Sustainable Consumption and Production (SCP): A Country Case Study of the Philippines

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Country case study: Sustainable Consumption and Production (SCP) in the Philippines

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ABSTRACT

This chapter examines the patterns of consumption and production in the Philippines and analyses their impact on the environment and climate, with a view to finding out whether they are environmentally sustainable or not.

It presents the initial findings of the author's research on the topic of sustainable development in the Philippines. It looks first at the national policy and legal framework relating to sustainable consumption and production (SCP). Then it reviews indicators that attempt to assess the overall state of environment in the country, together with those that take stock of the country's ecological footprint and emissions of greenhouse gases. It also delves into indicators on air pollution and the generation of waste materials.

Next, it discusses the state of micro-, small-, and medium-sized enterprises (MSMEs) in the country, and notes how policy and logistical support towards them is relevant to the issue of inclusive growth and poverty alleviation. It then looks at the case studies of two SWITCH-Asia projects in the country that are related to MSMEs and which have already been completed.

Lastly, it looks into the on-going SWITCH-Asia National Policy Support Component that provides technical assistance and support to the national government on SCP-related policy and implementation issues.

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
ASSIST	Asia Society for Social Improvement and Sustainable Transformation
BMO	Business Membership Organisation
CALABARZON	CAvite, LAguna, BAtangas, Rizal, and QueZON Provinces
DENR	Department of Environment and Natural Resources
DOE	Department of Energy
DTI	Department of Trade and Industry
ECCP	European Chamber of Commerce of the Philippines
EIA	Environmental Impact Assessment
EPI	Environmental Performance Index
FAME	Fashion Accessories Manufacturers and Exporters
GGKP	Green Growth Knowledge Platform
GHG	Greenhouse Gas/es
GPIoS	Green Philippines Islands of Sustainability
GrAT	Gruppe zu Forderung der Angepassten Technologie (Center for Appropriate Technology, Austria)
GTH	Gifts, Toys and Hardware
MSME	Micro-, Small-, and Medium-sized Enterprises
MSMEDC	Micro, Small, and Medium Enterprise Development Council
NEDA	National Economic and Development Authority
PCCI	Philippine Chamber of Commerce and Industry
PEIS	Philippine Environmental Impact Statement
PHP	Philippine Peso
PM10	Particulate Matter of 10 micrometers or less
RECP	Resource Efficiency and Cleaner Production
SCP	Sustainable Consumption and Production
SME	Small- and Medium-sized Enterprises
SMART Cebu	Small and Medium Enterprises for environmental Accountability, Responsibility and Transparency in Cebu
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
WHO	World Health Organization
WWF	World Wildlife Fund for Nature

1. The Philippines and the Path to Sustainable Development

The Philippine economy has been, for around half a decade now, recovering from its unenviable reputation as the "laggard of East Asia". It has of late been exhibiting rapid rates of economic growth and improving its ranking in global competitiveness reports. Its credit has also been upgraded by international rating agencies to the level of sovereign investment grade.

While that has been a worthwhile achievement in itself, some thoughtful observers have raised the question about the apparent stubbornly-high incidence of poverty that has remained, despite the evident economic expansion. Another question about the economic growth is the continued deterioration of the environment, felt especially in Metro Manila and the country's other big cities.

In this chapter, we will take a look mainly at the environmental issue, while also touching, in part, on the poverty alleviation issue. Before we proceed, however, we first need to clarify a few concepts which will recur in the course of this chapter, as well as form the context of the discussion. These concepts are further elaborated elsewhere in this book, and we will only dwell on them here briefly.

We begin with sustainable development, which refers to the development of a country that meets the needs of the present without compromising the ability of future generations to meet their own needs [UNEP, 2010]. In this specific sense of having a regard for the needs of future generations, sustainable development is, in part, equivalent to an environmentally-sustainable development.

The concept of sustainable development consists, however, of two other aspects, namely, the well-known (though still elusive to some) notion of economic progress, and the notions now growing in influence, that of a socially inclusive growth and poverty eradication (as opposed to the traditional "grow first, redistribute later" policy mindset). This leads us to the concept of "green growth", which is an environmentally-sustainable economic progress that fosters low-carbon, socially inclusive development [UNESCAP, ADB and UNEP, 2012]. Green growth is the opposite of the prevailing "grow first, clean up later" type of economic growth.

2. Are the Consumption and Production Patterns in the Philippines Sustainable?

We begin our discussion with a brief look at some of the main policies in the country relating to sustainable consumption and production (SCP). This is followed by a review of a number of indicators of the overall state of the environment in the country.

