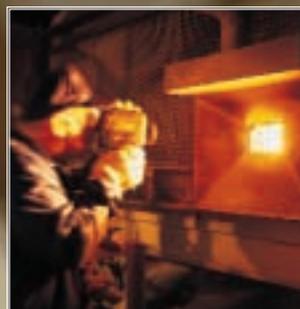
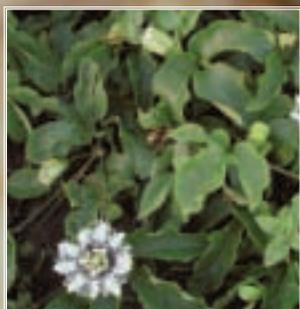


UNIDO and the World Summit on Sustainable Development

*Finding common ground*



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
**economy environment employment**



## foreword

The emerging rule-based international economic order has been designed with a view to smoothing the path towards globalization, rather than enabling developing countries to draw on it. This confronts the international community with the fundamental need to properly address the implications of the current international system for development, including those regulating both social and environmental "global negatives."

Concerted action is needed to assist those most threatened with exclusion, not just by means of poverty-alleviation programmes but particularly by helping them to master the key ingredients of wealth creation and productivity growth, that is the skills, capabilities and institutions that enable putting new technologies, including less polluting ones, at the service of development.

UNIDO technical cooperation efforts are focused on two Millennium Declaration priorities, development and poverty eradication and protecting the common environment. To achieve these priorities, we need to reap the tremendous potential for increased system-wide efficiency in the United Nations. This can clearly come about only with clear leadership roles and collaborative involvement of various United Nations agencies according to their specific competencies for supporting the sustainable development initiatives of developing countries. UNIDO is already finalizing this approach in the field of market access in partnership with the International Trade Centre and expects to count soon on the participation of other relevant agencies as well.

The World Summit on Sustainable Development (WSSD) offers the international community yet another opportunity to identify specific opportunities to strengthen environmental protection in ways that are also supportive of socio-economic development. UNIDO looks forward to working with developing country governments, the industry and business sector and its partners in the United Nations system as we collectively prepare for Johannesburg Summit 2002.

A handwritten signature in blue ink, reading "Carlos Magariños". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Carlos Magariños, Director General of UNIDO



## Introduction

# enhancing export potential protecting the environment

Two major global initiatives underway are directly affecting the extent to which industry can contribute to sustainable development. These are trade liberalization and global environmental protection. Properly and simultaneously pursued these two global initiatives have the potential for maximizing the contribution of industry to sustainable development.

Most developing countries are increasingly marginalized in these two global initiatives. First, the majority of developing countries are not benefiting from trade liberalization. Quite the opposite, only one region, East Asia, shows competitive dynamism in manufactured trade (see table 1). Only 13 countries accounted for 88 per cent of the total manufactured exports from the developing world in 1998, and their share has risen from 77 per cent in 1985.

**Table 1. Share of manufactured goods exported from developing countries (percentage)**

<i>Region</i>	<i>1985</i>	<i>1998</i>
East Asia	56.9	69.0
South Asia	4.5	3.8
Latin America and Caribbean	23.1	19.3
Western Asia and North Africa	12.9	6.0
Sub-Saharan countries*	2.6	0.8

*Source:* UNCTAD

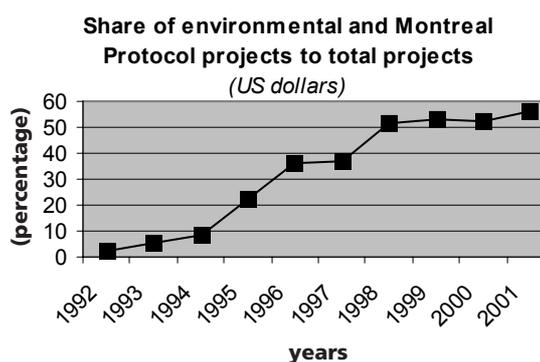
\*Excluding South-Africa

## Introduction

Secondly, the majority of developing countries are not participating in the global trend to reduce the pollution intensity of their manufacturing sector in terms of organic water pollutants and carbon dioxide and their emissions per unit of industrial output for these two pollutants is on average more than double that of industrialized countries.

