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**Eradication of poverty and other development issues:
industrial development cooperation**

Industrial development cooperation

Note by the Secretary-General

The Secretary-General has the honour to transmit to the General Assembly the report of the Director-General of the United Nations Industrial Development Organization on industrial development cooperation in accordance with General Assembly resolution 63/231.

* A/65/150.



Report of the Director-General of the United Nations Industrial Development Organization

Summary

In the present report, prepared in accordance with General Assembly resolution 63/231 of 19 December 2008, the Director-General of the United Nations Industrial Development Organization (UNIDO) highlights recent trends in industrial development, particularly in the context of the global financial and economic crisis. Through the introduction and analysis of recent data on the state of world manufacturing production, the report examines the extent to which manufacturing in developing countries has withstood the effects of the crisis. The report further determines how global trends, including the food and fuel price crises, climate change and globalization, continue to impact upon the productive sectors and international trade in manufactures.

The report also examines the role of industrial development in helping to enable these challenges to be met and the Millennium Development Goals to be achieved. The specific and interlinked roles of green industry, access to modern forms of energy, and energy efficiency are also examined in this regard. In addition, this report describes the response of UNIDO, as the specialized agency of the United Nations mandated to promote sustainable industrial development and international industrial cooperation, including the continuing contributions of UNIDO to the New Partnership for Africa's Development (NEPAD).

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I. Industrial development in review

A. Introduction

1. In the two years that have elapsed since the last report of the Director-General of the United Nations Industrial Development Organization (UNIDO) to the General Assembly (see A/63/309), much has changed in the global economic and development landscape. In 2008, robust economic growth, particularly in South and East Asia, evidenced clear progress towards achieving at least some of the Millennium Development Goals. Economic growth, largely driven by the productive sectors, was a major factor in reducing the number of people in developing regions living on less than \$1.25 a day, from 1.8 billion in 1990 to 1.4 billion in 2005.¹ However, the global financial and economic crisis, which began in the advanced economies of Northern America and Europe in 2008, as well as crises and related price increases in the food and fuel sectors, has had a negative effect on world economic growth and continues to present a grave challenge to the achievement of the objectives of the global development agenda.

2. The present report, in reviewing recent trends in industrial development through the prism of these developments, examines the extent to which manufacturing in developing countries has withstood the global economic and financial crisis, before determining how other global challenges, including the food and fuel crises, climate change and globalization, continue to impact upon the productive sectors and international trade in manufactures.

3. This report also discusses the role of industrial development in helping to enable the achievement of the Millennium Development Goals, examining the specific and interlinked roles of green industry, access to modern forms of energy,² and energy efficiency in this regard. In addition, the report describes the response of UNIDO, as the specialized agency of the United Nations system mandated to promote sustainable industrial development and international industrial cooperation, to current challenges.

B. Trends in industrial development³

4. World manufacturing output dropped significantly in the period from the onset of the financial and economic crisis to the end of 2009. Quarterly production indices suggest that industrial production growth had begun to slow in the second half of 2008, ultimately resulting in a 6.8 per cent fall in world manufacturing value added (MVA) in 2009 (see figure I). During the same period, the volume of worldwide

¹ *The Millennium Development Goals Report 2010* (United Nations publication, Sales No. E.10.I.7).

² Modern sources of energy include fuels such as natural gas, liquid petroleum gas (LPG), and diesel fuels and biofuels such as biodiesel and bioethanol. Advances in technology, as represented, for example, by improved cooking stoves, can also enable cleaner and more efficient delivery of traditional fuels.

³ Unless otherwise stated, all data provided in sect. B have been obtained from the *International Yearbook of Industrial Statistics* (Cheltenham, United Kingdom, Edward Elgar Publishing, 2010), with supplementary information obtained from quarterly indices compiled in the UNIDO statistical database.

trade in goods and services fell by 10.7 per cent.⁴ The impact of the crisis was especially severe on industrialized countries, where manufacturing output fell by 13 per cent in 2009. In the immediate pre-crisis period, industrial growth rates had already been low in industrialized countries owing to a shift in manufacturing production to a number of developing countries, notably in South and East Asia. Therefore, while the impact of the crisis on industrialized countries is evident, the recent decline in production in these countries cannot be entirely attributed to it. Developing countries, for their part, maintained positive growth throughout 2008 and 2009, but at a markedly slower pace than in recent years.

Figure I

Growth of world manufacturing value added, by country groups, 2005-2009

(Constant 2000 United States dollars; 2005 = 100^a)



Source: UNIDO statistical database.

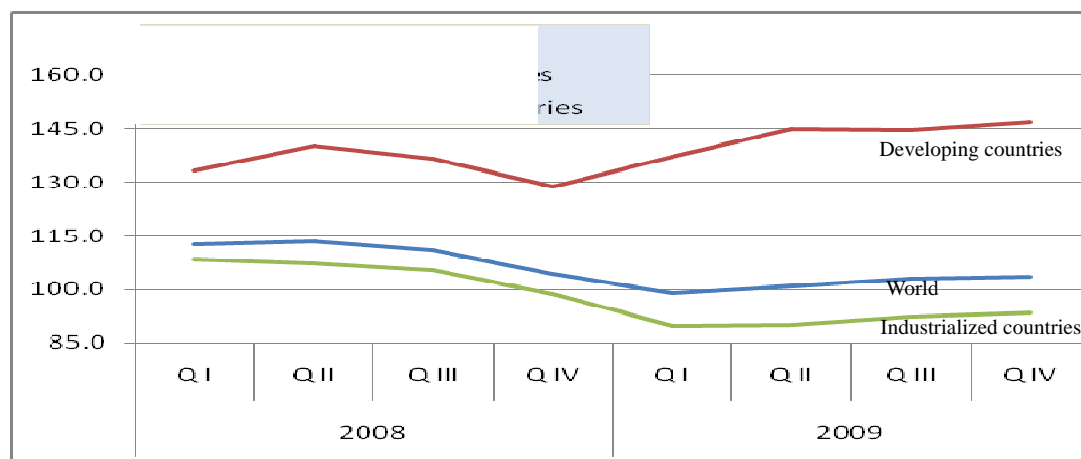
^a The base year of 2005 refers to average quarterly production (annual production divided proportionally with respect to four quarters).