TABLE 9.1

SELECTED PHILIPPINE LAWS ON THE ENVIRONMENT

Designation of the Law	Purpose of the Law
Philippine Environmental Impact Statement System (PEIS) of 1978 (Presidential Decree 1586)	A Decree providing the legal and procedural framework for conducting Environmental Impact Assessments (EIA) for projects likely to have significant environmental impact. This has been updated by several DENR administrative orders.
Clean Air Act of 1999	An Act providing for a comprehensive air pollution control policy and a national program to prevent, manage, control and reverse air pollution through both regulatory and market based instruments.
Ecological Solid Waste Management Act of 2000	An Act setting up a national program for managing the transfer, transport, processing and disposal of solid waste. It calls for phasing out open dump sites and converting them into sanitary landfills.
Clean Water Act of 2004	An Act providing for a comprehensive water quality management, with the aim of protecting the country's water bodies from pollution from land-based sources.
Biofuels Act of 2006	An Act establishing the framework for the promotion of the use of biofuels in road transport (biodiesel and gasoline blended with bioethanol).
Renewable Energy Act of 2008	An Act establishing the framework for the accelerated development of renewable energy resources.

Source: ***DENR website (denr.gov.ph)*****;** ***NEDA (2014)*****; and** ***Philippine Senate (2011 and 2014)***

2.1 *Policies for SCP in the Philippines*

The Philippines is known to be a leader in the region when it comes to having laws that provide the legal and policy framework for protecting the environment. To name just a few, the country has the following laws in its books: the Clean Air Act of 1999; the Ecological Solid Waste Management Act of 2000; the Clean Water Act of 2004; the Biofuels Act of 2006; and the Renewable Energy Act of 2008 (see Table 9.1).

There is also the earlier Environmental Impact Assessment (EIA) in 1977 (under Presidential Decree 1151). This has been superseded a year later by the Philippine Environmental Impact Statement (PEIS), which when last heard about, was undergoing further refinements, presumably to be more effective for environmental protection [ADB, 2011].

To explain briefly, an EIA is the process of predicting the likely environmental consequences of implementing projects or undertakings, and designing appropriate preventive, mitigating and enhancement measures [NEDA, 2014].

With this existing policy framework relating to SCP as a starting point, we now proceed to get some indication of the actual environmental situation (or "outcomes") that the ordinary citizens in the street experience in thier daily lives.

2.2 *Indicators on the Impact on the Environment and Climate*

What we will do in this segment, and the next, is to survey some selected indicators of the impact on the environment of the patterns of unsustainable consumption and production in the country.

There has been a growing literature regarding the appropriate indicators to use to monitor green growth towards the green economy [UNEP, 2015; GGKP, 2013; UNESCAP, 2013]. While the tendency is to propose a dashboard of socio-economic and environmental indicators, there is also the felt-need to have a single so-called "headline" indicator (parallel to the Gross Domestic Product) that will communicate easily to policy makers and the educated laymen the state of green growth.

That is easier said than done, due to problems with both concept and measurement. But while that search for such an elusive indicator continues,

there is at present available the Environmental Performance Index (EPI) which offers a summary index for the "green" aspect of growth at least. The EPI, which is updated every two years, is a joint project of the Yale University Center for Environmental Law and Policy and the Columbia University Center for International Earth Science Information Network [Hsu and Associates, 2014].

The EPI ranks how well countries perform on high-priority environmental issues in two broad policy areas: protection of human health from environmental harm and protection of ecosystems. Within these two policy objectives, the EPI scores country performance in nine issue areas comprised of 20 indicators. The nine areas are: health impacts; air quality; water and sanitation; water resources; agriculture; forests; biodiversity and habitat; and climate and energy.

TABLE 9.2

SELECTED GREEN GROWTH INDICATORS: PHILIPPINES

INDICATOR	LATEST	PREVIOUS	SOURCE
Gross Domestic Product Growth Rate	6.9 (2014 Q4)	5.3 (2014 Q3)	NSCB (2015)
Poverty Incidence (% of population)	25.8 (2014 H1)	24.6 (2013 H1)	NSCB (2015)
Environmental Performance Index (Ranking among nations)	114 out of 178 (2014)	42 out of 132 (2012)	EPI (2012 and 2014)
Protected forest land area increase (hectares)	333,160 (2014 Q3)	221,763 (2013)	NEDA (2015)
Households (HH) with electricity (% of total)	79.1 (2013)	76.7 (2012)	NEDA (2015)
HH with access to safe water (% of total)	83.8 (2013)	N.A.	NEDA (2015)

Source: The respective data source is indicated on the rightmost column above, with the full reference given at the end of the chapter.

