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The Mdgs And Light Manufacturing: A strategy for economic development in low-income countries

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INTRODUCTION

The Millennium Declaration and the Millennium Development Goals (MDGs) have focused everyone's attention, from policy makers to ordinary citizens, on concrete policy alleviation goals within a specific timeline. These goals have shifted the paradigm of economic development from the development of the capacities of a society, such as economic transformation, to a global consensus on specific targets of poverty reduction. The advantage of such an approach lies in the reliance only on the ability to forge a consensus among many different nations on the need for policy actions to achieve the goals. But the flexibility of this approach means that there is a vacuum in terms of the guidance for policy makers in low-income countries about the choice of a suitable development

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strategy for achieving the goals.[1] In the event of and perhaps because of their weak capacity, many low-income countries have lost control of the development agenda. This and the failure of many of these countries to reach the MDGs have led some critics to ask whether the consensus is a Faustian bargain, that is, whether there is a trade-off between the benefits of having these goals and the cost of a sacrifice (for example, see Fukuda-Parr 2013; Gore 2010).

In this paper, we argue that such a Faustian bargain need not take place if the development strategy followed in low-income countries is a dignified one based on job creation, especially the development of light manufacturing in, for example, textiles and clothing, agricultural processing, leather goods, and woodworking. The strategy is consistent with the MDGs because the goods produced in these sectors are directly related to human needs in food, clothing,

1. In this paper, we define low-income countries as countries with $1,035 or less in GNI per capita in 2012, calculated using the World Bank Atlas method. See "How We Classify Countries," World Bank, Washington, DC, http://data.worldbank.org/about/country-classifications.

Indicator	*1980*	*1990*	*2000*	*2011*
Population, millions	389.9	510.1	658.4	843.7
% Population growth, annual	2.7	2.7	2.4	2.2
Life expectancy at birth, years	48.5	51.1	53.2	58.4
Fertility rate, births per woman	6.5	6.0	5.3	4.5
Age dependency ratio, % of working-age population	92.0	91.4	86.7	78.1
Labor force participation rate, % of population 15+ years	—	74.2	73.2	73.9
Adjusted net enrollment rate, primary school, % of primary-school-age children	52.9	52.7	59.1	79.8
Primary-school completion rate, % of relevant age group	36.1	40.8	45.8	63.7
% ,Net enrollment rate, secondary school	12.8	14.7	23.0	32.3
Youth literacy rate, % of population 15–24 years	—	56.7	65.2	72.4

Table 2: Broad Demographic Trends in the Least Developed Countries, 1980–2011 Source: UNCTAD 2013. Note: 2011 is the most recent year on which data are available. — = not available.

Table 1: MDG Progress as of 2013: Goal 1, Eradicate Extreme Poverty and Hunger

Goals and targets	Africa		Asia					Latin America & Caribbean	Caucasus & Central Asia
	North	Sub-Saharan	East	Southeast	South	West	Oceania		
Reduce extreme poverty by half	low poverty	very high poverty	moderate poverty	moderate poverty	very high poverty	low poverty	very high poverty	low poverty	low poverty
Productive and decent employment	large deficit	very large deficit	large deficit	large deficit	very large deficit	large deficit	very large deficit	moderate deficit	moderate deficit
Reduce hunger by half	low hunger	very high hunger	moderate hunger	moderate hunger	high hunger	moderate hunger	moderate hunger	moderate hunger	moderatehunger

Source: United Nations 2013b.

Note: Green =target already met or expected to be met by 2015. Yellow = progress insufficient to reach the target if prevailing trends persist. Red =no progress or deterioration.

and shelter; and the manufacture of these goods creates productive jobs in poor countries. Moreover, contradicting a commonly held belief, we argue that the creation of productive jobs should be an end in itself and not a means to achieve the other goals. Drawing on a series of books published on this subject, we have reviewed the role of manufacturing in the industrialization process and how and why many low-income countries have not succeeded in this endeavor and have thus failed to achieve their poverty reduction targets and the MDGs.

Proper regulation is required as part of this strategy to ensure that light manufacturing industries protect the health and safety of workers and help achieve environmental sustainability. If implemented in a manner consistent with thinking, behavior, and actions consistent with Buddhist teaching (*the Eightfold Noble Path)*, the strategy has the potential to bring happiness and dignity to millions of poor people and relieve them from suffering (*the Four Noble Truths*), while minimizing the use of natural resources and the associated environmental impacts. In short, this strategy will help poor countries achieve the MDGs in the most dignified and rapid way possible.

