

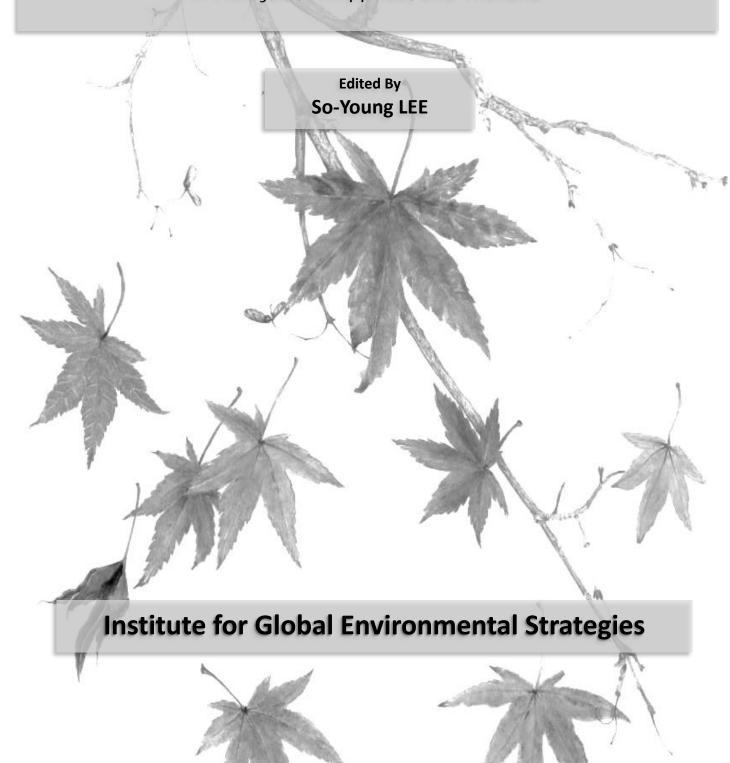
The Role of Governments in **Education for Sustainable Consumption II**

Strengthening Capacity for Effective Implementation in Malaysia, Philippines, and Thailand



The Role of Governments in Education for Sustainable Consumption

Volume II
Strengthening Capacity for Effective Implementation in Malaysia, Philippines, and Thailand



The Role of Governments in Education for Sustainable Consumption II: Strengthening Capacity for Effective Implementation in Malaysia, Philippines, and Thailand

IGES Policy Report 2014-02

Editor: So-Young LEE, Institute for Global Environmental Strategies, Japan

Contributing Authors: Adnan A. HEZRI, Institute of Strategic and International Studies

Ruth S. GUZMAN, Rizal Technological University

Athapol ANUNTHAVORASAKUL, Chulalongkorn University
Paul OFEI-MANU, Institute for Global Environmental Strategies

Robert J. DIDHAM, Institute for Global Environmental Strategies, Japan

The authors are responsible for the choice and presentation of the facts contained within their respective chapters and for the opinions expressed therein.

Although every effort is made to ensure objectivity and balance, the publication of research or translation does not imply IGES endorsement or acquiescence with its conclusions or the endorsement of IGES financers.

IGES maintains a position of neutrality at all times on issues concerning public policy. Hence conclusions that are reached in IGES publications should be understood to be those of the authors and not attributed to staff members, officers, directors, trustees, funders, or to IGES itself.

Institute for Global Environmental Strategies (IGES)

2108-11 Kamiyamaguchi, Hayama, Kanagawa, 240-0115, Japan

Tel: +81-46-855-3720 Fax: +81-46-855-3702

E-mail: iges@iges.or.jp
URL: http://www.iges.or.jp

ISBN: 978-4-88788-185-3

Copyright © 2015 Institute for Global Environmental Strategies. All rights reserved.

No parts of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without prior permission in writing from IGES.

Printed in Japan Printed on recycled paper

ACKNOWLEDGEMENTS

This Policy Report was a collaborative endeavour in the fullest sense of the term. As the editor and lead author team, Dr. Robert J. DIDHAM, Dr. So-Young Lee, and Dr. Paul OFEI-MANU, Education Team, Institute for Global Environmental Strategies (IGES), would like to express their heartfelt gratitude to Dr. Adnan A. HEZRI of the Institute of Strategic and International Studies Malaysia, Dr. Ruth S. GUZMAN of Rizal Technological University, and Dr. Athapol ANUNTHAVORASAKUL of Chulalongkorn University for their significant efforts made in contributing original and pioneering research for inclusion in this study.

Likewise, IGES team wold like to extend their sincere appreciation to the numerous government officials and NGO representatives who cooperated in this research through interviews and the completion of surveys. Thanks are also due to Dr. Mark ELDER, Prof. Hidefumi IMURA, and Dr. Magnus BENGTSSON for their valuable comments in the final review and editing of this publication.

This Report was published with the support of Kanagawa Prefecture, Japan.

Education Team, IGES

TABLE OF CONTENTS

Figures, Tables, Boxes and Picturesii
Acronyms and Abbreviations
Executive Summaryvi
Chapter 1: Improving Implementation of Education for Sustainable Consumption 1
A capacity assessment approach
By So-Young LEE, Institute for Global Environmental Strategies
Chapter 2: Education for Sustainable Consumption in Malaysia 11
Current policy frameworks, implementation and governmental capacity
By Adnan A. HEZRI, Institute of Strategic and International Studies Malaysia
Chapter 3: Education for Sustainable Consumption in the Philippines
Current policy frameworks, implementation and governmental capacity
By Ruth S. GUZMAN, Rizal Technological University
Chapter 4: Education for Sustainable Consumption in Thailand 65
Current policy frameworks, implementation and governmental capacity
By Athapol ANUNTHAVORASAKUL, Chulalongkorn University
Chapter 5: Assessing capacity for Education for Sustainable Consumption Implementation 79
A comparative analysis of three country case studies
By Paul OFEI-MANU, Institute for Global Environmental Strategies
Chapter 6: Strengthening the Implementation of Education for Sustainable Consumption 97
Recommendations for improving governmental capacity for ESC provision
By Robert J. DIDHAM and So-Young LEE, Institute for Global Environmental Strategies
APPENDIX 1: Concept Note for the Case Study109
APPENDIX 2: Interview Questions for the Case Study

FIGURES, TABLES, BOXES AND PICTURES

FIGURES

Figure 1: Elements of SCP within different stages of environmental policy development	14
Figure 2: Malaysia's national domestic water consumption per capita in comparison with	ı selected
countries, 2005 to 2013	
Figure 3: Final electricity consumption for residential usage (ktoe)	
Figure 4: Functional Chart Environmental Education and Information Division, DENR	42
Figure 5: Milestone Events in the Development of Environmental Education in the Philippine	
Figure 6: SEP Framework	69
Figure 7: Total Scores for Capacity Assessment of the Levers of Change	92
Figure 8: Capacity Rating of Countries Based on Total Potential Score (%)	93
TABLES	
Table 1: Examples of ESC-Related Initiatives in Malaysia	24
Table 2: Relevant Policies Significantly Related to ESC and SCP in the Philippines	35
Table 3: Schedule of Interviews	44
Table 4: Overcoming Issues and Constraints for Mainstreaming ESC in the Philippines	60
Table 5: In-depth Interview Target for ESC Survey	66
Table 6: Group Interview Target with ESC Practitioners in Formal Education	
Table 7: Group Interview Target with ESC Practitioners in Non-formal Education and	In-formal
Learning	
Table 8: Example of Sustainable Consumption relevant Learning Standards and indicators	
at Primary Level (Grade 6)	
Table 9: Example of Sustainable Consumption relevant Learning Standards and indicators	
Studies at Primary Level (Grade 4-6)	
Table 10: Different institutional structure and mechanism for ESC implementation in Thailar	
Table 11: Institutional Arrangement in Education for Sustainable Consumption	
Table 12: Leadership in Education for Sustainable Consumption	
Table 13: Knowledge in Education for Sustainable Consumption	
Table 14: Accountability in Education for Sustainable Consumption	
Table 15: Total Scores for Capacity Assessment of the Levers of Change	
Table 16: Recommendations for Improving ESC Governmental Capacity	102
BOXES	
Box 1: Research method and key question for data collecting	
Box 2: Sustainable Consumption in National Economic and Social Development Plan	68
Box 3: Sustainable Consumption in Ministry's Strategic Plan	69

PICTURES

Picture 1: Sharing Platform of Sufficiency Schools	. 70
Picture 2: Pig Feeding and EM using agriculture in school	. 72
Picture 3: Bamboo shoot Planting Site and Pond for Catfish Feeding	72
Picture 4: Non-chemical rice production from the first step to packaging at last	. 72
Picture 5: Herb Garden and Chicken Feeding over the catfish pond	. 73
Picture 6: 3R (Reduce-Reuse-Recycle) principle at implementation in School	. 74
Picture 7: Solar Energy demonstrated site in school	. 74
Picture 8: Grease Trap and 'Brew' Pool for organic fertiliser	. 74
Picture 9: 'Brew' bin for EM composting process and biomass fuel production	. 75
Picture 10: Learning in Community, Community of Learning	75
Picture 11: SEP Framework in practice	76
Picture 12: SCP based on Sufficiency Economy Philosophy	76

ACRONYMS AND ABBREVIATIONS

10YFP 10-Year Framework of Programmes

ALS Alternative Learning System

BERDE Building Ecologically Responsive Design for Excellence

CAP Consumers Association of Penang
CDM Clean Development Mechanism
CHED Commission on Higher Education

CMO CHED Memorandum Order

COARDC Cordillera Organic Agriculture Development Centre
CWTS-NSTP Civic Welfare and Training Service component
DENR Department of Environment and Natural Resources
DEQP Department of Environmental Quality Promotion

ECAs Environmentally Critical Areas
ECP Environmentally Critical Projects

EE Environmental Education

EIAs Environmental Impact Assessments
EIS Environmental Impact Statement System
ESC Education for Sustainable Consumption
ESD Education for Sustainable Development

GAP Global Action Programme
HEIS Higher Education Institutions

IGES Institute for Global Environmental Strategies
LESTARI Institute for Environment and Development

LGU Local Government Unit
MBPJ Petaling Jaya City Council

MSME Medium, Small and Micro-Enterprise
NCCAP National Climate Change Action Plan

NELP-GCP National Ecolabelling Programme - Green Choice Philippines

NGTP National Green Technology Policy

NREPAP National Renewable Energy Policy and Action Plan

NSTP National Service Training Programme

PA21 Philippine Agenda 21

PCEEM People Collaborating for Environmental and Economic Management

PCEPSDI Philippine Centre for Environmental Protection and Sustainable Development Inc.