The Philippines ranked 114th out of 178 countries in 2014, while earlier in 2012, it ranked 42nd out of 132 (see Table 9.2). Or, to put it another way, its EPI ranking fell from the 68th percentile in 2012 to the

36th percentile in 2014, i.e. only 36% of the countries were now ranked below the country.

It could be argued, however, that refinements in the methodology and underlying data may make the comparison of rankings over time an exercise of limited validity. Yet, the latest 2014 ranking has to be viewed as a better estimate of the country's environmental performance than previous ones. The reason for such a presumption is that the 2014 results are the latest update (the "state-of-the-art") of this measure of environmental performance, one that has been recalibrated, refined and updated every two years since 2006.

Our survey of selected indicators of the unsustainable patterns of consumption and production in the country will be even less complete than it already is, without some discussion of the issue of the threat of global warming and climate change. In terms of emissions of greenhouse gases (GHG), the country accounts for only 0.4% of global emissions, and therefore is not a major emitter of GHG [ADB, 2011]. The Philippines therefore bears little responsibility for any increase in global warming due to GHG.

A recent report [World Bank, 2013a] points out, however, that the country's emissions of GHG is increasing rapidly compared to other low- and middle-income countries. Moreover, the emissions can be expected to further increase relatively, as the economy continues its recent rapid growth.

Another way of looking at the same issue is through the lens of a country's Ecological Footprint. It measures the amount of biologically productive land and sea area that a country needs to produce the resources it consumes, provide room for its infrastructure, and absorb its waste [WWF and ADB, 2012].

As people consume resources from around the world, the Ecological Footprint adds these areas together regardless of where they are located on the planet. Because trade is global, a country’s footprint includes land or sea from all over the world. The footprint is usually measured in "global hectares", a unit that encompasses the average productivity of all the biologically productive land and sea area in the world in a given year.

One estimate puts the per-person Ecological Footprint of the Philippines at a range of 0-1 global hectares for 2008 [WWF and ADB, 2012], or part of the smallest-footprint group of nations in the region. For example, for Asia-Pacific as a whole, the footprint is 1.6 global hectares,

while Australia and Singapore are in the largest-footprint category of nations, with a range of 5-7 global hectares.

To return to our point of the country's minor role as a global emitter of GHGs, it bears emphasis, however, that the Philippines is one of the most highly vulnerable countries to existing climate risks and future climate change. To be specific, four Philippine cities -- San Jose, Manila, Roxas and Cotabato -- are among the top 10 cities in the East Asia/Pacific region most vulnerable to the climate-related impacts of intensified storm surges and sea-level rise [Dasgupta et al., 2009].

The Philippines is ranked second in the world that is most at risk from natural hazards (i.e. earthquakes, storms, floods, droughts and sea-level rise) including the adverse effects of climate change, according to the latest World Risk Index [Welle et al., 2014]. And in a related study but with a focus on coastal areas, the Philippines is among the top 10 countries in the world with the highest risk from coastal hazards (i.e. storms, floods, surges, tsunamis and sea-level rise), according to the Coasts@Risk Index [Beck (ed.), 2014].

We will point out below what the implications of a shift to a sustainable pattern of consumption and production -- the focus of this chapter -- will be on the issue of the threat of global warming and climate change.

2.3 *Indicators on Air Pollution, Human Health and Municipal Waste Generation*

We now look at the effects of the unsustainable patterns of consumption and production in terms of the consequence on air pollution. Industries, households, cars, trucks and other vehicles emit various mixtures of air pollutants, many of which are harmful to health. Among these pollutants, fine particulate matter has the greatest effect on human health.

Most fine particulate matter comes from fuel combustion, both from "mobile" sources (i.e. vehicles), and from "stationary" sources (i.e. smoke stacks). Some of the major sources include exhaust fumes from vehicles, emissions from manufacturing facilities (e.g. factories) and power generation (e.g. smoke stacks of coal-fired power plants) [WHO, 2014].

High concentrations of small and fine particulate pollution is particularly associated with high numbers of deaths from heart disease and stroke, as well as respiratory illnesses and cancers. Measurement of fine particulate matter of 10 micrometers or less (also known as microns) in diameter ("PM10") is one indicator of the level of health risks from air pollution. The most health-damaging particles are those with a diameter of 10 microns or less, which can penetrate and lodge deep inside the lungs.

We take our reading of air pollution from WHO's Ambient (outdoor) Air Pollution Database Update 2014. Air quality measurements are typically reported in particles per cubic meter of air volume. It shows that the PM10 reading for the country was 50 (for 2010), which would indicate a level of pollution that is 2.5 times higher than the WHO air quality guideline value of 20 [WHO, 2014]. This value was taken from four stations in the three cities of Manila, Cebu and Baguio. The major contributor to air pollution is the transport sector (mainly the ubiquitous jeepneys, buses, and tricycles) [ADB, 2011].