How can the success of those 13 countries, such as Brazil, China, Indonesia, the Philippines and Turkey, that are benefiting greatly from trade liberalization and to some extent from global environmental protection efforts be accounted for? Although there are many country-specific factors that need to be considered, the one factor that appears to be common to all these countries is the ability of their manufacturing sector to improve its competitive position through the successful application of new techniques (including organizational arrangements) and technologies, which also tend to be less polluting.

In the light of the strong evidence of the benefits of technology change and learning, the WSSD might wish to consider specific proposals on how the new round of trade liberalization and emerging global environmental agreements could be more supportive of the quest for sustainable development. If developing countries are to achieve the maximum benefits from greater market access, they need enhanced capacities to take advantages of these opportunities



**Table 2. Portfolio of projects (including SPPD\*): Share of environmental projects delivery**  
(Millions of US dollars)

Year	1992	1993	1994	1995	1996	1997	1998	1999 <sup>a</sup>	2000 <sup>a</sup>	2001 <sup>a, b</sup>
Environmental related projects <sup>c</sup>	3.1	5.8	6.4	8.2	8.0	7.5	8.7	9.1	9.3	12.9
Share to total (%)	2.3	4.8	6.3	7.5	8.7	7.6	10.6	10.8	13.3	16.2
Montreal Protocol project	0.1	0.7	2.4	16.6	25.1	29.0	33.3	35.3	27.2	32.0
Share to total (%)	0.1	0.6	2.4	15.1	27.3	29.5	40.6	41.9	38.8	40.0
Industrial capacity projects	136.7	115.0	92.8	84.7	58.9	62.0	40.2	39.9	33.5	35.1
Share to total (%)	97.6	94.6	91.3	77.4	64.0	62.9	48.9	47.3	47.9	43.8
Total	133.5	121.5	101.6	109.5	92.0	98.5	82.2	84.3	70.0	80.0

Source: UNIDO Financial System.

\*SPPD: Support Service for Policy and Programme Development.

<sup>a</sup>GEF funded implementation was US\$ 1.3 million in year 1999, US\$ 0.3 in year 2000 and forecast for year 2001 is US\$ 1.2 million.

<sup>b</sup>Forecast for total delivery for 2001 is US\$ 80 million, which excludes SPPD.

<sup>c</sup>Excluding Montreal Protocol Projects.



## Introduction

in ways supportive of fairer and more environmentally responsible development. If they are to fully benefit from the funding available for implementing global environmental agreements, more systematic ways are needed to maximize the contribution of these agreements to socio-economic development as well as to environmental protection.

Technical cooperation programmes and projects are needed to help ensure that all parts of the world, including the least developed countries, are integrated into global economic and environmental networks in mutually beneficial ways. UNIDO is working to ensure such integration with its ongoing 44 integrated programmes covering 39 countries and Palestine, all of which are building export potential and generating employment in ways that do not harm the environment. The Organization is also assisting many countries implement industry-related projects supportive of the Montreal Protocol, Kyoto Protocol and the Stockholm Convention in ways that also contribute to export

potential. Finding common ground between developmental and environmental efforts has the potential to maximize the contribution of industrial expansion to fairer and more socially responsible sustainable development.

UNIDO stands ready to expand its efforts in developing countries along the lines stated above and as suggested in some of the national and regional reports that it has sponsored as background information for the preparatory process for WSSD.\* It looks forward to contributing to the preparatory process in ways that will enhance the synergies in UNIDO integrated programmes supportive of sustainable development. In the lead-up to Johannesburg, UNIDO's input, in line with its established expertise, will focus on technology transfer, energy and solid waste management.