THE MDG PARADIGM

The Millennium Declaration of the United Nations states that everyone has the responsibility to uphold human dignity, equality, and equity at the global level. The declaration is translated into practice through the adoption of eight MDGs:(1) eradicate extreme poverty and hunger; (2) achieve universal primary education; (3) promote gender equality and empower women; (4) reduce child mortality; (5) improve maternal health; (6) combat HIV/AIDs, malaria, and other diseases; (7) ensure environmental sustainability; and (8) develop a global partnership for development (United Nations 2000).

According to "The Millennium Development Goals Report 2013"(United Nations 2013a), goal 1 is the only goal that has been achieved. However, this may be misleading. Although the proportion of people living on less than $1.25 a day (that is, people who are living in

extreme poverty) has been reduced by half since 1990, the actual number has continued to rise because of high population growth. Furthermore, many of the sub-targets of goal 1 will not be met, including the target in productive and decent employment (Table 1).

In other areas, low-income countries have made significant investments in education. In addition, the net enrollment rate in primary education has increased by more than 25 percent over the past two decades, reaching 80 percent in 2011, and the net enrollment rate in secondary education has risen to 32 percent (Table 2). This progress is positive, but, despite the reduction in poverty by half and the boost in the investment in education, the population continues to grow, meaning that employment prospects remain uncertain. In Ethiopia, for example, we see that there were an estimated 1.4 million new entrants to the labor force in 2005, and the number is expected to increase to 3.2 million by 2050. In Bangladesh, there were 2.9 million new entrants in 2005, and the number is expected to peak at 3.1 million by 2020 before beginning to decline. This represents the number of productive and decent jobs and livelihoods that will have to be created in these countries. If this is not achieved, the likelihood is that poverty and international migration rates will rise (UNCTAD 2013).

Despite steady progress in many areas, the United Nations does not believe that goals 2–8 will be achieved by 2015 if current trends continue. In some cases, more targeted action is needed in specific regions (goal 3) while, in other regions, more preventative measures need to be undertaken (goals 6 and 7) (United Nations 2013a). This reality corresponds with Gore's statement (2010, 73) that "most progress is being made on targets which depend primarily on the level of public service provision." Gore believes that achieving the MDGs will require a combination of rising private incomes (based on productive employment), as argued in this paper, as well as improved access to public services (for education, health, water, sanitation).

Poverty indicators have mirrored the performance of economic growth. The real growth in gross domestic product (GDP) in the low-income countries picked up somewhat, from 4.5 percent in 2011 to 5.3 percent in 2012. The average share of agriculture in GDP declined from 31.4 percent in 1999–2001 to 25.6 percent in 2009–11. The share of manufacturing

stayed the same, at around 10 percent of GDP, while the average share of services declined somewhat. More generally, the trends suggest that, for the low-income countries as a group over the period between 1999–2001 and 2009–11, which was characterized by the most rapid economic growth in decades, there was little structural change of the type that results in strong increases in productivity, incomes, technological intensity, and high value added (UNCTAD 2013).

Before the establishment of the MDGs, the development community was embroiled in fierce debates over the meaning of economic development and the best way to achieve this development. Advocates of active government actions and their followers in the 1960s and 1970s saw the devastating consequences of a development strategy based on state interventions. The stage was thus set for the market approach (the Washington Consensus), whereby macroeconomic stabilization, privatization, and liberalization are emphasized, and markets are expected to resolve all problems of development. Of course, given the structural rigidities in developing countries, this approach brought stability but not sustained economic growth to low-income countries. Against this backdrop, the MDGs shifted the focus of the development debate to concrete development outcomes. The shift in the development paradigm was from a focus on how development might take off—or how poor nations could strive to reach the income level of the rich nations—to a focus on the minimum acceptable level of human decency. This approach has been associated with two fundamental changes: first, the welfare of the individual rather than the welfare of the collective is now the center of attention, and, second, the focus on outcomes rather than on the way to reach the outcomes and, hence, the flexibility in the means to reach the goal from various starting points. These two valuable changes have been accompanied by a consensus among nations, rich and poor, large and small, on the nature of development targets. Development economics has thus now shifted from developing the capabilities of nation and their citizens to measuring the progress against the goals.

The Faustian bargain: The possibility of a Faustian bargain arises

because, for some critics, development signifies much more than the eight MDGs. Economic development, at least for low-income countries, means that the most important weakness of these economies must be addressed: the ability to generate enough productive jobs for rapidly growing populations (Gore 2010).

