

Back to the Future: A Green Industrial Policy for the Philippines

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Abstract

The Philippines is facing two major economic sustainability problems: 1) an economy with an eroding agricultural and industrial base; and 2) the nation's extreme vulnerability to risks associated with environmental degradation and climate change. These twin challenges require a bold re-thinking of the country's growth and development strategy in favor of one that promotes both accelerated industrial development and greener economy. For the first, the paper argues the need to replace the existing neo-liberal development framework with a forward-looking Industrial Policy. For the second, the paper argues that the Industrial Policy should be developed around the huge job and development potentials of greening a brown economy and degraded environment. However, to make the Green Industrial Policy work, the paper calls for economic-environmental-educational policy coherence as well as decisiveness on the part of the national leadership to pursue a policy break from the existing neo-liberal economic policy regime and neglect of the environment.

Keywords: Industrial Policy, sustainable development, policy coherence

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Introduction

In the wake of the global financial crisis (GFC) and large-scale human destruction brought about by environment-related phenomena such as the tsunami that inundated Japan's Fukushima nuclear power plant in 2011, the buzz term "sustainable development" has increasingly become popular in development circles within the UN system and among international aid agencies such as the World Bank and the Oxfam International. But what constitutes the most appropriate policy package to ensure sustainable development? This is what development thinkers everywhere have been debating in virtually all available forums, both at the national and global levels.

The World Commission on Environment and Development (1987) or the Brundlandt Report gave the classic definition of sustainable to mean "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (p. 43.) This definition clearly puts the environment at the center of the discourse on economic development, which is generally interpreted by development economists to mean the progressive upward transformation of the quality of life in different countries. The UNDP, in initiating the annual Human Development Report, beginning in 1990, tried to measure this qualitative transformation of life in terms of what is happening in the environment, economic, gender, health and other defining aspects of life (Alkire, 2010).

This paper focuses on two major dimensions of sustainable development—economic and environmental. Sustainable economic development means sustained growth that benefits everyone in society, meaning growth that is inclusive and not ephemeral or temporary. On the other hand, sustainable environmental development means society is able to sustain life from one generation to another, again at higher and higher levels of development, because of a nurturing and enabling eco system.

And yet, the question precisely is: What is the appropriate policy package to ensure or secure economic and environmental sustainable development? The answers naturally vary among nations. This paper is a contribution to the Philippine debate on what should be the defining elements of sustainable development strategy and policy package. The paper is divided in three ways: First, it discusses the weaknesses in the existing economic development framework

and why economic growth, given these weaknesses, is simply unsustainable. Second, the paper elaborates on the other dimension of the sustainable development discourse in the Philippines—the environmental, which has seeped into the collective consciousness of the nation because of the life-displacing risks associated with climate change. Third, the paper then tries to argue for a policy framework that seeks to address both the economic and environmental dimensions of sustainable development in the Philippine context.

First Major Development Challenge: Arresting Industry-less, Agriculture-less and Jobless Growth Pattern

The biggest socio-economic challenge facing the Philippines today is how to revive industry and agriculture in order to arrest a jobless growth pattern that has characterized Philippine development in the last three decades or so.

A 2012 ADB study—*Taking the Right Road to Inclusive Growth: Industrial Upgrading and Diversification in the Philippines* (Usui, 2012)—has renewed the debates on the importance of industrialization and the directions that the Philippine economy should take in the coming decade and beyond. According to the study, Philippine economic growth, buoyed up by the huge overseas migrant remittances and the tremendous expansion of the call center/business process outsourcing (CC/BPO) sector, is unsustainable if the industrial sector remains “stagnant.” The share of manufacturing in total Philippine employment went down from 11 percent in 1980 to roughly 9 percent today (see Table 1); in contrast, the percentage in neighboring Asian countries such as Indonesia and Thailand went up from single to double digits in the same period. If Malaysia, the Asian NICs and China are used as comparator countries, the Philippine industrial performance becomes even more embarrassing. And while the CC/BPO sector has become a major growth driver, its total contribution to direct job generation is just a little over one (1) percent of the total labor force.

Table 1. Sectoral Composition of Economy, Output and Employment (percentage, 1980 and 2009)

Sector	1980	2009
Output Share		
Agriculture	25.1	13.1
Industry	38.8	31.7
<i>Manufacturing</i>	25.7	21.3
Services	34.3	55.2
Employment Share		
Agriculture	51.8	35.2
Industry	15.4	14.5
<i>Manufacturing</i>	10.8	8.9
Services	14.5	50.3

Source: Extracted from Table 2-1 of Norio Usui, ADB, 2012

The above finding of the ADB on “stagnant industrialization” is not new, especially to the progressive civil society organizations in the Philippines. The ADB study is also somewhat incomplete in its diagnosis of the other weaknesses of the economy. A 2004 study by Focus on the Global South (*The Anti-Development State*, 2004) and a 2006 study by the Fair Trade Alliance (*Nationalist Development Agenda*, 2006) pointed out that Philippine **de-industrialization** in the last three decades has been accompanied by **de-agricultural development**, both of which have been reaffirmed, statistically, by the above-cited ADB study. (See Table 1 re sectoral distribution of output and employment.)

The country, a net agricultural exporting country in the 19th and 20th centuries, has become a net agricultural importing country since 1995, the first year of the Philippine membership in the World Trade Organization (WTO). It has, in fact, become the world’s biggest importer of rice. The nation’s success in the production and export of banana and pineapple cannot make up for the country’s failure in attaining self-sufficiency in staple crops (rice and corn), fishery and meat products, and in stabilizing the market for coconut, sugar, tobacco, vegetables, rubber and other crops.

On industrialization, Philippine manufacturing was hailed in the early 1960s by the World Bank as Asia's most dynamic, second only to Japan. However, as attested by the three studies above, the country's industrial dynamism disappeared during the last three decades, from the 1980s to the present. These decades happen to be the decades of "structural adjustment program" (SAP) promoted by the economic technocracy in the name of export orientation and national competitiveness. This explains why the original program of "temporary manpower export"¹ has become permanent and has grown year by year. Today, the remittances by around 10 million OFWs and Filipino immigrants, roughly equal to 10 percent of the population, provide the critical lifeline to at least a fifth of the population. The remittances, estimated to be over US\$20 billion a year, explain why the economy is described as a "consumption-led" one despite the precipitous decline in domestic manufacturing, agricultural production and employment.

In short, the Philippines has become a services-led economy without going through an industrial revolution and agricultural modernization. Both the industrial and agricultural sectors have stagnated. It is the services sector, both its formal and informal sub-sector sides, that has been growing. The growth of the formal sub-sector of services, from the 1980s to the present, has been fueled mainly by the remittances of the OFWs and the "overseas Filipinos," permanent immigrants who maintain close ties at home. In recent years, this OFW-consumption-led growth has been reinforced by the earnings of the vibrant CC/BPO sector.

The trouble is that not all Filipino families have relatives working overseas or educated family members working in the CC/BPO sector and other service industries such as banking, real estate and so on. As a result, official data on unemployment, underemployment, poverty and inequality present a dismal picture of the labor market. Most of the employed workers, over two-thirds of them, are in the informal sector where jobs are precarious or unprotected. In a way, the Philippines is a *one-third society* because the *other two-thirds* literally live on the margins, economically, socially and politically.