PCSD Philippine Council for Sustainable Development

PDP Philippine Development Plan

PECC Provincial centre on Environmental Education

PhilGBC Philippine Green Building Council

PSDAP Philippine Sustainable Development Action Plan
PSSD Philippine Strategy for Sustainable Development

SC Sustainable Consumption

SCP Sustainable Production and Consumption

SEET Strengthening Environmental Education in Thailand

SEP Sufficiency Economy Philosophy

SLE Sustainable Lifestyles and Education

TESDA Technical Education and Skills Development Authority

TVET Technical Vocational Education and Training

UN DESD United Nations Decade of Education for Sustainable Development

UNDP United Nations Development Programme

WCED World Commission on Environment and Development

WSA Whole School Approach

WSSD World Summit on Sustainable Development

WWF World Wide Fund for Nature

EXECUTIVE SUMMARY

The Institute for Global Environmental Strategies (IGES) has carried out policy research on strengthening capacities for effective implementation of Education for Sustainable Consumption (ESC) and identifying pathways to facilitate mainstreaming of ESC with a specific focus on the roles governments can play in promoting sustainable consumption. An analysis of governmental capacities for initiating ESC programmes and integrating these efforts into the wider policies and structures for sustainable development in three Northeast Asian countries — China, Japan and Republic of Korea — was conducted in 2010-2011. This report builds on this work by presenting a similar analysis of three Southeast Asian countries — Malaysia, Philippines and Thailand — in order to strengthen the overall understanding of effective ESC mainstreaming and implementation, based on research conducted in 2013-2014.

The first part of this report explains the concept of ESC within the wider policy frameworks of Sustainable Consumption and Production (SCP) and Education for Sustainable Development (ESD). Both of these policies generally respond to the national context for sustainable development in a given country. However, SCP is usually viewed as an environmental policy aimed at shifting production and consumption practices, while ESD is viewed as an educational policy aimed at providing knowledge-based, skill-based, and value-based learning on or about sustainable development. SCP's link to ESC is strongest in the area of non-formal education where promoting sustainable consumption and consumer behaviour change is central. ESD's link to ESC is strongest for its inclusion as a topical subject to be addressed under ESD, as well as its ability to directly address some of the important skill-based learning such as "experiential learning" and "active problem solving" that allow individuals to engage with sustainability in their daily lives. Thus, this report argues that ESC is a practical approach for linking these two parallel policy streams of SCP and ESD.

Second, this report presents three country case studies, from Malaysia, Philippines and Thailand, on the current status of ESC implementation in each country and the roles governments currently play in promoting and facilitating its implementation. The research focused on the current governmental capacities and institutional frameworks for implementing effective ESC and aimed to identify opportunities to improve the overall strategies and approaches taken towards ESC by highlighting the potential for strengthening implementation capacities. From these cases, we find many unique good practices in ESC implementation, and identify a number of common strengths and weaknesses across the implementation of ESC in general. The individual country case studies were conducted by national-level experts through interviews with relevant government officials and civil society members in their respective countries.

The research found that each country has a slightly different policy trajectory. However, in all three countries there is growing interest in the inclusion of ESC into formal and non-formal education. In Malaysia, SCP and Green Growth have been the main drivers in recent sustainable development policies, while in the Philippines, sustainable development has continued to be influenced by the country's strong uptake of Agenda 21 and the Philippine Strategy of Sustainable Development. For Thailand, the national path to sustainable development is expressed under the country's unique Philosophy for Sufficiency Economy which has also framed the country's approach to ESD and education for sufficiency economy within the formal curriculum. Although each country has

emphasised slightly different components of sustainable development, all three do prioritise education as an important means of implementation, and in each country there is clear recognition that ESC should be a component of formal education, as well as implemented through non-formal education.

Then, a comparative capacity analysis of these three countries was conducted to identify both the common and unique circumstances for the implementation of ESC, using the United Nations Development Programme's capacity development approach and its four levers of change (institutional arrangements, leadership, knowledge, and accountability). The analysis showed that leadership was the strongest area of capacity for ESC in all three countries, due to their clear visions and strategies. These visions now need to be actualised through practice and implementation. Knowledge capacity was ranked the next highest capacity in each country. Knowledge sharing innovations should be up-scaled. Regarding institutional arrangements capacity, multi-stakeholder collaboration and recognition were noted as the crucial points. Accountability, was the weakest capacity in all three countries, so countries should try to find quantitative and qualitative tools to more clearly identify ESC impacts.

The report concludes with a series of recommendations on how ESC implementation may be further strengthened. Recommendations are organised in relation UNDP's four levers of change. For leadership capacities, recommendations focus on how to improve the translation of each country's vision for sustainable development into practical action and that citizens should be meaningfully engaged in this process. Key to this effort would be the enhancement of communication standards and outreach mechanisms for ESC promotion. Under the knowledge capacity, this report recommends stronger efforts to support innovation and upscaling of good practices for sustainable consumption. Knowledge sharing mechanisms on sustainable consumption and lifestyles should be strengthened. Multi-stakeholder collaboration and recognition are recommended as the strategy to improve institutional arrangements. The recommended approaches for strengthening ESC in formal and non-formal education differ, but they both rely on clear coordination with well-defined roles/responsibilities and through use of merit-based appraisal mechanisms. For accountability, there is a systematic need for developing better tools to both quantify and qualify the outcomes and achievements of ESC which considers both the immediate influences on behaviour as well as the more subtle influence it has on life-long learning and a values-based approach to sustainable practices. The report concludes by acknowledging a unique trend that is emerging in this field that is shifting the language from solely focusing on sustainable consumption to one that focusses on a broader array of individual actions and behaviours through sustainable lifestlyes.

Chapter 1:

Improving Implementation of Education for Sustainable Consumption

A capacity assessment approach

By So-Young LEE, Institute for Global Environmental Strategies

I. Introduction

Institute for Global Environmental Strategies (IGES) has carried out policy research on strengthening capacities for effective implementation of Education for Sustainable Consumption (ESC) to identify pathways for mainstreaming ESC practice since 2009 as a leading research investment in Asia-Pacific regional ESC promotion. The findings of IGES research have already provided important case studies on the institutional structures and governmental capacities in Northeast Asia, i.e. China, Japan, and the Republic of Korea, for initiating ESC programmes and integrating these efforts into the wider policies and structures for sustainable development. As the concept of ESC still lacks implementation in policy as well as in practice, further research was deemed necessary to identify opportunities for greater integration with wider policies for both Sustainable Production and Consumption (SCP) and Education for Sustainable Development (ESD) and to elaborate appropriate policy and institutional frameworks for future ESC initiatives.

Following on the previous research conducted during 2010-2011 and the existing policy report for Northeast Asia on strengthening ESC policy and implementation strategies from 2011, further research on ESC practice in Asia was planned with the aim to support the development of an experience-based model for institutional strengthening of ESC through policy-making and implementation at national and regional levels. Therefore, during 2013-2014, new research was conducted to examine the current status and obstacles of ESC policy and practice in the sub-region of Southeast Asia. The research focused on the current governmental capacities and institutional frameworks for implementing effective ESC in Malaysia, Philippines and Thailand, and the report provides three original country case studies on ESC policy and practice in these countries. This report investigates how to advance the quality and strengthen the implementation of ESC in Southeast Asian countries. It supports future ESC policy making and effective implementation by developing strategies to improve on current approaches to promote sustainable consumption. This report, hence, aims to identify opportunities to improve the overall strategies and approaches taken towards ESC by highlighting the potentials for strengthening implementation capacities.

Following the country case studies, a comparative capacity assessment between the three countries was carried out. To conduct this capacity assessment, the report utilises the capacity development approach of the United Nations Development Programme (UNDP) and its four levers of change: institutional arrangements, leadership, knowledge and accountability. This analysis provides insights

for elaborating a useful capacity development strategy to empower ESC implementation and increase its quality. The analysis is followed by policy recommendations aimed at improving governmental capacities for ESC and creating better integration with wider policy systems on SCP and ESD. Through the comparative capacity analysis, this research identifies a series of recommendations for achieving ESC capacity improvements in line with the four levers of change.

This research and report also compliments the earlier ESC country cases from Northeast Asia and serves to complete a larger series of cases from the Asia-Pacific region on strengthening ESC policy and implementation strategies. This will provide the opportunity for future analysis of ESC policy and implementation across the Asia-Pacific region. Furthermore, the results not only support the 10-Year framework of programmes (10YFP) through demonstrating the importance of supporting on-going initiatives and programmes for SCP, but they also contribute to the regional replication of UNEP's Institutional Strengthening of ESC project by investigating current efforts and sharing best practices on ESC project implementation.

This first chapter will introduce the history and definition of ESC, as well as the wider supportive policy frameworks on ESD and SCP, as the main background information to this research. In fact, this report attempts to distinguish the concept of ESC from SCP and ESD; however, it has been unavoidable that the capacity assessment must integrate broader issues of SCP, ESD and Sustainable Development. These overlaps are due to the intersectional role of ESC with the consumption side of SCP and the education side of ESD. It is interesting to observe how each country defines ESC-related terminologies in the country chapters which present the distinctive situations in which each respective government is promoting sustainable consumption in a slightly different manner from one another. This also highlights specific opportunities for strengthening ESC capacities within current policy systems and with appropriate variations to national contexts. As this report proposes greater potential for integration with wider policies for both SCP and ESD, it aims to elaborate functional policy and institutional frameworks for future ESC initiatives that provide a valuable intersection between SCP and ESD policies.

II. Background of ESC: Bridge between ESD and SCP

Education for Sustainable Consumption has gained recognition during international processes on both SCP and ESD especially during the UN Marrakech Process on SCP and the UN Decade of Education for Sustainable Development (UN DESD), "for its [ESC's] uniqueness to postulate and invigorate active methods and tools for citizens and consumers to participate in and actively incorporate responsible and sustainable consumption into their daily lifestyles and habits" (Didham 2011). Elaborating on this point, ESC has the ability to bridge specifically SCP and ESD and also major approaches for sustainability, here, it is necessary to briefly review the history of SCP and ESD in order to understand how the concept of ESC has been developed in relation to these main concepts regarding sustainability and education.

