises and assist in implementing corrective activities	UNIDO;MOI
1.7.6. Proceed with the “final audit”	UNIDO;MOI
1.7.7. Organise a dissemination seminar for presentation of the approach and results	UNIDO;MOI

Output 1.8***50 enterprises assisted in investment partnership promotion (technology transfer, joint venture, market access, etc.)***

Activities	Responsibility
1.8.1. Identify enterprises whose upgrading plans require foreign partnerships in terms of technology, market, management know-how, finance, etc.	UNIDO;MOI
1.8.2. Obtain agreement of the enterprise management on the promotion of foreign partnerships and on the preferred sources of partnerships.	UNIDO;MOI
1.8.3. Prepare necessary promotional materials (project profiles) based on the upgrading plans.	UNIDO;MOI
1.8.4. Disseminate such investment opportunities via UNIDO ITPOs.	UNIDO;MOI
1.8.5. Assist enterprises in technology sourcing, partnership negotiation and conclusion by arranging discussions with foreign partners.	UNIDO;MOI
1.8.6. For projects that are taken up for investment, provide advisory services in the field of joint venture negotiation, financing, technology transfer, etc.	UNIDO;MOI
1.8.7. Assist in the implementation of partnerships by providing advisory services.	UNIDO;MOI
1.8.8. Organise a seminar for presentation of results and dissemination.	UNIDO;MOI

COMPONENT 1/B

Enterprise Upgrading and Modernization

TIMEFRAME OF ACTIVITIES

Timeframe of Activities

Enterprise Upgrading and Modernization	Quarters (2008, 2009, 2010 and 2011)											
	2008		2009				2010			2011		
	3	4	1	2	3	4	1	2	3	4	1	2
Output 1.1 <i>National programme for industrial modernization/upgrading and development formulated including proposal for funding mechanisms and instruments</i>												
1.1.1. On the basis of the data and information available and discussions with all stakeholders, including chambers of commerce, professional organizations,...), assess the needs for upgrading of industrial enterprises in the field of policy and institutional levels, management, technology, investments, human resources and funding.												
1.1.2. Formulate in close coordination with representatives of public and private sectors a national programme for industrial restructuring and upgrading and make estimation of the impact of the programme on production, sales, employment, value added and export.												
1.1.3. Organise a study tour for five high staff from the MI and private sector representatives in order to study the upgrading/modernization programmes in Tunisia and Egypt.												
1.1.4. Organise a workshop for presentation of the programme and validation												

Enterprise Upgrading and Modernization	Quarters (2008, 2009, 2010 and 2011)													
	2008			2009				2010				2011		
	3	4		1	2	3	4	1	2	3	4	1	2	
1.1.5. Analyse options and scenarios of funding material and immaterial investments for restructuring/upgrading including possibility of establishments of a fund for competitiveness development.														
Output 1.2 <i>National Capacity-Building in the field of industrial modernization and upgrading – Strengthening of the Ministry of Industry through establishment of an Upgrading and Modernization Unit (UMU)</i>														
1.2.1. Define the structure of the UMU and prepare job descriptions for one international and three national experts.														
1.2.2. Proceed after approval of CV recruitment of International staff for UMU through UNIDO and three national consultants through the Ministry of Industry														
1.2.3. Establish office facilities, place administrative and secretarial staff and launch UMU activities														
1.2.4. Provide first-step upgrading services to selected enterprises information, advise, training														
1.2.5. Prepare and launch communication programme and promotional communication material (site web, newsletter) in English and Arabic and update them every three months.														
1.2.6. Prepare progress report on activities of the programme														

Enterprise Upgrading and Modernization	Quarters (2008, 2009, 2010 and 2011)											
	2008			2009				2010				2011
	3	4	1	2	3	4	1	2	3	4	1	2
Output 1.3 <i><u>National Capacity-Building in the field of industrial modernization and upgrading – Strengthening of the Investment Office and Department for Private Sector in Investment and Technology Promotion</u></i>												
Activities												
1.3.1. Review the structure of the Investment Office and the Dept. for Private Sector within the Ministry of Industry, their staff structure and current activities, define a new structure suitable for the enterprise upgrading and modernization programme, including appropriate job descriptions for the staff.												
1.3.2. Establish office facilities, recruit and place administrative and secretarial staff, as needed												
1.3.3. Provide methodological tools (UNIDO manuals, guidelines, software, etc.) related to investment and technology promotion, enterprise upgrading and modernization												
1.3.4. Provide formal training in investment promotion strategies and techniques, Investment project identification, Preparation and appraisal of investment Projects, including application of COMFAR, Joint Venture negotiation, Business Alliances, Project Financing, Project implementation.												

