OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

DISCLAIMER

FAIR USE POLICY

CONTACT

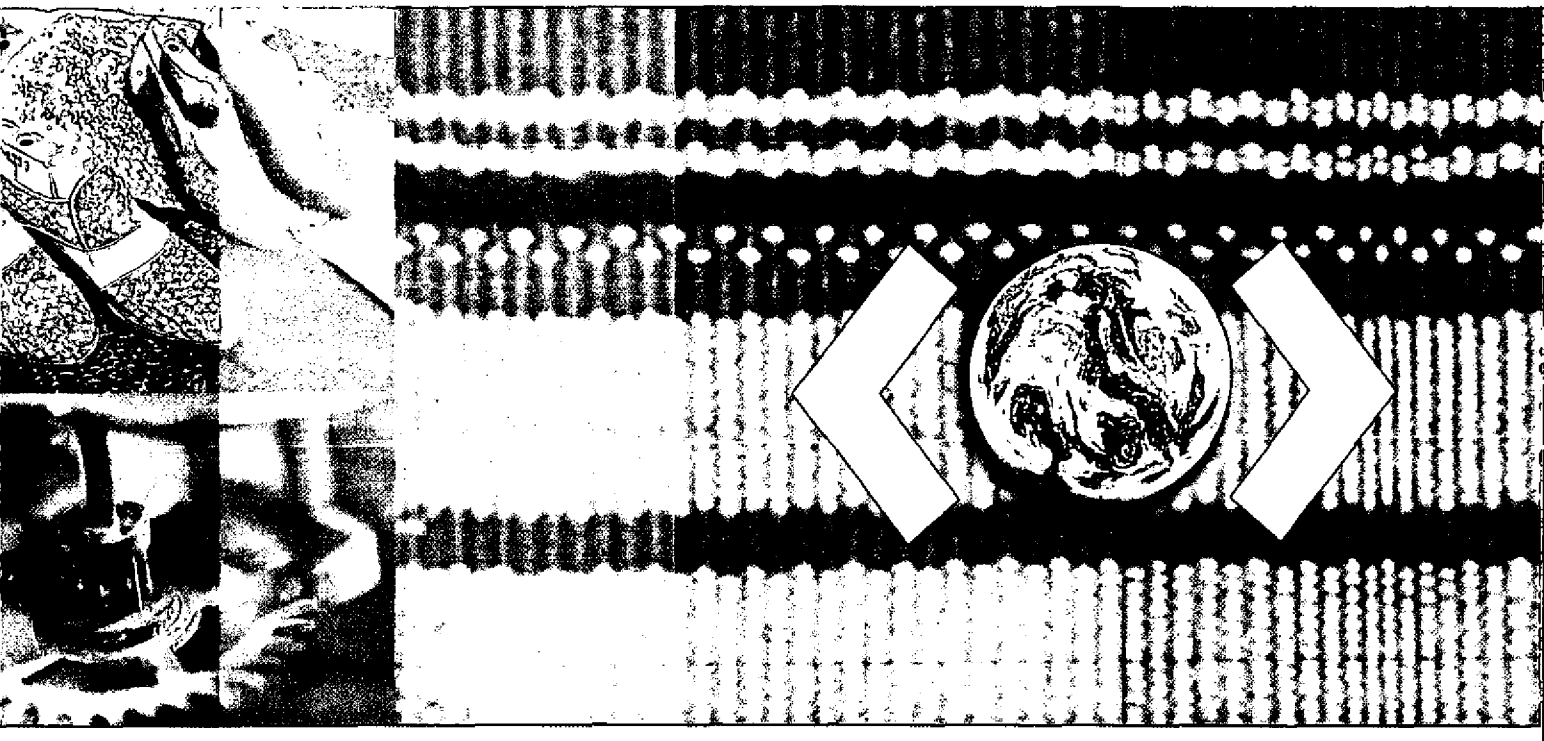
Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org

UNIDO RESEARCH PROGRAMME

COMBATING MARGINALIZATION AND POVERTY THROUGH INDUSTRIAL DEVELOPMENT ‹COMPID›



Industrialization and poverty alleviation: **pro-poor industrialization strategies revisited**

Summary

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

≪COMPID≫

COMBATING MARGINALIZATION AND POVERTY
THROUGH INDUSTRIAL DEVELOPMENT

Industrialization and poverty alleviation: pro-poor industrialization strategies revisited

Summary

By
Takahiro Fukunishi, Mayumi Murayama and Tatsufumi Yamagata
Institute of Developing Economies, Japan, and
Akio Nishiura, Soka University, Tokyo

Backstopping Officers
Frank Van Rompaey and Bernard Ng
Strategic Research and Economics Branch
Programme Coordination and Field Operations Division, UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna, 2006