This point may be illustrated by a simple example. Assume that two economies are similar in all respects and start out at the same level of development. The first economy achieves the MDGs by growing its productive capacities such as agriculture and manufacturing and thereby creating the jobs needed for its citizens, while the second economy achieves these outcomes through foreign aid. From the perspective of the MDGs, the two outcomes are equally satisfactory: it does not matter how the targets are reached. Yet, from the standpoint of economic sustainability, the first is a more desirable outcome, because aid, especially bilateral aid, comes and goes and is often unpredictable, as the experience of recent decades has shown. Reasonable people can ask: What happens if the amount of aid falls the year after the MDGs have been attained, and therefore the second economy falls back to a pre-MDG level of development? Would the second economy be better off not following the MDG path in the first place and, instead, use the aid resources at its disposal to develop productive capacities so that, by the target date, while it fails to reach the MDGs, it has a better chance to achieve the goals in later years, thanks to strengthened capacities?

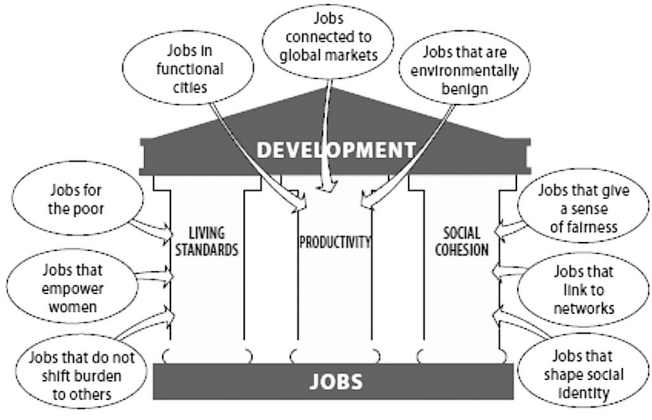

Figure 1: Some Jobs Accomplish More for Development Source: World Bank 2012.

Similarly, if a third economy attains the MDGs through the exploitation of its natural resources, say oil, is this outcome as desirable as the outcome experienced by the first economy? The answer seems to be yes and no: yes, if the natural resources are used in such as a way as to make future growth sustainable even if the resources are exhausted; no, if the resources are spent in expanding current consumption.

The third example brings closer to home the issue of time. Because a specific deadline has been set for achieving the MDGs (2015), some people may question if there is a trade-off between the urgency with which the goals are to be reached and the longer timeframe of development. One might argue that it may be better, from the viewpoint of enhancing welfare, to postpone the achievement of the goals for a few years to generate the income needed to make the process sustainable. This may indeed be better than achieving the goals by unsustainable means so that, when the aid or the quantity of the supporting natural resource shrinks, the development of the economy falls back to pre-MDGs levels.

Job creation: However, the Faustian bargain can be avoided if productive employment creation is clearly recognized as a desirable outcome on its own and not as a means to achieve other outcomes: in other words, if the creation of productive employment is clearly defined as a MDG goal. In fact, it has become increasingly evident that economic progress is going to play a crucial role in the sustainable achievement of the MDGs. This is why full and productive employment and decent work were added as a sub-target of the first MDG in 2007 (ILO 2012). Even beyond the 2015 target, jobs will continue to be fundamental to achieving the three pillars—economic, social, and environmental—of sustainable development. Thus, the World Bank devoted *World Development Report 2013* to jobs (World Bank 2012).

While conventional economics recognizes the importance of work, it views work and leisure as complements. A person therefore only works to earn money and maximizes utility by minimizing work and maximizing leisure. However, the reality is that a job is much more than a means to earn income (figure 1). It can be associated with social status, self-respect, and dignity among individuals and families. From the perspective of the

individual, having work is better than being given a handout, be it from a government or a charity. But this means that the income effect of the labor supply decision is positive rather negative as is often claimed, and the substitution effect maybe zero. Marshall said (1920, 117) that "perhaps after he [the worker] has been out of work for some time, he might, as far as his immediate comfort is concerned, rather work for nothing than not work at all." *World Development Report 2013* states that, "beyond their fundamental and immediate contribution to earnings, jobs also affect other dimensions of well-being, including mental and physical health" (World Bank 2012, 10).