However, the above observation about the level of pollution has to be seen in context, as some advances have been made in air quality parameters. Lead concentrations have dropped since the complete phaseout of lead in gasoline in December 2000. The lead concentration in the ambient (outdoor) air in Metro Manila was monitored in 2003 to be much less than the national air quality guideline value of 1.0 microgram per cubic metre. This compares with a value in 1992 of around 1.7 [ADB and Clean Air Asia, 2006; World Bank, 1997]. Also, the closure of some coal- and oil-fired thermal power stations has reduced sodium dioxide concentrations; and there is much lower consumption of ozone-depleting substances.

We turn next to another indicator of the consequences of the unsustainable patterns of consumption and production, namely, municipal solid waste and its disposal. The matter is a serious issue, particularly in highly urbanised areas, since the effective management of waste is a critical matter of public health, environmental quality, and the resulting quality of life. No one wants to live in a city surrounded by garbage.

When waste management works well, residents give it little thought: out of sight and quickly out of mind. Discarded materials are collected, some are recycled or composted, and most are landfilled or incinerated. However, the problem soon rears its ugly head when there is poor disposal of collected and uncollected waste. Indiscriminate dumping of solid waste onto open areas and watercourses, and the unsanitary method of final

disposal are the major factors behind the deterioration of the urban environment.

The country generates about 30,000 tonnes of garbage a day, only half of which is collected. Even in Metro Manila, only 70% of the 8,000 tonnes of garbage generated each day are collected [ADB, 2011]. The rest often winds up in the streets and local rivers. And the waste that is collected is taken to open dump sites that often catch fire or contaminate local water supplies. The waste decomposes and produces methane, a greenhouse gas that is 21 times more potent than carbon dioxide and a major cause of climate change [World Bank, 2012]. The country also remains inadequately equipped to deal with hazardous wastes.

When the collection of waste materials is difficult such as in many cramped settlements of informal settler families, nearby watercourses such as creeks and rivers become convenient dumping grounds, ultimately hampering water discharge during the rainy season that contributes to flooding. The waste materials also causes damage to pumping stations, thereby affecting their function of pumping out the flood waters. Hence, a city's ability to keep solid waste out of drainage ditches can influence whether a neighborhood floods after a heavy storm.

It is a reality in the present situation, however, that local government units, which are responsible for the collection and disposal of solid waste materials, have generally little capacity to plan, develop, operate, and maintain sanitary landfills and have difficulty complying with the Ecological Solid Waste Management Act [ADB, 2012].

To be sure, city dwellers have a role to play regarding the problem of solid waste, as they consume and discard resources at an ever increasing rate. The responsible authorities will need to develop more effective programs to reduce, reuse, recycle and recover waste. While recycling helps to manage solid waste, reducing consumption and minimising waste should be the ultimate goal. By minimising waste we reduce demand for landfill space, save resources and energy, reduce pollution, and increase the efficiency of production.

As simple as it sounds, however, waste minimisation is difficult to achieve because it requires a change in the mindset of people. Expecting people to reduce, reuse, or recycle simply because it’s the right thing to do is an ideal, since most are caught up in the culture of consumerism.

The continuing challenge then is how to remove and manage waste materials in a safe, environmentally sound, and cost-effective manner. If

managed well, waste management practices can also reduce greenhouse gas emission levels in a city, including short-lived climate pollutants such as methane that are far more potent than carbon dioxide.

3. Micro-, Small-, and Medium-sized Enterprises and the SWITCH-Asia Projects

Among the 944,897 business enterprises operating in the country in 2012, 99.6% of these are micro-, small-, and medium-sized enterprises (MSME) [Department of Trade and Industry, 2014]. Following government definitions, micro firms are firms with less than 10 employees. Small firms are firms with 10 to 99 employees, while medium firms are firms with 100 to 199 employees. Large firms are firms with 200 or more employees (see Table 9.3) [World Bank, 2013b].

TABLE 9.3

DEFINITION OF MICRO-, SMALL- AND MEDIUM-SIZED ENTERPRISES

Number of Employees		**Amount of Assets** (PhP million)
Micro	1 -- 9	Less than or Equal to 3 mil.
Small	10 -- 99	More than 3 to Less than 15 mil.
Medium	100 – 199	15 to Less than 100 mil.