5. Many countries responded to the crisis with fiscal stimulus measures, including reductions in nominal interest rates, cuts in taxation and increased public spending. As demonstrated in figure II, this response appears to have had a positive effect on industrial production. Estimates based on quarterly indices suggest that world MVA reached its lowest level in the first quarter of 2009 and began to show improvement in the second quarter, led by a surge in industrial production in developing countries.

6. The growth in manufacturing witnessed by developing countries in 2009 was mainly attributed to growth in the largest emerging economies, especially China and India. China's MVA grew by almost 10 per cent in that year, while that of India rose by 5 per cent. Similarly, despite the financial crisis, least developed countries also maintained positive growth in MVA. However, manufacturing output declined in volume in the group of newly industrialized countries.

⁴ International Monetary Fund, *World Economic Outlook April 2010: Rebalancing Growth* (Washington, D.C., 2010), table A.9.

Figure II
Quarterly change of world industrial production in 2008-2009
 (2005=100^a)



Source: UNIDO statistical database.

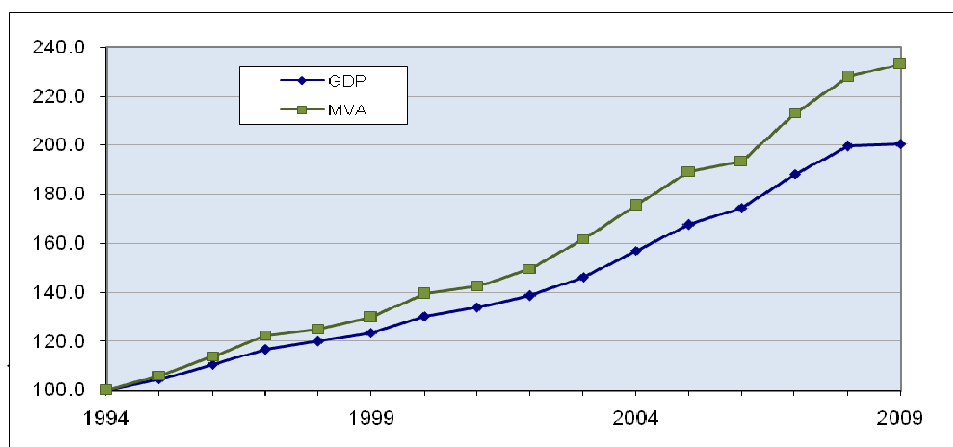
^a The base year of 2005 refers to average quarterly production (annual production divided proportionally with respect to four quarters).

7. The majority of manufacturing sectors registered a decline over 2008 and 2009. Export-oriented industries and consumer durable sectors suffered most from the decline in global demand resulting from the financial and economic crisis. However, the global food sector did maintain growth during this period. The resilience of the industry may be explained partially by the tendency for staple foods to retain demand, rendering the sector less vulnerable to drops in consumer income. However, much of the growth can be attributed to the increased demand in larger emerging economies for more sophisticated and expensive processed foods, highlighting the importance for developing countries of value addition in this sector.

8. Despite the negative impact of the financial and economic crisis, manufacturing remained a major source of overall economic growth for developing countries (see figure III). In the last 15 years, manufacturing output in these countries grew consistently at a higher pace than that in the rest of the economy. Over this period, the share of MVA in gross domestic product (GDP) in developing countries exceeded 20 per cent, compared with 15 per cent in industrialized countries.

9. This trend has contributed to a significant structural change in the economies of developing countries, as low-value activities have been replaced by modern industrial sectors. Structural change within manufacturing is characterized by an increased share of technology-intensive sectors in total manufacturing output and in the exports of many developing countries. However, this process has been slower in least developed countries, where the combined contribution of the medium- and high-technology sectors remained well below 20 per cent for the last 10 years.

Figure III
Growth trend of GDP and MVA in developing countries 1994-2009
 (1994=100)



Source: *International Yearbook of Industrial Statistics, 2010*.

C. Conclusions on recent trends in industrial development

10. The global financial and economic crisis resulted in a significant challenge for the globalizing world economy. Initial predictions of an increased tendency towards protectionism in trade did not materialize at the levels feared (see sect. II below). Developing countries, many of which had been suffering the effects of rising food and fuel prices, have, as a group, exhibited much resilience. While this is largely accounted for by growth in emerging economies, statistics from least developed countries for which data were available show a considerable degree of stability. Aid flows, on the other hand, were affected much more and for most donors remain well below the United Nations target of 0.7 per cent of gross national income.⁵ Likewise, workers' remittances fell substantially, with remittances to least developed countries having dropped from \$36.5 billion in 2007 to \$21.25 billion in 2008.⁶ The role of the productive sectors in reducing poverty is therefore acutely important to developing countries, and to least developed countries in particular, in terms of ensuring the stability and predictability of poverty reduction.

11. It is clear that recovery in manufacturing activity is fuelling overall global growth, which is forecast to rise to 4.2 per cent in 2010.⁷ The extent to which this can be maintained, and the extent to which industrial development can support the achievement of the Millennium Development Goals, are dependent on how the world tackles a range of interrelated global megatrends, which will be discussed directly below.

⁵ Measured in current United States dollars, in 2009, net disbursements of official development assistance (ODA) fell by over 2 per cent compared with 2008 figures. This amounted to \$119.6 billion, or 0.31 per cent of the combined gross national income of developed countries (see *The Millennium Development Goals Report 2010*).

⁶ Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (fact sheet, 2009).

⁷ *World Economic Outlook*.

II. Current issues and challenges facing industrial development and international industrial cooperation

A. Introduction

12. Global economic and societal development are challenged by an array of converging forces which will affect many areas of human activity, including public institutions, the private sector and civil society, for years to come. Analysis of how these megatrends are taking shape provides us with an insight into the future prospects for global industrial development, wealth creation and poverty reduction. Chief among the megatrends, which can be positive or negative in nature and effect, are climate change and the related emphasis on green growth and green industry, including clean energy solutions for development. That issue will be explored in greater detail in section III below. The present section will examine five other such megatrends, namely, the continuing threat of the food, fuel and financial crises; demographic change; gender equality; globalization; and the illicit economy.