The International Labour Organization is a strong proponent of making jobs a focal point. Sinanzeni Chuma-Mkandawire, its director of the Country Office for Nigeria, Gambia, Ghana, Liberia, and Sierra Leone, recently stated, "an adequate supply of jobs is the foundation of sustained and growing prosperity, inclusion and social cohesion. Where jobs are scarce or available livelihoods leave households in poverty there is less growth, less security, and less human and economic development" (*Daily Independent* 2013). Furthermore, in addressing the need for productive employment, countries must seek structural transformation to shift out of low-productivity agriculture and the informal sector to higher-productivity activities. This transformation will lower the dependence of a country on commodity exports, increase productivity, and can lead to sustainable growth.

The original United Nations Millennium Declaration, under the heading of development and poverty eradication, stated that "we also resolve . . . to develop and implement strategies that give young people everywhere a real chance to find decent and productive work" (United Nations 2000). As a primary driver of economic growth and employment creation, the private sector plays a central role in reducing poverty. However, in many developing countries, the majority of the population faces obstacles in starting or expanding industrial activities. Few small and micro-enterprises have the capacity to become stable small and medium enterprises and to respond to the opportunities available in the export sector and the global economy (UNIDO 2009).

HOW TO CREATE JOBS?

While virtually everyone one agrees about the importance of job creation, there is little guidance on policy makers on how to go about creating jobs. *World Development Report 2013* recognizes that

"Jobs challenges are not the same everywhere. Creating more jobs may be a universal goal, but the types of jobs that can contribute the most to development depend on the country context. Jobs that connect the economy to the world may matter the most in some situations; in others, the biggest payoff may be for jobs that reduce poverty or defuse conflict. Certainly, the level of development matters. (World Bank 2012, 17)

In a series of books and articles, we argue that, for low-income countries, light manufacturing—with its low capital requirements, limited scale economies, readily available technology, and sales possibilities in domestic and international markets—retains potential as a springboard and the best hope to expand output, employment, productivity, and exports. By leveraging the large low-wage, low-skilled labor force as well as access to abundant resources, light manufacturing offers huge potential for making sustainable growth a reality. In some cases, this may require governments to remove obstacles so that the light manufacturing firms may flourish. Over the past 20 years, light manufacturing has been an important stepping-stone toward economic transformation in economically successful developing countries (for example, China, Mauritius, Vietnam, and the Asian tigers). As they grow, light manufacturing firms earn and save foreign exchange, provide higher wages to the vast pools of underemployed labor, and develop new technical and managerial skills. In addition to their low labor costs, low-income countries, particularly those in Sub-Saharan Africa, also have the opportunity to leverage competitive (or potentially competitive) input industries (for example, agricultural products, leather, and wood) to develop competitive light manufacturing industries.

Manufacturing has long been recognized as an engine of growth in industrial countries. Kaldor's first law of economic growth states that

"the faster the rate of growth of the manufacturing sector, the faster will be the rate of growth of. . . [GDP]. . . for fundamental economic reasons connected with induced productivity growth inside and outside the manufacturing sector" (Thirlwall 1983, 345). In a study on economic growth in developed countries, Kuznets (1959) notes that modern economic development is characterized by long periods of rapid output growth that coincide with a structural shift in the composition of output away from agriculture and into manufacturing. Even in developed countries where the share of manufacturing in output and employment has been stagnant or declining, there is evidence that manufacturing involves more production links with other sectors and the transfer of more production skills than is the case in nonmanufacturing sectors. A United States Department of Commerce (1995) study of the effects of changes in final demand on flows of goods and services within and between industries finds that manufacturing has a much higher activity ratio than does nonmanufacturing; manufacturing industries draw more heavily on nonmanufacturing industries than the reverse; and gross output per unit of final demand is higher in manufacturing industries than in nonmanufacturing industries.

Light industries, such as textiles and clothing, agricultural processing, meat and fish preservation and packaging, leather goods, and woodworking have represented the leading edge in early industrialization both historically and today. Why? There are many reasons, including the ready availability of raw materials and labor, the universal demand for food and clothing, the simplicity and widespread diffusion of the relevant technologies, the limited capital and skill requirements, and the absence of scale economies. These circumstances allow small start-ups to produce light manufactures without deep technical knowledge, large-scale financing, or complex equipment.

Among the early-industrialized countries, organic growth powered a gradual transition, whereby capable (and lucky) entrepreneurs managed to outpace small-scale rivals and build their firms into large, well-capitalized, sophisticated operations that established national and, eventually, international distribution networks.

This sequence of easy entry, natural growth, and the gradual emergence of large, sophisticated producers pushed light manufacturing to the fore early in the development of today's rich countries. The United Kingdom pioneered this long-term process of modern economic growth, as Kuznets (1971) characterized it. Subsequent work by Syrquin and Chenery (1989, 82) confirms that "the main features of transformation, identified by Kuznets as the core of modern economic growth on the basis of long-term experience in advanced countries, can clearly be identified in the shorter time-series of a large number of developing countries." (See also Chenery and Syrquin 1975.)