*\*For copies of the reports and additional information about UNIDO's preparatory work for the WSSD, please send a request to [sid@unido.org](mailto:sid@unido.org).*



## Case studies

### **Industrial policy, Côte d'Ivoire**

The Industrial Policy Programme of UNIDO assisted Côte d'Ivoire in 1996 in making a thorough revision of the "Schéma Directeur d'Industrialisation de la Côte D'Ivoire" designed in 1988 with the assistance of UNIDO to lay the ground for the future industrial policy of the country. The deep economic crisis in the early 1990s followed by the steep devaluation of the local currency in 1994, the changing terms-of-trade and the discovery of new oil and gas resources made substantial shifts necessary. Assistance was given through sectoral studies of more than 20 industries, economy-wide tools to measure the short-term impact of policy decisions and capacity building initiatives on growth. Special attention was given to the export-oriented sectors with a view to enhancing their export capabilities by producing higher value-added products and complying with international quality standards and environmental regulation. In addition, the study focused on the need to restructure existing institutions, establish a new one in charge of environmental issues, promote environmentally sound investments and create a network of organizations to address environmental issues.

### **Technology upgrading in the textile sector, Guatemala**

The UNIDO programme for technology upgrading in the textile sector builds institutional capacity to assist enterprises to improve their competitiveness in domestic and international markets. One example is the recently established Computer-Aided-Design/Computer-Aided Manufacturing (CAD/CAM) Centre for the garment industry in Guatemala. Computer-aided technologies reduce cutting waste in the production of garments by 10 to 15 per cent, and by a further 5 per cent by using highly precise computer-controlled cutting machines. The reduced cloth consumption is lowering costs, improving product quality and shortening delivery times. Four months after inauguration, the CAD/CAM centre has more than 20 clients, rendering its operation self-sufficient. The reduced cloth consumption is not only beneficial to the garment manufacturers, but also has a potential environmental impact because less oil is required to produce synthetic fibres, less water and chemicals to dye, print and finish the fabrics, less energy to produce yarns and fabrics, and less effluent needs to be treated.



### **Food safety, sub-Saharan Africa**

An important consideration for the export of food is safety and quality, which is fostered by UNIDO in several sub-Saharan African countries and in various food subsectors (fish, fruit and vegetables, cereals, animal and dairy products including meat, fats and oil, and honey). In West Africa, for example, the fish exports of Senegal and Mauritania were threatened in 1995/96 by an EU ban. Similarly, in 1999 suspected fish poisoning and unreliable fish inspection in Kenya, Uganda and the United Republic of Tanzania resulted in a EU ban on Lake Victoria Nile Perch exports. UNIDO assisted these fish industries to meet the EU requirements for safety and quality by focusing on risk assessment and management principles. It assisted in establishing a reliable fish inspection and quality control system through the implementation of good hygiene practices and hazard analysis critical control points. As a consequence, the EU lifted the ban and fish exports resumed, regaining their share in the EU market and expanding to new markets, in particular, the United States of America.

### **Quality, standardization and metrology, Sri Lanka**

The UNIDO Quality, Standardization and Metrology Programme has been operating for 15 years to build infrastructure that improves product quality and enhances export capabilities through standards, metrology and testing. Without these capacities, technical barriers to trade (TBT) have the potential to replace traditional trade barriers in a globalized market. In Sri Lanka, for instance, UNIDO is upgrading testing laboratories, technical skills and management capabilities at the Sri Lanka Standards Institute, the Industrial Technology Institute and the Textile Training & Service Center with the aim of facilitating the accreditation of chemical testing and microbiology testing laboratories. This will be a major boost to Sri Lanka's exports, in addition to heightening consumer safety through compliance to standards and conformity assessment. The upgrading programme includes developing national capacities for setting up Environmental Management Systems (EMS) according to the ISO 14000 international standards. It is providing training support to auditors and consultants, and lends direct assistance to 10 enterprises to launch EMS schemes.



## Case studies

### **Investment and technology promotion, Senegal**

As a part of UNIDO's investment promotion projects, the UNIDO Investment and Technology Promotion Office (ITPO) in Paris aims at developing industrial partnership and bridge-building between French enterprises and developing countries. The objective is to identify industrial projects in developing countries that are in need of foreign technology, know-how and capital, and to promote them in France. This will enhance developing countries' export capabilities and access to the global production system and market. Therefore, UNIDO has developed a special investment appraisal methodology, using COMFAR software (Computer Model for Feasibility Analysis and Reporting), that also takes into account environmental aspects. In 2000, this ITPO reported 84 projects either concluded, under implementation or operational, representing an estimated total investment of US\$75 million in 28 different countries. In Africa, nine projects were concluded. Six of them were concluded with Senegal: US\$3.6 million were invested in hydraulic, construction, agro-industry and information and communication technologies.