13. This report approaches these megatrends within the context of the specific challenge of achieving the Millennium Development Goals, and the role played by industrial development in this connection. The United Nations Millennium Declaration⁸ and its associated Goals together represent the most important collective promise made to the world's most vulnerable people, outlining a framework for advancing the well-being, rights, freedom and security of all human beings. At the time of preparation of this report, the High-level Plenary Meeting of the sixty-fifth session of the General Assembly on the Millennium Development Goals in September 2010 was due to review progress towards the achievement of the Goals by 2015 and to agree on an associated agenda for action.

14. While significant advances have been made in some areas and regions, progress has been too slow and uneven in many parts of the world. Many of the global gains achieved have been due to the dramatic and growth-driven fall in poverty in East Asia, whereas sub-Saharan Africa saw an increase of 100 million people in extreme poverty in 2005 compared with 1990.⁹ Given that only five years remain within which to realize the commitments embodied in the Millennium Development Goals, the prospect of missing a number of the targets is a stark reality.

B. Global megatrends and the Millennium Development Goals

1. The food, fuel and financial crises

15. Notwithstanding the fact that developing countries have proved relatively resilient with respect to the financial and economic crisis, it is estimated that reduced inflows in foreign direct investment (FDI) and workers' remittances and a resulting slowdown in exports left an additional 50 million people in extreme poverty in 2009. This figure is forecast to rise to 64 million people by the end of 2010, many of whom live in least developed countries in sub-Saharan Africa and

⁸ See General Assembly resolution 55/2.

⁹ *The Millennium Development Goals Report 2010*.

South Asia.¹⁰ Such countries tend not to have diversified economies and often rely on commodity exports, which are subject to great volatility on global markets. Lack of employment opportunities as a result of the economic downturn is further exacerbating the situation. Moreover, the effects of the crisis are likely to persist: poverty rates are foreseen as being slightly higher in 2015, the Millennium Development Goal target year, than they would have been had the crisis not occurred.

16. Food prices surged in the run-up to the economic crisis and, while they have recently dropped, they remain at historically high levels. By mid-2009, agricultural commodity prices were relatively high compared with their low levels experienced during the 1980s and 1990s. Recent estimates suggest that world food prices will again rise over the current decade, with average prices for staples such as wheat and coarse grains set to increase by 15-40 per cent compared with the period from 1997 to 2006.¹¹ The prices of non-agricultural commodities, such as fuels and metals, are also likely to remain volatile going forward.

17. Oil prices dropped sharply in 2009 before stabilizing by the end of the year at about \$80 per barrel, approximately 45 per cent below the high of mid-2008. Given the long-term trend towards a shortage of fossil fuel-derived energy, fuel prices are likely to see a sharp increase in the future, unless steps are taken to invest in other energy sources and to bolster energy efficiency. This presents both a challenge and an opportunity for policymakers and for industry in developing countries. In a no-change scenario, lack of access to fossil-derived energy will stifle development efforts, cause increased poverty and hunger, and raise the risk of civil conflict and insecurity.

18. On the other hand, providing access to modern, often renewable, forms of energy and building strong energy efficiency systems in developing countries will help in overcoming this hurdle and achieving the Millennium Development Goals. The adoption of cleaner, resource-efficient and low-carbon patterns of production will contribute to mitigating environmental challenges and the effects of climate change simultaneously. This issue is discussed further in section III.

2. Demographic change

19. Closely related to the issue of energy shortage is that of population growth. The world's population currently stands at 6.8 billion, which is almost double the figure (3.5 billion) at the beginning of the 1970s. Population growth is forecast to continue at a rapid pace, averaging 1.1 per cent per year to 2019, with 2.2 per cent growth in sub-Saharan Africa.¹²

20. Technological progress, especially in agriculture, has generally been able to keep up with the dramatic increase in the size of human societies: since 1960, food production has increased by a factor of two and a half, and food prices — until recently — had declined.¹³ Despite this, efforts to ensure an adequate food supply

¹⁰ World Bank, *World Development Indicators 2010* (Washington, D.C., April 2010).

¹¹ *OECD-FAO Agricultural Outlook 2010-2019* (Paris, Organization for Economic Cooperation and Development, 2010).

¹² *Ibid.*

¹³ *Millennium Ecosystem Assessment, 2005: Ecosystems and Human Well-being — Biodiversity Synthesis* (Washington, D.C., World Resources Institute, 2005).

for all are being subjected to increasing stress. In addition, it must be recognized that building a future for growing populations goes beyond satisfying the need for food supply alone. A diversified economy offering opportunities in private sector-led productive activities can mitigate the risk of rising unemployment, civil conflict and illegal migration.

3. Gender equality

21. The negative impact of the food, fuel and financial crises on poverty reduction also encompasses gender equality and the empowerment of women, which are preconditions for overcoming poverty, hunger and disease; and progress on Millennium Development Goal 3 (Promote gender equality and empower women) has been slow. Preliminary studies and results indicate that gender inequalities are being perpetuated, particularly in relation to productive and decent employment for women. Although globally, the share of women in paid employment outside the agricultural sector has continued to increase slowly, reaching 41 per cent in 2008, but some regions are seriously lagging behind in providing opportunities for women. In South Asia, North Africa and Western Asia, only 20 per cent of those employed outside agriculture are women. Gender equality in the labour market is also a concern in sub-Saharan Africa, where women hold only 1 in 3 paid jobs outside agriculture.¹⁴

22. Close to two thirds of all employed women in developing countries work as contributing family workers or as workers on their own account, typically in forms of employment that render them extremely vulnerable and offer no job security or benefits. A balanced agenda for gender equality and empowerment of women must therefore include a focus on the economic empowerment of women, which would entail offering access to resources, land, decent jobs and an active role for women in entrepreneurship.

4. Globalization

23. Globalization and the interconnectedness of world markets have emerged as dominant features of the world economy and this is likely to remain the case for the foreseeable future. It is no longer possible to think of a country's economic growth as a purely internal process. Manufacturing has become globally integrated and is shifting in the direction of developing countries at an increasing pace. However, not all developing countries and regions are growing together.