The combined impacts of the Great Depression, World War II, and the Soviet Union's rapid industrial growth under policies of near autarchy convinced many economists and policy makers that low-income countries could not compete effectively with the West in producing manufactured products. The implication that poor countries could industrialize only by relying on domestic demand encouraged inward-looking import-substitution policies in these countries.

The thinking turned out to be wrong. Led by Taiwan (China), succession of low-income economies, mostly in East and Southeast Asia, showed how exports, particularly of light manufactures, could rapidly advance the economy-wide growth of production, income, employment, productivity, and exports more generally. Between 1965 and 1990, the combined share of Hong Kong SAR, China; the Republic of Korea; Singapore; and Taiwan, China, in global exports jumped from 3 percent to 9 percent, and their share in the exports of developing economies rose from 12 percent to 46 percent (World Bank 1993).

The accelerating pace of globalization offers opportunities for many low-income countries today. In the same way as rising costs in Taiwan, China, as well as in Hong Kong SAR, China, opened the door to China's emergence as a major exporter of light manufactures beginning in the 1980s, rapid cost increases in China's leading centers of labor-intensive industry, particularly the costs of unskilled labor, are now creating openings for new entrants to become established in global markets for low-end manufactures. Existing flows of imports provide would-be entrants with

precise details on the product characteristics and retail prices needed to challenge incumbent suppliers. An additional benefit of globalization is the proliferation of footloose entrepreneurs and procurement companies that possess the knowledge and capital resources to support new exporters, as occurred in China several decades ago.

Now, the coastal regions that powered China's export boom are rapidly losing traction as low-cost exporters of textiles, garments, toys, footwear, and other labor-intensive products. The erosion of competitiveness is concentrated at the low end of the price-quality spectrum, precisely the spot at which producers in low-income countries may find opportunities to break into international markets. The gradual withdrawal of China-based firms from low-cost, low-technology production space is creating new opportunities for the expansion of light manufactures in low-income economies.

THE POTENTIAL OF LIGHT MANUFACTURING

Many developing countries, especially those in Africa, have all the inputs needed for a competitive light manufacturing sector: a comparative advantage in low-wage labor, abundant natural resources sufficient to offset lower labor productivity relative to major competitors (for example, China), privileged access to high-income markets for exports, and, in most cases, a sufficiently large local or regional market to allow emerging producers to develop capabilities in quick-response, high-volume production and quality control in preparation for breaking into highly competitive export markets. They can accomplish this by accelerating the realization of latent comparative advantages in areas of light manufacturing in which specific, feasible, sharply focused, low-cost policy interventions can deliver a quick boost to output, productivity, and, perhaps, exports, opening the door to expanded entry and growth.

In recent years, four factors have helped open new markets for light manufacturing firms in Africa and Southeast Asia:

More rapid economic growth has expanded the size of the domestic

market for manufactures in most countries. New markets thus offer new opportunities.

Foreign investors and aid agencies are investing in manufactures destined for foreign markets. Examples include the U.S. Agency for International Development's technical assistance to Zambian farmers.

For globally competitive light manufacturing firms in Sub-Saharan Africa, the market is the world. The United States established new trade preferences under the African Growth and Opportunity Act, granting products from eligible Sub-Saharan African countries exceptionally favorable access to the United States, while the European Union adopted similar measures under the Cotonou Agreement. These trade preferences are critical to the success of African exporters in the global apparel market; without the preferences, the countries are noncompetitive with efficient global exporters in markets in the European Union and the United States (World Bank 2011).

Regional integration within Africa and within Southeast Asia increases the attractiveness of regional markets. For example, participation in regional trade agreements has opened up new markets for Tanzania and Zambia.

PERFORMANCE OF LIGHT MANUFACTURING IN AFRICA AND OTHER LOW-INCOME COUNTRIES

Despite widespread agreement among economists that labor-intensive manufacturing has contributed mightily to speedy development in East Asian and other rapidly growing economies, most developing countries have had little success in raising the share of manufacturing in production, employment, or exports (Clarke 2012; Collier 2007). So, what is wrong?