Enterprise Upgrading and Modernization	Quarters (2008, 2009, 2010 and 2011)											
	2008		2009				2010				2011	
	3	4	1	2	3	4	1	2	3	4	1	2
1.3.5. In addition, provide training in enterprise upgrading/modernization methodologies, preparation and evaluation of upgrading plans, etc. as part of the national capacity building activities												
1.3.6. Involve the staff in the enterprise upgrading exercise so as to facilitate timely inputs of investment and technology promotion and on-the-job training												
Output 1.4 <i>National Capacity Building in the field of industrial modernization and upgrading – National consultants trained on upgrading techniques (elaboration of strategic diagnosis, evaluation of upgrading programme and follow-up</i>												
Activities												
1.4.1 Identify 2-3 training institutions to be strengthened in the field of upgrading techniques (technical centers, consulting firms, etc.) and identify 100 national consultants and staff of support institutions (banks, business associations, etc.)												
1.4.2 Provide five training sessions (TOT) 8 days each on strategic diagnostic and upgrading techniques, evaluation of upgrading plans, including application of related software												

Enterprise Upgrading and Modernization	Quarters (2008, 2009, 2010 and 2011)											
	2008				2009				2010			
	3	4	1	2	3	4	1	2	3	4	1	2
PHAROS, Produce-Plus, COMFAR, etc in cooperation with the selected training institutions. 15/20 participants per session.												
1.4.3 Review UNIDO tools/guide on industrial upgrading and adapt it to the Syrian context for continuous use.												
Output 1.5 <i>Diagnostic studies and upgrading programmes in several sectors</i>												
Activities												
1.5.1. Discuss and finalize criteria for selection of enterprise (SMEs) from various sectors												
1.5.2. Preparation of TOR for undertaking the diagnostic studies and preparation of upgrading plan (one per enterprise)												
1.5.3. Selection of the consulting firms/consultants												
1.5.4. Preparation and validation of the diagnostic report and business plan (one per enterprise)												
1.5.5. Organise a one-day seminar for presentation of conclusion and recommendation of the diagnostic and upgrading for dissemination (100 participants)												

Enterprise Upgrading and Modernization		Quarters (2008, 2009, 2010 and 2011)											
		2008				2009				2010			
		3	4	1	2	3	4	1	2	3	4	1	2
Output 1.6 <i>A minimum of 200 enterprises upgraded (intangible investments)</i>													
Activities													
1.6.1. Select priority actions (per group and by enterprises) for implementation with focus on immaterial investment actions with high impact on productivity, quality, export and partnership													
1.6.2. Provide direct technical assistance for implementing mainly immaterial investments related to upgrading a minimum of 100 selected enterprises with focus on enhancement of productivity, quality, export and partnership (minimum 0.7h x m international expertise, 2h x m national expertise per enterprise)													
1.6.3. Organize 50 training sessions for technical staff from selected enterprises and present training support on issues such as marketing, production management, partnership, cost accounting, and quality. Twenty participants per session.													
Output 1.7 <i>100 enterprises assisted for ISO certification</i>													
Activities													
1.7.1. Select among the beneficiaries 100 enterprises for introduction of ISO													

Enterprise Upgrading and Modernization	Quarters (2008, 2009, 2010 and 2011)											
	2008			2009			2010			2011		
	3	4	1	2	3	4	1	2	3	4	1	2
1.7.2. Prepare for TOR/job description and identify consulting firms/consultants												
1.7.3. Organise a training for internal quality auditors												
1.7.4. Provide assistance for introduction of quality management systems in the 100 enterprises												
1.7.5. Proceed with a "white audit" of the 100 enterprises and assist in implementing corrective activities												
1.7.6. Proceed with the "final audit"												
1.7.7. Organise a dissemination seminar for presentation of the approach and results												
<i>Output 1.8 50 enterprises assisted in investment partnership promotion (technology transfer, joint venture, market access, etc.)</i>												
Activities												
1.8.1. Identify enterprises whose upgrading plans require foreign partnerships in terms of technology, market, management know-how, finance, etc.												

Enterprise Upgrading and Modernization	Quarters (2008, 2009, 2010 and 2011)													
	2008			2009				2010				2011		
	3	4		1	2	3	4	1	2	3	4	1	2	
1.8.2. Obtain agreement of the enterprise management on the promotion of foreign partnerships and on the preferred sources of partnerships.														
1.8.3. Prepare necessary promotional materials (project profiles) based on the upgrading plans.														
1.8.4. Disseminate such investment opportunities via UNIDO ITPOs.														
1.8.5. Assist enterprises in technology sourcing, partnership negotiation and conclusion by arranging discussions with foreign partners.														
1.8.6. For projects that are taken up for investment, provide advisory services in the field of joint venture negotiation, financing, technology transfer, etc.														
1.8.7. Assist in the implementation of partnerships by providing advisory services.														
1.8.8. Organise a seminar for presentation of results and dissemination.														

List of Activities for Component 2

Promotion of Technology, Investment and networking

Output 2.1

Investment and Technology Transfer Office Established

Activities	Responsibility
2.1.1 Definition of logistical arrangements	UNIDO;MOI
2.1.2 Preparation of work programme	UNIDO;MOI
2.1.3 Preparation of job descriptions	UNIDO;MOI
2.1.4 Recruitment of staff	UNIDO;MOI
2.1.5 Procurement of equipment	UNIDO;MOI

Output 2.2

Technology Transfers promoted

Activities	Responsibility
2.2.1 Identification of technology opportunities	UNIDO;MOI
2.2.2 Training on technology negotiation and acquisition	UNIDO;MOI
2.2.3 Consolidation of technology information and profiles	UNIDO;MOI
2.2.4 Strengthening and capacity building of sectoral technology centers	UNIDO;MOI