### **Industrial subcontracting and supply chain management, Turkey**

UNIDO fosters international networking and cooperation at the manufacturing level through its Subcontracting and Partnership Exchanges (SPXs). These are technical information, promotion and matchmaking centres for industrial subcontracting and partnerships that enable small and medium-sized enterprises to have access to the global market and production systems. For example, the Istanbul SPX has more than 1,000 members. About 82 per cent of them are export-oriented and between 200 and 400 matchmaking operations take place every month. Most of the contracts are concluded thanks to the participation of the SPX in international fairs. In addition, it provides other services to its members such as promotional activities, market research and reports, training programmes and consultancy services. These include environmental services to help members to comply with environmental regulations. Furthermore, the adoption of "cleaner" technologies and processes have become a requirement for subcontractors and suppliers to be certified by their customers.



### **Small and medium-sized enterprises support, India**

Under the framework of its Cluster Programme in India, UNIDO assisted the artisans of the Jaipur cluster to enhance their export potential. Despite their craftsmanship, they were unable to sell their fine block-printed fabric autonomously, and were locked in a cycle of poverty, self-exploitation, and environmental degradation. UNIDO provided extensive support to these artisans, especially in the field of quality upgrading, brand building, training and pollution control (cleaner production technologies, better selection of inputs, and end-of-pipe processing), with the aim of improving their marketing edge (based, inter alia, on the eco-friendly nature of their products). As a result, several consortia of artisans were established and they succeeded in participating in several major handicraft fairs, in India and abroad, and stunned end-consumers with their art and eco-friendly products. Several million rupees worth of export orders were thus generated from highly demanding markets such as Japan and the orders could be processed thanks to cooperation and order sharing between the artisans.



## Case studies

### **Montreal Protocol, Syrian Arab Republic**

Turning now to environmental protection, UNIDO has executed over 750 projects and disbursed US\$ 170 million in 60 countries since 1992 as an implementing agency for the Multilateral Fund for the Implementation of the Montreal Protocol. Let us briefly look at UNIDO's work with Al Hafez Company, which has about 40 per cent of the domestic market and accounted for 65 per cent of ozone depleting substances (ODS) use in the refrigerant sector in the Syrian Arab Republic. The Multilateral Fund provided financing for its refrigerant and foam operation and the company itself contributed additional financing for additional renovations. As a result, the use of ODS was completely phased-out of the production process. In addition, the plant improved the quality and energy efficiency of their newly designed models of refrigerators, putting it in a position to be certified for ISO 9002. As a result Al Hafez has been able to maintain its leading market position in the Syrian Arab Republic and to effectively compete with European exports to the Middle East.

### **Kyoto Protocol, India**

With the added impetus from the United Nations Convention on Climate Change (and its Kyoto Protocol), UNIDO is focusing more of its subsectoral assistance on reducing the energy intensity and thus emissions of greenhouse gases. One example of this new focus is the support it is giving the Centre for Development of Glass Industry (CDGI) in Firozabad, India. Since 1991, the Centre has improved the technologies and skills of glass manufacturers in Firozabad (UP), which accounts for 70 per cent of glass production in India in the small-scale sector. As a first step towards implementing both energy efficiency and energy saving measures, UNIDO has designed a process control software for maintaining optimum temperature in glass-melting furnaces. In the two units where it has been implemented, fuel use has been reduced by 18 per cent and 22 per cent respectively, resulting in a reduction in the release of greenhouse gases. Moreover, as a result of complementary advice provided by the Centre, the industry is convinced that it can improve the quality of glass and produce new glass products (lighting equipment and vacuum flasks), further enhancing export and local market competitiveness.