To begin with SCP, the first appearance of the concept was at UN Conference on Environment and Development in Rio de Janeiro in 1992 and the well-known Agenda 21 announced that "the major cause of the continued deterioration of the global environment is the unsustainable pattern of consumption and production, particularly in industrialised countries, which is a matter of grave

concern, aggravating poverty and imbalances" (UNCED 1993: 8). It was at this Earth Summit in Rio that the significance of the current unsustainable patterns of consumption and production and the resulting harm to the global environment these patterns result in were first addressed at the international level. Thus, the consumption and production patterns of modern societies are recognised as one of the main issues that must be addressed to tackle the current patterns of unsustainable growth and development. Sustainable consumption requires dealing with not only what we consume, but also the ways in which we consume, how much is consumed, and how we deal with the wastes from our consumption.

In the Oslo Symposium on Sustainable Consumption held 2 years later in 1994, SCP was defined more clearly as "the production and use of goods and services that respond to basic needs and bring a better quality of life, while minimising the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardise the needs of future generations" (Norwegian Ministry of Environment 1994). The activities and policies on SCP focused on cleaner production and improving efficiencies in the supply chain; moreover, they began to expound changing unsustainable patterns of consumption, then, substantially both aspects of SCP were catalysed into implementation.

SCP policy gained significant momentum at the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 when "Changing Unsustainable Patterns of Consumption and Production" was highlighted as one of the five main thematic areas for sustainable development implementation. It also brought consumption oriented policies to the forefront of international activities. As an outcome of the WSSD, the Marrakech Process was initiated to develop a 10-Year framework of programmes (10YFP) to strengthen regional and national initiatives for SCP and to investigate important areas of practice such as the Italian Government led task force on ESC and Swedish Government led task force on Sustainable Lifestyles.

Since then, the concept of SCP has expanded into social, economic, and political principles by promoting "social and economic development within the carrying capacity of ecosystems by addressing and de-linking economic growth and environmental degradation through improving efficiency and sustainability in the use of resources and production processes and reducing resource degradation, pollution and waste" (UN 2002: 7). Several important international initiatives on SCP have had direct impacts in the Asia-Pacific region, including the Marrakech Process to develop the 10YFP on SCP, the EU-funded SWITCH-Asia programme, and regional efforts for green market promotion and green public procurement.

The definition of Sustainable Consumption (SC) has also continued to become more clearly and broadly distinguished. The publication by UNEP (2005) *Advancing Sustainable Consumption in Asia* mentioned that SC should not "automatically translate into 'less consumption' but rather to more efficient, better informed and less resource intensive consumption" (UNEP 2005: 3). Another distinctive UNEP publication in 2010 *Here and Now* emphasised the idea of SC refers to a new social and cultural paradigm that challenges individuals with, "participating in the ongoing values debate about quality of life; developing critical analysis of information; controlling the human impact on nature; preventing life-style related illnesses; exercising social responsibility; and maintaining public discourse in order to guarantee accountability" (UNEP 2010: 8).

UNESCO (2010) has defined sustainable consumption in more inclusive concepts which integrate "social, economic and political practices at the individual, community, business and government levels". SC supports:

- reducing the direct environmental burden of producing, using and disposing goods and services and meeting basic needs for key consumption goods and services;
- meeting basic needs for key consumption goods and services such as food, water, health, education and shelter;
- maximising opportunities for sustainable livelihoods in the South
- contributing positively to the health and well-being of women and children
- increasing the development and adoption of energy and water efficient appliances, public transport and other demand-side measures;
- the production and sale of new goods and services adapted to global environmental constraints; and
- lifestyles that place greater value on social cohesion, local traditions and non-material values.
 (UNESCO, 2010)

As SC is viewed as an essential part of Sustainable Development and is recognised as a priority issue, at the UN Conference on Sustainable Development (Rio+20) held in Rio de Janeiro in June 2012, the Heads of State reaffirmed that promoting sustainable patterns of consumption and production is an essential requirement for sustainable development and the Rio+20 outcome document *The Future We Want* (2012) adopted the 10YFP on SCP. This 10YFP was initially called for in the Johannesburg Plan of Implementation in 2002 and subsequently developed through the Marrakech Process on SCP, the SCP Task Forces, and regional SCP roundtables and strategies. It provides a "global framework of action to enhance international cooperation to accelerate the shift towards SCP in both developed and developing countries" (UN 2012).

Education for Sustainable Development (ESD) also has its roots in the UN Conference on Environment and Development and educational objectives for sustainable development were detailed in Chapter 36 of *Agenda 21* in 1992. Similarly to SCP, ESD was advanced as an important social process at the WSSD in 2002 during which the proposal for the UN Decade of Education for Sustainable Development (2005-2014) (DESD) was first made. The UN DESD was initiated with UNESCO as the lead organisation and they published *Astrolabe: A Guide to ESD Coordination in Asia and the Pacific* (2011) which summarises the essence of ESD as noted:

It aims to contribute to sustainable development by empowering people, through education, to assume responsibility for creating a sustainable future. It seeks to engage people from all walks of life, worldwide, in bringing about changes for a better world. Stakeholders from across sectors have a role to play in changing the way we deliver education and ensuring we make appropriate decisions for a better future. ... ESD allows people to not only use their interpretation on environment, society and economics but also to equip them with ability to position themselves, evaluate their surroundings and to conduct their lives in ways that are consistent with sustainability (UNESCO 2011: 1-3).

ESD goes beyond the idea of topical learning and is promoted as a vehicle to drive transformative change through the establishment of a new culture based on the promotion of values, attitudes and lifestyles for a sustainable society. This conceptualisation of ESD aims to cultivate and develop a global citizenry that is empathetic and responsive to the need to frame their own actions and behaviours within the objective of achieving a sustainable society and abating pressing environmental problems such as climate change and biodiversity loss. ESD also has the potential to bring a rights-based perspective to development issues to promote global justice and inclusive societies, and it offers a reformative aspect for educational systems by promoting interdisciplinary approaches, critical thinking and cooperative problem solving as progressive learning pedagogies.

With the primary goal of empowering people to be responsible for the achievement of a sustainable future, it must be acknowledged though that in many ways ESD is pointing at an unknown future which makes it a challenging concept to contextualise. It is at this point that the benefits of ESC as a core theme of ESD demonstrates its practicality as an approach to bring direct relevance of sustainability principles into people's daily lives and consumption choices.

III. Education for Sustainable Consumption

ESC is a core theme of ESD and it is essential to train responsible citizens and consumers towards lifestyles based on economic and social justice, food security, ecological integrity, sustainable livelihoods, respect for all life forms and strong values that foster social cohesion, democracy and collective action.

(UNESCO 2009 April 2 - Bonn Declaration. Retrieved 2012 from UNESCO)

ESC is a specific activity that focuses on directly influencing consumer behaviour by encouraging responsible and sustainable consumption into their everyday life, and through this process it encourages individuals to obtain experience of the underpinning principles of SD. While SCP and ESD tend to address complex subjects, "they are often aimed more at influencing knowledge and conceptualisation than at influencing behaviour thus they can lack relevance to the average person's daily life" (Didham 2011). Hence, as UNESCO (2006) noted ESC towards actions in everyday lives is "the vehicle of knowledge, thought patterns and values needed to build a sustainable world" between SCP, especially the consumption side and ESD, with the objective of reforming education.

The Marrakech Task Force on ESC focussed on the role of "formal learning processes in providing knowledge, awareness and competences aimed at enabling individuals and social groups to be the key actors of change towards more sustainable consumption behaviours" (UNEP and UNDESA 2007). Following on the work of the Task Force on ESC, UNEP produced *Here and Now! Recommendations and Guidelines for ESC* in 2010 that offers a tool to assist policy-makers, educators and teachers in achieving ESC implementation. *Here and Now* identified clear ESC objectives which aims "to ensure that the basic needs of the global community are met, quality of life for all is improved, inefficient use of resources and environmental degradation are avoided. ESC is therefore about providing citizens with the appropriate information and knowledge on the environmental and social impacts of their daily choices, as well as workable solutions and alternatives. ESC integrates fundamental rights and freedoms including consumers' rights, and aims at empowering citizens for them to participate in the public debate and economy in an informed and ethical way" (UNEP 2010: 11).

In 2011, based on its publication *Here and Now* and a strong demand for guidance on how to integrate ESC, along with IGES's involvement, UNEP initiated a pilot project on the Institutional Strengthening of ESC aimed at advancing ESC implementation and strategies at the national level. The first round of pilot projects was carried out in Chile, Indonesia and Tanzania. The outcome document on Indonesian National ESC Guidelines emphasises that "ESC is education that enables people to have an understanding of the environmental, social and economic impacts of their consumption choices, which can later be translated into actions in daily life. The education itself does not necessarily change the attitude in the way people consume but it can help to accelerate this change. ESC is an excellent starting point for ESD since it deals with issues in our daily lives" (YPB 2014: 16).

The work to develop National ESC Guidelines in Indonesia (under the UNEP Institutional Strengthening of ESC pilot project) demonstrates that ESC can support active and communicative learning that aims to integrate science and values into a socially responsible worldview that uniquely places the learner at the centre of a dynamic system that they are able to influence in order to critically reflect on and deconstruct traditional and modern patterns of behaviour. It also argues that translating education on or about sustainability into real world practices for sustainable lifestyle transformations remains an important and urgent challenge.

IV. Research Structure and Methods

As one of UNEP pilot project's advisory group members, IGES participated in the project and research on ESC at the national and regional level. This drew on IGES's own policy research on strengthening capacities for effective ESC implementation and identifying pathways to facilitate mainstreaming of ESC since 2009 which provided an important case study of the institutional structure and governmental capacities in Northeast Asia for initiating ESC programmes and integrating these efforts into the wider policies and structures for sustainable development. When the UNEP pilot project completed and emphasised the importance of ESC implementation and capacity development, especially from the Indonesian National ESC Guidelines, IGES initiated to investigate further development of an experienced-based model for institutional strengthening of ESC through policy-making and implementation in the sub-region of Southeast Asia.

The research was initiated and structured by the Institute for Global Environmental Strategies (IGES); however, the research for the individual country case studies and results on the governmental capacities for ESC implementation are delivered thanks to the participation of SCP and ESD experts in each country. The Malaysian country case study was conducted by Dr. Adnan A. Hezri of the Technology, Innovation, Environment and Sustainability division at the Institute of Strategic and International Studies. The country case study for the Philippines was conducted by Dr. Ruth S. Guzman of the Faculty of Biological and Environmental Management at Rizal Technological University. Dr. Athapol Anuthavorasakul of the Faculty of Education at Chulalongkorn University conducted the country case study for Thailand.