Output 2.3

Investment and Partnerships promoted

Activities	Responsibility
2.3.1 Identification of investment opportunities	UNIDO;MOI
2.3.2 Capacity building for development of feasibility studies and investment plans	UNIDO;MOI
2.3.3 Development of investment profiles	UNIDO;MOI
2.3.4 Promotion of partnerships and tie-ups	UNIDO;MOI

Output 2.4
Investment and Technology platform established

Activities	Responsibility
2.4.1 Definition of internal databases	UNIDO;MOI
2.4.2 Definition of user interfaces	UNIDO;MOI
2.4.3 Consolidation of technology profiles and investment projects onto the platforms	UNIDO;MOI
2.4.4 Linking platform to local institutions and establishment of network	UNIDO;MOI
2.4.5 Training on platform utilisation	UNIDO;MOI

Timeframe of Activities														
Promotion of Technology, Investment and networking	Quarters (2008, 2009, 2010 and 2011)													
	2008			2009				2010				2011		
	3	4		1	2	3	4	1	2	3	4	1	2	
Output 2.1 Investment and Technology Promotion Office Established														
Output 2.2 Technology Transfers promoted														
Output 23 Investment and Partnerships promoted														
Output 24 Investment and Technology Platform established														

List of Activities for Component 3

Strengthening the quality and conformity system of the country

Output 3.1

Implementation of ISO 17025 in selected laboratories of IRC

Activities	Responsibility
3.1.1 Selecting scopes of accreditation of various laboratories	UNIDO;IRC
3.1.2 Preparing laboratories through technical field visits	UNIDO;IRC
3.1.3 Technical advisory and coaching services	UNIDO;IRC
3.1.4 Equipment and instrument calibration	UNIDO;IRC
3.1.5 Procure spare parts for equipment	UNIDO;IRC
3.1.6 Procurement of CRM and SRM	UNIDO;IRC
3.1.7 Technical accreditation pre-assessment	UNIDO;IRC
3.1.8. Accreditation of selected scopes by an Accreditation body	UNIDO;IRC
3.1.9 Strengthening calibration laboratory of IRC with new equipment and training	UNIDO;IRC

Output 3.2

Maintenance of analytical equipments of IRC

Activities	Responsibility
3.2.1. Prepare list of analytical equipments that are non-functional in IRC laboratories	UNIDO;IRC
3.2.2. Identify potential list of service/maintenance providers in Europe or elsewhere	UNIDO;IRC
3.2.3. Identify service company(ies) to determine exact operational problems of equipments	UNIDO;IRC
3.2.4 Prepare a plan of action of repair/maintenance of analytical equipments	UNIDO;IRC
3.2.5 Implement technical repair and maintenance plan of action	UNIDO;IRC

Output 3.3***Set up electronics/electrical products test laboratory Set***

Activities	Responsibility
3.3.1 Define scope of electrical and electronics testing laboratory	UNIDO;IRC
3.3.2 Undertake detailed analysis of testing load and laboratory requirements	UNIDO;IRC
3.3.3 Design electrical and electronic laboratory layout	UNIDO;IRC
3.3.4 Develop air-conditioning plan requirements of the lab	UNIDO;IRC
3.3.5 Define specifications of equipment required for testing laboratory	UNIDO;IRC
3.3.6 Procure and install testing equipment and training staff on its use	UNIDO;IRC
3.3.7 Prepare the quality manual of the electrical and electronics testing laboratory	UNIDO;IRC

Output 3.4***Strengthening the Libyan Accreditation Council (LAC)***

Activities	Responsibility
3.4.1 Review legal framework of Libyan Accreditation Council and benchmark it with internationally recognized accreditation boards	UNIDO;LAC
3.4.2 Train lead assessors and technical assessors in focus areas of accreditation	UNIDO;LAC
3.4.3 Develop the Council operations in accordance with ISO 17011	UNIDO;LAC
3.4.4 Survey Libyan laboratory accreditation market	UNIDO;LAC
3.4.5 Develop hand-on training on accreditation through in-service and external training	UNIDO;LAC
3.4.6 Pilot accreditation of selected Libyan laboratories in cooperation with a cross-frontier accreditation body	UNIDO;LAC
3.4.7 Promote services of Libyan Accreditation Council	UNIDO;LAC
3.4.8. Peer review the competence of the Council for Mutual Recognition Arrangement (MRA) for international recognition	UNIDO;LAC

Output 3.5

Quality control of imported and domestic industrial goods

Activities	Responsibility
3.5.1 Undertake an in-depth study on the ongoing practices of exercising quality control of imported products	UNIDO Government of Libya
3.5.2 Prepare a study report on the quality control of imported goods prepared	UNIDO Government of Libya
3.5.3 Develop an action plan in consultation with national regulatory authorities to protect domestic consumers from substandard imported products	UNIDO Government of Libya
3.5.4 Facilitate implementation of imported goods quality control action plan and determine the infrastructural requirements, including accredited testing facilities	UNIDO Government of Libya

Output 3.6

Preparation of Arab Regional Directory of Testing Laboratories

Activities	Responsibility
3.6.1 Define scope and testing areas of laboratories for the directory	UNIDO;IRC
3.6.2 Identify counterpart institutions in selected Arab countries	UNIDO;IRC
3.6.3 Develop a questionnaire and on-line methodology for data collection	UNIDO;IRC
3.6.4 Collect testing laboratories data using defined methodology	UNIDO;IRC
3.6.5 Prepare draft Arab Regional Directory of Testing Laboratories	UNIDO;IRC
3.6.6 Validate data through counterpart institutions	UNIDO;IRC
3.6.7 Finalize the Directory and print	UNIDO;IRC
3.6.8. Launch the Arab Regional Directory of Testing Laboratories in one of Global Forum functions organized in Libya	UNIDO;IRC
3.6.9 Disseminate the directory widely, particularly in Arab Region	UNIDO;IRC