24. Millennium Development Goal 8 (A global partnership for development) contains at its core the aim of developing a trading system that is open, rule-based, predictable and non-discriminatory. However, experience has shown that globalization accompanied by market liberalization policies has so far not resulted in sufficiently large benefits for the developing world. True preferential trade status is reserved mainly for least developed countries, 81 per cent of whose imports were admitted free of duty by industrialized countries in 2008.¹⁵ This advancement of preferential treatment, largely on a unilateral basis, is not an adequate substitute for the conclusion of the Doha Round of multilateral trade negotiations and the implementation of its related development agenda. Even as tariffs fall away,

¹⁴ *The Millennium Development Goals Report 2010.*

¹⁵ *Ibid.*

technical barriers to trade remain; consequently, developing countries will need to focus on developing strong supply capacities and fulfilling international conformity and standards requirements.

5. The illicit economy

25. A closely related trend is growth in the worldwide illicit economy. While only gross estimates of the volumes of illicit trade are available, persuasive sources suggest that the global illicit economy is growing at a considerably faster pace than that of the legitimate economy.¹⁶ As globalization has developed, there has been a corresponding increase in low-cost communication, transportation and travel, which together create favourable conditions for both legitimate and illicit forms of international economic activity.

26. The rise in maritime piracy off the coasts of certain developing regions is one example of growth in the illicit economy which threatens world trade and security; yet, this phenomenon appears to have caught the international community by surprise.¹⁷ Other well-documented examples in this regard include trafficking in people, drugs and weaponry, transnational money-laundering and the plundering of natural resources. Although it is sometimes seen mainly from a security or crime perspective, in fact the illicit economy thrives in particular where opportunities for legitimate livelihoods do not exist or are undersupported. Indeed, the existence and growth of the illicit economy are both a symptom and a cause of poverty and underdevelopment. Nurturing legitimate forms of economic activity and globalization, through, inter alia, encouraging participation in the productive sectors and international trade, must become a central part of strategies to combat growth in the illicit economy.

6. Climate change, green industry and energy

27. Climate change is a major threat to the poor and underscores the need to develop clean energy sources and safeguard the environment, as outlined in Millennium Development Goal 7 (Ensure environmental sustainability). The present trends in consumption and population growth are subjecting the planet's natural systems to a significant strain. Global carbon dioxide (CO₂) emissions have continued their upward trend in recent years, having totalled 30 billion metric tons by the end of 2007. This represents a 35 per cent increase above the 1990 level. Per capita emissions remain highest in developed countries — about 12 metric tons of CO₂ per person compared with about 3 metric tons in the developing regions and 0.9 metric tons in sub-Saharan Africa.¹⁸ The most severe impact of climate change is being felt by vulnerable populations which have contributed least to the problem. The risk of death or disability and economic loss due to natural disasters is increasing globally and is concentrated in poorer countries owing to their lack of capacity to deal with the resulting effects on, for example, agricultural output, labour productivity, health and internal displacement.

¹⁶ Moisés Naím, in *Illicit: How Smugglers, Traffickers, and Copycats are Hijacking the Global Economy* (New York, Anchor Books, 2005), quotes a source that estimates that the illicit economy represents 10 per cent of the global economy and is growing seven times faster than legal trade.

¹⁷ See Helmut Tuerk, "The resurgence of piracy: a phenomenon of modern times", *University of Miami International and Comparative Law Review*, vol. 17, issue 1 (2009).

¹⁸ *The Millennium Development Goals Report 2010*.

28. Section III describes the centrality of industry in the response to the threat of climate change, and examines how a low-carbon and energy-efficient approach to industrial development can provide opportunities to developing countries and help build resilience against future crises.

C. The role of industrial development in enabling the achievement of the Millennium Development Goals

29. Despite the negative impact of many of the megatrends discussed above, the achievement of the Millennium Development Goals remains feasible through adequate commitment, policies, resources and effort. Moreover, at least some of these megatrends — in particular the growth of green industry in response to the threat of climate change — present clear opportunities for developing countries to ensure inclusive growth and sustainable development. Focused attention should therefore be concentrated on the role of the productive sectors in creating the conditions necessary for the sustainable achievement of the Millennium Development Goals.

30. Industry is the seedbed for entrepreneurship, business investment, technological progress, the upgrading of human skills and employment creation. The key role for industrial development in enabling the achievement of the Millennium Development Goals is in generating the sustainable employment and higher incomes needed to lift people out of poverty. Through intersectoral linkages, industrial development can also help create the foundation for a more effective and efficient agricultural sector and a flourishing tertiary sector. All of these developments would contribute to improvements in productivity and pro-poor growth, resulting in better living standards. Indeed, this finding is based on historical precedent: no country has made progress in development without increasing the share of the manufacturing sector in its economy. Achieving structural change in favour of these sectors has been the only proved means of moving large numbers of people out of poverty in the last half century. The success stories of East Asia show how properly formulated and implemented industrial strategies can transform economies and societies for the better.

31. In the present economic climate, the importance of trade and sustainable productive activities is put into sharp focus. Developing-country Governments cannot continue to rely on official development assistance (ODA) and concessionary financing in order to achieve social and economic development. They must play a key role in their own developmental processes by supporting industrialization, increased energy access for productive use, higher value added agriculture and services, and improvement in technological and human capabilities.

32. Advancing sustained green and equitable growth and employment will require joint action by many actors, in both the public and private sectors, as well as partnerships across national and regional boundaries. Investment in productive capacities and clean energy for sustainable growth, decent jobs, income-generation, and the economic and political empowerment of women will in turn facilitate the achievement of the Millennium Development Goals in a cross-cutting and holistic manner.

III. The importance of green industry, access to energy, and energy efficiency

A. Introduction

33. The fundamental challenge for industry is how to decouple the consumption of natural resources and the release of greenhouse gas emissions from economic growth, mitigating the negative effects of climate change and pollution. Through its green industry initiative, UNIDO aims to promote resource-efficient and cleaner production, renewable energy for industrial applications, water and waste management, and other, related improvements. In addition to the environmental benefits, such an approach increases the productivity of industry, encourages the creation of new and higher-value industries, allows greater access to global markets and ultimately reduces poverty by creating economic growth and employment in sectors that support environmental improvements and resource efficiency. Section B explores how developing countries can place themselves at the forefront of this new wave of industrialization.

34. Access to clean and modern sources of energy is key to successfully ensuring environmental protection, to greening industry and, indeed, to achieving all developmental objectives, including the Millennium Development Goals. Profound changes are now evident in the way energy services are supplied, transformed, delivered and used. Section C describes new proposals emanating from the United Nations system, as well as from key representatives from the private sector and research institutions, that are aimed at improving access to affordable clean energy and strengthening energy efficiency.