Overwhelming evidence from our research project indicates that the constraints on firms vary by sector; so, a one-size-fits-all approach is unlikely to be effective. The wide range of constraints shows, first, that solving problems in light manufacturing may involve specific

solutions across other sectors. Solving the manufacturing inputs problem requires that specific issues be addressed in agriculture, education, and infrastructure. Second, precisely because of these links, developing countries cannot afford to wait until all the problems across sectors are eliminated. Instead, a focused approach to relieve specific bottlenecks and momentum in reform is needed. Third, because of the unique structure of Africa's light manufacturing sector, the constraints vary by firm size. Fourth, some of the constraints can be addressed through factory-level measures, others only by government policy, and still others only by strengthening competition.

THE VICIOUS CIRCLE OF EXTREME POVERTY AND LIMITED INDUSTRIALIZATION

Most research on industrialization in Africa points to the lack of infrastructure as a key constraint on industrial growth. However, meeting Sub-Saharan Africa's needs in infrastructure is a huge challenge and cannot be achieved in one or two decades. Part of the difficulty is that Africa's infrastructure deficit is huge because of the years of neglect associated with poverty, but also because of the continent's characteristics, including low population density, low rates of urbanization, the large number of landlocked countries, and the numerous small economies. The cost of satisfying Africa's infrastructure needs is estimated by Foster and Briceño-Garmendia (2010) at $93 billion a year (some 15 percent of Africa's GDP), about two-thirds for investment, and one-third for maintenance. About half the capital investment are required for the production of power, which has been reported by enterprises in Sub-Saharan Africa as their most serious bottleneck, along with access to finance. Even under an optimistic scenario whereby efficiency gains are fully exploited through reforms, non-fragile and resource-rich low-income countries in Africa would only be able to meet the more modest targets in infrastructure needs in 20 years at existing rates of expenditure. If the efficiency gains are not fully exploited, it would take 30 years (Foster and Briceño-Garmendia 2010).

Our study shows that low-income countries face a vicious circle of pervasive poverty and low industrialization so that the economy-wide policies recommended by the Washington Consensus are unlikely to overcome the inertia that is impeding progress. Furthermore, because the binding constraints vary by sector and by firm size, economy-wide policies are not even effective in addressing the constraints.

A NEW APPROACH

What these economies need is a focused initiative to inject new elements of prosperity and growth even as large segments of the economies remain unaffected. Without such a breakthrough, poor countries are unlikely to eliminate the persistent low equilibrium of poverty and limited industrialization. The targeted development of light manufacturing—specifically, consumer goods manufactured using modest inputs of fixed capital and technology and the extensive application of unskilled or semiskilled labor—is a promising entry point for accelerating industrialization and prosperity in low-income countries. Our study, *Light Manufacturing in Africa: Targeted Policies to Enhance Private Investment and Create Jobs* (Dinh and others 2012), proposes a framework for applying targeted policies to enhance private investment and create jobs in low-income countries.

The approach we recommend involves identifying and tackling the most critical constraints to growth in the most promising sectors and generating islands of success, one island at a time. It builds on the work of Hausmann, Rodrik, and Velasco (2005), who visualize development as a continuous process of specifying binding constraints that limit growth, formulating and implementing policies to relax the constraints, securing modest improvements in performance, and then renewing growth by identifying and pushing against the factors limiting expansion in the new environment. It is also consistent with the new structural economics approach, which views economic development as a process requiring the continuous introduction of new and better technologies in existing industries and the upgrading of labor- and resource-intensive industries to new, more capital-intensive industries.

Following Hausmann, Rodrik, and Velasco, our approach emphasizes that development begins somewhere, but not everywhere. In Africa, as in China, applying limited funding and administrative personnel to implement a set of sharply focused reforms holds the promise of establishing new clusters of production, employment, and, eventually, exports – without first resolving economy-wide problems of land acquisition, utility services, skill shortages, administrative shortcomings, and the like.

ELEMENTS OF SUCCESS FOR DEVELOPING COUNTRIES

In a recent book (Dinh and others 2013), we have drawn five lessons from China and other East Asian countries in growing the light manufacturing sector to create jobs and prosperity. These include the following:

Creating a Conducive Environment for Manufacturing: This environment should involve active g*overnment support* for private enterprises. Foremost among possible official actions is forceful public endorsements issued by national leaders in favor of economic growth and private sector development as a key government priority. It also includes m*acroeconomic stability*, *close public-private cooperation*, *and incentive-compatible industrial policies*.

Filling Knowledge and Financial Gaps through Foreign Direct Investment and Networks: From the start of the opening-up policy of East Asian economies, which reduced barriers to international trade and private foreign investment, domestic industry and markets benefited from an influx of knowledge, capital, and market information from abroad. In many cases, filling the knowledge gap is even more important than filling the financial gap.