Acknowledgements

The report was prepared by Takahiro Fukunishi, Mayumi Murayama and Tatsufumi Yamagata of the Institute of Developing Economies (IDE), Japan, and Akio Nishiura of the Soka University, Japan. Se-Hark Park provided substantial inputs to the conceptual part of the report. The earlier draft was proofread by Ivohasina Fizara Razafimahefa. Throughout the implementation of this project, the authors worked in close cooperation with selected staff in the substantive Branches of UNIDO. For the field study carried out in Bangladesh, Muzaffer Ahmad of the Institute of Business Administration, University of Dhaka, led the survey team with Pk. Md. Motiur Rahman which comprised A. M. Rasheduzzaman Khan (team leader), Simir Kumar Chakraborty, Mohammad Inam Uddin Chowdhury, Delwar Hossain, Mohammad Saiful Islam, A. M. Rokonuzzaman Khan and Mukhlasur Rahaman. That for Kenya was led by Peter Kimuyu of the Institute of Development Studies, University of Nairobi, with Mary Kinyanjui, assisted by Peter Ligulu (team leader), Isabel K. Munandi, Charles Murithi, Diana Ngui, Tom O. Onyango and Romanus Otieno Opiyo. Katsuji Nakamura of the United States International University helped in conducting interviews with garment workers in Kenya. The final report was reviewed by UNIDO's in-house focal points, Chin Pen Chua, Michele Clara, Imran Farooque, Sarwar Hobohm, Evert Kok and Emilio Vento. Finn Tarp and Larry E. Westphal, as members of the external Peer Review Group, vetted the final report, and valuable comments were provided by other members of the Peer Review Group. Etsuyo Michida provided practical and moral support to coordinate the IDE team with the UNIDO counterpart. Frank Van Rompaey and Bernard Ng were responsible for backstopping the completion of the Report. Maria Fermie was responsible for copy editing and finalizing the manuscript. Overall guidance was provided initially by Jørgen Estrup and, later, by Frédéric Richard.

Contents

INTRODUCTION

At the start of the new millennium, the international community was determined to devote intense efforts to global poverty reduction. This resulted in the Millennium Development Goals that were agreed at the Millennium Assembly of the United Nations in September 2000. Since then, both developing countries and donors of development assistance have been making earnest efforts to achieve these goals by the year 2015. A couple of evaluations of the progress with proposals for further pursuit of the Millennium Development Goals were recently released. However, there is a weak link between the Millennium Development Goals and industrialization, which made it possible for the present developed countries to get out of poverty. Added to this, the way in which industrialization should contribute to achieving the Millennium Development Goals has not been clearly spelled out yet. The United Nations Millennium Project [2004][1], pointed out for the first time that industrial development is crucial for achieving the Millennium Development Goals. The next step must include the elaboration of possible mechanisms that could initiate industrialization in low-income countries and optimize its impact on poverty reduction. Moreover, feasible and effective strategies, which allow the above mechanisms to become operational, are desperately needed.

The report *Industrialization and poverty alleviation: pro-poor industrialization strategies revisited* is part of a broader research programme of the United Nations Industrial Development Organization (UNIDO), called Combating Marginalization and Poverty through Industrial Development.[2] The main aim of the report is to develop pro-poor industrialization strategies and evaluate them from the viewpoint of effectiveness and sustainability of poverty reduction. For this purpose, development thinking on poverty reduction and industrialization is reviewed, and impacts from different ways of furthering industrial development are examined through the literature review and field studies. Since poverty is mainly a rural problem, with the poor predominantly engaged in agriculture or agriculture-related industries, research on the impacts of industrialization on poverty tends to be sidelined, behind that on agriculture and the urban informal sector. The development of the industrial sector can make a potentially substantial contribution to poverty reduction, particularly in the long term. The question here is how such potential can be tapped amid the current socio-economic environment. That is a challenge, which the report endeavours to address.

The pro-poor industrialization strategies explored in the report are based on the poor themselves, as they are the ones that facilitate the process of income generation. There is a

[1]United Nations Millennium Project (2004), *Millennium Development Compact*, New York, UN Millennium Project (http://www.unmillenniumproject.org/documents/MDC.pdf).

[2]COMPID includes the following five projects: *(a)* Supporting industrial development: overcoming market failures and providing public goods; *(b)* Technological development in low-income countries: policy options for sustainable growth; *(c)* Industrialization and poverty alleviation: pro-poor industrialization strategies revisited; *(d)* Productivity enhancement and equitable development: challenges for small and medium enterprises development; and *(e)* Social capital for industrial development: operationalizing the concept

tendency that the direct provision of necessities is more closely implicated in policies for poverty reduction rather than that measures must be taken to promote the poor to raise their income levels. The report sheds more light on the process of income generation by the poor themselves, because it is believed that in this lies the long-term solution for continuous and ultimate poverty reduction. Put differently, the report focuses on the supply side of an economy—one that stimulates labour demand and creates opportunities for employment and other types of income generation. In most cases, the surveys applicable to the direct provision approach do not provide the kind of information needed to adopt the income generation approach. Accordingly, it was necessary to design and conduct a tailor-made survey for the purpose of this analysis.

The areas highlighted in the survey are employment of the poor by sex; wage levels and change; entry barriers for new workers and scope of promotion; and profitability and productivity of a targeted industry. Such information is important for designing pro-poor industrialization strategies, as against standard household surveys, which are often used for the direct provision approach.

I. POVERTY REDUCTION THROUGH INDUSTRIALIZATION: OVERVIEW

A. GROWTH, INDUSTRIALIZATION AND POVERTY

Poverty is the greatest challenge facing the international community. The number of people living below one dollar per day per person was as many as 1.1 billion in 2000 worldwide. Due to the population growth in the world, the head-count ratio has decreased from 28.3 per cent in 1987 to 21.6 per cent in 2000. It is worth noting that this decline in the head-count ratio in the world can be attributed mainly to poverty reduction in East Asia and the Pacific, in particular, China. Sub-Saharan Africa suffers from poverty both in scale and head-count ratio. The absolute number of poor increased by 1.5 per cent between 1987 and 2000, and the head-count ratio in 2000 reached almost 50 per cent in sub-Saharan Africa. South Asia, which started full-fledged participation in the global economy only recently has already revealed substantial poverty reduction.