The job creation task for the government is not difficult to outline given the statistics on employment. (See Table 2.) It must create jobs for the one million annual labor entrants and the three million presently (and sometimes chronically) unemployed. In addition, it must create quality and sustainable jobs for the tens of

millions in the informal economy who are holding on to generally precarious jobs. Hence, to fulfil its electoral pledge to reverse the massive diaspora of Filipinos seeking greener pastures overseas, the Aquino Administration must be able to generate millions of quality jobs to entice overseas Filipino workers (OFWs) doing the low-end 3D jobs (dirty, dangerous and difficult) to come or stay home.

Table 2. Select Labor Force Statistics, 2010

	Number	Percentage
Working age population (15 years old and above)	62 million	
Labor force	39.9 million	64.3% of working age population
Employed	37.1 million	92.9% of labor force
Unemployed	2.8 million	7.1% of labor force
Underemployed	7.1 million	19.1% of employed
Unpaid family workers	3.97 million	10.7% of employed
Working less than 40 hours a week	12.65 million	34.1 % of employed

Source: BLES-DOLE

How should the government do all this? The task of governments is to set job targets, and work out policies and programs aimed at achieving those targets. In this context, it is only proper and wise for the Aquino administration to recognize certain realities about the economy and the labor market as practical guides in the formulation of such policies and programs.

Limited job creation outcomes under EOI. In 1972, after the declaration of martial law, the National Economic Development Authority (NEDA) abandoned the post-war import-substituting industrial (ISI) strategy in favor of the export-oriented industrial (EOI) strategy. The implementation of the EOI strategy was intensified in the 1980s through a World Bank-supported “structural adjustment program” (SAP). This SAP is an economic liberalization or openness program. It has been the justification for the liberalization of the foreign investment policy regime, the promotion of export processing zones (EPZs), and the opening up of the economy through

the downward restructuring of the tariff system, the elimination of trade restrictions and quotas, the deregulation of key sectors (e.g., finance and agriculture), and the privatization of government-owned and -controlled corporations (GOCCs) “competing with the private sector.” By the mid-1990s, the Philippines had been declared as one of the most open economies in Asia and in the world.

One outcome of this EOI drive is the proliferation of “ecozones,” both public and private, in the urbanized regions of the country—NCR, Regions III, IV and VI. Another is the rise of sewn garments and assembled semiconductor devices and auto parts as the country’s leading exports. Today, there are over 1,000 enterprises in over 60 public and private industrial ecozones employing around half a million workers (Ofreneo & Hernandez, 2010).

The growth of these EOI exports and jobs are, undoubtedly, an advance for the country, which used to rely solely on agricultural and mineral exports for dollar earnings. The problem is that while jobs in the electronics and auto parts assembly have remained, those in the garments industry have been disappearing. In the early 1990s, DOLE and DTI estimated garments jobs to number around a million—300,000 through the formal factory system and around 700,000 through subcontracting to smaller firms and home-based workers. However, the Philippines has been unable to keep within its boundaries many garments investors which have relocated to China, India, Bangladesh and other cheaper global sites. Thus, today, the garments industry is now a shadow of its past, employing only around 100,000 workers or even less.

On the other hand, the EOI program has a bright side—the accidental but phenomenal rise of the IT/ICT ecozones, which house the call centers (CC) and BPO projects now sprouting all over the country. After a decade of continuous growth, the CC-BPO sub-sector has generated half a million jobs (as of 2012), most of which are occupied by young, English-speaking and IT-savvy workers. These employees enjoy wages way above the average wage, often twice or thrice the mandated minimum, and yet most have to endure the rigors of working at night to service alien customers on the other side of the globe.

But overall, the problem with the EOI/SAP is that it has not created the millions of jobs its proponents promised in the 1970s and 1980s. While electronics/auto parts have generated half a million jobs and the IT/ICT parks another half a million, the faltering garments

industry have lost over half a million jobs (not to mention the job losses in the comatose textile industry, which used to employ close to 300,000 workers in the 1970s).

“Hollowing” out of the domestic industrial sector.

Overall, employment growth in the industrial sector has remained sluggish, and even declining, over the decades. This is partly explained by the limited employment growth in the EOI sub-sector as discussed above. The other explanation is the general weakening of the domestic industrial sector, particularly those bred during the ISI decades of the 1950s up to the mid-1970s. In the EOI/SAP decades of the 1970s-present, the ISI industries have been neglected. They were even branded by some economists as “rent-seeking” for opposing tariff reduction measures that are way ahead of other Asian countries. Apart from the textile industry, the ISI industries that are now comatose include the pulp and paper, wood-based, steel, rubber and tire, shoe, tile, battery, pharmaceutical, cement, plastic, petrochemical, fabricating, fertilizer, agricultural machinery and other home-oriented industries. As lamented by the Fair Trade Alliance (*Nationalist Development Agenda*, 2006), one ironic outcome of the EOI/SAP program is the *de-industrialization* or hollowing out of the economy and the consequent decline of manufacturing jobs.

In short, growth in the EOI or export sector, positive as it is, is not enough to offset losses in the crumbling ISI home-oriented industries. Local industries have been complaining about the unfairness or unevenness of the playing field right within the country. For example, Philippine tariffs on imports coming from countries such as China and Thailand are way below these countries’ tariffs on the same goods. Domestic producers also bewail the inability of the government to stop smuggling, which has become rampant despite the so-called lowering of tariffs. Safeguard laws against the dumping by foreign exporters of surplus and unwanted products rejected by other markets are hardly enforced. And since smugglers and EPZ-based exporters do not pay taxes, the full burden of taxation in the Philippines falls hardest on the unprotected domestic industrial and commercial sectors and the Filipino consuming public.

The problem of the domestic-oriented producers is further complicated by the higher cost of doing business in the Philippines (high cost of power, lack of infrastructure, etc.). Thus, not surprisingly, even the multinationals that set up subsidiaries during the ISI decades,

such as the drug, home appliance and pharmaceutical firms, had to shut down their production facilities in the Philippines in the 1990s in favor of production consolidation production in nearby Thailand and Indonesia. They have instead transformed their Philippine operations into an import-and-distribute businesses.

Agriculture also stagnating. In the agricultural sector, a similar pattern is emerging. Growth in production and job creation in the export-oriented fruit sub-sector (banana, pineapple) can not make up for the production and job stagnation in the much larger food sub-sector (rice, corn and vegetables) and the equally large traditional export sub-sector (sugar, coconut and tobacco). The poor performance of agriculture was fully revealed in the second quarter of 2008 when the country, hit by the global food crisis, became the world's biggest rice importer. Since 1995, ironically the first year of Philippine membership in the World Trade Organization (WTO), the country has been importing more agricultural products than what it has been exporting. In short, the Philippines has become a net agricultural importing country (Ramos, 2009; Ofreneo et al., 2008)!