Using Substitution Policies and Sequencing: Successful development often occurs despite structural or institutional weaknesses. People can use or invent tools to help cope with the specific binding constraints they face. As the economists Alexander Gerschenkron (1962) and Albert Hirschman (1984) long emphasized, human ingenuity can devise workable substitutes for the key missing prerequisites to rapid growth. Thus, Japan invented

trading companies to economize on the scarce domestic knowledge of foreign languages and foreign expertise.

Starting with Simple Goods and Scaling Up or Cutting Back: Starting simple is an important means used among East Asian entrepreneurs to overcome the financing constraint. We have documented Ethiopia's cut flower industry, which was launched on only 7 hectares in 2000 (Dinh and others 2013). The business turned an immediate profit, and, by 2007, the industry had spread to 800 hectares, an enormous increase.

Creating Islands of Success: Low-income economies need a focused initiative to inject new elements of prosperity and allow for industrialization that does not rely on slowly developing infrastructure or wider structural reform. A positive example of this can be seen in the cut flower example mentioned above. This example from Ethiopia is reminiscent of an initiative in China 15 years earlier, when the government created four small special economic zones as an experiment in the market economy. These zones benefited from supportive policies that allowed competitive private firms to bypass a host of restrictions and controls. The success of the zones helped jump-start China's wider manufacturing sector. Both initiatives, from China and Ethiopia, illustrate a phenomenon not often discussed: reforms in specific industries or specific locations can create islands of success in an otherwise moribund economy. And, with success built upon success, the impact on the general economy can be significant.

None of these policy measures can be initiated and implemented alone by the private sector; hence, the need for selective government interventions over and above any economy-wide reforms.

ENVIRONMENTAL CONSIDERATIONS OF LIGHT MANUFACTURING (LM)

As shown above, LM has the potential of quickly lifting millions of people out of poverty by providing them with productive jobs and allowing them to earn a decent living and maintain their self-respect and dignity. However, this beneficial economic impact of LM should not come at the expense

of worker safety and environment degradation. Unfortunately, the May 2013 event in Bangladesh where clothing factories who were operating in an unsafe building collapsed, killing hundreds of workers, serves to remind us of the importance of worker safety. Similarly, the severe air and water pollution in China and their impact on life expectancy and public health highlight the need to seriously take environmental concerns in economic development. While LM in general has the least impact on the environment compared to other heavy industries such as steel and cement, some products such as tannery require special waste treatment consistent with environmental protection.

Air pollution from burning of fossil fuels such as coal and oil not only affects local air quality, but is also causing global warming. To balance economic growth with environmental protection and natural resource conservation, a true sustainable development strategy should emphasize not only meeting current societal needs, but also the effect of present growth on future generations. The Brundtland report defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" and highlighted three fundamental components to sustainable development: environmental protection, economic growth, and social equity (WCED 1987).

Promoting sustainable development, which is part of the UN MDGs, can help define the extent of economic growth and expansion out of consideration for environmental effects. Strict limits can be imposed through regulations that are designed to protect worker health and safety as well as the natural environment. These regulations should be developed with inputs from all the parties involved, i.e. the stakeholders, government agencies, and the general public. In industries known to have an environmental impact, before granting an operating permit, government agencies should require an environmental assessment (EA) or a more comprehensive Environmental Impact Statement (EIS) for a large project. These documents are designed to disclose in advance any significant impacts of the proposed project. They should also contain measures to mitigate any significant impacts. Again, the general public should be

actively involved throughout the EA/EIS process. Some may view this requirement of environmental review as impediment to economic growth. But, by disclosing in advance any significant impact, it is much easier and cheaper to fix the problems now than in the future years. For example, requiring a food processing plant to treat its wastewater before discharging to a nearby river is much easier and less expensive than treating a polluted river later. This is clearly the case where an ounce of prevention is worth more than a pound of cure!

CONSISTENCY OF LIGHT MANUFACTURING (LM) WITH BUDDHIST TEACHING

In its Four Noble Truths, Buddha teaches that life is suffering; suffering is caused by unfulfilled wants; and the elimination of these wants leads to the elimination of suffering. Following these three Truths, the 4th Truth shows the path toward the liberation from suffering. This method is elaborated in the Eightfold Noble Path, which consists of eight practices aiming at three areas: (1) the required Morality conduct in interacting with others in the society; (2) the personal Meditation to provide the spiritual support for Morality; and (3) the Enlightenment, which is the ultimate Wisdom of liberation from suffering.