Generally speaking, poverty reduction can be achieved either through economic growth or an improvement in income distribution, or both. The definitional relationship between poverty reduction, economic growth and changes in income distribution are firmly established by Datt and Ravallion [1992], Kakwani [1993] and Bourguignon [2001; 2003 and 2004] among others. Neither economic growth nor changes in income distribution can solely determine the direction and scale of poverty reduction. It might be too optimistic to regard economic growth as a panacea for poverty reduction. If economic growth has a substantial negative impact on income distribution, then the total effect of the growth could be poverty-augmenting. Thus, who benefits from economic growth or from a development project, which is conducive to economic growth, is crucial for poverty reduction.

In the medium and long term, the economic growth of a country tends to involve almost the same rate of increase in income of the poor, according to a cross-country comparative study with household data by Dollar and Kraay [2002]. Deininger and Squire [1996] endorse this observation by showing that there is no systematic link between economic growth and changes in aggregate inequality. However, what matters for the poor, in this context, is that structural changes caused by economic growth necessitate adjustment in the allocation of resources including labour, and that friction may adversely affect the poor in the short term. Besides, costs of the adjustment may worsen the situation of the poor. Policy makers must make serious efforts to avoid any undue hardship inflicted on the poor as much as possible.

A main point of the current debate on strategies for poverty reduction is the combination of policies for increasing the income of a whole economy and those for distributing the increase in income to the poor. A focal issue in this context is how to achieve economic growth that

promotes poverty reduction—referred to as "pro-poor growth". As for policies for poverty alleviation, two approaches are widely recognized by the international community. One is direct policy intervention to provide essential necessities, social services and physical infrastructure to the poor, such as education, housing, primary care and sanitation, water, electricity and gas, nutritional supplements, as well as a social safety net for the most vulnerable group. Bhagwati [1988] terms this approach "the direct route". The other is "poverty alleviation-cum-growth" approach, which is directed to accelerating economic growth and thereby creating income-earning opportunities for the poor. This approach is referred to as "the indirect route" by Bhagwati [ibid], or as "broadly-based economic growth" by the World Bank [1990].

Through the direct route, industrial development could contribute significantly to the successful implementation of pro-poor policy interventions in many different ways by providing a wide range of essential manufacturing commodities. A major part of necessities, such as food, shelter and clothing are provided by the industrial sector. Among them are essential drugs for treating rampant infectious diseases in low-income countries directly and which contribute to achieving the Millennium Development Goal on prevention of three major infectious diseases and can be provided solely by the industrial sector. However, it is evident that the conceptual link between industrialization and poverty alleviation in the medium and long term must be established within an indirect framework of poverty reduction through rapid growth and the generation of income-earning opportunities for the poor. Specifically, the significance of poverty reduction in industrialization must be stressed in the context of: *(a)* employment generation and consequent income creation that industrialization would bring about through stimulating rapid economic growth; and *(b)* development of extensive industrial linkages within the industrial sector, and with other sectors of the economy in the course of industrialization, in particular with agriculture and services.

Then, what type of industrialization benefits the poor most? Which sector is most promising for poverty reduction? Is the sector viable in low-income countries? It is evident that the best sector for poverty reduction must satisfy the following two conditions:

- The sector must involve the poor widely and the growth of the sector must create opportunities of income generation by the poor effectively;
- Development of the sector must be sustainable, meaning that the sector needs to be competitive at least in the long term.

Any intervention by the government and donors cannot be accepted as permanent. The sector needs to move from infant industry status and become independent and competitive, otherwise the effect on poverty reduction would be short-lived.

The first criterion depends on how intensively the poor participate in the production of the sector. As a matter of fact, resources for income generation owned by the poor are limited to labour and local properties, such as land, natural materials and indigenous knowledge. Those sectors employing such factors intensively contribute best to income generation of the poor. The second criterion is competitiveness, which demands the viability of sectors that are strategically selected. In general, natural resources, such as agricultural products available in rural areas, together with labour, are inputs of production, which the poor are more likely to own, and both tend to be cheaper in low-income countries than high-income countries. Therefore,

sectors that employ either of the two inputs intensively are poverty reducing as well as potentially competitive. It can thus be said that industrialization strategies for sustainable poverty reduction should focus on promoting those industries that use the above two inputs intensively. In the report, promoting manufacturing industries that entail the former inputs is called the "agro-based industrialization strategy", while that of the latter inputs is "labour-intensive industrialization strategy".

B. PRO-POOR INDUSTRIALIZATION STRATEGY 1: AGRO-BASED INDUSTRIALIZATION

The agro-based industry is one of the main industries in rural areas of most low-income countries. Agro-based manufacturing, which is an essential non-farm rural sector, is regarded by some scholars in development economics as a key sector for poverty reduction. As discussed earlier, agro-based industry is likely to satisfy the following two criteria that serve as driving forces of poverty reduction: *(a)* extensive involvement of the poor in the production process; and *(b)* potential competitiveness by utilization of low-cost inputs and upgrading the quality of products and technology utilized for production. Rural workers are widely employed in the industry and poor farmers are also involved indirectly as they supply the industry with the crops produced. Thus, the agro-based industry is expected to contribute to poverty reduction significantly and is potentially competitive.