### **Stockholm Convention on Persistent Organic Pollutants, China**

The Stockholm Convention on Persistent Organic Pollutants calls on countries to prepare, as a first step, national implementation plans, which describe how production and use of these pollutants can be reduced and eventually eliminated. UNIDO is currently initiating efforts in more than 20 countries to prepare national implementation plans and will certainly have a competitive edge compared to other United Nations agencies in implementing phase out projects given its experience working with industrial processes in developing and transition economy countries. For example, UNIDO in the mid 1990s launched a pilot demonstration project with Shandong Chenming Paper Holdings Ltd. to demonstrate the feasibility of reducing the discharge of chlorinated organics (dioxins) from processes using agro-residuals (e.g. straw) as raw material, which account for around 42 per cent of the raw material used for pulp production in China. The new technology has also reduced energy consumption. Furthermore, this technological change has assisted the company to improve its marketing edge with chlorine free paper, which sells at a premium price.

### **Cleaner production, Tunisia**

The basic premise of the UNIDO/UNEP National Cleaner Production Centre (NCPC) Programme is that appreciation of cleaner production and therefore its application can only come about if the concept is promoted by professionals in the beneficiary country and adjusted by them to local conditions. Building capacity to do this by establishing new centres and strengthening existing ones is the main objective of the NCPC programme. To date, this Programme has funded centres in 23 countries, with an investment of US\$21.0 million, one being the Centre de Production plus Propre in Tunisia. Before this project was launched, the Centre was operational but not sustainable. Strengthening the Centre led to its acceptance and funding by the government and private industry. One Centre project, which trained cleaner-production assessors and worked with 10 enterprises, yielded annual financial savings of US\$0.6 million as a result of reduced gas use, water consumption and solid waste disposal for an investment of US\$0.4 million. In some enterprises the NCPC effort also resulted in a streamlined product mix and improved product quality, which contributed to increased export potential in the European market.



## Case studies

### **Tannery pollution control, Zimbabwe**

In the framework of the regional programme for the leather industry, UNIDO assisted several tanneries in Zimbabwe to upgrade their effluent treatment facilities, one being Imponente Tanning. It is one of the country's largest tanneries and approximately half of its production is exported to Europe, Australia and neighbouring African countries. Several interventions were performed to improve the treatment of the daily 450 m<sup>3</sup> effluent discharge. Structural modifications and new equipment have produced remarkable achievements, such as the high-exhaustion chromium tanning and the very low water consumption, thus reducing effluent and sludge volume. The volume of solid waste could be reduced by 75 per cent and the Chemical Oxygen Demand concentration of the treated effluent up to 50 per cent. In addition to enabling the tanneries to comply with the environmental regulation in place, this UNIDO project has allowed them to retain and win export outlets by complying with international environmental standards and with the growing expectations of the global market to use environmentally friendly technologies.

### **Corporate responsibility, South and Southeast Asia**

UNIDO has launched a new programme, the Responsible Entrepreneur Achievement Programme (REAP), to assist exporting enterprises in responding to social and environmental requirements of international buyers in ways that would minimize the impact of such requirements on their competitive position. The initial phase of the programme is formulating and testing an approach to corporate responsibility that is appropriate for small and medium-sized enterprises drawing on the cleaner production audit and improvement methodology of UNIDO. The REAP software package and approach is being tested in four countries, India, Pakistan, Sri Lanka and Thailand, mainly with exporting firms in the textile sector. The first step in the REAP approach is a gap analysis that compares a firm's current performance with both national and international environmental and social norms. The second step, underway with firms in Sri Lanka and Pakistan, has already resulted in environmental improvements and clarified measures that might improve social performance.



## Projects

*Title:* Assistance à la Réactualisation des travaux du Schéma Directeur d'Industrialisation  
*Budget/Funding:* US\$2,300,000 million, of which US\$1 million is executed by UNIDO (African Development Bank, UNDP, UNIDO)  
*Starting date:* 1996  
*Completion date:* on-going  
*Location:* Côte d'Ivoire

*Title:* Integrated Programme to support the productive sector of Guatemala  
*Budget/Funding:* US\$172,000 (Austria)  
*Starting date:* May 2000  
*Completion date:* On-going  
*Location:* Guatemala

*Title:* Programmes for fish industry in Kenya, Mauritania, Senegal, United Republic of Tanzania, Uganda  
*Budget/Funding:* US\$ 1,355,000 (Denmark, Germany, Norway and UNIDO)  
*Starting date:* 1993  
*Completion date:* on-going  
*Location:* Kenya, Mauritania, Senegal, United Republic of Tanzania, Uganda