B. Green industry

35. While the climate and environmental crises have their roots in the early industrialization of the developed world, many developed countries have begun to take significant steps to slow down, if not reverse, the trend towards unsustainability. Progress in this direction has been slower in developing countries, however, where less modern and less efficient technologies and operating practices result in higher levels of material and energy consumption than should be required by their production processes. This places developing countries at a considerable disadvantage. First, their patterns of production and consumption are not only environmentally unsustainable but also uncompetitive. Global competition increasingly calls for coupling the most efficient production and lowest costs with adherence to emerging international norms and standards in environmentally sustainable production, whether voluntary or mandatory.

36. With the advent of globalized manufacturing, developing countries are increasingly pressed by investors, importers and Governments in the industrialized world to introduce remedial measures, including the adoption of less-polluting technologies. In pursuit of these objectives, and following the launch of the Green Industry Initiative at the International Conference on Green Industry in Asia, held in Manila in September 2009, UNIDO has identified three particular areas of action in which Governments can bridge gaps so as to ensure the growth of green industry.

37. The first of these areas of action encompasses addressing gaps in a country's normative framework, which entails creating effective policies, incentives and infrastructure through which to promote the greening of industry. Specific examples of such policies, whose implementation would depend on the circumstances of individual countries, could include the establishment of necessary normative frameworks for science and technology designed to encourage green innovation, and the removal of subsidies on the consumption of material and energy inputs in industrial processes.

38. The second area of action entails addressing gaps in the support system for enterprises and entrepreneurs, and providing input into emerging efforts to establish norms at the global level. Actions open to Governments in this regard include: making entrepreneurs aware of the opportunities that exist for new environmentally sustainable industry; working with entrepreneurs to build up the technical and commercial skills necessary for taking advantage of these new opportunities, including training in adherence to international standards; and, where appropriate, establishing support institutions such as accreditation bodies and research facilities. At the global level, UNIDO can work with Governments to ensure that the specific conditions of industrial sectors in developing countries are taken into account in the elaboration of new environmental standards.

39. The need to address gaps in knowledge and skills is encompassed by the third area in which suggested action might be prioritized. Incorporating the greening of industry into relevant curriculums at schools, universities and other learning institutes would help cement a broad understanding of the issues. The learning process could also go beyond schooling and tertiary education and target the building of capacities in Government ministries and agencies as well as enterprises, through the productive sectors, including with respect to the development of public-private partnerships in the environmental field.

C. Access to energy and energy efficiency

40. While the availability of clean, efficient, reliable and affordable energy services is indispensable for global prosperity as a whole, it is especially indispensable for developing countries. Poorer countries must expand access to reliable and modern sources of energy if they are to reduce poverty and improve the health of their citizens, and at the same time increase productivity, enhance competitiveness and promote economic growth. Current energy systems are inadequate for meeting the needs of the world's poor and are making more difficult the achievement of the Millennium Development Goals. Approximately 3 billion people worldwide rely on traditional biomass for cooking and heating.¹⁹ Up to 1 billion more have access only to unreliable electricity networks. These people suffer the health consequences of inefficient combustion of solid fuels in inadequately ventilated buildings, as well as the economic consequences of living

¹⁹ See World Health Organization and United Nations Development Programme, in "The energy access situation in developing countries: a review focusing on least developed countries" (New York, United Nations Development Programme, 2009), where it is estimated that over 3 billion people lack access to modern fuels for cooking and heating, while the International Energy Agency estimates this figure at 2.5 billion.

with insufficient power for productive income-generating activities, and for basic services such as health and education.

41. A well-performing energy system that improves efficient access to modern sources of energy would strengthen the opportunities for the poorest people on the planet to escape the worst effects of poverty. Such a system is also essential for meeting wider development objectives. Economic growth goes hand in hand with increased access to modern energy services, especially in low- and middle-income countries transitioning through the phase of accelerated industrial development. The World Bank estimates that countries with underperforming energy systems may lose up to 2 per cent of economic growth annually as a result of electric power outages, over-investment in backup energy generators, energy subsidies and losses, and inefficient use of scarce energy resources.²⁰

42. Progress in achieving industrial energy efficiency is in the interest of both developed and developing countries, and is an issue on which international consensus should be achieved. Industrial energy efficiency provides three fundamental dividends: (a) an environmental dividend, as it helps to reduce CO₂ emissions and thus to combat climate change, (b) a developmental dividend, because it saves energy and resources which can be distributed among the poor and (c) an economic dividend, as it is generally profitable to invest in energy-efficient processes.

43. The main challenges to achieving industrial energy efficiency in developing countries arise at the microlevel from lack of adequate information, unexpected costs associated with the introduction of new technologies, and limited access to capital for investment. At the macrolevel, the challenges include inadequate policy frameworks, unreliable energy supply, and lack of institutional capacity for industrial energy efficiency. Only through integrated public policies designed to promote industrial energy efficiency will developing countries be able to reduce industrial energy consumption and benefit from improved climate, reduced poverty and sustainable development.

44. Within this context, and building on the work of UN-Energy, the United Nations system inter-agency mechanism for coordination on energy issues, the Secretary-General of the United Nations convened an Advisory Group on Energy and Climate Change (AGECC) to address the twin challenges of meeting the world's energy needs for development and contributing to a reduction in greenhouse gases. The Advisory Group, which like UN-Energy is chaired by the Director-General of UNIDO, is a multi-stakeholder partnership bringing together the entities of the United Nations system, including the World Bank, and the private sector and research institutions.²¹

45. In its 2010 report entitled, "Energy for a sustainable future", the Advisory Group called for commitment on two goals: universal access to modern energy services by 2030, and a reduction in global energy intensity by 40 per cent by the same year; and concluded that achievement of these complementary goals would contribute to achieving the Millennium Development Goals, improve the quality and sustainability of macroeconomic growth, and help to reduce carbon emissions over

²⁰ Orvika Rosnes and Haakon Vennemo, "Costing power infrastructure investment needs in Southern and Eastern Africa", background paper, No. 5 (World Bank, 2009).