The research conducted for this report attempts to investigate governmental capacity for effective ESC implementation mainly at a national level but also includes a part of research on sub-national level, i.e. municipal levels. The research mainly aimed to identify relevant policies on SCP, especially

ESC, and to provide an assessment of current governmental capacity for ESC implementation. The findings from this research help to identify the key aspects of the current governmental context for promoting SC and also provide considerable recommendations for better policy integration.

To do so, these research experts carried out a series of interviews with relevant government officers and civil society members in their respective countries. They also conducted assessment of current policy frameworks and strategic plans, relevant literature review, as well as reviewing training materials and curriculums. The data collection methods were primary structured interviews and analysis of government policy documents and reports. Each researcher applied a slightly different approach in their respective country; however, in all three countries, face-to-face interviews with open-ended questionnaire were carried out to the three-fold target respondents: 60% from relevant officers of national governments including Ministries of Environment, Education and Trade; 20% from one municipal or provincial government; and 20% from relevant NGOs and civil society organisations (see Appendix 2 for Interview Questions). The scope of education covers non-formal education as well as formal education. This research underlies the assumption that current governments in each country have the intention to promote ESC and the objective of the research is mainly to show how they can do this effectively. The assumption was investigated through the commissioned case studies, i.e. how these governments define and understand ESC as well as their efforts and motivations to promote it.

The preliminary results of the country case research were subject to a review and feedback process when IGES held the Southeast Asia Workshop on ESC and Promoting Sustainable Lifestyles (SL) in March 2014. The workshop allowed the opportunity to investigate the current status of ESC in each country, to address the current policies and strategies of national governments for promoting sustainable consumption, and to exchange productive dialogues on how best to strengthen the implementation of ESC in Southeast Asia. The participants of the Workshop included relevant government officers, practitioners, and civil society members, and experts in ESC from research universities and international organisations, including UNESCO and UNEP. During the Workshop, it was recognised that it is necessary to increase the capacity of governments to plan and implement effective ESC, and several recommendations were formulated on how to strengthen this capacity¹.

The Southeast Asia country case studies were subsequently utilised to conduct a comparative analysis of strengths, weaknesses, and constraints in ESC implementation across the countries. This analysis was conducted in the same manner of the previous IGES policy research on strengthening capacities for effective ESC implementation and identifying pathways to facilitate mainstreaming of ESC in Northeast Asia. The structured assessment was based on UNDP's capacity development framework which adopts four levers of change, i.e. institutional arrangements, leadership,

_

Sustainable Lifestyles and Education (SLE) Programme of the 10YFP on SCP and the Global Action

¹ Some key points discussed in the Workshop are: • Clear policy mechanisms and strategies that promote sustainable consumption and influence consumer behaviour need to be clearly defined and concretely illustrated; • There are already existing attempts being made to demonstrate concrete applications of ESC implementation based on a regional roadmap for the 10YFP for ESC/SL; • It is critical to link ESC at the national policy level with the local practice level when stakeholders operating at different scales and pathways need to be identified to enhance multi-stakeholder collaboration; • Potentially useful starting points for mainstreaming ESC are existing frameworks on Environmental Education (EE) and ESD in each country and the contextualisation of ESC itself should be encouraged; • An important area to watch in coming years will be links between the

knowledge and accountability. From IGES's research results in 2011, this framework supported "the identification of opportunities to strengthen ESC implementation and better integrate policies and programmes to maximise impact through an investigation of key leverage points for improving policy strategies, governmental approaches and institutional capacities and also for heightening synergetic relationships across these systems" (Didham 2011).

The following chapters will introduce findings of each country cases and analysis of case status. Including the reflections of the Workshop, research partners elaborated the results of the collected information in each country case. The following chapters 2 to 4 present them. And, in chapter 5, the comparative analysis of the current governmental and institutional capacities for ESC follows. The final chapter of this report explains the detailed recommendations.

References

- Didham, R. ed. (2011) The Role of Governments in Education for Sustainable Consumption: Strengthening Capacity for Effective Implementation in China, Japan, and Republic of Korea. Hayama: IGES.
- Lee, S. ed. (2014) Proceedings of the Southeast Asia Workshop on: Education for Sustainable Consumption and Promoting Sustainable lifestyles in Malaysia, Philippines and Thailand, Hayama: IGES.
- Norwegian Ministry of Environment (1994) *Oslo Roundtable on Sustainable Production and Consumption.* Oslo Symposium. www.iisd.ca/consume/oslo004.html, Accessed on 30 Nov 2010.
- UN (2002) *Plan of Implementation of the World Summit on Sustainable Development*. Documentation. NY: UN. UN (2012) *The Future We Want*. Rio+20 Agenda item 10. Outcome of the Conference.
- UNCED (1993) The Earth Summit. Commentary by Stanley P Johnson, London: Graham&Trotman Limited.
- UNEP (2005) Advancing Sustainable Consumption in Asia: A guidance manual. Nairobi: UNEP.
- UNEP (2010) Supporting Capacity Development: The UNDP Approach. NY: UNDP.
- UNEP & UNDESA (2007) 3rd International Expert Meeting on 10 Year Framework of Programmes on SCP-Background paper 3: Mechanisms of the Marrakech Process. Stockholm: UNEP&UNDESA.
- UNESCO (2006) Promotion of a Global Partnership for the UN Decade of Education for Sustainable Development (2005-2014). Paris: UNESCO.
- UNESCO (2010) Teaching and Learning for a Sustainable Future: A multimedia teacher education programme, Theme 2. Activity 9. Consumer Education.

 http://www.unesco.org/education/tlsf/mods/theme-b/mod09.html, Accessed 20 Nov 2014.
- UNESCO (2011) Astrolabe: A Guide to Education for Sustainable Development Coordination in Asia and the Pacific. Bangkok: UNESCO.
- UNESCO (2012) World Conference on Education for Sustainable Development 2009 Bonn Declaration. Retrieved 2012 from UNESCO.
- Yayasan Pembangunan Berkelanjutan: YPB (2014) Introduction to Education for Sustainable Consumption in Indonesia: National recommendations and Guidelines for Policymakers and Educators. Jakarta: YPB.

Chapter 2:

Education for Sustainable Consumption in Malaysia Current policy frameworks, implementation and governmental capacity

By Adnan A. HEZRI, Institute of Strategic and International Studies Malaysia

I. Background

Malaysia is often touted as an example of a successful developing country. The highlights of Malaysia's achievement include the reduction of household poverty from 49.3% in 1970 to 3.8% in 2009 (EPU and UN 2011). In 2011, Malaysia's Human Development Index is 0.761, which gives the country a rank of 61 out of 187 countries with comparable data, and also above the East Asia and the Pacific regional average. Malaysia is now an upper middle income country, which is also ranked 36 out of 111 countries in the Economist Intelligence Unit's Quality of Life Index. The United Nations Secretary General Ban Ki-Moon aptly recognized Malaysia's development accomplishment as follows:

"Malaysia has made remarkable progress in achieving the Millennium Development Goals (MDGs) – the globally agreed blueprint for halving extreme poverty, halting the spread of diseases, promoting access to education and improving health care – ahead of the 2015 deadline".

This remarkable progress partly owes to the country's natural resources endowment. Malaysia is also committed to keep at least 50% of its land as forest cover to safeguard its rich biological diversity endowment, which it continues to deliver. But its economic achievements were also accompanied by growing trends of consumption. At the macro level, the country's material flow from 1970 to 2008 indicated that consumption and production patterns of natural resources have been increasing steadily throughout the years (Hezri and Alizan 2015).

Thus, to realise a sustainable future for Malaysia, 'business-as-usual' is not an option. Continuing on the same trajectory of the past would, while ensuring economic growth, result in greater environmental degradation and unsustainable use of resources. Moving forward, Malaysia needs to make difficult policy choices in a targeted pattern that will put in motion policy changes – converging economic, environmental and social dimensions of development – now and into the future. The shift towards sustainable development requires the country to manage the policy challenge of changing social behaviour, guided by an individual consumption pattern that respects ecological limits. To achieve this aim, education for sustainable consumption (ESC) should be made an integral part of Malaysia's strategic approach to sustainable development. This will promote awareness and a shift in thinking that leads towards action and is mainstreamed across all segments of the population.

This chapter argues that changing the consumption pattern alone is by itself insufficient. As aptly articulated by Lorek and Spangenberg (2014), the transition to sustainability cannot rely on neither

greening of the economy, nor on approaches subscribing to the Sustainable Consumption and Production (SCP) alone as the sole solutions. "Such a transition", they argue, also requires "as enshrined in the 1992 Rio Principles and in Agenda 21, more justice and democracy, empowerment of marginalised groups, and international collaboration to solve the global environmental and social problems" (2014: 36). Section II of this chapter, therefore, presents Malaysia's current status with regards to ESC practice, embedded within the broader frame of SCP and sustainable development challenges in the country. Section III describes ESC elements presence in formal and informal environmental education as well as within the recent articulation of education for sustainable development (ESD) in public universities in Malaysia. Following this context setting, Section IV outlines the existing policy frameworks on SCP and ESC. The issue of scale is also important in mainstreaming ESC, which is discussed in Section V by looking at Federal, State and local government capacity. The chapter concludes with an assessment of current approaches to promoting sustainable consumption.

II. ESC and Environmental Policy for Sustainable Development

Prior to and until two decades after independence in 1957, environmental degradation was accepted as an inevitable consequence of development in Malaysia. The laws introduced during this period promoted the 'wise' and 'sustainable' use of resources but did not address the root causes of associated environmental problems (Sham Sani 1997). Rather, they tended to deal with issues on a case-by-case basis, making environmental law making fragmented, inconsistent and generally ineffectual in achieving substantive environmental protection (Aiken and Leigh 1992).

A. Stages of environmental policy development

The evolution of Malaysia's post-1970 national environmental policy can be traced through five distinct stages, distinguished by changes in policy content and the choice of specific instruments (Hezri 2015; Hezri and Hasan 2006).

The first stage of environmental policy development saw the formulation of a federal legal framework for pollution control with the passage of the *Environmental Quality Act 1974*. A national environmental agency, the Division of the Environment (later renamed the Department of the Environment), was set up to administer the act in 1975, advised by a council of environmental experts, the Environmental Quality Council.