The practice of the Eightfold Noble Path is governed by the two interwoven intrinsic principles of the Middle Way and Compassion. The Eightfold Noble Path should be implemented in the spirit of the Middle Way by avoiding the extremes, as Buddha discovered that the practice of either asceticism or hedonism could not lead to the liberation from suffering. Such liberation must strike a balance between the body and the mind. The body must have the four basic needs of food, clothing, shelter, and health care reasonably satisfied to free the time necessary to the spiritual pursuit of the mind. The availability of a job would reasonably satisfy those basic needs through the earned income, while contributing to poverty reduction. It thus upholds the dignity of the human being. Moreover, the practice of the Eightfold Noble Path should also be governed by the principle of compassion of active empathy to help all beings, in particular the poor, without condition and without discrimination. At the daily life

level, compassion should ensure the economic well-being of the society as a whole, including the reasonable satisfaction of the four basic needs and the reduction of inequality of income whereas the wealthy has the obligation to help the poor meeting those four basic needs. At the spiritual level, the ultimate compassion is the practice of the Bodhi Path, whereby a Bodhisattva vows to liberate all sentient beings, including humans and animals, from suffering.

It can be shown that LM, by creating employment for people, notably for the unskilled and semi-skilled labor, is consistent with the centrality and the dignity of human being as shown in Buddhist teaching for a number of reasons. First, LM focuses on the centrality of human being, as do the Four Noble Truths, which consider the human being the ultimate end for the liberation from suffering. Second, LM recognizes a person's dignity, as Buddha taught that all human beings have Buddha nature and can become Buddha. Thus, all possess that intrinsic dignity; all are equal; and all deserve the same respect (Lotus Sutra). Third, LM conforms to the imperative of Compassion to help all human beings reduce suffering. In this regard, LM ensures the dignity of the jobholder, solely by virtue of his having a job so that he can take care of himself, his family, and contributes to the society of which he is a productive member. Fourth, the focus of LM on job creation is also consistent with the Buddhist teaching on reducing income inequality by emphasizing the obligation of the rich to help the poor. Fifth**,** LM is consistent with Buddha's implicit encouragement to create jobs. In the Kutadanta Sutta, Buddha encouraged the distribution of seeds for agriculture, fodder for cattle, and capital for commerce (see Kutadanta Sutra available at: http://tipitaka.wikia.com/wiki/Kutadanta_Sutta). This is equivalent to providing inputs for productive economic activities that are labor intensive, thus leading to more job creation. Finally, LM is consistent with the Right Livelihood of the Eightfold Noble Path regarding the job created, i.e., it must be obtained from legal, honest means, with no violence of and no harm done to others.

LM, by creating jobs, generates income leading directly to the reduction of poverty. This capacity is consistent with Buddhist teaching because poverty itself implies suffering, which reflects the 1st Truth of the Four Noble Truths; hence to reduce poverty contributes

to reduced suffering. This is consistent with the 3rd Truth of the Four Noble Truths on the elimination of the cause of suffering. Moreover, the LM capacity to reduce poverty conforms to the spirit of the Middle Way by taking into consideration the needs of both the body and the mind in the use of income earned from jobs. Income provides the means to satisfy the basic needs of the body for food, shelter, clothing, and health care while allowing for a comfortable environment and more time for the spiritual pursuit of elimination of suffering through the practices of the Eightfold Noble Path. Poverty must be reduced to prevent social deterioration such as immoral behavior, including theft and violence and to bring social peace. The possibility of immoral behavior is discussed in *Lion's Roar Sutta (Cakkavatti-sihanada Sutta available at http://tipitaka.wikia.com/wiki/Cakkavattisihanada_Sutta) and that* of violence and theft, in *The Long Discourses, 396-405 (Digha-Nikaya iii 65 ff).*

ROLE OF GOVERNMENT

The LM approach discussed in this paper calls for an active government role in finding and eliminating the specific binding constraints to the sector growth and in creating a favorable environment for labor intensive activities. The responsibility to create a favorable environment is consistent with Buddhist teaching on the role of the King. For example, in the Nītiśastra-sūtra when King Udayana asked Buddha how to govern, Buddha responded that the King must: i) manage the economy to promote the welfare of the people so that people will not have to worry about the basic needs of life, which are hunger, clothing, health care, and hygiene; ii) ensure distributive justice to maintain social order[1]; iii) maintain high standard of morality, honesty, and respect of the law and promote his subjects [civil servants] according to their capabilities and merits. Only then the government will have the support of the population and a lasting peace.

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