Central to the poor performance of agriculture is the government's SAP program for the sector, dubbed as "agricultural deregulation." This program calls for zero or reduced government subsidy and support for farmers and non-government intervention in the market, especially in the trading of agricultural products. In a way, agricultural deregulation contributed to the government's failure to support domestic agricultural development in terms of concrete capacity building, with the Agricultural and Fisheries Modernization law underfunded and hardly implemented, and to stop the smuggling of competing agricultural products (particularly onion, garlic and vegetables) and level the domestic playing field through fair or equal trade liberalization measures (meaning calibrate tariffs at least at the same level as those of Thailand and Vietnam). At the same time, the government has failed to invest in needed rural infrastructure (and maintenance), human resources development and support services (particularly for the small farmers and agrarian reform beneficiaries). In addition, the sector is hobbled by the weak and prolonged implementation of the comprehensive agrarian reform program (CARP).

To further confuse the agricultural policy situation, governments are sometimes confused as to whether to provide all-

out support for the small farmers or open the land and agricultural market to big agribusiness firms and land developers, local or foreign. For example, the previous Macapagal-Arroyo Administration officially supported two anti-farmer programs—first, the large-scale importation of rice and other agricultural products to the consternation of local producers and second, the marketing of agricultural land development to foreign and big investors. The former subverted the self-sufficiency program, which the government had proclaimed as its primary goal. The latter, as outlined in the 2004-2010 MTPDP's targeting of two million hectares of land for "agribusiness development," is patently anti-CARP. This land liberalization program was suspended only because of the strong opposition by the Catholic bishops and farmers organizations, specifically on the surreptitious agreements made by the government with a dozen Chinese agribusiness firms on the development of 1.24 million hectares. And yet, today, there are strong voices in the Philippine legislature resurrecting the old proposal to amend the Constitution so that the land market can be liberalized and foreigners can own and accumulate lands in the Philippines.

Overall, the Philippines is suffering from the multiple problems of massive unemployment, underemployment and poverty due to weaknesses in the quality of growth—industry-less, agriculture-less and jobless. Development has been segmented and even aimless. There are good quality jobs for a few in the shrinking formal or organized sector of the economy. However, majority of the jobs are of poor quality and can be found in the ever-expanding informal economy. The limited opportunities for career and income advancement at home have, in turn, pushed millions to seek greener pastures overseas. The resulting OFW remittances are what keep the economy growing despite the limited job outcomes from the narrow EOI/SAP program, aggravated by bad economic policies at home such as the model debtor program. The real sectors—industry and agriculture—have not been growing and generating jobs for the growing labor force. Yes, there is growth but it is a remittance-driven consumption-led growth. And yes, it is jobless growth.

Second Major Development Challenge: Minimizing Environmental and Climate Change Risks

Aside from the jobless, industry-less and agriculture-less growth, the Philippines is facing another formidable development challenge: containing or minimizing the risks associated with two deadly intertwining environmental threats—general environmental degradation and climate change (CC) risks. The first means declining quality of environment and life for all, especially for the poor; the latter means increasing vulnerability of the country to disasters such as floods, droughts and landslides triggered by extremes in weather changes, with the poor suffering the most.

On CC risks, the Philippines is in the short list of the five most vulnerable countries in the world (Cruz, 2010). And yet ironically, the archipelago of 7,000-plus islands is a low emitter of greenhouse gas (GHG) or carbon dioxide. (See Table 3.)

Table 3. GHG Emission Share vs. Select Countries, 2004

	Global share (percent)	Per capita GHG share
United States	20.9	20.6
China	17.3	3.8
Russia	5.3	10.6
India	4.6	1.2
Japan	4.3	9.9
Germany	2.8	9.8
South Korea	1.6	9.7
Singapore	0.2	12.3
<i>Philippines (Phl)</i>	<i>0.3</i>	<i>1.0</i>

Source: Source: UNDP, Human Development Report 2007/2008 – Fighting Climate Change: Human Solidarity in a Divided World, 2007

The national awareness on the CC-related risks has risen due to the devastating typhoons and droughts experienced by the country each year. In September-October 2009, two powerful storms (“Ondoy” and “Pepeng”) unleashed a huge volume of rainwater, which inundated more than half of Luzon, including Metro Manila, for several days. In December 2011, thousands (exact number never

established) died when typhoon “Sendong” washed out whole villages in two cities of northern Mindanao,² Cagayan de Oro and Iligan. These storms are an eye-opener to the general public for they have fully bared the extreme vulnerabilities of the Philippines to the risks associated with climate change and with the general degradation of the environment. The CC phenomenon is blamed for the ferocity of these storms, while the degraded environment (due to limited forest cover, eroded watersheds, silted river systems, illegal logging and irresponsible mining) is routinely cited as the reason for the sudden swelling and slow recession of the devastating floods.

In this connection, one environmental policy debate in the past revolved around the issue of which should be given importance: Mitigation (GHG emission reduction) or adaptation (anticipating and adjusting to CC risks)? Today, it is abundantly clear that both should be given importance. Also, mitigation and adaptation programs in relation to CC should go hand-in-hand with the tasks of rebuilding the environment (e.g., reforestation, community renewal, mangrove replanting/rehabilitation, dredging of waterways, etc.) and enforcing all environmental laws with decisiveness and consistency.

As it is, the poor—the numerous poor—are the ones who always bear the brunt of the CC and environmental disasters. They live in houses made of cardboard and poor housing materials; they are also located in congested, hazardous and unprotected areas. Moreover, their livelihoods are severely affected because these are generally marginal economic activities in the large but unprotected informal economy. And yet, because of poverty, the poor also aggravate the dire environmental situation in the country with their survival-coping economic activities, such as poaching forest trees, engaging in small-scale mining using mercury, blocking waterways by building illegal structures, overfishing in overfished coastal areas, etc.

On the state of the Philippine environment, the various environmental organizations, and the government’s Department of Environment and Natural Resources (DENR) itself, have amply documented how degraded the environment is. Chapter 10 of the Philippine Development Plan 2011-1016 (NEDA, 2011) has a fairly comprehensive list of environmental problems facing the country. The list includes the following: water pollution (up to 58 percent of Metro Manila’s ground water contaminated with coliform), solid waste disposal (only up to 70 percent of garbage collected in the metropolis), diminished watersheds (as many as 267 requiring

rehabilitation), endangered biodiversity (the Philippines' is the most threatened in the world), degraded coral reefs (only five percent out of 27,000 square kilometers in excellent condition), exhausted mangroves (140,000 hectares remaining in 2008 compared to 450,000 in 1918), and reduced forest lands (only 19 percent of the total land area of 30 million hectares are considered forested as of 2007).

A Green Industrial Policy

Clearly, the economic and environmental problems plaguing the Philippines point to the need for policymakers to focus maximum attention in the formulation of policies promoting both economic and environmental sustainability. This paper argues that both sustainability challenges—economic and environmental—should be addressed in an integrated and coherent manner through a “Green Industrial Policy.” But first what is industrial policy?

Industrial policy vs neo-liberalism. In the wake of the global financial crisis (GFC), the term “Industrial Policy,” associated with a strong or activist government providing a guiding role in the upward upgrading and promotion of select industries or whole sectors of the economy, has become part of the vocabulary in the development circles. The Keynesian-style stimulus spending by the United States, United Kingdom and other developed countries to boost their depressed economies and save some big national industries that are “too big to fail” show that, when confronted with a crisis, developed countries themselves are only too willing to cast aside their supposed belief in and compliance with free market rules. Today, governments worldwide, led by the United States and China, are trying to implement in one form or another an Industrial Policy for their respective countries. They have all become born-again Keynesian interventionists, ignoring the Washington Consensus on the all-out privatization of government corporations and services through non-government intervention in the market and the auctioning of government corporations to the private sector.