Source: **Employment --** ***Magna Carta for MSMEs of 2008;*** **and Assets --** ***MSME Development Plan 2011-2016***

Looking at each category of the MSME sector, micro firms are 89.4% of all enterprises, small firms are 9.7%, while medium firms are 0.4%. Given that only the remaining 0.4% of all enterprises are large firms, it is not surprising that the average employment per establishment in the country is 25 [National Statistics Office, 2015].

In terms of total employment of all enterprises, the MSME sector contributes 64.9% of the total jobs, which can be broken down into 30.5% of the total from micro firms, 27.2% from small firms, and 7.3% from medium firms. In terms of value-added [MSMEDC, 2011], the MSME sector contributes 35.7% of the total for all enterprises, which can be traced back to 4.9% of the total from micro firms, 20.5% from small firms, and 10.3% from medium firms.

In terms of the location of the MSME sector, 22.4% of the enterprises are located in Metro Manila, and 15.4% are in the CALABARZON region. (CALABARZON is an acronym for the group of adjacent provinces of CAvite, LAguna, BAtangas, Rizal, and QueZON.) 11.2% are in the rest of Central Luzon. Making up the rest of the top five geographical areas are Central Visayas with 7.0% of the enterprises, followed by Western Visayas with 5.7% of the firms. These top five regions accounted for 61.7% of the MSME sector.

3.1 *SMEs, Inclusive Growth, and Poverty Alleviation*

It has become an important development goal for policy makers to think up of policy initiatives which ensure that economic growth is broad-based and reduces the incidence of poverty. Yet, the grim reality is that poor people do not, and cannot, fully participate in, and enjoy the fruits of, the current economic growth.

We found out above, however, that SMEs contribute nearly 65% of the total employment of all enterprises in the country. One reason for this significant employment share is that their production is less sophisticated and more labor-intensive. As a result, SMEs also tend to have lower entry requirements in terms of skills, education and qualifications.

Hence, SMEs are likely to be also important employers of marginalised groups who have difficulties finding employment in large enterprises. As such, quite a number of SMEs are survival enterprises, operating out of necessity rather than with the intent to grow, providing incomes and livelihoods to the majority of the poor who are faced with the absence of any real alternative due to a lack of sufficient wage employment [ILO, 2015].

At the same time, though, it is important to note that SMEs and large enterprises do not exist in isolation, but form part of an interacting system, where large enterprises provide SMEs with markets. SMEs require access to credit, new inputs, technology and services that lead to improved products that large enterprises are looking to purchase [Habito, 2010; Paderanga, 2011].

This suggests the need to focus on creating openings for small enterprises to integrate into domestic value chains, or the different stages of

production and trade of goods and services. This is the means by which SMEs are able to develop linkages with the large enterprises in the economy, thus opening the opportunity to grow the business of the SMEs.

Thus, the substantial share of total jobs that comes from the SME sector would seem to provide a pointer to one alternative path leading to a more inclusive type of economic growth.

3.2 *Case Studies of SWITCH-Asia Projects*

In this segment, we focus our attention to intervention at the enterprise level aimed at facilitating and supporting the shift to sustainable consumption and production. We look at the pilot projects implemented by SWITCH-Asia.

In 2014, there were nine SWITCH-Asia projects in the country (see Table 9.4). Due to space limitations, we can only take a look in some detail at a few projects. We use two criteria to "triangulate" on which projects to select as case studies. One criterion is that the project is focused only on the country, since some of them involve a number of other countries in the region. This criterion reduces the number of projects to four. A second criterion is that the projects should already be completed, rather than on-going.

At the time of writing, three projects have already been completed. However, one of these (ZCR, or Zero Carbon Resorts) is already discussed in this book's chapter on sustainable tourism. We therefore focus here on the two other completed projects as case studies, namely, the projects on *GPIoS* and *SMART Cebu*.

What follows, however, will not be a detailed ex post evaluation (i.e. performance evaluation and/or impact evaluation) of the said projects, which is beyond the scope of this chapter.