A main challenge deterring low-income countries from pursuing agro-based industrialization is their ability to increase the competitiveness of the industries. The competitiveness of the agro-based industry can be strengthened through two mechanisms: one is interindustry linkage, the other is industrial upgrading. Both are extensively discussed in the literature on value chains. Research on value chains is being undertaken by a wide range of scholars who are trying to find out how to incorporate the right momentum of globalization into the growth of firms and industries, in order to increase the employment of unskilled workers.

Agro-based industries have a strong link to agriculture, which is the main activity the poor engage in. Close ties with local agricultural activities lower the transaction costs for the use of agricultural inputs. Moreover, if the local network for marketing the agro-products works effectively, these unit costs become cheaper. In the same vein, if agricultural products are part of the global value chain, they have better chances of upgrading the quality of the products and also for upgrading the technology for production through interaction with "lead firms" which govern the chain. Thus, strong backward and forward linkage is a crucial means for promoting competitiveness within the agro-based industries, subsequently lowering the unit costs for final users. This focus of linkage between agriculture and industry is shared with another influential notion of development strategy, that is, agricultural development-led industrialization (Adelman [1984], and Jensen and Tarp [2004]). Finally, industrial upgrading is required to further poverty reduction through the development of agro-based industries. In order to increase production and employment, the range of economic activities should be widened, and productivity of the industry should be enhanced.

If an economy, which engaged only in the assembly process of a value chain in the past and depended on imports of intermediate inputs and capital goods, starts producing commodities formerly imported, the value-added that is generated in the economy increases. Own designing is another example of the vertical integration to upstream. Advancement to wholesale and retail is an example of downstream vertical integration. These kinds of extension of coverage of activities in a value chain are called "intra-chain upgrading". Productivity enhancement, for its part, is achieved through "product upgrading" and "process upgrading" through innovation and learning. Participation in the global production network provides opportunities to acquire new information and technology from abroad (Westphal [2002]).

C. PRO-POOR INDUSTRIALIZATION STRATEGY 2: LABOUR-INTENSIVE INDUSTRIALIZATION

As discussed above, labour-intensive industries fulfil the two criteria for pro-poor industrialization strategies, for example, greater involvement of the poor and full utilization of cheap inputs, labour in this case. The East Asian growth and industrialization during the 1960s and 1970s were characterized by export-orientation and the labour-intensive nature of main export manufactures from resource poor economies. The World Bank's *The East Asian Miracle* endorsed the positive role of active involvement of governments in each country in the export-oriented industrialization of East Asia. The three main features of the East Asian industrialization were export-orientation, labour-intensive industrialization and government intervention.

However, East Asia is not a role model for contemporary low-income countries any longer. Instead, export pessimism seems to prevail among low-income countries. The reasons are threefold. First, East Asian economies which are regarded as victors in economic development, such as the newly industrializing countries in Asia and the original member countries of the Association of South East Asian Nations, went far ahead of the contemporary low-income countries. Therefore, the East Asian economies cannot be adopted as a model for low-income countries to follow. Secondly, there are arguments that the East Asian victors had unique features, such as high human capital accumulation and labour abundance from the beginning of their industrialization, which is not the case with some contemporary low-income countries. The third reason for export pessimism is the comprehensive coverage of the World Trade Organization regime. Most low-income countries currently are members of the World Trade Organization where non-discrimination is the main principle. Member countries may not adopt all the policy instruments advantageous for export promotion, such as export subsidies, which were extensively used in East Asia during the initial phase of industrialization.

In reality, there are some low-income countries that have succeeded in labour-intensive industrialization. Typical examples are Bangladesh and Cambodia, where the share of total exports of garments exceeds 75 per cent. Bangladesh and Cambodia are not only among the biggest garment exporters among low-income countries, but have also succeeded in expanding their export share considerably even after the abolition of quantity control of textiles and garments trade which took effect on 1 January 2005.

To sum up, labour-intensive industrialization, which entails export-orientation as a necessary condition, lost ground when its validity was doubted due to the view of peculiarity of the East Asian economies where labour-intensive industrialization took place smoothly, and the limited options that were available for industrial promotion policies under the World Trade Organization regime. However, the successful attempts of some low-income countries, such as Bangladesh and Cambodia, to expand the exports of labour-intensive manufactures encourage the pursuit of labour-intensive industrialization. Specifically, the cost advantages based on low-wages could offset the disadvantages emanating from weak policies, bad governance and poor infrastructure. Labour-intensive industrialization, therefore, deserves a thorough review as a pro-poor industrialization strategy.

II. AN EMERGING TREND IN INDUSTRY-LED POVERTY REDUCTION: LABOUR-INTENSIVE INDUSTRIALIZATION IN LOW-INCOME COUNTRIES

A. POVERTY REDUCTION THROUGH LABOUR-INTENSIVE INDUSTRIALIZATION

In this chapter, the logic of poverty reduction through labour-intensive industrialization is presented. A majority of people living in low-income countries live in rural areas. Since the average per capita income is generally lower in rural areas, the incidence of poverty is naturally higher. Poor households have their own strategies to stabilize their per capita consumption. They attempt to diversify sources of income so that an unexpected shock affecting one source of income does not greatly affect the total amount of household income. Sending a household member to another place in an attempt to increase the family income, but where income changes are not positively correlated with rural income, is a typical response of rural households to smoothen consumption over time. A popular destination where sources of income are not very positively correlated with those of rural income is the urban area. Therefore, the poor in rural areas are better off migrating to urban areas, which is not extremely difficult or rare at present.