In short, Industrial Policy collides with or is the opposite of neo-liberal economics. Worshipping at the altar of free-market rules, neo-liberal economists assume that untrammelled or unrestricted

competition under a free-trade environment makes industries and labor markets efficient. Those unable to survive under free market competition are simply allowed to die by the wayside, just like the Philippine ISI industries that were left struggling to cope with the impact of SAP liberalization in the 1980s-1990s.

What is the policy scope of Industrial Policy? The World Bank-supported Donor Committee on Enterprise Development (DCED) gives a terse summary of how Industrial Policy (DCED, 2014) is understood globally:

“UNCTAD defines industrial policy as a ‘concerted, focused, conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policy tools’. The World Bank considers industrial policy as ‘government efforts to alter industrial structure to promote productivity-based growth’. Pack and Saggi provide a more detailed definition: ‘any type of selective intervention or government policy that attempts to alter the structure of production toward sectors that are expected to offer better prospects for economic growth than would occur in the absence of such intervention, i.e., in the market equilibrium.’”

All the foregoing definitions of Industrial Policy point to one general conclusion—Industrial Policy refers to the effort of a government to build up capacity in an industry or sector to promote structural change, for example, from an agrarian to an industrial economy or from a low-technology manufacturing base to a high-tech manufacturing base. Neo-liberal economists are against Industrial Policy because they see it as a subversion of the free-market model and a derogation of the Ricardian concept of “comparative advantage” in trade, which assumes that nations are better off producing goods which they can produce more cheaply or more efficiently, for example, a labor-surplus developing economy can focus on the production of cheap garments for export. They add that pursuing Industrial Policy means some sectors are discriminated because of the subsidy given to select sectors; hence, the charge that Industrial Policy is a formula for crony capitalism. Further, they argue that picking winners can be costly if these winners flounder in the market or if the selected “infant industries” remain infant and dependent on government support.

There is no space here to go into a lengthy refutation of the neo-liberal critique, which, to a certain extent, may have some basis if Industrial Policy is pursued in an arbitrary and capricious manner *sans* public debate and consultation, research and analysis, and without any clear vision of industrial development that can benefit the most number of people and the whole society. What is important to point out here is that a glimpse at the history of most of the developed countries today shows that Industrial Policy played a decisive role in the transformation of their economies from one dependent on low-value-adding agrarian production to high-value manufacturing, (See the historical review made by Ha-Joon Chang in *Kicking Away the Ladder*, 2002.)

Also, in Asia, Industrial Policy has been given life at varying levels and forms by Asia's major and fast industrializers, beginning with Japan after World War II, followed in the 1970s-1980s by the Asian NICs or newly-industrialized countries of South Korea, Singapore and Taiwan. Subsequently, Indonesia, Malaysia and Thailand adopted some form of government-led industrialization. Of course, the biggest and the fastest industrializer today is China, which aggressively participates in the global market by unabashedly maintaining a managed currency to promote exports and keep imports at bay and supporting in myriad ways the upgrading of its own domestic and export industries just like what Japan and the Asian NICs did earlier.

In contrast, the Philippines, as summarized earlier, has embraced a neo-liberal framework of development since the 1970s, when it followed the neo-liberal dogma of market opening without a clear and accompanying State-supported industrial upgrading. This dogma was reinforced in the 1980s and the 1990s with the World Bank's SAP prescription of wholesale trade and investment liberalization, deregulation of finance and other sectors, and privatization of government corporations and social services. The result, however, is the cataclysmic collapse of both industry and agriculture. Ironically, today, both the ADB and the World Bank have been calling for a revival of Philippine industry, manufacturing in particular, because they argue, correctly, that growth is unsustainable without an industrial base.

Framing industrial policy in the Philippines. Now, given the history and structure of the economy, how should Industrial Policy be pursued in the Philippines?

First, this paper takes the position that the overall focus of Industrial Policy should be on building up the overall competitiveness of the economy and nudging Philippine-based industries up the higher rungs of the industry ladder through a scaling up of technology, R&D, and providing an enabling environment, which includes availability of cheap power and efficient infrastructures, among others.

Rasiah (2007) put all the upgrading and capacity-building elements together in his “systemic quad” model. He pointed out that scaling up the industrialization-technology ladder requires the basic development of skills capacity and scientific-technical knowhow in the targeted industries. In turn, building up such capacity and knowhow requires an enabling environment made possible not only by basic supporting infrastructures (e.g, communication, utilities, customs, etc.) and integration in a globalized production system (e.g., value chains, competition, etc.) but also, and more importantly, the presence of institutions to drive learning and innovation (e.g., R&D, training, etc.) and the positive coordination and cooperation among public and private institutions and actors in what he calls as “network cohesion.”

From the foregoing, the role of government, with its coordinative power, is primordial. It should provide the leadership in the industrial visioning process. In particular, it should lead in strategizing, together with the private sector and the country’s intelligentsia, the position of the country in the globalizing world economy. The reality is that the Philippines is part of a globalized world economy. However, it should not get stuck in low-value-adding spots in the global economic order by passively waiting for the market forces to play out freely and show the country’s so-called “comparative advantage.” The growth and collapse of the garments industry (and before it, the textile industry) shows the terrible consequences of the absence of a forward-looking industrial strategy. And so too does the lack of value-adding development in the assembly and export of electronics and auto parts, as discussed in the ADB book of Norio Usui (2012).

The DTI, NEDA, DOST and other concerned economic agencies should draw up a program of scaling up for existing industry and agriculture—in terms of value addition, technology

upgrading, skills development and general modernization—*so that industries and jobs can be nudged to evolve into higher stages of development and do not merely become transition industries and jobs*. Such scaling up means helping local industry and agriculture develop strong muscles to withstand competition at home and overseas (hence, the importance of calibrating trade, investment and production policies in a coherent manner). It also means R&D, strategic market niching, affordable enabling infrastructures (power, communication, transport, etc.) and supporting institutions that make the cost of doing business competitive. This is what Industrial Policy is all about!

Greening the economy through industrial policy. Now how can Industrial Policy support sustainable environment in the Philippines? Can greening and Industrial Policy go together? The answer is: Yes, they should go together.

As it is, there are three economic sectors—a stagnant industrial sector, a declining agricultural sector, and a growing services sector. However, except for some “green shoots” (e.g., recycling, geothermal energy generation, organic farming, eco-tourism, etc.), all these sectors are generally brown or brownish. There are, of course, some “black” spots in the economy—the shady economic activities by some shady groups such as prostitution, gambling, smuggling, kidnapping, human trafficking, etc. The environmentally-degrading deforestation and harvesting of mangroves and corals by irresponsible businessmen and desperate poor are also realities. This black economy requires a separate study.