The large-scale transformations of the natural environment accompanying rapid economic development in the 1970s and 1980s provided the impetus for the second stage of environmental policy making (Aiken et al. 1982; Sham Sani 1993). From the mid-1970s, civil society organisations began to increase their activism nationally and internationally, forcing legal and administrative reforms from the government as short-term economic considerations vied with long-term conservation concerns. In 1985, following a lengthy period of discussion, the necessity for environmental impact assessments (EIAs) to accompany development applications was finally recognised. The EIA Order 1987, which came into effect in 1988, required an EIA for 19 categories of activity.

The influence of international environmental thinking, especially on sustainable development, characterises the third stage of policy development. After the introduction of the term 'sustainable development' by the World Commission on Environment and Development in *Our Common Future* (1987), the concept gained both public and political attention. Malaysia began to play an important diplomatic role in championing the position of the South at international meetings on the environment (Taib 1997). The country gained global recognition of its leadership role with the appointment of Malaysia as the founding chair of the United Nations Commission on Sustainable of international environmental agreements to which Malaysia is a party or signatory.

In the twenty-first century, the government has focused on obtaining a better fit between environmental policy and the implementation of that policy. With this shift in emphasis, the debate on sustainable development has entered the realm of public administration. To contrast this fourth stage to the earlier approach, government agencies have begun to consult with civil society and business in an attempt to accommodate their concerns. This more consultative approach has resulted in broad agreement on the direction of sustainable development, expressed in policy statements such as the National Biodiversity Policy 1998, the National Policy on the Environment 2002 and the National Climate Change Policy 2010. After a major cabinet reshuffle in March 2004, responsibility for the environment was vested in a newly established Ministry of Natural Resources and Environment with the aim to bring together all matters to do with the environment under a single authority. By embracing the goal of a low carbon economy the country has entered its fifth stage of environmental policy institutionalisation. In 2009, it established the basic architecture for responding to a low-carbon agenda (see Section IV A).

B. SCP on the landscape of Malaysia's public policy

Although SCP is a relatively new area of policy focus, elements of cleaner production and resources efficiency in the supply chain have been gradually addressed in Malaysia's environmental policy since the 1970s (Figure 1). Even before the formal establishment of an environmental portfolio in mid 1970s, the Department of Machinery had been tasked to design a policy framework for pollution control as a response to the emergence of agro-industries such as rubber and palm oil. By the late 1970s, public education on sustainable consumptive patterns was drummed up by the consumer movement, notably through the active participation of Consumers Association of Penang (CAP), assisted by its sophisticated network with the environmentally conscious international consumer movement. With Malaysia's entry into manufacturing, various parties including the government began to pay more attention to cleaner production mainly through demonstration projects and standards development. The bulk of the discussion in sections IV onwards deals with the development of the fourth and fifth stages of Malaysia's environmental policy whereby more direct efforts on building sustainable product service systems and sustainable consumptive patterns were put in place to promote change for sustainability.

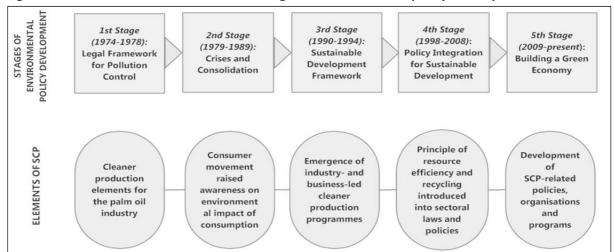


Figure 1: Elements of SCP within different stages of environmental policy development

C. General challenges of shifting to sustainable consumption patterns

"Similar to most countries, Malaysia is no exception to the inability in viewing development from a holistic framework - which is the essence of sustainable development" (Hezri 2011: 63). For developing countries, obstacles to the sustainable shift are many, but two are worthy of mention². First, natural resources in Malaysia are under priced through subsidies including water, fuel, and paddy seed, to name a few obvious examples. Rather than reduce its consumption of resources to a sustainable level, Malaysia continues to consume more resources than many of its peers. On water resources, urban dwellers in the states of Penang and Selangor consumed as much as 476 and 325 litres per capita per day respectively, incentivized as it were by the lowest water tariff in the country (Lee 2005; see also Figure 2 for national figures). This was much more than the 200 litres per capita per day recommended by the United Nations. The low water charges are maintained by generous subsidies ranging from 7 per cent in Perlis to as much as 49 per cent in Johor.³ The Tenth Malaysia Plan also recognises that "[t]he biggest risk to sustainability arises from under-pricing of resources, particularly oil and gas..." (Malaysia 2010: 26). The low energy tariff influences consumer behaviour as reflected in the upward trend of household electricity consumption (Figure 3). The usage of energy efficient appliances is yet to be a norm in Malaysia, while the practices that lead to wastage prevail. Another consumption area, food is also showing a sign of wastage among the consumers. According to Solid Waste Corporation Malaysia, some 8,000 to 15,000 tonnes foods – enough to feed 7.5 million people a day - are wasted daily. This explains why food contributes to 44 per cent of overall solid waste composition in Malaysia, followed by plastic and baby diapers.

-

² Elsewhere, the author explained how the architecture of Malaysia's political economy has influenced constitutional arrangements, the pricing of natural resources and environmental advocacy (Hezri and Dovers 2011).

³ According to the World Bank (2005b) the average water tariff is \$1.04 in developed countries but only \$0.11 in the poorest developing countries. The average global tariff is \$0.53.

Figure 2: Malaysia's national domestic water consumption per capita in comparison with selected countries, 2005 to 2013.

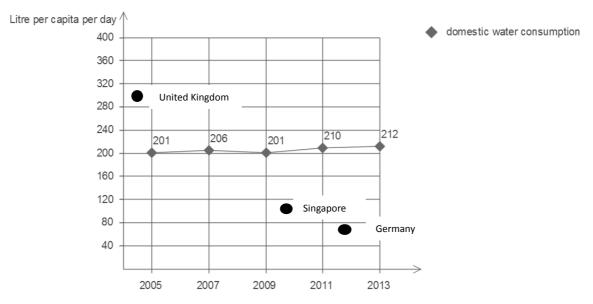
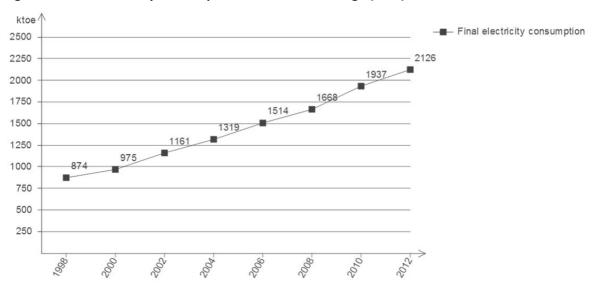


Figure 3: Final electricity consumption for residential usage (ktoe)



Source: Energy Commission Database [http://meih.st/gov.my/statistics]

Second is "the general apathy among our public about the environment and sustainability. Malaysians generally lack understanding of the underlying causes of environmental problems" (Hezri 2014: 158). Many surveys on environmental awareness record results showing Malaysians have low to moderate level of understandings of environmental issues. The surveys also found that "awareness of environmental problems did not necessarily translate directly into positive environmental behaviour" (Hezri 2014: 158) because they do not see the long term adverse effect of these problems on national economics and their life.

III. ESC Aspects in EE and ESD in Malaysia

As a relatively new policy focus, the baselines for ESC will have to be found in related concepts and applications. Educating for sustainable behaviour should ideally begin in schools. At this level, environmental education (EE) has been the playing an important part in imparting the knowledge on the environment to students across the world. For some, the meaning of the word 'the environment' connotes separation from our daily lives, rather than their extension. This leads to sustainable development and environmental protection to be perceived as two different and at times conflicting policy goals for some. Whereas environmental policy narrowly carries a preservationist objective, the goal of sustainable development recalls the ancient vision of holism back into policy debates. Specifically, sustainability advocates the integration of social, environmental, and economic objectives. The recent years saw the move to reshape the higher education system to embrace sustainable development in its teaching, research and advocacy under the rubric of education for sustainable development (ESD). The following subsections discuss the development of EE and ESD in Malaysia which are seen as a precursor and also a complement to the ESC objective.

A. Formal environmental education

Malaysia's National Policy on the Environment outlined 'Education and Awareness' as one of the *Green Strategies* in line with the recommendations of Agenda 21 (MoSTE, 2002). While this and Malaysia's other environmental policy documents accorded EE a prominent status, the 23 policy statements that constitute Malaysian National Education Policy made no reference to the environment (Nadeson and Nor Shidawati 2005). Arguably therefore, integration of EE into education policy is yet to be established at the highest level.

This does not however negate the importance of EE practice inside the classrooms, which has been implemented since the 1980s. The Ministry of Education "has played an active role in its effort to develop a curriculum on environmental education and implementing it in various teaching and learning strategies in schools". The precursor to EE was first introduced the 1960s, when "the knowledge about environment was taught to students in Biology classes applying the concepts of ecology". In 1982, an EE subject "called *Alam dan Manusia* (Man and Environment), was incorporated in the primary school curriculum" (Hassan et al 2009). It was a multi-disciplinary approach taught to Year Four (then continued to Year 5 and 6) primary school students. After ten years of implementation the subject was replaced by *Kajian Tempatan* (Local Social Studies) with enhanced environmental element components. EE has been incorporated into all the subjects taught at the secondary school level. Here the focus is on educating the students "to be more sensitive and concerned about environmental issues, by being knowledgeable, skilled and committed in acting as individuals or collectively to address environmental issues. It consists of six main topics that are integrated into all subjects of the curriculum" (Meerah et al 2010).

Apart from pupil development, also important is school development for collective environmental awareness. Together with the Ministry of Education, the Department of Environment launched the *Anugerah Sekolah Lestari* or the Sustainable School Award in 2004 to develop the capacity of schools to practice environmental principles (DoE and LESTARI 2004). The project focuses on the building of skills and knowledge for whole school environmental management and protection as well as

environmental education curriculum and professional development. The Sustainable School awards are categorised through a staged development process, and schools have to undertake a series of steps before they are eligible to apply. Additionally, the Ministry of Natural Resources and the Environment has also initiated "the review of the present school textbooks in order to incorporate environmental values, as well as to remove incorrect or misleading environmental facts. The review started with the primary text books and will be continued with the secondary schools" (UNSD 1997). One worrying development to note is that the subject of geography is no longer considered a compulsory subject in Malaysia's secondary school curriculum. Given the fact that geography is important for a student's appreciation of space and the spatiality of environmental change, its relegation from a compulsory to an elective subject does not augur well for the appreciation of global sustainability challenges.