This argument of relatively easy access for the poor to the urban formal sector is discussed in detail in the report. The main tasks that can be expected to be undertaken by the poor are far from technologically complicated. For example, operating a sewing machine in the garment industry or assembling parts in an electrical machine are jobs, which are classified under the formal sector in most low-income countries, and can be handled by workers with several months of experience. Even rural and young women without a high level of education can undertake such tasks, once they become accustomed to the management and procedures working in the factories. Other family members who typically live in rural areas benefit from remittances sent by workers in urban areas, resulting in capital accumulation through remittances. The amount of remittances from workers in urban areas to their families in rural areas is substantial. Remittances contribute to poverty reduction in rural areas in two ways: *(a)* easing constraints on consumption; and *(b)* supplying resources for capital accumulation.

In sum, poverty reduction through labour-intensive industrialization is achieved through rural-to-urban migration of the poor; employment of the poor with wage rates higher than that of alternative rural employment opportunities, but low enough to maintain the competitiveness of the industry; low entry barriers for less educated female workers and relatively easy promotion to a certain level of designation; and diffusion of benefits from employment to family members in the form of direct increase in consumption and physical, human and social capital accumulation for future income generation.

B. Labour-intensive industries in low-income countries

While the light industry, in general, connotes the low-tech industry, there are labour-intensive industries, which are regarded as high-tech industries. UNIDO [2002] has a system of classification of commodities and categorizes under the low-tech products the following: apparel, footwear, leather and leather products, and textiles, among others. It classifies computers, television sets and some electrical machinery under the high-tech products, even though the assembly processes of these products do not necessarily require highly skilled workers to be in charge of the process. It is worth noting that undertaking labour-intensive processes of high-tech products could facilitate technological upgrading and lead to familiarization with high-tech products. In fact, there are many countries, mainly in East and South-East Asia, where industrialization was ignited through labour-intensive and low-tech industries and gradually proceeded to capital-intensive and high-tech industries capital accumulated and technology transfer. Thus, labour-intensive industries should be considered as a first step towards industrialization rather than a dead end.

C. Bangladesh and Kenya: two countries expanding exports of labour-intensive products

The garment industry in Bangladesh and Kenya is intensively studied as an example of a labour-intensive industry and its impacts on poverty reduction in the report. The results of field surveys conducted in the two countries, under the auspices of UNIDO, are summarized and analysed to show that the pro-poor industrialization mechanism developed in the previous section is actually underway. In particular, the two criteria for pro-poor industrialization—namely, wide involvement of the poor, and viability of the industry—are focal points of exploration.

Bangladesh and Kenya are chosen for this case study because of the two significant features of the two countries. First, they are low-income countries with per capita income around US$400, in South Asia and sub-Saharan Africa, respectively. The investment climates of both countries can be compared with other low-income countries. Moreover, the Governments of the two countries did not adopt a strong industrial promotion policy for the garment industry before its spontaneous growth fuelled by foreign direct investment. In other words, there is no special advantage for them to promote this industry. The second feature is that the two countries have a growing export-oriented garment industry, although Bangladesh is ahead of Kenya, in terms of development of the industry.

There are five key questions to be addressed through the analyses of data collected in the field surveys. The first question is whether unskilled workers earn enough to get out of poverty through employment in the garment industry. The second question is how easy is it for the poor to secure employment in the garment industry. In other words, is there a high entry barrier to employment by the industry. The third question is how much and how easily do the earnings of unskilled workers increase if experience in a garment factory is accumulated. The fourth question relates to consequences of employment of a worker in the garment industry on the livelihood of her/his family members. The final question is profitability and productivity of

garment-producing firms. These are important indicators for assessing the current viability and future prospects of the garment industry in Bangladesh and Kenya. The field study reveals that the answer to the first question is positive. The average wage level of the entry-level worker, whose wage rate was the lowest among all workers, was higher than the national poverty line in Bangladesh and Kenya, and those of alternative income-generation opportunities.

The next question is how easy is it to secure a job, even as a helper, in a garment factory. Is there a high barrier for the poor to be employed by a garment factory? Concerning requirements in the educational level, the entry barrier does not seem very high in either Bangladesh or Kenya. In Kenya, about half of the sample firms set no requirements for new helpers to join the firm. Moreover, in 35.8 per cent of the sample firms, the educational requirement is as high as primary school. This is not hard at all in Kenya, as the enrolment ratio for primary school is over 90 per cent. As for Bangladesh, the average educational attainment for helpers of 96.2 per cent of sample firms is primary school education, and the enrolment ratio for primary school is gradually reaching 100 per cent.

The third question is how much and how easily do the earnings of unskilled workers increase if experience in a garment factory is accumulated. In general, a helper does not operate a sewing machine in the garment industry. When a helper is promoted to an operator, who is assigned a sewing machine in a production line, the wage rate increases. If a worker acquires more skills and knowledge on garment production in general, the scope of further promotion is higher. There is little point in exploring the scope of wage increases in the garment industry in Kenya because the level of earnings of a helper is sufficiently high. According to the data from the field survey in Bangladesh, the probability for promotion to an operator is high and could result in some 60 per cent increase in earnings within a year or so.

The fourth question is whether employment of a worker in the garment industry enriches the livelihood of her/his family members. As the firm survey does not provide information to answer the question, supplementary interviews with garment workers were undertaken in both Bangladesh and Kenya on the basis of a questionnaire; with 40 and 17 workers interviewed in the respective countries. The following are observations about the interviews. It turns out that the financial contribution of garment workers to households is substantial. The most prominent one is, no doubt, an improvement in the current standard of living of a large segment of the population through new job creation. Another interesting observation is the high propensity to invest in assets of the household, which was more evident in Bangladesh. Household assets are not only limited to physical and financial assets but also human and social capital.