COMPONENT 3

Strengthening the Quality and Conformity System of the Country

TIMEFRAME OF ACTIVITIES

Timeframe of Activities

Strengthening the Quality and Conformity System of the Country	Quarters (2008, 2009, 2010 and 2011)													
	2008			2009				2010				2011		
	3	4		1	2	3	4	1	2	3	4	1	2	
Output 3.1 <i>Implementation of ISO 17025 in selected laboratories of IRC</i>														
3.1.1. Selecting scopes of accreditation of various laboratories														
3.1.2. Preparing laboratories through technical field visits														
3.1.3. Technical advisory and coaching services														
3.1.4. Equipment and instrument calibration														
3.1.5. Procure spare parts for equipment														
3.1.6. Procurement of CRM and SRM														
3.1.7. Technical accreditation pre-assessment														
3.1.8. Accreditation of selected scopes by an Accreditation body														
3.1.9. Strengthening calibration laboratory of IRC with new equipment and training														
Output 3.2 <i>Maintenance of analytical equipments of IRC</i>														

Strengthening the Quality and Conformity System of the Country	Quarters (2008, 2009, 2010 and 2011)												
	2008			2009				2010				2011	
	3	4		1	2	3	4	1	2	3	4	1	2
3.2.1. Prepare list of analytical equipments that are non-functional in IRC laboratories													
3.2.2. Identify potential list of service/maintenance providers in Europe or elsewhere													
3.2.3. Identify service company(ies) to determine exact operational problems of equipments													
3.2.4 Prepare a plan of action of repair/maintenance of analytical equipments													
3.2.5 Implement technical repair and maintenance plan of action													
Output 3.3 Set up electronics/electrical products test laboratory Set													
3.3.1 Define scope of electrical and electronics testing laboratory													
3.3.2 Undertake detailed analysis of testing load and laboratory requirements													
3.3.3 Design electrical and electronic laboratory layout													
3.3.4 Develop air-conditioning plan requirements of the lab													
3.3.5 Define specifications of equipment required for testing laboratory													

Strengthening the Quality and Conformity System of the Country	Quarters (2008, 2009, 2010 and 2011)													
	2008			2009				2010				2011		
	3	4	1	2	3	4	1	2	3	4	1	2	3	
	3	4	1	2	3	4	1	2	3	4	1	2	3	
3.3.6 Procure and install testing equipment and training staff on its use														
3.3.7 Prepare the quality manual of the electrical and electronics testing laboratory														
<u>Output 3.4</u> <u>Strengthening the Libyan Accreditation Council</u>														
3.4.1 Review legal framework of Libyan Accreditation Council and benchmark it with internationally recognized accreditation boards														
3.4.2 Train lead assessors and technical assessors in focus areas of accreditation														
3.4.3 Develop the Council operations in accordance with ISO 17011														
3.4.4 Survey Libyan laboratory accreditation market														
3.4.5 Develop hand-on training on accreditation through in-service and external training														
3.4.6 Pilot accreditation of selected Libyan laboratories in cooperation with a cross-frontier accreditation body														
3.4.7 Promote services of Libyan Accreditation Council														

Strengthening the Quality and Conformity System of the Country	Quarters (2008, 2009, 2010 and 2011)													
	2008			2009				2010				2011		
	3	4		1	2	3	4	1	2	3	4	1	2	
3.4.8. Peer review the competence of the Council for Mutual Recognition Arrangement (MRA) for international recognition														
<u>Output 3.5</u> <u>Quality control of imported and domestic industrial goods</u>														
3.5.1 Undertake an in-depth study on the ongoing practices of exercising quality control of imported products														
3.5.2 Prepare a study report on the quality control of imported goods prepared														
3.5.3 Develop an action plan in consultation with national regulatory authorities to protect domestic consumers from substandard imported products														
3.5.4. Facilitate implementation of imported goods quality control action plan and determine the infrastructural requirements, including accredited testing facilities														
<u>Output 3.6</u> <u>Preparation of Arab Regional Directory of Testing Laboratories</u>														
3.6.1 Define scope and testing areas of laboratories for the directory														
3.6.2 Identify counterpart institutions in selected Arab countries														

Strengthening the Quality and Conformity System of the Country	Quarters (2008, 2009, 2010 and 2011)												
	2008			2009				2010				2011	
	3	4	1	2	3	4	1	2	3	4	1	2	
3.6.3 Develop a questionnaire and on-line methodology for data collection													
3.6.4 Collect testing laboratories data using defined methodology													
3.6.5 Prepare draft Arab Regional Directory of Testing Laboratories													
3.6.6 Validate data through counterpart institutions													
3.6.7 Finalize the Directory and print													
3.6.8. Launch the Arab Regional Directory of Testing Laboratories one of Global Forum functions organized in Libya													
3.6.9. Disseminate the directory widely, particularly in Arab Region													