²¹ UNIDO, *Industrial Development Report* (forthcoming).

the next 20 years. The Group also maintains that the goals, while ambitious, are achievable, partly because of technology innovations and emerging business models, and also because of a shift in international funding priorities in favour of clean energy. The Advisory Group report also points to precedents for achievement of both the widespread provision of energy access (citing China, Brazil and Viet Nam) and rapid improvements in energy efficiency (for example, in China, Denmark, Japan and Sweden).

46. In order to reach the energy goals, the Advisory Group suggests a number of actions to be taken, including the launch of a global campaign in support of energy for sustainable development; the prioritization of the energy goals through the adoption of appropriate national standards; the provision of appropriate financing through financial support mechanisms and a significant increase in bilateral and multilateral international finance;²² and the encouragement of private sector participation in achieving the goals. It also recommends that the United Nations system make energy for sustainable development a major institutional priority.

47. In keeping with the findings of the Advisory Group report, the forthcoming UNIDO *Industrial Development Report* will focus on the environmental, developmental and economic impact of industrial energy efficiency, including the challenges faced by developing countries in achieving positive outcomes in terms of climate change, natural resource utilization, poverty reduction and corporate profitability. The *report* will also recommend necessary Government policies for improving energy use by industrial firms in developing countries.

IV. The response of the United Nations Industrial Development Organization

A. Introduction

48. UNIDO is mandated to advance sustainable private sector-led industrial development and to promote international industrial cooperation. For a number of years, and in order to ensure a focused, effective and efficient approach to its activities, the Organization has concentrated on three closely related thematic priorities: poverty reduction through productive activities, trade capacity-building, and environment and energy. In its recently elaborated mission statement, UNIDO continues to underline its commitment to these priorities by emphasizing its aspirations with respect to supporting member States in fostering a flourishing productive sector, increasing their participation in international trade and safeguarding their environment. The new mission statement is an integral part of a change management process, which aims at achieving continuous growth and improving the quality of services provided to member States at global, regional and country levels, enhancing the results orientation of such services and further improving organizational efficiency.

²² The International Energy Agency (IEA) estimates that, for universal access to modern energy services for basic needs alone, \$35 billion per year will be required between now and 2030. For the energy efficiency goal, the Advisory Group estimates that, on average, from \$30 billion to \$35 billion will be required for low-income countries and from \$140 billion to \$170 billion for middle-income countries, annually until 2030.

1. Partnerships

49. Partnership is a key element of the approach of UNIDO to development. UNIDO works closely with a range of relevant actors within the United Nations system, international financial institutions and the wider multilateral development system, as well as with bilateral partners, the private sector, academia and civil society. UNIDO is an active participant in relevant United Nations system-wide initiatives and coordination mechanisms at the global, regional and country levels, and seeks to advance the effectiveness, efficiency, coherence and impact of the United Nations development system in assisting countries in reaching their development goals. Close partnerships have been developed globally, regionally and at the country level — especially in the context of collaboration within United Nations country teams — with sister organizations, including the United Nations Development Programme (UNDP), the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Environment Programme (UNEP), the International Trade Centre (UNCTAD/WTO) and the World Intellectual Property Organization (WIPO).

50. UNIDO has long recognized the potential of partnering with the private sector to promote development. Partnerships between UNIDO and key actors in the private sector have enhanced its impact in areas such as youth entrepreneurship development and improvements in product quality and safety for small producers in developing countries. In addition, as a core participant in the United Nations Global Compact, UNIDO partners with the private sector to promote corporate social responsibility as a means to increase productivity and competitiveness of developing economies.

51. South-South cooperation reaps the benefits of partnership between developing countries. UNIDO encourages economic and technical cooperation among developing countries through its technical cooperation and other activities. An increasing number of technical cooperation inputs and resources emanate from developing countries, particularly in the areas of agro-business, renewable energy and trade capacity-building. In addition, UNIDO has established two Centres for South-South Industrial Cooperation, in India and China, respectively, with additional centres expected to open shortly in other regions.

2. Support for the New Partnership for Africa's Development (NEPAD)

52. A further example of partnership is provided by UNIDO support for the objectives of the New Partnership for Africa's Development (NEPAD) (A/57/304, annex). UNIDO provides concrete and tangible support to the development aims of the African Union and NEPAD through its technical cooperation activities, as well as through the convening of major global and regional conferences, promotion of industrial knowledge and technology transfer, and encouragement of South-South cooperation.

53. For example, a multi-stakeholder programme for productive and decent work is being implemented in the Mano River Union countries of Liberia, Guinea, Sierra Leone and Côte d'Ivoire. Together with the African Union, UNIDO organized a number of conferences and expert group meetings of particular relevance to Africa, including an international conference on biofuels in Addis Ababa in February 2008; a major conference on renewable energy in Dakar in April 2008; and a High-level

Conference on Development of Agribusiness and Agro-industries in Africa, held together with the African Union and other partners in Abuja in March 2010.

54. In terms of normative support for NEPAD, UNIDO has been supporting the African Union in the elaboration of its Action Plan for the Accelerated Industrial Development of Africa (AIDA). In 2009, a financing and resource mobilization strategy for the Action Plan was prepared, outlining a comprehensive approach to the mobilization of both financial and non-financial resources. The Action Plan was presented to the relevant organs of the African Union, including the Conference of African Ministers of Industry (CAMI), in December 2009. UNIDO has also committed to supporting the establishment of an implementation coordination unit for the Action Plan, and is consulting with members of the Industry, Trade and Market Access (ITMA) Cluster under NEPAD with a view to developing collaborative activities aimed at ensuring the sustainability of the unit.

B. Three thematic priorities

55. The Constitution of UNIDO provides for the Organization to undertake four mutually reinforcing functions in furtherance of its mandate: a technical cooperation function, a convening or global forum function, a normative function and an analytical and advisory function. UNIDO values each of these functions and exercises them, where appropriate, in support of its thematic priorities. The present section examines a selection of recent and current activities, reflecting the three thematic priorities, that take into account the four constitutional functions.

1. Poverty reduction through productive activities

56. Overcoming poverty is the ultimate aim of the various development-oriented organizations within the United Nations system, which have distinct yet complementary mandates. UNIDO concentrates on empowerment of the poor through productive activities and provides support to developing countries in growing their industries, and in private sector and entrepreneurship development, focusing in this regard on the small and medium-sized enterprise sector in particular. It promotes technology transfer and investment, and focuses on specific areas of concern, including the participation of women in productive activities, the enhancement of agro-industrial capacities and the promotion of South-South cooperation.