*Title:* Strengthening Quality, Standardization and Testing Capacities  
*Budget/Funding:* US\$1,500,000 (NORAD/UNDIO)  
*Starting date:* November 1999  
*Completion date:* on-going  
*Location:* Sri Lanka

*Title:* Programme d'action en faveur de la coopération industrielle entre entreprises françaises et entreprises de pays en développement africains  
*Budget/Funding:* US\$351,200 (France)  
*Starting date:* 1998  
*Completion date:* on-going  
*Location:* Senegal

*Title:* High level advisory assistance for strengthening the Subcontracting and Partnership Exchange at the Istanbul Chamber of Commerce  
*Budget/Funding:* US\$116,300 (IDF/Turkey)  
*Starting date:* 1990  
*Completion date:* 1994  
*Location:* Istanbul, Turkey

*Title:* UNIDO/Italy Joint Programme in the field of small and medium enterprises development (India)  
*Budget/Funding:* US\$1,400,000  
*Starting date:* 1996  
*Completion date:* 2001  
*Location:* India

*Title:* Phasing out of CFCs at the Al Hafez Refrigerator Company  
*Budget/Funding:* US\$2,800,000 (Multilateral Fund for Implementation of Montreal Protocol)  
*Starting Date:* 1994  
*Completion Date:* 1996  
*Location:* Syrian Arab Republic



## Projects

*Title:* Integrated Energy and Environment Programme for the Glass Industry (Improving Energy Efficiency in the Glass Industry in India through Process Control Software)  
*Budget/Funding:* US\$103,600 (UNDP)  
*Starting date:* 2001  
*Completion date:* 2001  
*Location:* India

*Title:* Demonstration Plant for Oxygen Pulping and Bleaching of Non-woody Fibrous Raw Materials  
*Budget/Funding:* US\$1,946,500 (Germany)  
*Starting date:* 1993  
*Completion date:* on-going  
*Location:* China

*Title:* Support to Tunisian Cleaner Production Centre  
*Budget/Funding:* US\$68,700 (Norway)  
*Starting Date:* 1997  
*Completion Date:* 2000  
*Location:* Tunisia

*Title:* Assistance in Tannery Pollution Control in Zimbabwe (US/ZIM/98/069)  
*Budget/Funding:* US\$459,800 (Netherlands)  
*Starting date:* 1998  
*Completion date:* 2000  
*Location:* Zimbabwe

*Title:* Triple Bottom Line Demonstration Project in Four Asian Countries  
*Budget/Funding:* US\$200,000 (UNIDO Regular Budget)  
*Starting Date:* 2001  
*Completion Date:* on-going  
*Location:* India, Pakistan, Sri Lanka, Thailand

**Countries and areas with  
integrated programmes**

Algeria, Armenia, Burkina Faso, Bolivia, Brazil, Colombia,  
Côte d'Ivoire, Cuba, Egypt, Eritrea, Ethiopia, Ghana,  
Guatemala, Guinea, Honduras, Islamic Republic of Iran,  
Jordan, Lao People's Democratic Republic, Lebanon,  
Madagascar, Mali, Morocco, Mozambique, Nepal, Nigeria,  
Pakistan, Palestine, Russian Federation (Federal), Russian  
Federation (Moscow Oblast), Russian Federation (St.Petersburg),  
Russian Federation (Bashkortostan), Russian Federation (Komi),  
Rwanda, Saudi Arabia, Senegal, Sri Lanka, Sudan, Tajikistan,  
Thailand, Tunisia, Uganda, United Republic of Tanzania,  
Uzbekistan, Yemen.

The United Nations Industrial Development Organization (UNIDO) helps developing countries and countries with economies in transition in their fight against marginalization in today's globalized world. It mobilizes knowledge, skills, information and technology to promote productive employment, a competitive economy and a sound environment.

Carlos Magariños, the Director General of UNIDO, describes the Organization as a specialized United Nations agency that focuses its efforts on relieving poverty by fostering productivity growth.



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