The fifth and final question is profitability and productivity of garment-producing firms. In both Bangladesh and Kenya, the capital markets are far from perfect, so that it is reasonable to assume most garment-producing firms face credit constraints. In this respect, self-financing with profits is the major source of investment and expansion of the firm. Profitability is thus a key for further expansion of the industry. However, in general, it is hard to measure profits accurately because it is often the owner of a firm, the manager of the firm, a landholder on whose land the factory is built, and a moneylender of a firm. (Some combinations of them are one and the same person.) In order to reinforce the arguments, a proxy for profitability is invoked, which is total factor productivity.

The data show that the majority of firms exhibit a very high profit share in Bangladesh. This observation implies that export-oriented garment production in Bangladesh is extremely profitable. On the other hand, the average profit share of the garment industry in Kenya was high but was less than that of Bangladesh. This lower profit share is partly due to the structure of the data set for Kenya, that is, there is a substantial gap in the profit share between firms located inside export processing zones and elsewhere. The average profit share for firms located in export processing zones is substantially higher than that of firms located in non-export processing zones. Thus, export-oriented and local market-oriented firms have totally different characters.

A next key issue is the relationship between scale and competitiveness. The empirical relationship between the profit share, total factor productivity and the scale of firms among sample firms of Bangladesh demonstrates that there is no strong relationship either between profit share and the scale of firm, or between productivity and scale.

D. PROSPECTS AND CHALLENGES

The prospects of and challenges to labour-intensive industrialization in low-income countries, including the garment industry, are then examined. International trade in textiles and garments has been long controlled by major importing countries, such as the United States of America, Canada and member countries of the European Union. The Multi-Fibre Arrangement regarding international trade in textiles came into effect in 1974, and it was determined that the Arrangement would be phased out by 1 January 2005, when the World Trade Organization was established in 1995 (Gereffi and Memedovic [2003]).

The Multi-Fibre Arrangement regime was completely eliminated on 1 January 2005. Free trade in textiles and apparel started the same day. The resulting impact of it had been long discussed by various parties. In mid-2004, an influential prediction was made in a discussion paper published by the World Trade Organization (Nordås [2004]), which argued that China would increase its share and India would follow, and that most of the other countries would become vulnerable. However, many low-income exporters, such as Bangladesh, Cambodia and India, increased their garment exports even after 1 January 2005.

Another important issue concerning garment exports from sub-Saharan African countries to the United States is the revision of the African Growth and Opportunity Act. A rapid increase in garment exports to the United States from some sub-Saharan African countries, such as Kenya, Lesotho, Madagascar, Malawi, Mauritius, Namibia, South Africa and Swaziland, is due to the preferential treatment by the African Growth and Opportunity Act. Such quick and positive responses of sub-Saharan African countries to this preferential treatment could be considered a great achievement to the extent that most of the countries never viewed themselves as exporters of manufactured goods to developed countries. The African Growth and Opportunity Act was revised as the African Growth and Opportunity Acceleration Act of 2004, also known as AGOA III, in July 2004.

As was expected before 2005, China is rapidly increasing its garment exports to both the United States and the European Union following the phasing out of the Multi-Fibre Arrangement.

The local textile and garment industry in the United States and the European Union are generally losing out, and making strong pleas to China to curb its imports. Even though China has made attempts to voluntarily reduce exports in March 2005, it did not satisfy the United States, which decided to invoke the safeguards against seven garment items and to impose import quotas in May of the same year. On 10 June 2005, China and the European Union agreed on a transitional arrangement, which would limit imports up to 10 per cent in textiles and garments in total. These moves will definitely work against the Chinese exports of garments, and expand the scope even more for low-income countries to export garments to the two great markets.

As discussed earlier, many light industries are labour-intensively operated. Another labour-intensive industry in developing countries, which has met the growing demand of developed countries during the post-World War II period, was electric and electronic machinery. In particular, East Asian countries became more involved in the assembly processes of production of the industry, which are labour-intensive. The industry will continue to be dynamic in the world economy in the coming decades, as well. In most East Asian countries (or regions) that are now middle-income countries (or regions), such as Indonesia, Malaysia, the Philippines, the Republic of Korea, Singapore, Taiwan Province of China and Thailand, the garment industry was once the main foreign exchange earner. Later, it was replaced by the electric and electronic machinery industry.

The electric and electronic industry has two different types of production processes: one is the very labour-intensive assembly process; and the other is the high-tech process, which is for producing essential parts where one of the most sophisticated technologies is incorporated. Engaging in the former process allows a firm to become familiar with the technologies incorporated into the machines and their parts. This provides a necessary foothold to proceed to the latter process. In this sense, the labour-intensive part of production processes of the electrical and electronic machinery is an entry point for low-income countries to further industrialization. And, in the case of the above-mentioned East Asian countries, development of the industry followed that of the export-oriented garment industry. Having a labour-intensive industry specialize for a certain period of time need not bind the country to the industry forever. Rather, the experience of East Asia reveals that the labour-intensive industry might be a window for diversification of manufacturing industries and technology upgrading. This is what current low-income countries should aim at.

III. POLICY IMPLICATIONS AND RECOMMENDATIONS

Chapter III presents policy implications and recommendations on pro-poor industrialization to the international society and, in particular, to *UNIDO*.