Greening means transforming the brown economy into a greener one, and Industrial Policy means nudging industry to move up the technology and value-adding ladder. The two can very well go together. The following are the recommendations of this paper:

Reverse “stagnant industrialization” by upgrading and greening the industrial sector. As the ADB study put it, the country must reverse “stagnant industrialization” and restore “industrial dynamism.” The ADB proposal is straightforward—embrace an Industrial Policy to upgrade and diversify the industrial structure. Aside from the usual investment climate enhancement program (fiscal incentives and so on), the ADB is asking the government to take an outright leadership role in identifying and pushing the private sector to go up in the higher rungs of industrialization by focusing on what

it calls higher “nearby products,” meaning products with additional technological inputs or higher sophistication involving higher skills and professional expertise. Additionally, the ADB calls for social dialogue with the private sector on how to go up the higher steps of the industrial ladder.

The above ADB proposal is classic Industrial Policy. This approach is indeed one way of reversing industrial stagnation and creating more jobs. This approach will also strengthen industrial peace, because going higher up means moving away from the traditional labor-intensive (but not necessarily job-intensive economy-wide) processes and the practice of short-term hiring,³ which fuel labor unrest (due to emphasis on wage and union restraint). Studies show that the cost of unskilled Philippine labor is higher compared to many Asian countries, and yet the cost of skilled and professional labor is generally competitive and reasonable. This is reflected in the massive way Filipino skilled workers are being recruited (often poached) for the Asian and global labor market.

Export-led electronics and auto assembly plants should evolve into producers of higher value-added products, such as original equipment manufacturers (OEM) and producers of new industrial products, which is similar to the suggestion by the ADB study. As for the local industrial producers, each should go into road-mapping on the higher road of production with the involvement of other stakeholders such as the academe and organized labor.⁴ There should be increased processing or industrialization of agricultural products. Likewise, there should be value-adding and job-creating industrialization of minerals, which should be extracted under strict environmental standards. The point is that the Philippines should get out of the rut of the failed labor-intensive, low-technology, low-skill and uncompetitive industrial production, which is also generally environmentally degrading.

The plain truth is that going higher value-added should form part of the overall greening process for a brownish economy. It means getting out of the uncompetitive low-end manufacturing. Since most of the smokestack industries such as foundries and the dilapidated textile mills had already disappeared under SAP liberalization, and since the Philippines has the highest cost of electricity in the region, any industrial upgrading is also likely to focus on energy-economizing activity. This should be reinforced by government-private sector-cooperation in energy saving every step of the upgrading process.

The government should also address the power issue with more decisiveness, because the high cost of power, much more than labor cost, is one major reason why Philippine manufacturing has declined and has become uncompetitive in Asia.

Modernize agriculture by going organic. Greening the agriculture sector through ecologically sound farming approaches such as organic, biodynamic, natural farming and quantum agriculture, among others, will not only help revive the soil poisoned by a century of chemical agriculture, but will also create more agricultural jobs. Modern organic or sustainable agriculture is science- and labor-intensive, for it requires careful seed selection and preparation and consistent caring of the farm and nature, from seed production to harvesting. Agricultural modernization is also a key in the country's efforts to regain self-sufficiency in staple crops, vegetables and other agricultural products.

The government has already enacted a law promoting organic agriculture (RA 100681 of 2010), and the country has a number of successful organic farming projects that are thriving in the market despite limited assistance by the government. However, the coverage of organic farming is still less than two percent of the total (Manalang et al., 2011). What is needed is more policy consistency in the promotion of organic farming, the greater popularization of good practices in organic farming, and the formulation by the Department of Agriculture (DA) of a doable national action program in support of the shift from chemical to organic farming. The reality is that organic agriculture will not thrive in a sea of chemical-based agriculture, because the established agricultural infrastructures, input markets and trading systems are chemical-oriented.

Green the service industries and grow the green segments. Greening the services sector means the adoption of more eco-friendly and eco-oriented business practices, including better treatment of workers through the culture of social partnership and respect for the rights of both workers and employers. Some of the premier tourist destinations in the country today are those espousing the principles of eco-tourism, such as Subic, Bohol and Palawan. If the country can be cleaned up and greened, it has the potential of rivaling its Asian neighbors in attracting tourists, from the current two to three million a year to 12 to 15 million.

Build jobs by renewing the environment. Greening the three economic sectors through the ISG approach should be complemented

by the general program of rebuilding or renewing the environment. This too has the potential of creating millions of jobs, particularly the following:

1. Greening the forest lands. The Philippines has huge forest lands without any forests. Bringing back the forests can be a source of growth and job creation, because it implies huge investments on reforestation and tens of thousands of forest growers. Haribon, the country's pioneer CSO on biodiversity, has documented cases showing that reforestation is sustainable if undertaken or supervised by dedicated public and private institutions. The sustainable "rainforestation" scheme developed by the Visayas State University, has been used successfully by the Energy Development Corporation in regenerating the forest in the large EDC concession area (over 100,000 hectares) in Leyte, and in generating jobs for the surrounding communities. The poor who forage the forests or even harvest trees can be transformed into forest-keepers based on the rainforestation model. If the government can allocate so many billions for the "conditional cash transfer" for poor families so that poor children can go to schools, why not appropriate a decent sum for rainforestation?
2. Greening the community/habitat. CC-proofing and greening "*barangays*" (villages) have big potentials as growth locomotives and job generators. Undertaken nationwide, this program can create millions of jobs and trigger robust economic revival. ILO's experimental programs and the Filipinos' tradition of "*bayanihan*" in community re-building show that idle or unemployed workers in each *barangay* can be mobilized to do low-cost but CC-important fortification projects such as dredging of waterways, concreting of flood walls and pathways, fortifying or rebuilding of multi-purpose community centers (which also serve as refugee centers in times of disasters), strengthening of dikes, etc. In short, community renewal can address the damaging impacts of CC in an economically productive, sustainable, participatory and anticipatory manner while creating jobs, millions of jobs, for the estimated four million unemployed Filipinos.

In addition to the above, the country has other big but job-creating tasks: greening the coastal areas throughout the archipelago, enforcing all the environmental laws (air, water, etc.), and transforming the dump sites in each city and locality into integrated solid waste facilities (for example, organic waste transformed into organic fertilizer, non-organic materials into “brick” construction materials, and methane gas as fuel for power co-generation).

Making the Shift to a Green Industrial Policy

To summarize, sustainable development based on the green/greener transformation of the economy is attainable. Green transformation means growing not only the green sector (renewable energy, recycling, etc.), which should be continued and intensified, but also greening the existing agricultural, industrial and service sectors, and launching a greening of the forest land, communities and the general environment. Such transformation should lead to the transformation of “brownish” jobs into greener ones and the creation of newer green jobs.

However, a green transformation requires initiating and institutionalizing policies in support of the Green Industrial Policy. This will not be easy given the SAP supporters who are well entrenched in the economic policymaking bodies. Also, history tells us, that making a break in support of an enlightened and visionary Industrial Policy requires a national leadership fully dedicated to the shift and a public or electorate fully supportive of the Industrial Policy reforms. In this regard, the success of the American economic recovery from the Great Depression of 1929-33 owed much not only to the strong leadership of Franklin Delano Roosevelt but also to the mass outpouring of support to his “New Deal” program. Similarly, President Manuel L. Quezon was able to tame the rising tide of discontent in the red decade of the 1930s when he launched in 1936 his “Social Justice” program that gave the working men and women in industry and agriculture a modicum of social protection (see Ofreneo, 2010.)