Annex 2

a. UNIDO's Approach to Enterprise Creation

The UNIDO **entrepreneurial development and enterprise creation** programme is based upon the conceptual underpinning that development of a strong investor base is as important as investment promotion services and vice versa and that forging them together would lead to tangible results – ***emergence of enterprises that produce goods and services for trade, that provide employment and income for people and thus contribute to poverty alleviation and to overall economic growth.*** The programme also lays due emphasis on the operational environment in beneficiary countries and the special needs of entrepreneurs/investors. The programme calls for: availability of trained human resources to act as trainers and advisors/counselors, helping and guiding potential entrepreneurs, networking with support institutions involved in facilitating SME development. The programme is predominantly oriented towards domestic investment promotion, but is intrinsically linked to FDI promotion due to the need for foreign partnerships (technology, market access, etc.) inherent in domestic investments.

Emergence of new enterprise is the manifestation of productive capacity building. It provides opportunities for employment and income for the people and thus positively contributes to poverty reduction. It also denotes development or growth of the national economy.

Development of small and medium enterprises (SMEs) has been recognized the world over as an effective mechanism to facilitate economic development. For, it is the SME sector, which provides opportunities for the youth and unemployed people to exhibit their entrepreneurial potential, by being **job creators** rather than **job seekers**. This assumes paramount importance in a situation where the unemployment levels are rising. It requires a coherent approach to new enterprise creation: it requires **entrepreneurs/investors** who perceive opportunities and organize resources to set-up and successfully run enterprises. It also requires effective **investment promotion support** (technology tie ups, partnership promotion, financing, etc.) to investors so that the process of enterprise creation is facilitated.

Thus, a two-pronged approach, combining entrepreneurial/managerial inputs and investment and technology promotion support, to facilitate new **enterprise creation** could make significant contribution to SME development in developing countries. Experience shows that this is indeed possible.

The **Enterprise Creation** programme is aimed at helping potential entrepreneurs/investors translate their ideas into commercial ventures in manufacturing/service sectors.

- The programme is result-oriented in the sense that the potential investor is expected to set up his own business enterprise - appropriate to his abilities and background, after the training and as a result of the training;
- There is a firm commitment on the basic objectives by the counterpart institutions;
- The entrepreneurs/investors are identified and selected through a vigorous selection process involving personality, competence and commitment assessment through written tests and personal interviews.

The program process runs into four stages that follow the pre-programme activities:

Pre-programme activities: Preparatory activities include **establishing an institutional framework** to sustain the programme as well as understanding local socio-economic conditions (to facilitate localization of training modules), developing liaison with the support system (to facilitate smooth conduct of training and mobilize support for the trainees in the process of project implementation), programme marketing (to attract most potential entrepreneurs) and selection/recruitment of participants based on scientific methods. This phase lasts for a period of 8-10 weeks.

First stage: With the ultimate objective of assisting the potential entrepreneurs to set up their own enterprises, the programme has been designed to cover the following in order **to strengthen their managerial skills and competencies:** The training phase lasts for 3-4 weeks. The training has been designed to cover the following:

- Setting up a small business enterprise: Rules, procedures and formalities, whom to contact for what, nature and extent of assistance available from various institutions;
- Business Opportunity Identification: How to identify Business Opportunities, how to screen them, to firm up a Business Idea for further exploration;
- Market Assessment: How to assess the market potential, guidance in carrying out fieldwork for market assessment for the proposed product/service;
- Enterprising Competencies Development;
- Business Plan: Skills in preparing a Business Plan and assistance in finalizing the same;
- Essentials of managing a small business enterprise;
- Inputs on how to implement a project.

Second Stage: A vigorous follow-up mechanism is put in place to provide business counseling with the ultimate objective of facilitating project implementation. The trained entrepreneurs are helped in finalizing their business ideas and in obtaining necessary information to prepare business plans. They are assisted in identification and selection of technology as well as in promoting partnerships with foreign companies (joint venture, technology tie ups, management, etc.). They are further assisted in seeking necessary licenses and completing the legal formalities.

The nature and extent of business counseling services depend on the needs of respective entrepreneurs. The counseling schedule that lasts from 4 to 12 weeks (or even longer as the case may be) is worked out based on the felt needs as mutually identified by the business advisor/counselor and the investor.

The Counseling & Technology Tie-up step is a lengthy relationship between the counselor and the entrepreneur. It may generally include the following activities:

- Business opportunity identification, analysis and finalization
- Market research – Collection, analysis and compilation of relevant data
- Identification and sourcing information on appropriate technology, machinery/equipment, and raw materials etc.
- Facilitating technology tie ups and joint venture collaborations
- Business plan preparation
- Completing legal documentation & seeking necessary, registrations, licenses and clearances

- Finalizing project implementation plan

Third Stage: The service linked next to business counseling is facilitating the project's linkage to the financial scheme. Appropriate financial linkage is identified based on project requirements and investors' investment capacity. Investors are advised and guided on completing the required formalities for seeking loan support from the financial institutions. The business counselor acts as a link between the investor and the financial institution in order to facilitate the process and ensure that **the project is linked with the appropriate financial schemes.**