A. GENERAL POLICY IMPLICATIONS DERIVED FROM THE STUDY

The first lesson derived from the analyses is the rich variety of routes of industrialization towards poverty reduction. There are many ways in which industrialization has contributed to poverty reduction in low-income countries. The symbolic terms suggested by Bhagwati {[1988] are "direct" and "indirect routes" towards poverty reduction. The report mainly investigates what is the best "indirect route" for poverty reduction. Agro-based and labour-intensive industrialization are among the most promising "indirect routes" leading to poverty reduction.

The second implication from the study is that even low-income countries can have competitive manufacturing industries if cheap inputs are intensively used and if other essential inputs, such as infrastructure, are not too poorly managed. Except for mineral resources available in a limited number of low-income countries, typical cheap inputs in those countries are locally available agricultural goods, including seafood, and labour. There are some low-income countries that have succeeded in exporting manufactured goods. Examples incorporating the former inputs are processed seafood and horticultural goods, such as processed fruits, vegetables and nuts. Those incorporating cheap labour are garments, leather and leather products, and wood and wood products.

Third, intersector linkage could be a source of competitiveness. Geographical proximity among firms that exercise backward and forward linkages is mutually cost reducing, making it worthwhile to place emphasis on a set of industries that have strong industrial linkage with one another. If an agro-based industry is established in a place where agricultural inputs are available, static efficiency will be enhanced. Even without either backward or forward linkage, pure agglomeration of a similar type of firm could be advantageous due to the "thick market effect". In other words, transaction costs, to buy commonly used inputs and sell similar products to common types of customers, are reduced by locating firms producing similar goods in the vicinity.

Fourth, it was shown that there were cases where low-income countries succeeded in exporting labour-intensive manufactures greatly and continuously, and that the poor were employed on a large scale with earnings higher than the poverty line. Moreover, entry barriers for relatively uneducated workers to join the industry were low. Thus, development of a labour-intensive industry substantially contributes to poverty reduction of workers employed by the industry and their families.

Fifth, labour-intensive industrialization facilitates empowerment of female workers. Labour-intensive industry has a tendency to employ female workers more than proportionally. The most direct empowering factor of female employment is the expansion of their degree of economic freedom by increasing their cash in hand. This obviously strengthens the bargaining power of women over men in the household. Moreover, contacts with people outside her family bring about new knowledge about society and technology and, thereby, confidence to live outside the family. This empowerment effect is greater in a society where women are otherwise obliged to stay home and have no contact with the outside world, such as in South Asia.

Sixth, openness matters, but size does not, for competitiveness of the garment industry. The case study on the garment industry in Kenya reveals that export-oriented garment production was growing while that for local markets was shrinking. There are critical differences between the two types of firms not only in terms of market—those producing for domestic markets and those producing for export markets—but also in the technique and production system they adopt. Both profitability and productivity are higher in export-oriented firms than those oriented to local markets in Kenya. The importance of incorporating global dynamism is widely recognized in Bangladesh, too. The garment industry, which is currently leading the Bangladeshi economy, was initiated through foreign direct investment from the Republic of Korea. Without foreign direct investment from the Republic of Korea, Bangladesh might not have started its export-oriented garment production early in the 1980s. In addition, the success of smaller firms in the garment industry in Bangladesh is notable. Thus, even if promotion policies for smaller enterprises are applied at the distributional level, those will accrue little efficiency loss.

B. Recommendations for UNIDO's activities

The following recommendations are made to help UNIDO increase its effectiveness in pursuing poverty reduction in low-income countries:

- The inclusion of the labour-intensive industrialization strategy in UNIDO's portfolio of policy advisory services to low-income countries is recommended. Throughout the report, Bhagwati's "indirect route" to poverty reduction, whereby the poor generate income, has been examined. Among all the "indirect routes" that can be taken, agro-based industrialization and labour-intensive industrialization are two "routes" along which industrialization can effectively contribute to poverty reduction. Meanwhile, UNIDO's current activities on poverty reduction are evidently more in line with the agro-based industrialization strategy. The report suggests that labour-intensive industrialization should be regarded by UNIDO as a feasible and promising pro-poor industrialization pattern, which should be recommended to some low-income countries. The feasibility and promise of this pattern of pro-poor industrialization is based on the successes of some low-income countries, mainly in the garment industry. The case study of the garment industry in Bangladesh and Kenya, in chapter II, highlighted both the feasibility and the promise of the pro-poor industrialization pattern even after phasing out the Multi-Fibre Arrangement;

- Agro-based industrialization should remain as a core sector for pro-poor industrialization. It must be noted that agro-based industries satisfy the two criteria for a successful pro-poor industrialization strategy: strong and intense involvement of the poor; and cost advantage. If an agro-based industry increases the demand for agricultural products supplied by peasants and farmers, then the development of the agro-based industry would be advantageous in reducing poverty. Moreover, if an area is rich in agricultural products and they are cheaply supplied, the agro-industry in the area has a cost advantage over the same industry in other areas;

- Horizontal diversification is recommended for deepening industrialization, in addition to vertical diversification. Hypothetically speaking, suppose a strategic industry is promoted and kept on the right track, the next challenge would be to promote another industry and to diversify the industrial structure of the country in order to reduce the extent of vulnerability in industrial development. Currently, the main focus of UNIDO is on vertical diversification, which involves upstream to downstream processes of production in a value chain. In must be noted that horizontal diversification was successful in East Asia. When a labour-intensive industry is developed in a low-income country because of cost advantages caused by low wages and high labour-intensity, other industries with high labour-intensity could be competitive because low wages combined with high labour-intensity could result in low unit costs. In other words, factor price and factor intensity can be the criteria for selecting strategic industries in order to diversify the industrial structure of an economy horizontally;