57. The applied research and analysis conducted by UNIDO has a direct bearing on the design and development of successful poverty reduction strategies and policies. In 2009, UNIDO published *Industrial Development Report 2009: Breaking In and Moving Up — New Industrial Challenges for the Bottom Billion and the Middle-income Countries*.²³ The report analysed the opportunities and constraints with which least developed and middle-income countries were presented in respect of participating in international markets for manufactured goods and moving up to the level of more sophisticated manufacturing, and set out a number of policy responses designed to enable countries to arrive at their own solutions for successfully tackling poverty.

²³ United Nations publication, Sales No. E.09.II.B.37.

58. UNIDO supports least developed countries through specific technical cooperation activities as well as by facilitating regular Conferences of Ministers of Trade and Industry from the least developed countries, in which those countries can shape a common agenda for tackling shared difficulties related to growth of the productive sectors and promoting economic diversification. The most recent of those Conferences, hosted by UNIDO, was held in December 2009, and examined the effects of the global financial and economic crisis on least developed countries. It also provided input into the elaboration of the programme of action to be adopted by the Fourth United Nations Conference on the Least Developed Countries, to be held in Istanbul in 2011. The 2009 Conference of Ministers of Trade and Industry adopted the 2009 Least Developed Countries Ministerial Plan of Action,²⁴ of which the UNIDO General Conference took note at its thirteenth session on 11 December 2009. In support of the Plan of Action, UNIDO is currently undertaking groundbreaking research on the determinants and drivers of economic diversification among least developed countries. The results of this research will be presented by UNIDO at the Fourth United Nations Conference for the Least Developed Countries.

59. Foreign direct investment (FDI) serves as a major catalyst for economic growth, development and poverty reduction. UNIDO strives to support developing countries in their efforts to maximize the benefits of such investment flows. The UNIDO Regional Programme on Investment Promotion, launched in October 2008 at the fourth meeting of the African Investment Promotion Agency Network (AfrIPANet), encompasses the elements necessary for assisting countries in shifting emphasis from the quantity to the quality of FDI flows and promoting domestic investment for competitive growth. Another important dimension of the support provided by UNIDO is its Subcontracting and Partnership exchange (SPX) programme, under which local SPX centres are being established within host institutions such as chambers of commerce. The responsibility of each SPX centre is to interact with large transnational businesses so as to capture their procurement needs and plans, and to benchmark the performance and capabilities of domestic enterprises.

60. The agro-industrial sector represents a key growth area for the economies of least developed countries, helping to build resilience against price fluctuations in primary commodities and providing a solid base for a stronger and more diversified economy. In its technical cooperation services, UNIDO approaches agro-industry from a number of interrelated standpoints, and has seen an increase of approximately 60 per cent in the number of its agricultural projects since 2006. Increased financial resources for such services have been secured through the agreement of member States at the thirteenth session of the General Conference to establish a special trust fund for increased food security through agribusiness and agro-industry promotion.

61. The UNIDO African Agribusiness and Agro-industries Development Initiative (3ADI) focuses on how to make Africa's largely resource-based economies more dynamic and diversified through increasing local processing of natural resources and adding value to them so that African enterprises can participate in global value chains. The Initiative also seeks to assist in improving the quality and safety of foods by establishing certification and traceability systems as well as harmonization

²⁴ See document GC.13/INF.4, GC.13/Res.5, annex.

of standards. In addition, it aims to support the achievement of increased food security by reducing post-harvest losses and extending the shelf life of food. UNIDO will also expand this approach to other regions, while adapting it to specific needs and circumstances, as appropriate. The establishment of a Traceability Centre for Agro-Industrial Exports (ETRACE) in Egypt is a model which can be readily applied elsewhere.²⁵

62. UNIDO utilizes its convening role to garner support for agro-industries and to provide opportunities for Government representatives, members of the food industry, civil society and development experts to discuss the contribution of the sector to economic development. The April 2008 Global Agro-Industries Forum, hosted by the Government of India and organized by UNIDO in partnership with the Food and Agriculture Organization of the United Nations (FAO), examined the key factors affecting competitiveness and the areas for potential action to foster the development of agro-industries. In November 2008, UNIDO convened an International Conference on Sharing Innovative Agri-business Solutions in Cairo, in close cooperation with the Government of Egypt. The Conference was designed to provide an opportunity for matchmaking between those seeking to achieve sustainable agribusiness development and those with innovative solutions. It also examined financing options for development assistance and investment. Building on these meetings, a High-level Conference on Development of Agribusiness and Agro-industries in Africa was held in Abuja in March 2010. In the Conference Outcome, the Abuja Declaration on Development of Agribusiness and Agro-industries in Africa, African Heads of State and Government of the African Union endorsed the African Agribusiness and Agro-industries Development Initiative.

2. Trade capacity-building

63. UNIDO recognizes the pivotal role played by trade as an engine for growth, allowing developing countries to participate in global markets, and thus helping to secure their future economic growth and reduce poverty. UNIDO has the largest portfolio of trade-related capacity-building projects in the United Nations system, and is an implementing partner in both the Enhanced Integrated Framework (EIF) initiative and the Standards and Trade Development Facility (STDF).

64. As noted in section II above, globalization provides opportunities for developing countries. However, and especially in the absence of a conclusion to the Doha Round of multilateral trade negotiations, the attempts of many countries to reap the full benefits of global trade are thwarted by a lack of competitive supply capacity and an inadequate quality infrastructure capable of responding to market requirements.

65. In response to these needs, UNIDO offers a range of programmes designed specifically to support the efforts made by developing countries to encourage enterprise upgrading and competitiveness, and to improve quality and conformity infrastructure. Support of the latter includes assisting national authorities in the development and harmonization of standards, and improvements in testing and metrology. Recently, for example, through the assistance provided by the UNIDO Bangladesh Quality Support Programme, the Bangladesh National Metrology Institute was successful in respect of having its application approved for

²⁵ Further information on ETRACE is available at <http://www.unido.org/index.php?id=723>.

accreditation for mass and temperature parameters. The Programme's support to exporters in the fisheries sector also led to the adoption of traceability systems. Along the same lines, a joint UNIDO-World Trade Organization project in Zambia aims to establish a credible conformity assessment infrastructure encompassing accreditation in relevant areas, and thereby ease the country's entry to international markets. Further UNIDO initiatives in trade capacity-building aim to promote the establishment of export consortia and corporate social responsibility.