The shift to the Green Industrial Policy would require, among others, the following reform doables:

Overhaul the existing development framework. The Green Industrial Policy unavoidably entails an overhaul of the existing development blueprint, or the *Philippine Development Plan 2011-2016*. The National Economic Development Authority (NEDA) keeps repeating that the PDP is socially inclusive. Inclusiveness, however, is interpreted in a rather narrow manner—that is, accelerating the growth of the economy through freer market rules so that more jobs can be created.

But how to grow? NEDA's answer is also rather narrow—encourage foreign and domestic corporations to come in under the country's liberalized economic environment. In particular, NEDA has been marketing the program of public-private partnership (PPP) as a means of attracting these investments, especially in infrastructure. Accordingly, the PPP shall help solve the country's huge social and physical infrastructure backlogs (e.g., roads, bridges, airports, hospitals, etc.). Under the PPP program, big corporations are encouraged to invest in infra projects, usually under a 25-year “build-operate-transfer” (BOT) scheme with government-guaranteed returns on investment.

In short, the present PDP, although relatively thick compared to previous Medium-Term Philippine Development Plans (MTPDPs), is essentially another SAP-oriented privatization blueprint. The social and economic outcomes under the SAP program are neither inclusive nor empowering for the poor. Nor has the economy been sustainable, as reflected in the declining industrial and agricultural base of the country.

On strengthening industry and agriculture, the PDP is not short in positive rhetorics. In Chapter 3, the PDP seeks a “globally-competitive and innovative industry and services.” Nobody can quarrel about this goal nor in the various components of the strategic framework such as “improved business environment,” “increased productivity and efficiency,” “enhanced consumer welfare” and so on. The chapter also harps on the Philippine success in the BPO sector, which it says must be sustained. The problem, however, is that the chapter has no strategic framework on how the Philippines shall position itself in the global market in terms of industries it can develop as well as in terms of existing industries that it can preserve against the onslaught of competition, especially unfair competition practices such as dumping by other countries. The PDP is not clear on how it shall address the three leading stumbling blocks to the

growth of manufacturing: one, the atrociously high cost of power, which is equal to or even higher than Japan; two, the untamed smuggling scourge, which has transformed the country into an archipelago of “*ukay-ukay*” from rice to cars; and three, the obvious lack of a system of collaboration between industry and the science/intelligentsia community, which explains why the country lags behind in innovation.

But is the PDP a green blueprint? On the plus side, the PDP has one whole chapter (chapter 10) devoted to the “Conservation, Protection & Rehabilitation of the Environment and Natural Resources.” The said chapter frankly enumerates the different environmental problems, e.g., urban pollution, solid waste disposal, water scarcity, land erosion, shrinking forests, diminishing biodiversity, marine resource exhaustion and “extreme vulnerability to environmental hazards and climate-related risks.” The chapter also identifies the needed policy responses: more vigorous enforcement of existing environmental laws such as the clean air act; stronger role for local government units (LGUs) in environment and natural resource management; fuller implementation of the REDD program (Reducing Emission from Degradation and Deforestation); and better land and resource management.

Again, all this is fine. But chapter 10 of the PDP appears to be silent on the challenge of “greening” existing industries and the economy as a whole. In fact, chapters 1 and 2, which mention the environmental problem in passing, fail to put the “green” in the so-called “inclusive growth” macro-economic model, which is clearly a continuation of the old, outward-looking, export-oriented, agro-industrial strategy based on the abstract notion of competitiveness under liberalization. As mentioned, the strategy is still focused on liberalizing the market in order to attract a steady flow of investments, especially in the development of needed infrastructures via the PPP modality. And yet, the environmental and exclusionary impacts of the PPPs are hardly discussed in the PDP, and neither is the challenge of developing green industries through some government assistance and protection, which is still anathema to neo-liberal technocrats.

Mobilize society. A vision of sustainable development requires the all-out mobilization of society. If the poor are excluded in the process by their poverty and the government’s failure to empower them through meaningful and sufficiently-funded social

reform programs, the resulting growth pattern will remain uneven, unequal and exclusionary. There will be no reliable constituency for a Green Industrial Policy.

As it is, there is no shortage in the Philippines of social reform programs aimed at liberating the poor from poverty—from agrarian to urban reform, from coastal to ancestral domain reform, and from health insurance coverage to varied livelihood assistance programs. The problem is that there is a big gap between rhetorics and implementation, and between declared targets and budgetary allocations. For example, agrarian reform, 25 years old (in June 2014), is still unfinished. The implementors have also neglected the task of transforming the landless beneficiaries into modern agribusiness ecology-minded producers. Thus, despite land transfer, most of the lucky agrarian reform beneficiaries have remained poor.

Mobilization should include the educated youth, the small middle class and the professionals/intelligentsia. The experience of the successful industrializers shows that the spiral of industrial innovations can only happen in a country able to mobilize the brain power of its people and harness the talents of the best and the brightest. How could Taiwan's Hsinchu City, with less than half a million people, is able to make itself the center of high-tech production in the world, attracting around 360 high-tech companies, including its home-grown Acer, if the City had not positioned itself in the global high-tech map, if there was no fruitful partnership between Hsinchu University and Hsinchu Industrial Park, and if there was no program to bring home to Taiwan the Taiwanese engineers working at California's Silicon Valley? Here in the Philippines, the problem of industry is the steady outmigration of the best and the brightest, which poses a problem even for existing industries requiring skilled professionals and manpower.

Of course, mobilization should also include the local industrialists and entrepreneurs. They should be challenged to join the industrial revolution based on a workable national blueprint they can identify with. The problem, however, is precisely the absence of a workable national blueprint.

Address policy incoherence and implementation issues on the environmental front. As to the environment and the threats of climate change, there is also no shortage of programs—and laws—aimed at protecting the environment and readiness against climate

change risks, such as the law on Disaster Risk Reduction Management (DRRM), which provides a system of quick multi-sectoral response at various levels of governance (from the *barangay* to the national). But as with the social reform programs, the problem is enforcement.

The varied and mounting environmental problems facing the country—deforestation, loss of biodiversity, poor management of solid wastes, decimation of mangroves and coral reefs, urban congestion, deteriorating air and water quality, soil erosion, and so on—are all well-documented and have been articulated by environmental activists since the 1970s. One outcome of this environmental advocacy is the large number of environmental laws enacted by the country, such as the laws on reforestation and environmental impact assessment (EIA) of the 1970s, the clean air and solid waste acts of the 1990s, and the renewable energy (RE) and biofuel acts of the past decade. (See Table 4 for the full listing of laws.) Also, as a Party to both the UN Framework on CC Convention (UNFCCC) and the Kyoto Protocol, and with its Climate Change Act of 2009 in place, the Philippines has committed to undertake various mitigation and adaptation measures outlined by UNEP. The country is active and well-represented in the various international forums on CC, including the contentious issues of CC finance, Clean Development Mechanism (CDM), and Reducing Emissions from Deforestation and Forest Degradation (REDD).

However, the woeful record of the Philippines in the implementation of its reforestation and other environmental laws and the lack of reliable CC-risk readiness programs clearly point to the twin problems of policy inconsistency and indecisiveness. To these concerns, another policy issue should be added—the economic growth model or strategy in place is not supportive of a CC-resilient Philippines. In fact, directly or indirectly, this growth model or strategy has aggravated environmental degradation and CC vulnerability.