Fourth Stage: With all the essential resources for the project tied up, the investor is guided through the **project implementation plan**, formulated during the third Stage. Essential linkages are facilitated with institutions dealing in infrastructural services. Need based guidance and support is extended for procurement, installation and commissioning of the project machinery and equipment as well as for procuring the raw materials and other utilities. Business advisor/counselor closely monitors the project implementation process and guides the project to become operational.

b. **UNIDO Approach for Capacity Building and Industrial Upgrading**

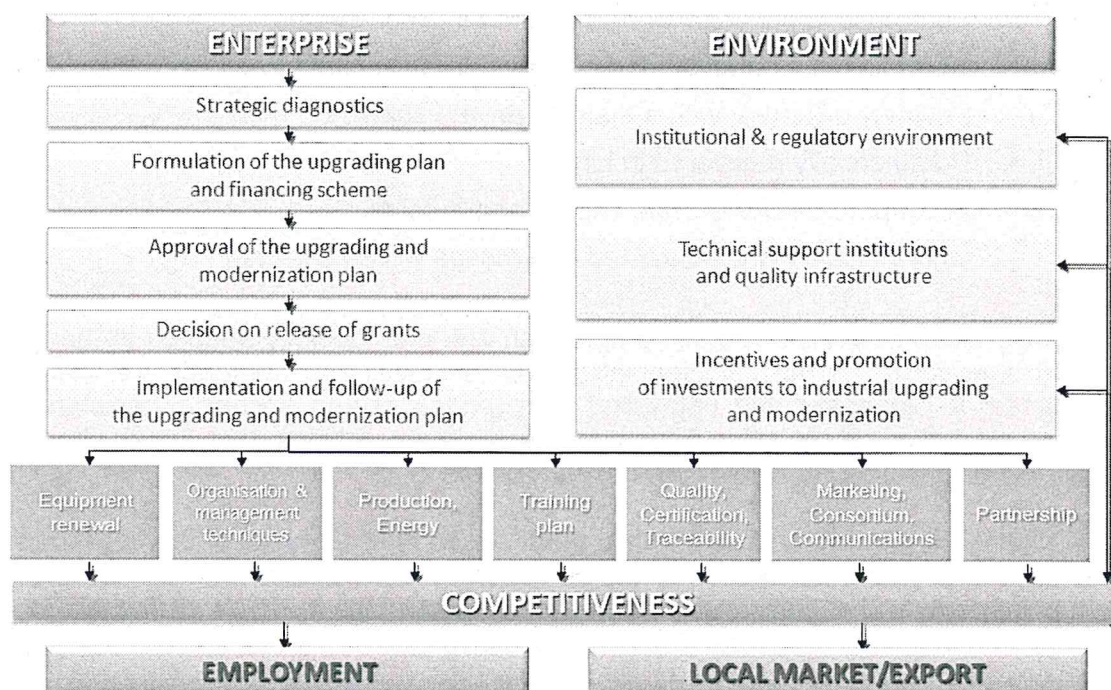
The approach developed for upgrading programme is based on UNIDO's previous experience in carrying out industrial upgrading and modernization programmes in Tunisia, Algeria, Egypt, Syria as well as in West Africa countries, where the programme is currently under implementation. UNIDO has followed a similar approach and the experience and expertise gained, and the methodology developed, will adapt to the Libyan programme.

This approach aims to upgrade and improve competitiveness of companies with potential to further development through strengthening productive capacities, on one hand, and improving quality of related services and business environment in general on another. This will allow companies to build capacities necessary to produce manufacturing goods in compliance with different international technical regulations and quality standards.

The approach calls for undertaking activities that intend to improve their productive performance and energy efficiency, the financial situation of companies, ability to produce according to international standards and technical requirements and to facilitate their integration into the world market.

The figure below gives an overview of UNIDO's Upgrading Approach.

Figure 1: Process of industrial upgrading and modernization



UNIDO's approach leads not only to providing direct assistance to the companies but also to strengthening of institutional environment and technical support institutions, consolidation of economic data and its dissemination, and to development of specific and tailored programmes. The approach is based on the following components:

The following UNIDO tools/methodologies for industrial modernization may be used:

- Strategic diagnostic study;
- Upgrading/Business plan;
- Strategic sectoral study;
- Implementation of management and technology upgrading solutions
- Market access;
- Software tools (Produce-it, production management, and Pharos, strategic management);
- Methodologies and access to information/intelligence;
- Benchmarking and export strategies;
- Partnerships arrangements.

The programme implemented occurs over three years in order to provide the Libyan authorities and support institutions with the required methodologies and know-how in the field of upgrading, thus giving them time to organize the infrastructure and involve the ultimate beneficiaries of the technical assistance programme for upgrading the 30 selected enterprises. Due to the fact that the programme also has a demonstrative objective, UNIDO and the Ministry of Industry will select the beneficiary enterprises by providing equal opportunities to all those interested in receiving direct technical assistance. The enterprises selection will take place from the industrial areas of Libya in order to maximize the impact of the programme. The key criteria of selection of

beneficiary enterprises include:

- Enterprise employees more than ten full-time workers,
- Operation in the industry or industry related services sectors,
- Privately owned or with a majority private share,
- Commercially registered in Libya,
- Show potential for growth, export, and funding,
- Only voluntary and interested enterprises will be selected,

UNIDO will propose an upgrading approach and methodology adapted to the needs and specificities of the selected enterprise in Libya. The approach will include 2 phases: A Diagnostic and upgrading plan (phase 1) and Technical assistance for Implementation of selected immaterial investment actions that have short-term impact on productivity, quality, and export (phase 2).