Teachers are also trained to teach EE principles in schools. For instance, the Curriculum Development Centre of the Ministry of Education prepared the guide book entitled "Environmental Education Across the Curriculum" for both the primary and secondary level teachers in order to assist them by giving them ideas and recommendations about how to integrate EE in their lessons. For the preservice postgraduate program in Teachers' Colleges, there is minimal offering in environmental science or environmental education, where it constitutes only one credit (15 hours) in the entire program. The course content of the curriculum covers six main topics which are: introduction to environmental education (1 hour), Introduction to ecology (2 hours), environmental issues (2 hours), sustainable development (2 hours), and environmental citizens (1 hour) and environmental education across curriculum. The curriculum specification suggested that students could be evaluated through test, course work or project work. In addition, in-service training also receives an EE boost by the Ministry of Education, providing short training courses on sustainable development overseas and locally for education officers and master trainers. A National Environmental Training Centre was also established in Institute Aminuddin Baki, Genting Highland to train State Education Department officers and teachers in teaching and learning strategies related to EE (Zainal et al 2010).

At the tertiary level, a wide variety of environment-related courses are offered at both undergraduate and postgraduate levels (Meerah et al 2010). The public universities occasionally offer specialised short courses and training programmes on environmental issues. These courses are tailored to the training and professional needs of professionals from various backgrounds. In a nutshell, formal "environmental education in Malaysia is usually geared towards addressing environmental challenges such as littering, pollutions (air, water, etc.), and loss of biodiversity" (Hassan et al 2009).

B. Public awareness and informal environmental education

The results of various opinion surveys suggest that Malaysians have a fair level of awareness about the environmental challenges facing their regions. For example, in Selangor, one of the most developed states in Peninsular Malaysia with rapid urbanisation and an increasing population – respondents ranked the main environmental issues as atmospheric pollution (39 per cent), industrial and solid waste (23 per cent) and water pollution (13 per cent) (Haron, Paim and Yahaya 2005). In Sabah, a poor state predominantly dependent on natural resources, respondents perceived the main environmental problems to be polluted rural rivers/soil erosion (60 per cent), polluted urban

rivers/wastewater (51 per cent), declines in forest cover (47 percent), declines in air quality (43 per cent) and poor solid waste management (34 per cent) (Sabah Environmental Protection Department 2003). On the other hand, the scientific aspects concerning the underlying causes of environmental problems are less understood by Malaysians. For instance only 43 per cent of respondents were aware of the causes of regularly occurring environmental problems such as flash flooding and haze, according to a survey of 6,090 Malaysians by World Wild Fund for Nature Malaysia. Another alarm is raised by the survey when it discovered that "awareness of environmental problems did not necessarily translate directly into positive environmental behaviour" (WWF Malaysia 2009). Visual evidence to support this claims is available by observing the rampant dumping of domestic waste into waterways by the public. This is despite continual awareness raising 'Love Our Rivers' campaigns by the Department of Irrigation and Drainage to prevent this environmentally irresponsible practice.

The general apathy calls for education and strong advocacy. Thus far, educating the public about the environment has mainly been the task of NGOs. They have also taken a leadership role in environmental activism, influencing public policy processes both from within and outside government (Rusli and Cheh 1999). The 'inside' tactic is to lobby administrations, provide expertise and maintain informal contacts with officials. Through such a consultative approach, NGOs such as the Malaysian Nature Society and WWF Malaysia were instrumental in assisting government agencies to formulate the National Biodiversity Policy and the National Policy on the Environment (Ramakrishna 2003). The 'outside' tactic entails working with the media, educating the public about the environment and organising protests and grassroots lobbying. Other informal activities carried out by environmental NGOs include talks, tree planting, art "exhibitions, drawing and colouring competitions, cleaning-up campaigns, seminars, workshops, and trainings" (Hassan et al 2009). Both the Malaysian Nature Society and WWF Malaysia operate nature education centres for children and adults, and play an educative role in transferring technical knowledge to both local communities and government agencies. Together with government agencies, these NGOs also helped organise the commemoration of annual environment-related events, like Malaysia Environment Week, the Earth Day (April 22), the Forestry Day, Water Day, Green Day, Earth Day, World Environment Day (June 5), Earth Hour and Wetlands Day to enhance environmental awareness.

C. Education for sustainable development

Scholars argue that 'environmental education *about* the environment' as enshrined in Tbilissi Declaration has adequately captured the essence of contemporary sustainability concept. Herein sustainability education is viewed as a progressive transition from the earlier focus of EE (Stevenson 2006). According to Sauvé (1996) sustainability education principles such as holism, systems thinking, inter-disciplinarity, values reflection and integration, critical thinking, issue-based and action learning are not foreign to the EE educational approach. This standpoint weakens the proposal to reshape education for sustainable development. That is on the condition that a distinction is not drawn between 'education *about* the environment' and education *for* sustainable development. In 2002, a new sense of urgency was given by the United Nations' initiative, the Decade for Education for Sustainable Development (DESD). The rise of planetary thinking or 'planetism' (Ellyard 2008) calls for a new pedagogy of learning and teaching, one that requires strategic intervention at the highest level of education policy and decision-making. Oft-used catchphrase such as 'transforming' higher education for a sustainable society' reflects this ambition.

Assessing Malaysia's performance on ESD is difficult given the above paradox. That sustainable development is open to interpretation, contradictions, and subversion underscores a very important point, that is, any ESD assessment would be equally problematic. Within the government circle in Malaysia, there is yet to be a formal DESD policy. However, with paradox in the realm of theory comes an endless possibility in terms of practice. Over the years there have been pioneering ESD initiatives led by the main public universities in the country. In what follows, the nascent ESD experiments and implementation in Malaysia are selectively and cursorily surveyed without the intent to be comprehensive:

- Creation of research centres for sustainability studies Two universities have initiated dedicated research divisions to host sustainability research and advocacy. In Universiti Kebangsaan Malaysia, the multidisciplinary Institute for Environment and Development (LESTARI) was established way back in 1994 as a response to the Earth Summit in Rio de Janeiro. LESTARI now houses over 20 researchers with a postgraduate research enrolment of over 100 students. More recently in 2009, the Centre for Global Sustainability Studies was established in Universiti Sains Malaysia. It has set its mission to contribute, through education for sustainable development, scientific assessment, policy research and capacitybuilding, to efforts to resolve pressing problems confronting our Malaysian society and the global community today and the future. This centre also serves as a forum for dialogue and creative new ideas and also a hub for the international community of scholars. It is also aiming on bridging the national and international academic communities on one hand and policy-makers, the corporate sector and civil society on the other for the cause of sustainability. The oldest university in Malaysia, Universiti Malaya has since 2009 established a research cluster on sustainability science to coordinate research efforts across the university. Similarly, Universiti Teknologi Malaysia also now runs a university-wide Sustainability Research Alliance involving a number of centres of excellence within the University.
- Creating a sustainability curriculum framework In order to reorient a university towards sustainability, it is imperative to create a framework that harmonises teaching and learning for the cause of sustainability. Universiti Sains Malaysia is actively pursuing this objective by formulating a compulsory sustainability module for undergraduates. In addition, Universiti Sains Malaysia is running a postgraduate course for a Master's in Development Practice. This course will develop a master's level training by integrating the core disciplines of health sciences, natural sciences, social sciences and management in order to create a new generation of highly skilled "generalist" practitioners towards achieving Millennium Development Goals. Universiti Kebangsaan Malaysia takes a different approach by initiating an elective course on sustainability studies for postgraduates affiliated with the University's many research centres.
- Creation of regional and national networks on sustainability Since 2005 Universiti Sains
 Malaysia hosted a Regional Centre of Expertise (RCE) which is acknowledged by the United
 Nations University's Institute of Advanced Studies. Globally, the RCEs provide a global
 network of over 100 partnerships between existing formal, non-formal and informal
 education organisations, mobilised to deliver ESD to local and regional communities. The RCE
 in USM Penang is a network of RCEs worldwide aspiring to achieve the goals of the UN

Decade of Education for Sustainable Development (2005-2014), by translating its global objectives into the context of the local communities in which they operate. In 2009, Universiti Sains Malaysia formalised the establishment of SURE.Net, a nascent national network of researchers and universities interested in sustainability teaching and research.

D. ESC integration into EE and ESD

ESC remains elusive in formal EE. One respondent equated EE with the analogy of baking a cake, whereby "the ingredients are there but you don't see the cake". This argument points to the lack of focus in formulating a comprehensive strategy for EE in Malaysia's primary and secondary school curriculum. Such a choice is structurally reflected in the positioning of EE under the jurisdiction of Co-Curriculum Division in the Ministry of Education.

Be that as it may, there are many ESC initiatives such as the Sustainable School Award (Ministry of Education and the Department of Environment) and a volunteerism program on disaster-risk reduction (Ministry of Education in collaboration with National Security Council). In addition there are many school-led, SCP-oriented greening initiatives either under the leadership of teachers or parents who are active with the Parent-Teacher Association. NGOs have also been instrumental in imparting knowledge about practical actions for sustainable lifestyle into schools. One of the country's oldest environmental NGOs, the Environmental Protection Society Malaysia (EPSM) has changed its focus from 'brown' or pollution issues and Agenda 21 to advocating for sustainable lifestyles through its 'Sustainable Living in Malaysia (SLiM)' campaign since 2007. Apart from the well-known work of other established NGOs such as WWF and the Malaysian Nature Society, new environmental NGOs such as Persatuan Pelindung Khazanah Alam (PEKA) and Lanskap Malaysia have both been active in promoting school children to participate in reforestation activities, imbuing them with the idealism of long-term commitment to protect natural areas. Another new NGO active in championing water and energy consumption issues is the Association of Water and Energy Researchers (AWER). Its vision statement is to ensure "water and energy security through research and development, advocacy and awareness in a sustainable manner for the people and the planet".

As far as ESC initiatives are concerned, the universities are relatively more advanced than schools. Campus sustainability initiatives often involve programs with student communities. Universiti Sains Malaysia is an exemplary pioneer with ESC programs such as the White Coffin campaign (banning polystyrene-based containers on campus), Campus-wide recycling project, Say-No-to-Plastic Bag campaign, Citizenship programme (USM students working with schools to address sustainability problems), and Going bananas (handmade paper making technology using banana trunks), to name a few examples (Koshy et al, 2012). Universiti Malaysia also runs an active campus sustainability volunteerism program called UMCares. In both universities, strong support (be they financial and human resources) from top university administration and dedicated champions among lecturers and students are seen as key contributors to the success of these on-campus ESC initiatives.