Table 4. Significant Environmental Laws, 1970s-2010

Year	Environmental Laws
1970s	PD 1151 (Philippine Environmental Policy) PD 1152 (Philippine Environmental Code) PD 705 (forestry and mangrove preservation) PD 1586 (Environmental Impact Assessment)
1990	RA 6969 (on “toxic substances and hazardous and nuclear wastes”)
1992	RA 7586 (national integrated protected areas or NIPAS)
1993	RA 9275 (Clean Water Act)
1994	RA 8371 (Indigenous Peoples Rights Act)
1998	RA 8749 (Clean Air Act)
1999	RA 9003 (Ecological Solid Waste Management Act)
2006	RA 9367 (Biofuels Act)
2008	RA 9512 (Environmental Education)
2008	RA 9513 (Renewable Energy Act)
2009	RA 9729 (Climate Change Act)
2010	RA 10068 (Organic Agriculture Act)

Source: Various environmental laws compiled by Dr. Rene Ofreneo and Joy Hernandez

One big policy inconsistency is the announced total log ban and environmental protection versus the government program of mining liberalization. Since the 1980s, various administrations have been reaffirming the total log ban policy, which has not been carried out in a consistent manner. And now this program is being subverted by the government program of mining liberalization (under the Macapagal-Arroyo and Aquino administrations). The problem is that most of the big mining investors are not engaged in the old-style “tunneling” in search of the mother lode of high-grade minerals, which naturally requires a smaller and manageable land area. They instead utilize open-pit mining because most of the available minerals are in low-grade form. Open-pit methods require the cutting and bulldozing of trees in large tracts of land, as well as the disemboweling of hills and mountains.

This is the reason a number of local government units (LGUs), clergy and CSOs are adamantly opposed to mining. To them,

mining means deforestation, watershed destruction, and pollution of large areas by mine tailings. This is why in central Mindanao, there is popular resistance to the project of Sagittarius Mines, Inc. and Xtrata Plc to develop the “Tampakan copper-gold” mining claim, which covers close to 10,000 hectares of forest and agricultural lands straddling several towns of four provinces. If allowed to commence production, the project will immediately clear 4,000 hectares of forest and agricultural lands, and will displace a thousand B’laan tribal families. According to the study by Dr. Esteban Godilano (2012), a geo-hazard scientist, the Tampakan project is a big threat to the environment. The mine’s tailing pond shall be adjoining the Mal River, which is a major source of drinking water and irrigation for 200,000 hectares tilled by some 80,000 farmers. Dr. Godilano also pointed out that the situation is compounded by climate change risks, which are likely to reduce water supply in Mindanao by 20 percent in 20 years. He added that the Tampakan project poses other risks: high seismic activity induced by mining activity (because the mine’s area is in the fault line), aquifer contamination, polluted tailings flowing to many rivers and streams, landslides, and loss of biodiversity.

Another policy inconsistency is in the promotion of renewable or clean energy. Under the Marcos administration in the 1970s, the Philippines became the second leading geothermal producer in the world. The problem is that the expansion of the non-renewable sector (especially wind, solar and biomass) has been limited. This is partly due to the vigorous opposition by some neo-liberal economists and coal proponents to the subsidies for the renewables via the feed-in-tariff mechanism, which they consider a violation of the free market. They want the country to avail instead of the supposedly cheaper imported coal. The coal-fired power plants account for around 35 percent of the country’s total power generation.

As pointed out earlier, the country can profit more handsomely and will be able to create millions of jobs if it focuses its attention on greening the economy and renewing the forests, mangroves, the communities (uplands, lowlands) and the coastal areas. This is what the Green Industrial Policy should be.

Conclusion: Green Industrial Policy for a Transformed Philippines

It is abundantly clear that the transformation of the economy and renewal of the environment is not easy. It entails a bold restructuring of the economy out of the failed neo-liberal growth model. This will obviously take time, patience, and, yes, political will on the part of the national leadership. In particular, there is a need to address the task of upgrading and expanding the country's agricultural and industrial base while greening the whole economy. This transition requires social consensus, which, in turn, requires deeper and sustained social dialogues between and among various stakeholders in society, for example, on key strategic thrusts for industry and the environment such as building knowledge assets; targeting green sectors (and greening challenges in the large brownish sectors!); setting standards; maximizing community benefits; linking green job creation with job training; partnering towards building adaptive capacity; mapping pathways out of poverty; and measuring results.

The shift towards the building of a sustainable economy and sustainable environment through the Green Industrial Policy requires policy coherence, consistency, popular support and a clear vision of greening and industrialization.

Endnotes

¹ The "temporary manpower export" program was launched by the Marcos Administration in the mid-1970s as a program to ease unemployment. It was officially considered an "interim" program while the program of "labor-intensive export-oriented" (LIEO) industrialization had not taken off. In the 1980s, the acronym LIEO was shortened to EOI or simply export-oriented industrialization, while the "overseas contract workers" were re-christened as "overseas Filipino workers" or OFWs.

² Until the turn of the millennium, Mindanao (in southern Philippines) had the reputation of being storm-free. Now, no region of the country is immune from typhoons and weather extremes.

³ Short-term or casual hiring is rampant among low-skilled workers because they are easily replaceable compared to skilled workers, whose training and experience are often invaluable to companies.

⁴ The Department of Trade and Industry (DTI) under the Aquino Administration has asked a number of industry associations to submit their respective "industry

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road maps.” However, it is not clear if there is an explicit order for the associations to go up the industry ladder instead of simply recommending policies to help save and preserve industry. The involvement of workers and consumers in the road mapping exercise is also absent.

⁵ The Provincial LGUs of Negros Island, a major sugar-producing area for over a century, has adopted an island-wide program promoting organic agriculture and the use of organic fertilizer, which is more effective in raising productivity out of Negros soil.

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Greening Human Resources Management*

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Abstract

This paper explores how the human resources managers and the human resources management and development units in selected Philippine companies are involved in the achievement of environmental sustainability goals in their respective companies. Findings showed that HR managers' concepts of environmental sustainability were limited compared to the standard definition of environmental sustainability which covers two interrelated concepts: environmental management and sustainability development. All HR managers however agreed that it was important to mainstream environmental sustainability in all aspects of human resources management and development (HRMD) functions. At the functions' level, HR Managers perceived the roles of HRMD unit in performing internal communication, value formation, providing training expertise, coordinating and mobilizing people to join corporate social responsibility programs. Companies with sustainability framework and corporate values or principles

* This is an abridged version of the post-graduate thesis of the author for the Master of Industrial Relations submitted to University of the Philippines School of Labor and Industrial Relations. The thesis was awarded "Best Thesis" (AY 2012-2013) by the School.

that act as guide in the formulation of environmental sustainability related plans, policies, and programs during strategic planning had more aligned and integrated HR policies, programs and practices and structures. Both the HR managers and environment advocates enumerated the required HR competencies in the successful planning and implementation of HR policies, programs and practices related to environmental sustainability.