Phase 1 Diagnostic and upgrading plan: based on the results of the questionnaire prepared for the pre-selection of the enterprise, the discussion with the owners and top managers, the objectives and resources available, the type of the diagnostic would be identified and fixed. The diagnostic involves:

- Overall (in-depth) diagnostic that consists of identifying the real problems and of devising realistic solutions to them. It is a systematic analysis of the business environment in which the enterprises operate. its market and competitive position and an in-depth and overall analysis of the different internal functions including an objective evaluation of the capabilities, and performance of the enterprise.
- Express diagnostic designed to identify the reasons for difficulties and to devise and confirm rapid success measures and activities to be undertaken in order of urgency and importance.
- Functional diagnostic designed to devise and to confirm measures and activities to be undertaken to solve a particular function such as production management, quality and marketing.

The formulation of modernization and upgrading programme includes the identification and selection of the strategy for upgrading, thus defining necessary short-term and mid-term actions. The upgrading programme includes:

- Actions relating to tangible investments, intangible investments, and financial restructuring;
- Detailed budget per action and or module;
- Measurable impact of each action;
- Planning of actions.

The upgrading programme would be drafted in the form of a dossier suitable for presentation to the Development Bank for funding.

Phase 2: Implementation of selected immaterial and material Investment actions. Based on discussion with owners and top managers, UNIDO in cooperation with the Ministry of Industry will select and assist in implementation of actions or modules, which have a rapid impact on sales, exports, employment, and investment. The technical assistance induces: design of detailed actions, training for top and middle management, direct assistance, and advise for know-how transferred, export

development and access to international market services for investment and partnership agreements.

The inputs of the international experts are planned to be rather short and in split missions of high-level specialties. The strategy revolves around training local personnel and providing the necessary tools and software (Know-how, methodology, information sources) and assistance to the enterprises to implement immaterial investments proposed in the upgrading programmes of the enterprises. Technical assistance will include certification ISO 9000 and introducing of HACCP to selected industries. The entire programme has very limited equipment inputs. Extensive study tours to advanced plants and similar operations will be organized to draw on experience accumulated elsewhere.

c. UNIDO technology and investment promotion approach

UNIDO's investment and technology approach focuses on the one hand on supporting the local institution in charge of Investment Promotion to increase its capability to attract foreign investment, on the other will provide a range of services to local enterprises to identify and acquire technology and to implement investment projects. Activities focus on local SMEs in selected target sectors, assessing their operations, evaluating opportunities for expansion or diversification, formulating and developing business plans, selecting and procuring technology, expanding market access, and finally securing the necessary financial resources. This encompasses sector level analysis, enterprise level technical, awareness campaigns and networking. An Industrial and Technology Partnership Office (ITPO) will be established in Libya, which will operate a number of facilities:

- A **technology pool fund**, to recruit experts to carry out enterprise diagnostics or sector level analysis. The technology pool fund will enable the recruitment of technical experts who will be made available to individual and groups of enterprises in Libya. The experts will be carrying out ad-hoc assignments with a view to assist local enterprises in identifying weaknesses and outline remedial actions. Areas of intervention will range from process improvements to product improvements, market assistance, and managerial support.
- A business and **technology awareness fund**, to facilitate participation of local SMEs in fairs and exhibitions, as a means to acquire knowledge and gain exposure. The technology awareness fund is meant to cover initiatives aimed at promoting new approaches and technologies. In particular, it will permit the organization of sectoral programme focusing on the identification of prospects for development and technology needs. Activities will encompass the development of sectoral surveys, the organization of workshops on issues such as quality, standards, performance and competitiveness, the participation of delegations of entrepreneurs in specialized exhibitions.
- A **Project Completion Facility**, to formulate and evaluate business plans. The Project Completion Facility will enable SMEs in Libya to take advantage of the specific expertise existing throughout the UNIDO network to carry out a detailed assessment of different business options, evaluate the rent ability of investment projects and formulate accurate business plans, as a means to mobilize the necessary financial resources to implement their projects.

Under the heading of networking, the Office will promote and sustain the process of regional integration. A greater exchange of information both at the enterprise level and at the institutional one will be promoted with a view to foster a more effective dialogue on industrial cooperation in the region. The interaction between the Office and the network of UNIDO will be crucial to ensure the widest flow of information, the effective exchange of experiences and the implementation of operational synergies. Country analysis will be compared and joint reflections will be supported with a view to promote common strategies and the adoption of a regional vision. Special focus will be placed on facilitating the participation of local SMEs in the regional market, which will entail the dissemination of information on requirements and opportunities, the adoption of regional benchmarks, the promotion of contacts with potential foreign counterparts, the assistance throughout the negotiation cycle.

All information and data resulting from the activities of this component will be integrated onto an **investment platform**, which will constitute the mechanism for Libyan authorities and Libyan enterprises to consolidate knowledge and develop operational linkages with the foreign markets to pursue the country's integration in the global market.

d. Establishment of the Libyan National Cleaner Production Centre

Libya has requested UNIDO's technical assistance to address in an integrated manner the needs of the Libyan industrial sector for capacity building and networking, to link up with the global and regional markets in order to sustain the country's efforts for industrial development.