3.3 *GPIoS (Green Philippines Islands of Sustainability)*

TABLE 9.4

SWITCH-ASIA PROJECTS IN THE PHILIPPINES, 2014

Philippines Only:	
Completed: 1) GPIoS	Creating Green Philippines Islands of Sustainability
2) SMART Cebu	Small and Medium Enterprises for environmental Accountability, Responsibility and Transparency
3) ZCR	Zero Carbon Resorts - Building Energy Autonomous Resorts Creating Appropriate Technology Solutions
On-going: 4) High-Efficiency Motors	Increasing the Uptake of High Efficiency Motors and Drive Systems in Philippine Industries
Including Other Countries:	
Completed: 5) AEMAS	Establishment of the ASEAN Energy Manager Accreditation Scheme
On-going: 6) Efficient Air Conditioners	Promotion and Deployment of Energy Efficient Air Conditioners in ASEAN
7) Hand-Woven Eco-Textiles	Sustainable Consumption and Production (SCP) of Hand-Woven Textiles (Songket, Ulos, Lurik, Abaca, Ikat), Female Entrepreneurship in Indonesia and the Philippines
8) Lead Elimination Project	Lead Paint Elimination Project
9) ZCR for Sustainable Tourism	Zero Carbon Resorts towards Sustainable Development of Tourism Sector in the Philippines and Thailand

Source: ***European Union (2014), SWITCH-Asia's 80 Projects at a Glance: Fact Sheet***

The objective of the *GPIoS* project was to contribute to an overall improvement of the environmental situation of a strategic area of the country, namely, Metro Manila and its linked regions, the CALABARZON, Subic and Clark areas [Labodova, 2014].

In order to attain the objective, it aimed to achieve the reduction in pollution level, as well as the reduction in: 1) waste water; 2) hazardous waste; 3) raw and auxiliary materials; and 4) energy consumption for a significant number of SMEs and other specific companies in the targeted regions.

The *GPIoS* project was the successor to a pilot project, the Green Philippines project from 2006-2009. While the pilot was focused in the Pampanga, Subic and Clark regions, the *GPIoS* extended its scope to Metro Manila and CALABARZON regions. Also, the pilot was limited to 30 companies, several of which continued on to the *GPIoS*.

The project's main instrument for attaining its objectives involved workshops and individual consulting by experienced consultants. The project transferred know-how through training workshops and coaching, combined with a system of quality assurance and monitoring. At the core was a 12-month capacity-building program of workshops offered on a periodic basis to help interested companies clean up their production processes.

In order to do this, it had the benefit of several European partner organizations, namely, Gruppe zu Forderung der Angepassten Technologie (GrAT), or the Center for Appropriate Technology in Austria. GrAT provided the technical know-how with its expertise in environmental solutions and international experience.

One major component of the project was the training of trainers, or the capacity-building of local technical consultants, in which GrAT experts shared the best practices in Europe. They were also responsible for companies' workshops contents and coaching of newly trained consultants in form of on-the-job training.

Another organization, Austrian Recycling (AREC), contributed experts in waste management and recycling, which are core topics of the workshops. Its experts assisted in the validation of environmental recommendations implemented by companies involved in the project. The partnership of VSB-Technical University of Ostrava in the Czech Republic, as the project coordinator, with GrAT and AREC came about as a result of also being partners in the pilot project.

Locally, the project also had valuable partner organizations. The Asia Society for Social Improvement and Sustainable Transformation, Inc. (ASSIST) acted as the local host for the implementation of the project in the country. The Philippine Chamber of Commerce and Industry (PCCI), European Chamber of Commerce of the Philippines (ECCP), and the Philippine Business for Environment (PBE) were the partner organizations who spread the word about the project among local firms and helped in recruiting the target number of companies.

As a result, over the course of the four-year project from 2009-2013, The project engaged around 400 companies within its geographical scope, thus raising the environmental awareness of the participating companies. The project has conducted a total of 76 workshops throughout its implementation.

One benefit of the project was the close collaboration with the Department of Environment and Natural Resources, thus creating the climate for an increased environmental legal compliance by the participating companies. The project was also able to establish a relationship with two municipal governments of Pasig City and Angeles City, though it is unclear how far into the future the project's influence on the two will be.

The project also explored and envisioned a continuity plan for the post-project funding period in order to sustain the project approach. A training and consulting center was established as a joint activity of project partner ECCP and a local consultancy which employs the six consultants trained within the project. A detailed business plan has been created, which includes the target number of companies needed to have a good financial base and become self-sustaining. Whether this center will evolve into what it was envisioned to develop in the years to come is a matter, however, that remains to be seen.

3.4 *SMART Cebu (Small and Medium Enterprises for environmental Accountability, Responsibility and Transparency)*

The objective of the *SMART Cebu* project was to increase the competitiveness of small- and medium-sized enterprises in the home and

lifestyle industries through the means of cleaner production processes of eco-friendly products, thereby contributing to the cleaner environment in the Cebu province [Ritter, 2014].

Three industries of the home and lifestyle sector were engaged in the course of the project's life over three-and-a-half years (2009-2013), namely: 1) furniture and furnishings, 2) gifts, toys and housewares, and 3) fashion accessories. These were long-standing industries in Cebu, which the province is well-known for.