IV. Existing Policy Framework on SCP and ESC

Being a novel policy concern, a comprehensive ESC policy targeting individual consumers is not yet forthcoming. Be that as it may, there are many policies, be they overarching or sectorial ones that contain some elements that are consistent with the emerging thinking on ESC. The section discusses the policy framework for SCP as the context for understanding specific policy statements made in various Malaysian policies in recent years.

A. Policy framework for SCP

Malaysia is an upper-middle-income country that aims to graduate into the high-income category in by 2020. In achieving this, it intents to shift to a new period of a low-carbon economy to further strengthen its economic foundation (Hezri et al 2012). In 2009, Malaysia has introduced the institutional framework and a suite of policies and their instruments to respond to the global green economy agenda and to change its policy course from one that is not sustainable. In April 2009, the Malaysian government restructured its Ministry of Energy, Water and Communications in order to include of the green technology portfolio into the rebranded Ministry of Energy, Green Technology and Water (KETThA). The role of green technology as a new engine of growth was emphasised by the release of a National Green Technology Policy, overseeing greening in four sectors — energy, buildings, water and waste management and transportation. The new policy emphasis encourages the business sector to invest in environmental protection, a role hitherto played mainly by Government.

The new policy design also saw the government modifying its approach to greening the country in related environment and natural resources domain. The approach follows the choice of low-emissions, high-growth option:

- Climate Change At the Copenhagen COP15 climate change meeting in December 2009, Malaysia's Prime Minister Najib Razak a declared the country's commitment to voluntary emission reductions of up to 40 per cent by 2020 over 2005 levels, measured in terms of emissions intensity of GDP. This voluntary commitment is conditional on receiving transfer of technology and finance of adequate and effective levels from the international community. Following this announcement, in 2010, The National Climate Change Policy was introduced to ensure 'climate-resilient development' and to mobilise and guide Government agencies, industry and communities as well as other stakeholders and major groups in addressing the challenges of climate change.
- Renewable Energy To encourage the growth of a clean energy industry and facilitate the transition to a low-carbon economy, the government legislated the Renewable Energy Act 2011 containing the much-awaited feed-in tariff mechanism. A new agency, the Sustainable Energy Development Authority (SEDA) was specifically established to administer the law. The quantitative targets set are: 6 per cent (or 985 megawatts) of national energy mix to come from renewables by 2015; and 11 per cent (2 gigawatts) of electricity generation to come from renewables by 2020.
- Cleaner Production To promote cleaner technology, a National Lifecycle Inventory
 Database is being developed for primary industries and activities to facilitate them in

developing life-cycle approaches in their product and manufacturing processes. Among the sectors covered include electricity generation, water supply, petroleum and natural gas exploration and production as well as petrochemicals. In addition, the Government has established a National Eco-Labelling Programme (NELP) to raise awareness among both consumers and manufacturers about environmentally friendly products and services and to ensure that businesses make credible claims about their green approaches. Over the past few years, cleaner production and energy efficiency auditing have been carried out nationwide. Involving largely small and medium-scale enterprises, the Government plans to use the findings to establish a model 'cleaner production' plant in each state. This will comprise food and beverage industries, focusing on resource and input savings and reducing pollution at sources.

In the forthcoming years, Malaysia will place greater emphasis on sustainable consumption and production as a strategy to transition to a green economy. The European Union through its EU-Switch funding is helping Malaysia to strengthen policy and institutional frameworks to promote a movement towards patterns of sustainable consumption and production. Studies and consultations under the title 'Sustainable Consumption and Production - Policy Support for Malaysia' are being carried out by a secretariat based in the Economic Planning Unit of the Prime Minister's Department. The aim of the programme is to incorporate elements of SCP into the preparation of the 11th Malaysia Plan with a long-term view to have a SCP Policy Blueprint for the nation.

B. Overarching and sectorial policies relevant to SCP and ESC

Malaysia is in no shortage of general policy statements on sustainability. Two overarching development policy documents contain declarations embracing the importance of SCP. First, as an important document in Malaysia's five-year development planning cycle, the <u>Tenth Malaysia Plan (2011-2015)</u>, clearly illustrates government commitment to managing environmental assets and ecological resources sustainably. The Plan aims to integrate the three pillars of sustainable development by applying 'life-cycle thinking'. One target is to reform housing policies "[w]ith a new emphasis on the entire life-cycle of housing provision from construction to maintenance, with the introduction of a Housing Maintenance Fund" (p.309). Changing the behaviour of individual consumers is encouraged as reflected in the statement that the Government will focus on valuing environment endowment so that all Malaysians can participate in preserving the environment "through prudent management and conservation of existing resources" (p.247).

The second overarching policy is the Economic Transformation Programme (ETP), an initiative of the Government Transformation Programme to elevate Malaysia to developed-nation status by 2020 (targeting GNI per capita of US\$15,000). ETP states that "green technology requires new skills for new jobs such as carbon traders, environmental engineers, smart grid consultants, sustainability consultants, ... " (p.417). These new skills in turn would require the incorporation of green technology education "...into the curriculum of existing courses, including architecture, engineering, and urban planning by 2012" (p.417). To provide for consumers a choice to adopt a sustainable lifestyle, the transportation sector receives green support under the ETP through the deployment of intra-city connectivity using the mass rapid transit rail system (MRT) and inter-city connectivity using a high-speed rail system to connect Greater Kuala Lumpur and Singapore.

In addition to the overarching policies discussed above, two sectorial policies are elaborated below for their relevance to SCP and ESC, namely the National Green Technology Policy and the National Renewable Energy Policy and Action Plan.

The National Green Technology Policy (NGTP) sets Malaysia's vision and direction towards a green economy. It specifically aims at making green technology accessible at the domestic market level. The policy promotes the change in consumer behaviour by seeking "to reduce the energy usage rate and at the same time increase economic growth" (p.9) through " the application of Green Technology in all energy utilization sectors and in demand side management programmes" (p.11). This mirrors trends elsewhere in the region in delinking subsidy from energy use. Specifically on ESC, it is assumed that in the long run, a "widespread adoption of Green Technology reduces overall resource consumption while sustaining national economic growth with a significant reduction in national energy consumption to decrease energy dependency from other economies" (p.13) (KeTTHA 2010).

The National Renewable Energy Policy and Action Plan (NREPAP) advocates increasing awareness of sustainable behaviour particularly with a view to increase the penetration of indigenous renewable energy resources in Malaysia's electricity generation. For the Government to achieve the five objectives identified in NREPAP, five strategic thrusts were deemed as necessary including designing and implementing renewable energy advocacy programme (KeTTHA 2009). The policy also states that "...society must play its part by contributing towards RE development through a fund to be used to pay for the RE power" (p.53). This paved the way for establishment of Malaysia's feed-in-tariff (FiT) mechanism for renewable energy development.

Other policies and plans of some relevance to ESC, albeit remotely include the following: New Economic Model; National Physical Plan 2; National Policy on the Environment; National Policy on the Climate Change; National Policy on Biological Diversity; just to name a few examples.

V. Current Government Strategies for Promoting Sustainable Consumption

Malaysia is predominantly a strong-State with most often a top-down policy approach. This essentially means that the choice of policy instruments tends to be more legalistic or regulatory than voluntary. Increasingly however, the private sector begins to play a more important role, something which the government has been promoting for many years. With the changing landscape of governance in the country, some state governments (with different political parties helming the administration) have begun to opt for an alternative development trajectory. Similarly, some local governments have taken a more pro-active approach in greening its service delivery for the public.

A. Central planning capacity

The integration of SCP elements "in national development requires a strategic approach which is both long-term in its perspective and integrated or 'joined-up' in linking various development processes" (Dalal-Clayton and Bass 2002). Malaysia has a proud history of developing policies that have propelled the country's economic growth and social harmony. Over time, they have been

updated in response to the global environment. The New Economic Policy of 1971 was updated by the New Development Policy spanning 1990 to 2000 and subsequently by the National Vision Policy (2001- 2010) to put Malaysia on the path to Vision 2020. Through the rolling five-year Malaysia Plans, detailed programmes and initiatives were put in place to achieve the Vision. Currently, the unfolding preparation process for the Eleventh Malaysia Plan has already singled out 'mainstreaming the environment for green growth' as one of the Plan's six thrusts. The elevation of sustainable development as a public policy focus on par with areas such inclusiveness and income is unprecedented in the history of development planning in Malaysia.

Insofar as the institutional landscape of greening the economy is concerned, the troika of Economic Planning of Prime Minister's Department, the Ministry of Natural Resources and Environment, and the Ministry of Energy, Green Technology and Water remain as the most influential organisations. Guided by numerous environment-related decision-making Councils which are either chaired by the prime minister or his deputy, the three said organisations have introduced numerous fiscal incentives to encourage a wider purchase of SCP initiatives among firms and individuals (see Table 1).

Table 1: Examples of ESC-Related Initiatives in Malaysia

ESC Related Initiatives	Target Group	Implementer	Description of Initiative
Fiscal Incentive for Energy (SAVE Rebate Program)	Final end user through the retailers of electronic appliances	Malaysian Industrial Development Authority (MIDA)	More than 100,000 rebate vouchers have been allocated to qualified domestic consumers who purchase 5-Star rated refrigerators, air conditioners or chillers.
Fiscal Incentive for Energy (Feed-in Tariff; FiT)		Sustainable Energy Development Authority (SEDA)	The Renewable Energy Act 2011 (Act 725) provides for the establishment and implementation of a special FiT system to catalyse the generation of renewable energy in Malaysia.
Fiscal Incentives For Waste Water (Waste Recycling Activities)	Companies undertaking waste recycling activities using advanced technology	Malaysian Industrial Development Authority (MIDA)	Pioneer Status, with income tax exemption of 70 per cent of the statutory income for a period of five years.
Green Technology Financing Scheme, was	Aim to create a policy environment that would attract innovators and users of green technology.	Malaysian Green Technology Corporation	It includes a \$470 million soft loan to companies (both technology developers and technology users) in which government would subsidise 2 per cent of the interest rate and guarantee 60 per cent of the loan amount.
Fiscal Incentives for Electric Vehicle/ Hybrid Cars	Local car manufacturers and assemblers	Ministry of Finance	The importation of completely built-up (CBU) cars including hybrid cars below 2000cc is subject to import duty, excise duty and sales tax that range from 10 per cent to 80 per cent.