Introduction

Imagine if the 26.08 million workers employed in the Philippine industry and services sectors (Labstat Updates, 2012) should become “Green Champions” at the forefront of the battle against the country’s deteriorating natural environment and mounting climate change risks. This would enhance the sustainability of the environment, economy and society. Green businesses and industry, achieved through the green commitment of top management and the institutionalization of green human resources management and development (HRMD) functions (and practices), would give birth to a Green Philippines.

Is this achievable? Yes—if all companies commit themselves to the greening of the economy through the adoption of green HRMD principles and practices. This means management committees need to consider the state of natural environment as a critical input in their strategic corporate planning based on the principle that a sustainable natural environment means a sustainable business in the long run. A company that decides to go green also has to engage its most important resources—its executives and employees—in the green cause. To facilitate the firm’s green transformation, the HRMD unit should perform a critical defining role through its strategic HRM and development functions and competencies. On top of the green transformation process is the HR manager, whose role is to help mobilize the employees to meet the challenge of greening the company.

This research paper outlines the role of HRMD unit and some of the critical HR functions in making the company’s environmental sustainability goals happen. This paper is based on the author’s post-graduate study on the role and functions of HRMD in environmental

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sustainability. For the study, five companies representing different sectors of the economy were analyzed in terms of HRMD functions and practices related to environmental sustainability.

The specific objectives of the study are:

1. To find out the HR manager's personal concepts of environmental sustainability in terms of knowledge, skills, attitudes and practices;
2. To determine the role/s of the HR manager and HRMD unit in the achievement of the company's environmental sustainability goals;
3. To identify environmental sustainability-related HR policies, programs, practices and structures in the company;
4. To assess the presence of alignment, integration and innovation processes between the environmental sustainability-related HR policies, programs, practices, and structures, and the company's vision, mission, values, strategies and policies in the cases of five chosen companies;
5. To enumerate the problems and needs associated with the planning and implementation of environmental sustainability-related HR policies, programs and practices;
6. To find out the causes of these problems and needs;
7. To identify success factors in the planning and implementation of environmental sustainability-related HR policies, programs and practices;
8. To enumerate the environment advocates' expectations of the HR manager and the HRMD unit as partners in the attainment of environmental sustainability goals in the industry; and
9. To identify the required competencies that will make the HR manager successful in planning and implementing environmental sustainability-related HR policies, programs and practices in the company.

Review of Related Literature

Defining environment sustainability. Two important concepts emerge in defining the greening process. These are how man interacts with or manages the natural environment; and how man is able to sustain the environment for the use and enjoyment

of future generations. There are three terminologies that are used interchangeably and need to be clarified in order to understand the greening phenomenon. These are: (1) environmental management; (2) sustainable development; and (3) environmental sustainability.

Environmental management, according to C.J. Barrow (2006), is the control of all human activities that have significant impact on the environment. It seeks the best environmental option to promote sustainable development. Sustainable development, on the other hand, comes from the Brundtland Commission Report published in 1987 and approved at the UN World Commission on Environment and Development (UNWCED) in Rio de Janeiro in 1992. The report states that “sustainable development is development that meets the needs of the present generations without compromising the ability of the future generations to meet their own needs” (United Nations, 1987).

The definition of environmental sustainability stems from the combined definition of environmental management and sustainable development, and has four dimensions—economic, social, environmental and ethical. The central concern is not the environment, but the people who are entitled to a healthy and productive life in harmony with nature and fellow human beings at present and in the future (Goosen et al., 2009).

Environmental sustainability and strategic HRMD. An environmentally-conscious business includes the total condition of the natural environment as a critical input in formulating policies or adopting corporate values that will guide the different units in the preparation of plans and programs related to the achievement of the company’s environmental sustainability goals. The HRMD unit should take the lead in formulating and developing environmental sustainability-related HR policies, programs and practices aligned with the corporate policy or value. According to Hoelbeche (2009), for HRMD functions to be strategic, the HRMD unit must aim to be both a contributing member of the management team, and create personal, functional and organizational capabilities within the company, such as the development and implementation of HR policies, programs and practices related to environmental sustainability.

Ulrich et al. (2009) detailed the three processes of alignment, integration and innovation in the planning and implementation of HR policies, programs and practices, all of which are vital for these policies, programs and practices to have maximum impact on the

achievement of business results. These three processes can be applied when assessing the impact of HR policies, programs and practices in the achievement of environmental sustainability goals.

Environmental Sustainability at the Business/Company Level

Efforts to achieve environmental sustainability at the business/company level range from compliance to government laws and regulations, control of hazardous activities, establishment of an Environment Management System, and assessment based on a set of global measures and standards in order to obtain an ISO 14001 certification. In addition, some companies use the triple bottom line approach in annual audit and reporting activities, reflecting the company's annual performance on three critical areas: profit, social and environmental contributions.

Environmental sustainability and the fourth bottomline.

According to Cavanagh et al. (2004), deep in the consciousness of leaders are ethical considerations that help them decide what is good and right for a greater number of people, and a longing for a deeper purpose or a larger meaning to life. This search for balance, ethics, meaning and security, can be found in leadership spirituality. The leaders' spirituality and scales of values can influence their perception, drive their motivation, and affect their decision-making. A study and understanding of leadership spirituality and values may explain the top management's stance on environmental sustainability and the pace of the achievement of sustainability's goals. Sohail Inayatullah (2012) suggested the inclusion of the organization's spirituality, which acknowledges the organization's key assets—its human assets, its collective memory, and its shared vision—as an additional measure of organizational performance in the triple bottom line.

Another additional measure to the triple bottomline, as suggested by Kenny (2009), is perspective, which is a future-oriented metrics. Perspective as a measure looks into organizations' focus toward work, from the future back to the present. He said that organizations must cultivate their own resiliency; improve security of people and communities; and increase productive capacity in the face of threats posed by accelerating changes in the environment.

Environment sustainability and workplace values and culture. According to Hawkins (2006), the collective agreements to practice environment sustainability among an organization's members should be grounded on an honor system as well as on informed decisions based on moral and ethical values and principles. It is assumed that companies that are trying to promote their good works through their environment-related programs are doing these not for public relations purposes but as an inherent part of their corporate culture.

In the Philippine business setting, Jocano (1999) said that managing corporate activities must include developing a culture attuned to the Filipino culture and managing it in a manner that harnesses the best from Filipino workers. In line with Jocano's study of organizational culture and values, Gaddi (Sibal & Gaddi, 2010) explained that organization culture is important to development, specifically: 1) in creating policies in consonance with the workers' values; and 2) in making changes in the organization by setting a culture that everyone believes in.

Related Studies on HR and Environmental Sustainability

Arnaud and Rhoades (2009) asserted the need for organizations to institutionalize sustainability through the promotion of values, attitudes and behavior related to sustainability. The study defined environmental sustainability in the organization as "the persistent and connected set of organizational rules and practices that prescribe behavioral roles, constrain activities and shape expectations related to the care of environment." They provided a framework for understanding how values and practices are embedded in organizations' climates.

Harris and Tregidga (2009) looked into the extent of the influence of the concept of environmental sustainability on the HR functions, the HR manager and the role of HR in enabling and fostering environmental sustainability. They sought to learn how the environmental agenda could influence the HR functions, and the readiness of the HR managers to take on the challenge.

Most companies in the Philippine lodge environment sustainability in their corporate social responsibility function. There are three notable studies that described Corporate Social Responsibility