However, the sector was having a negative impact on the environment, since energy and raw materials were not used in an efficient manner. Production processes released dust and fumes from sanding, cutting and paint spraying. exposing workers with inadequate protection to unhealthy indoor pollution.

To reach the SMEs, the business membership organizations (BMOs) of the three industries became the vehicle, namely: the association of Cebu Gifts, Toys and Hardware (Cebu GTH), the Cebu Furniture Industries Foundation (CFIF), and the association of Cebu Fashion Accessories Manufacturers and Exporters (Cebu FAME). The project sought to instill a *SMART Cebu* mindset (i.e. resource efficiency and cleaner production, or RECP).

The project coordinator, SEQUA, a non-profit development organisation from Germany, teamed up with experts from Energie Effizienz-Agentur (EFA) (or Energy Efficiency Agency) in North Rhine-Westphalia, Germany to train and coach Filipino experts and staff of the BMOs. They first trained six counsellors to provide advisory services to member companies of the BMOs. Then a pool of 30 clean production experts were trained to guide the SMEs on the technical aspects of how to make the manufacturing processes cleaner and more efficient.

The project experts and counsellors conducted 150 walk-through eco-assessments and coached SMEs on the use of metrics in production operations and proper costing, as well as on taking resource efficiency and cleaner production actions, leading to savings in energy and water, lower use of chemicals, less in-factory pollution, and improved operational efficiencies. About 1,000 participants from close to 300 SMEs have been involved in more than 30 training sessions on eco-design, SCP, resource efficiency and cleaner production, as well as other SCP-related conferences.

For the first time in the history of Cebu's home and lifestyle sector participation in international trade fairs in the EU and Asia, the project was

able to present the sector as a global partner for sourcing and designing eco-friendly products. Marketing of these products was enhanced in these trade fairs, as a new line of eco-friendly products was launched in the international market by these companies.

Twelve fashion accessories companies, twelve GTH companies and nine furniture companies promoted their newly developed eco-product lines in the trade fairs in Paris, Cologne and Frankfurt. These companies that have followed the approach centred on RECP can now claim that they are utilizing natural and renewable resources more efficiently in its production process, while reducing the carbon footprint of the products as they reach the world market.

Another key aspect of the *SMART Cebu* project is its pair of local partners, the European Chamber of Commerce in the Philippines (ECCP) and the Association in Development Financing Institutions in Asia and the Pacific (ADFIAP), a regional organization which is based in Manila. When the project ended, the project website became the continuing responsibility of ECCP. The project also collaborated closely with the Department of Science and Technology; one result of this collaboration is the eventual accreditation of most of the local trainers coached by the project.

The usual question about "what happens after" the completion of the project arises. On the one hand, other sectors in Cebu are quite eager to be the beneficiaries of a similar *SMART* project (like hotels, resorts, restaurants and food companies), as well as BMOs in other regions (like other provinces in the Visayas and Luzon). Whether the project can be replicated in other sectors and provinces or regions, and by whom, remain an open question at this stage.

4. **SWITCH-Asia National Policy Support Component**

After an overview of the two completed SWITCH-Asia projects, we now turn to another type of SWITCH-Asia's involvement in the country, namely, technical assistance in support of the government's implementation of policy instruments related to the switch toward sustainable consumption and production.

The country is one of only four pilot recipients in the region of this technical assistance (at the time of writing). This national policy support

component of SWITCH-Asia is implemented by a consortium of consulting groups selected by the European Commission. The international consultant team in the country consists of: GFA Consulting Group (Germany), Ecorys (Netherlands), Milieu (Belgium), and ASSIST, Philippines, with GFA as the team leader.

The technical assistance project started in July 2012 and will continue until December 2016. One should therefore bear in mind that the present discussion involves a project that is a work-in-progress, unlike the already completed projects discussed above.

With the objective of supporting the government in implementing SCP policies, the project is focusing its efforts in three areas: 1) clean energy and energy efficiency; 2) green procurement and eco-labelling; and 3) capacity-building at the Department of Environment and Natural Resources (DENR) in order to be able to address cross-cutting SCP issues, including the Clean Air Act.

The other government agencies that receives technical assistance from the project are the following: Department of Energy (DOE), Department of Trade and Industry (DTI), Climate Change Commission, and the Philippine Council for Sustainable Development.

One recent milestone achievement of the project was the approval in July 2014 by the DOE secretary of the Energy Efficiency and Conservation Roadmap 2014-2030, whose development was supported by the technical assistance team [Lister, 2013]. Several consultation meetings were held earlier to obtain inputs from concerned government agencies and stakeholders including professional organizations and development partners. After extensive discussions, the roadmap was revised incorporating pertinent inputs and recommendations from these stakeholders.