- Openness can be an opportunity for low-income countries. There is a consensus among scholars that globalization poses opportunities and risks to participants in global competition. Some low-income countries seized the opportunity and grew to become middle-income countries;

- Smaller firms can compete internationally, depending on the subsector chosen. The labour-intensive industry is likely to require a small amount of capital. Small enterprises can easily start a business even if they employ a high number of workers. Probably because of the small capital requirement, no scale economy was observed for the garment industry in Bangladesh and Kenya once the market was controlled. This observation implies that there is little efficiency loss involved for promoting smaller firms;

- Targeting workers as well as entrepreneurs is suggested. UNIDO's focus on agro-based industry naturally results from the importance placed on peasants and farmers among the poor. In line with research on value chains, UNIDO promotes them in an effort to get them involved in either upstream or downstream activities in value chains. In other words, the poor are encouraged to become entrepreneurs. The majority of the population in developed countries increased their income levels not as entrepreneurs but as workers. Unlike workers, entrepreneurs are forced to take risks. Many risk-averse people, therefore, prefer to be employed as workers instead of becoming entrepreneurs. The labour-intensive industrialization strategy aims at income generation of the poor employed as workers. As labour demand increases, the bargaining power of workers is strengthened and earnings of workers could thus increase either through bargaining and promotion within a firm or by moving to another firm.

In conclusion, the report reveals that employing the poor in labour-intensive industries can potentially lift them out of poverty very quickly. This fact has been documented with reference to the garment industry in Bangladesh and Kenya—two countries with instructively dissimilar experiences in the industry. The report thus establishes that viable labour-intensive industries, which can play an immediate role in pro-poor growth, continue to exist.

UNIDO's current activities on poverty reduction are more in line with the agro-based industrialization strategy. While agro-based industrialization should remain an important strategy in UNIDO's poverty-oriented activities, the report strongly recommends the inclusion of the labour-intensive industrialization strategy in UNIDO's portfolio of policy advisory services to low-income countries. Yet, in terms of industrialization strategy, the report argues that UNIDO should balance its focus on vertical diversification with a greater emphasis on the potential of horizontal diversification. Lastly, the report argues that UNIDO's poverty-oriented activities should recognize, to a greater extent, the employment-generating and poverty-reducing potential of large-scale enterprises, and that entrepreneurship development, while valuable, does have its limitations in low-income countries.

REFERENCES

Bhagwati, J. (1988), "Poverty and Public Policy", *World Development*, 16 (5), May, pp. 539–555.

Bourguignon, F. (2001), "The Pace of Economic Growth and Poverty Reduction", paper presented at LACEA 2001 Conference, Montevideo, Uruguay (http://www.nip-lac.org/programs_lacea/Bourguignon.pdf).

Bourguignon, F. (2003), "The Growth Elasticity of Poverty Reduction: Explaining Heterogeneity across Countries and Time Periods", in Eicher, T. S., Turnovsky, S. J. (eds), *Inequality and Growth: Theory and Policy Implications*, Cambridge: MIT Press.

Bourguignon, F. (2004), "The Poverty-Growth-Inequality Triangle", paper presented at the Indian council for Research on International Economic Relations, New Delhi, on February 4.

Datt, G., Ravallion, M. (1992), "Growth and Redistribution Components of Changes in Poverty Measures: A Decomposition with Applications to Brazil and India in the 1980s", *Journal of Development Economics*, 38 (2), April, pp. 275–295.

Deininger, K., Squire, L. (1996), "A New Data Set Measuring Income Inequality", *World Bank Economic Review*, 10 (3), September, pp. 565–591.

Dollar, D., Kraay, A. (2002), "Growth is Good for the Poor", *Journal of Economic Growth*, 7 (3), September, pp. 195–225.

Gereffi, G., Memedovic, O. (2003), *The Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries*, Vienna: UNIDO.

Jensen, H. T., Tarp, F. (2004), "On the Choice of Appropriate Development Strategy: Insights Gained from CGE Modelling of the Mozambican Economy", *Journal of African Economies*, 13 (3), September, pp. 446–478.

Kakwani, N. (1993), "Poverty and Economic Growth with Application to Côte d'Ivoire", *Review of Income and Wealth*, 39 (2), June, pp. 121–139.

Nordås, H. K. (2004), "The global Textile and Clothing Industry post the Agreement on Textiles and Clothing", WTO Discussion Paper No. 5, Geneva: WTO.

United Nations Industrial Development Organization (UNIDO) (2002), *Industrial Development Report 2002/2003: Competing through Innovation and Learning*, Vienna: UNIDO.

United Nations Millennium Project (2004), *Millennium Development Compact*, New York, UN Millennium Project (http://www.unmillenniumproject.org/documents/MDC.pdf).

Westphal, L. E. (2002), "Technology Strategies for Economic Development in a Fast Changing Global Economy", *Economics of Innovation and New Technology*, 11 (4–5), August–October, pp. 275–320.

World Bank (1990), *World Development Report 1990: Poverty*, New York: Oxford University Press.

Printed in Austria
V.05-91422—June 2006—600

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Telephone: (+43-1) 26026-0, Fax: (+43-1) 26926-69
E-mail: unido@unido.org, Internet: http://www.unido.org