66. UNIDO works closely with other organizations in the area of trade capacity-building. One mechanism for cooperation is the Inter-Agency Cluster on Trade and Productive Capacity of the United Nations System Chief Executives Board for Coordination (CEB), with which UNIDO is undertaking joint projects within the framework of the Delivering as One initiative in several countries, including Cape Verde, the United Republic of Tanzania and Viet Nam. Under the auspices of the Cluster, UNIDO recently prepared an updated version of "Trade Capacity-Building: Inter-Agency Resource Guide", which was first published in 2008. The new edition describes the services and programmes of 25 United Nations system organizations, and provides information on the trade activities of 5 regional development banks, the Organization for Economic Cooperation and Development (OECD) and some bilateral partners. Services and programmes are systematically described in 10 categories, enabling users to tap the competence of each participating development partner.

3. Environment and energy

67. Section III above examined the importance to development of decoupling environmental degradation from production and providing access to clean, affordable and reliable modern sources of energy and described the activities undertaken by UNIDO in the context of its Green Industry Initiative, as well as its activities in support of energy access and energy efficiency, in the context of its chairing role in UN-Energy and the Advisory Group on Energy and Climate Change, including the preparation of the forthcoming *Industrial Development Report 2010* on industrial energy efficiency.

68. Complementing these activities, the UNIDO Montreal Protocol programme has assisted developing countries in meeting their compliance targets for the phase-out of ozone-depleting substances since 1992. In recent years, the focus has been on the elimination of chlorofluorocarbons (CFCs), which has contributed strongly to the achievement of Millennium Development Goal 7 (Ensure environmental sustainability). The proved track record of UNIDO in respect of the implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer²⁶ is complemented by its ability to innovate and to tackle new challenges; and in fact UNIDO has consistently ranked as the best performer among all the implementing agencies, according to the annual performance evaluation conducted by the Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol (MLF). UNIDO is also active in support of the implementation of the Stockholm Convention on Persistent Organic Pollutants,²⁷ with many projects funded by the Global Environment Facility (GEF).

²⁶ United Nations, *Treaty Series*, vol. 1522, No. 26369.

²⁷ *Ibid.*, vol. 2256, No. 40214.

69. Building on its collaboration with the United Nations Environment Programme (UNEP) in establishing National Cleaner Production Centres (NCPCs), UNIDO is now establishing a network of Resource Efficient and Cleaner Production (RECPs) centres as support institutions for industry, with a view to helping enterprises to adopt cleaner production techniques and technologies, and allowing them to reduce waste and pollution and cut energy and water consumption in a cost-effective manner.

70. A number of major conferences on energy — including the May 2008 Global Renewable Energy Forum, held in Foz do Iguaçu, Brazil, and the Vienna Energy Conference and Global Renewable Energy Forum (Léon, Mexico), both held in 2009 — have been convened by UNIDO in order to bring together policymakers, and private sector and civil society representatives for the purpose of discussing energy issues and identifying courses of action that could pave the way to a more sustainable, low-carbon future.

71. In respect of technical cooperation in the field of energy, UNIDO has developed services supporting access to rural energy for productive use, with an emphasis on renewable energy (including solar, wind, small-hydro and geothermal energy) and energy efficiency. Examples of specific demonstration projects that are capable of being replicated and scaled up include the establishment, on a remote and disaster-stricken island in Indonesia, of a mini-grid supplied by a small hydropower plant to promote productive uses, as well as a project in Kenya designed to promote solar energy, biomass, wind and biogas, which added a significant supply to the national grid.

V. Conclusions and recommendations

72. **Statistics compiled by UNIDO lead to the conclusion that world manufacturing has been strongly affected by the economic and financial crisis, but that developing countries as a group have continued along the path of growth. China and India are among those countries that have accounted most for this growth, with the broader group of newly industrialized countries proving less resilient with respect to the crisis.**

73. **Trends in industrial development also show that growth in the productive sectors is providing the main impetus for growth in the wider economy, and for the achievement of the Millennium Development Goals. However, success in achieving growth, reducing poverty and achieving the Millennium Development Goals will depend on how developing countries and the international community react to an array of interrelated global megatrends, including the persistence of the food, fuel and financial crises; demographic change; gender equality; globalization; the illicit economy; climate change; and the emergence of green industry.**

74. **Green industry provides developing countries with opportunities to decouple the consumption of materials, water and energy from economic growth; at the same time, it can help reduce poverty by increasing productivity, promoting the founding of new industries and the provision of greater access to global markets, and creating new employment opportunities that support environmental improvements and resource efficiency.**

75. Access to modern forms of energy and improvements in energy efficiency are in the interest of both developed and developing countries and are essential for the achievement of the Millennium Development Goals. International consensus should be achieved on delivering the goals elaborated by the Secretary-General's Advisory Group on Energy and Climate Change, namely, the attainment of universal access to modern, affordable and reliable energy by 2030, and an increase in energy efficiency by 40 per cent by the same year.

76. The multilateral development system, including the international financial institutions and the United Nations system, must work to ensure that developing countries meet internationally agreed goals, including the Millennium Development Goals, inter alia, through the effective deployment of their convening power to promote international cooperation and partnerships, their capacity to generate norms and standards, and the knowledge and expertise that enable them to provide objective advice to stakeholders.

77. UNIDO should continue to work in partnership with other relevant actors to promote sustainable industrial development within the context of its three thematic priorities of poverty reduction through productive activities, trade capacity-building, and environment and energy, and should also continue to take action to further enhance the range and developmental impact of services provided to member States at global, regional and country levels.

78. UNIDO should further strengthen its activities under its technical cooperation, convening, normative, and advisory and analytical functions in order to provide the highest level of support to developing countries in the sustainable reduction of poverty through building human and institutional capacities, enhancing international competitiveness, promoting investment and technology transfer, encouraging entrepreneurship development (especially for small and medium-sized enterprises), developing the agro-industrial sector, securing access to energy and industrial energy efficiency, promoting green industry, and combating climate change.