When technical assistance to a government is involved, a major concern is the issue of "buy-in" by the respective government agency of the policy support on offer by the team from the foreign donor. This is often referred to as the degree of "ownership" manifested by the recipient agency regarding the technical support being provided.

If one then is to go by the latest half-yearly progress report of the project, the team leaders appear to be quite aware of this matter, and are able to state that "the project is well integrated in the partner institutions . . . There is a high level of ownership among the main partners, especially at the DOE, DTI, and DENR" [Bischoff and Balamiento, 2015]. When this

national policy support project reaches its completion, a better judgment can be made with the benefit of hindsight.

5. Summary and Conclusions

This chapter is admittedly just the initial spadework towards an examination of the patterns of Philippine consumption and production, as part of the country's sustainable development. Our search for simple and understandable indicators of the consequences on the environment of the prevailing patterns of consumption and production in the country has yielded a few initial results.

We reviewed indicators that attempt to assess the overall state of environment in the Philippines, together with those that indicate the country's ecological footprint and emissions of greenhouse gases. We also looked at indicators on air pollution and the generation of waste materials. The indicators paint a picture of degradation of the environment, something that is not unexpected, to be sure.

We surveyed in brief the policy and legal framework that pertains to the country's laudable endeavours to switch from its unsustainable patterns of consumption and production. However, the indicators reviewed here suggest a rather considerable gap between the rhetoric of the stated policies and laws versus the environmental outcomes faced by the nation's citizens going about their daily lives. That there is room for improvement would seem to be an understatement.

One explanation for such a wide gap is the persistence of a lack of political will on the one hand, together with bureaucratic inertia on the other hand, which results in the weak -- or worse, lack of -- enforcement of environmental laws. It needs to be said, however, that there is some attempt to reform and improve the state of affairs, as discussed above regarding the national policy support component, for example, although civil society organisations and other observers focused on the environment may take the view that the efforts are not sufficient.

We then briefly discussed MSMEs in the country, which make up 99.6% of all enterprises and contribute almost 65% of the total jobs. We alluded to the policy direction by which MSMEs can be assisted as part of the national effort towards more inclusive growth and poverty alleviation.

We also looked at case studies of two completed SWITCH-Asia projects at the enterprise, as well as SME, level to get some feel of the magnitude of the task facing the advocates of Resource Efficiency and Cleaner Production (RECP). Both projects wanted to contribute toward a cleaner environment in their respective areas of operation in the Greater Manila/Luzon and Cebu regions. And both embarked on an outreach program to reach a number of target enterprises, including SMEs, in order to initiate them to RECP techniques and practices.

However, as with all projects that run for a limited period until its completion date (whether foreign or domestic), it remains to be seen whether the desirable effects on the environmental practices of the target enterprises will continue into the future.

Lastly, we discussed an on-going SWITCH-Asia project that provides technical assistance and policy support to the national government. Its three selected priority areas are undeniably constituent elements of the country's efforts toward SCP, namely, clean energy and energy efficiency, green procurement and eco-labelling, and capacity-building at the DENR to enable it to address cross-cutting SCP issues, including the Clean Air Act.

We took note of some progress to date by the project, with the recent approval by the DOE cabinet secretary of the Energy Efficiency and Conservation Roadmap, whose development it had supported. However, we pointed out the challenge it continues to face, in common with any other foreign donor's technical assistance, which is the degree of "ownership" by the recipient agency regarding the technical support being provided.

Two final remarks may be made in closing our discussion. One is that the search for indicators that are understandable to the policy makers and the educated laymen has to continue. Perhaps the indicators discussed in this chapter can serve as a starting point for such a search. Only through such indicators can progress in green growth be monitored. And with monitoring comes the resulting pressure from the citizenry for further action from government and companies on the environmental front.

The second is about the relationship between the push for a shift toward sustainable consumption and production and climate change. From what we pointed out earlier about the country's minor role as a global emitter, this seems to suggest the need for a rethinking of priorities in environment-related programmes of action. It suggests there is a "double dividend" for the country from any action to shift consumption and production to more sustainable patterns.

One dividend will be felt in the not-so-distant future -- less fossil fuel fumes, less pollution, less waste and garbage, less environmental degradation, perhaps even less flooding in the cities. And the second dividend is the country's contribution toward a reduction in the emission of greenhouse gases, for whatever it's worth in the future.

It would seem to be the equivalent of hitting two targets (or birds) with one policy instrument (or stone), with due apology for the metaphor to the conservationists looking after the country's national bird, the critically endangered Philippine eagle.

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