Based on the national priorities indicated to UNIDO, Libya is willing to establish a national cleaner production centre to overcome the barriers for the improvement of the productivity and the competitiveness of Libyan industries through the introduction of sustainable production modes and the transfer of cleaner technologies.

The Libya National Cleaner Production Centre (Libya NCPC) will act as a catalyst for cleaner production activities and will be part of the UNIDO-UNEP International network of NCPC's. During the period of UNIDO funding, Libya NCPC will offer the following services:

- Awareness raising and Information dissemination: a major aspect of the Centre's awareness-raising campaigns will be **seminars, workshops and in-plant demonstration projects**. Most of the initial demonstration programmes will focus on the targeted national stakeholders including government, industrial associations, financial institutions, universities, consultants, etc.
- Training and capacity building: development of the CP skills among industry personnel, industry associations, consultants, government officials and others using the **UNIDO CP toolkit and the UNIDO CP Award scheme**.
- Technical assistance: it will include basic **CP assessments and EST transfers**. Other relevant CP+ activities will be assessed such as: environmental management systems, clean development mechanism and corporate social responsibility.
- CP Investment Assistance with investment: particularly where cleaner technologies and EST is possible, the Libya NCPC will assist its SME clients to prepare **bankable projects** and apply for the **necessary investments**.

- Policy advice: the Libya NCPC will elaborate, in consultation with national stakeholders, a series of policy recommendations and through its Advisory Board will "lobby" for their adoption.

The Libya NCPC will be hosted by an appropriate host institution that will provide the centre with the necessary infrastructure and staff. It is recommended that the host institution should have an outreach potential into Libyan industry, to assist the Libya NCPC make initial contacts and perform the demonstration activities. An Advisory Board will be set up to oversee the activities of the Libya NCPC. The Board's membership will be composed of representatives of UNIDO and key cleaner production stakeholders in Libya.

The primary beneficiaries of the Libya NCPC will be the country's SME's that need to improve their productivity and competitiveness through the reduction of operating costs and environmental impacts. Another important set of beneficiaries will be the country's institutions that provide services to SME's through the Libya NCPC; which will see their capacity enhanced to provide more comprehensive services to their Clients. Finally, the country's ecosystems will be the third major beneficiary because of the reduced load of environmental pollutants through industry's cleaner production efforts.

Medium term goals:

Activity	Indicators
CP Awareness raising	<ul style="list-style-type: none"> - Organization of 03 national seminars on Cleaner Production and Environmentally Sound; - Attendance of more than 200 participants from national stakeholders.
Capacity building	<ul style="list-style-type: none"> - A minimum of 20 national experts trained in UNIDO methodology for CP and EST's; - Organization of 10 training sessions on a quarter basis for 200 national participants; - CP and EST included in the curriculum of 01 national university or a research center.
CP Assessments	<ul style="list-style-type: none"> - 20 companies assisted to complete CP In Plant Assessments in the targeted industrial sectors; - Implementation of 02 demonstration projects on ISO 14001.
CP Investment promotion	<ul style="list-style-type: none"> - Preparation of 05 EST investment promotion projects and submission to the financial institutions;

e. Solar Hydrogen Energy Pilot Project

The project was formulated as a result of the request from the Libyan authorities during the visit of Director General of UNIDO to Libya and subsequent formulation mission as well as the cooperation agreement between UNIDO-ICHET, Istanbul and the General Peoples Committee on Industry and Electricity of Libya (GPCIEL), to develop and establish scientific and technological cooperation in solar and solar hydrogen energy fields.

An initial study of the project was carried out in 1987, which called for more fundamental work to establish the scientific and technical background needed for

such a project in an oil exporting country. The study recommended the construction of demonstration plants to build the scientific and technological expertise and know-how required for building large-scale solar hydrogen plants in the future. Subsequently a pre-feasibility study had been undertaken by UNIDO-ICHET.

The project is intended to explore the merits and challenges of supplying a small community by all its energy requirements in the form of electricity, heat and domestic water, through solar and hydrogen energy system. The community will be completely independent from the local grid and other means of energy and water supply systems.

This project also emphasis building local capacity and increase international cooperation and exchange of scientific and technological knowledge.

The specific objectives of this project are to improve the local technological capacities in the field of solar hydrogen energy in Libya through establishing a solar hydrogen pilot project for demonstration.

Major activities:

In order to achieve the above objectives, following activities will be undertaken:

1. Capacity building and exchange of information;
2. Institutional strengthening
3. Construction, operation and testing of major technical systems of the solar hydrogen project at real environmental conditions of Libya.
4. Evaluation and comparison of different technologies included in the project; solar cells, electrolyzes, fuel cells, hydrogen storage, sea water desalination, etc. and acquire practical experience and know-how to plan, initiate, construct and operate projects in the future.
5. Information dissemination to draw attention to the importance of initiating solar and solar hydrogen applications.
6. To estimate the real operating and maintenance costs of the whole project and of individual systems, including the environmental merits and adverse impacts.

Stakeholders:

UNIDO-ICHET, Society for Science and Technology (NGO), Ministry of Industries Libya

Beneficiaries:

General People's Council on Electricity and Industry, People of Libya and the community, or end users, of the project consisting of 20 selected families (100 persons) mostly engineers and technicians who are working in steel industry, near the project site.