(Source: EPU 2014)

In addition to the fiscal measures, other informational policy instruments had also been introduced:

- Rakan Alam Sekitar (Friends of the Environment) was created to encourage the "participation of local communities in the Parliamentary constituencies in environmental conservation and protection as well as combating environmental pollution" by raising their awareness. So far 61,488 people from 222 Parliamentary constituencies have been registered as members of Rakan Alam Sekitar. Other objectives include increase "awareness on environment conservation, instil a sense of responsibility among the community to participate in protecting the environment; and provide a mechanism for the community to channel their concerns and views about the environment to the relevant agencies" (EPU 2014).
- Low Carbon Cities Framework and Assessment System is "an assessment tool to assist local authorities, developers and designers" to ensure development contributes towards reduction in greenhouse gases within the city. It is also envisaged to provide the foundation for the preparation of a roadmap design towards the measurable emission target. Assessment is performed "based on four main elements namely; urban environment, urban transportation, urban infrastructure and buildings. Within these four main elements, are 15 performance criteria and 42 sub-criteria" (EPU 2014).
- MyHijau Directory aims to "inform consumers of the availability of the eco-products and services available in the market. MyHijau Directory has been in operation since January 2011 and represents a comprehensive guide to a wide range of green products available in Malaysia with further description of the varieties and characteristic of green products according to their categories. In order for any product or service to be listed in MyHIJAU Directory, it has to represent quality, safety, energy efficiency, environmental impact and health" (Switch-Asia website).

The Federal government is also in the midst of finalising the Government Circular to implement Green Procurement in the public sector. It is envisaged that when the scheme is launched in January 2015, a powerful supply-chain mechanism will be set in motion, a move that will encourage the private sector to participate in the greening of the economy in a more rigorous manner.

B. State level capacity – The State of Selangor

The State of Selangor⁴ is known for many sustainability-related initiatives. In 2000, Selangor became the first state to commit to Agenda 21 with the launch of *Selangor's Commitment to Sustainable Development*. This commitment was preceded with a state-wide consultation to prepare Selangor's Sustainable Development Strategy and Agenda 21 document which began in earnest in 1998. In recent years the state administration has introduced a guideline restricting hillslope development, initiative to reduce carbon emission rates through the 1010 program, and ensuring sustainable growth by revamping the application of the *National Forestry Act* at the state level which provides for public consultation when there is a need to rescind a protected status for a forest tract. The Selangor government currently operates 'paperless policy' in its daily operation and uses e-pay slip for its staff, both with the aim to reduce paper usage.

_

⁴ Selangor is a state in Peninsula Malaysia with a total area of 7955 km², and it is divided into nine administrative districts. According to data gathered from a population census in 2010, Selangor has a population of 5,411,324.

A policy most significant to ESC is the implementation of the No Plastic Day involving over 80 shopping complexes and hypermarkets in Selangor since 2010. The Selangor state government implements the voluntary campaign initially every Saturday and planning to extend the No Plastic Bag Day to weekdays. Consumers who require plastic bags on Saturday will have to pay 20 cents per bag. The objective of the campaign is to increase public awareness of the dangers brought by non-biodegradable plastic products which may require about 100 years to completely decompose. The campaign manages to reduce the consumption of approximately 4 million plastic bags per year. More recently, a number of hypermarkets use the savings/earnings from the campaign to fund conservation activities in the state under the rubric of Corporate Social Responsibility.

However, the exemplary campaign against plastic bag usage is not replicated in the case of water consumption. For populist reasons, the state provides free clean water for the first 20 m³ for domestic users since June 2008. Given the current scenario of water rationing due to its scarcity, not to mention the unpalatable truth that water pricing is severely distorted in Selangor, the provision of free water runs counter to the ideals of low carbon and resource efficient lifestyles that the state is trying to inculcate among its citizens.

C. Local government level capacity – Petaling Jaya City Council (MBPJ)

Petaling Jaya (PJ) is arguably the most sustainability-friendly city council in Malaysia.⁵ It benefited from a long engagement with the concept of Local Agenda 21. In 2000, the Petaling Jaya Municipal (now City) Council carried out a 2—year Local Agenda 21 Pilot Project. The process involved six main stages as outlined below (Roberts and Kanaley 2006):

- i. Formulation of a community vision and the aspirations of stakeholders
- ii. Formation of partnership (local authority, community and businesses)
- iii. Community input (local knowledge and community-based issues)
- iv. Drafting of action plan (formalised agreed objectives, targets, and commitments)
- v. Implementation and monitoring (stakeholder activities); and
- vi. Evaluation and feedback (medium- and long-term review).

Following the creation of a Committee to oversee the development of the process, the slogan "Petaling Jaya: Toward Sustainable Development" was officially adopted for public relations and awareness raising purposes. This set the scene for the gradual introduction of ESC initiatives in the subsequent years such as 3R Programme, tree planting, LED lighting, E-Assessment System, and free parking for hybrid car purchasers. In 2011 MBPJ introduced the first green tax rebate system in Asia. Known as the 'Property Tax Rebate Scheme for Environmental Friendly Houses', this instrument incentivises house owners in PJ who green their properties through energy, water, transportation, biodiversity, and waste management initiatives.

⁵ Petaling Jaya (PJ) is located in the district of Petaling, which comprises an area of 97.2km2. It was constructed in 1953 to accommodate the rapidly growing population of KL. Its current land use is 52.1% housing, 14.3% industry, and 6.4% for commerce. Other major land use includes 9.2% infrastructure, 8.8% open space and recreation, and 4.5% public facilities. It has a population of 619,925 in 2012.

These sustainability-oriented schemes were met with positive responses by residents of PJ due to their relatively high environmental awareness. In a survey of marine renewable energy acceptance among PJ residence (N=250), 82.8 per cent agreed that Malaysia should increase the share of renewable energy in its fuel mix (Lim and Lam 2014). In a study of environmental consciousness among factory workers in PJ, 72.5 per cent of respondents (N=80) were found to demonstrate a high level of environmental awareness across a number of issues (Sabri and Teoh 2006). Another study (N=188) which aims to "assess the level of public awareness on the importance of the presence of" riparian buffer zone at Kota Damansara Community Forest Park also revealed that 84 percent of the respondents "has rejected the Petaling Jaya Local Draft Plan 2020 which proposed" a physical infrastructure in the current forest reserve (Malim et al 2011).

In summary, ESC program in PJ benefited from the Council's familiarity with the ethos of Local Agenda 21. Over the period of a decade, sustainable development activities became a shared norm of MBPJ officials and gained acceptance within the various units. From the interviews it was noted that the organisational 'buy-in' owes a great deal from the leadership and knowledge of key persons in charge of the Local Agenda 21 program in MBPJ. PJ being the nucleus of environmental-oriented civil society groups ensures vibrant stakeholder participation whenever MBPJ initiates green activities. However, there is also a concern that most of MBPJ's green initiatives are still in a programmatic format rather than a holistic reform package that is able to move PJ towards a systemic change much needed in sustainability transitions. The Council had also faced difficulties with higher levels of government when pioneering programs or policy instruments which had not been done elsewhere.

D. Understanding of government officers

Some of the officials interviewed share the view that the 'goalposts' keep changing in the domain of environment and sustainability. Many were not enthusiastic about embracing SCP conceptually since it is seen as another concept 'pushed by the developed world'. This view is particularly pronounced among government officials who represent the country in multilateral negotiations such as UNFCCC and UNCBD. Among this group, the 'stuck issue' of technology transfer and Intellectual Property Rights are used to argue why a technology-oriented move towards green economy will remain a pipe-dream for many years to come.

For others who are more constructive, ESC's heavy emphasis on communication, education and public awareness is a welcome since governments do not have the resources to continue shepherding the sustainability agenda without the help from the public and the private sector. ESC's focus on the practical elements of sustainability is seen as something beneficial for the citizens to scale-up best practices where available. Herein, the role of government will gradually change from a service provider or a regulator to a facilitator.

VI. Assessment of Current Approach to Promoting Sustainable Consumption

It is widely agreed that the role of consumers are key in the transition to sustainability. Equally well known is the fact that SCP is a relatively new policy goal in most developing countries including Malaysia. By extension, the ESC approach is inevitably still at a nascent stage of conceptualisation while implementation efforts at best only took a haphazard expression. The foregoing discussion has traced elements that are consistent with ESC from efforts such as EE, ESD and other attempts at mainstreaming pro-environment behaviour. In what follows, the strengths and weaknesses of Malaysia's current approaches are briefly discussed.

A. Strengths

Malaysia has already put in place numerous institutions and institutional arrangement to deliver on SCP. More so, financial commitments such as fiscal measures and the Green Technology Financing Scheme have already been made. This signal is necessary but in itself is insufficient because it encourages only industries to embrace green technology. Nonetheless, with green products and services being made available with a competitive relative price, consumers will have an option to strive for sustainability. In addition, lifestyle environmentalism is actively championed by environmental NGOs in Malaysia. Therefore ESC will only see more emphasis in the future given the global trends which domestic NGOs always follow closely for application in the country. In other words, the foundations for ESC scaling up are here, but the efforts need to be stepped up as individual consumers are hard to be cajoled into changing behaviour based on ethical responsibility for the consequences of their individual action to the collective.

B. Weaknesses

Malaysian consumers are yet demonstrating ability as a self-regulating, reflexive actor with power to change the consumption pattern that is consistent with the logic of sustainability. As discussed earlier, in all three consumption areas that is water, energy, and food, the habit of Malaysians to waste resources still show no sign of waning. The systemic public apathy complicates efforts by the government agencies to motivate green behaviour adoption. Good policy practices involving each of the policy cycle, from formulation, implementation to evaluation, are rare. Moving beyond statement of intent embedded in national policies requires credible commitment on the part of all stakeholders. For example, at the envisioning level, 'the words are in the right places' but the national plans or the sectorial plans such as The New Economic Model do not see 'greening' in a wider context. Future policy documents must emphasis 'greening of the wider economy or address the social implications of not choosing sustainability options.

VII. Recommendations for Improving the Practice of ESC in Malaysia

Macro conditions still contribute to the problem or constraining the effectiveness of individual efforts. Sustainability is mainly a system failure that requires improvement in the totality of public policy and not relies on consumption pattern alone. The following actions are relevant for improving the practice of ESC:

- A bold vision What Malaysia needs at the moment are functional re-integration, productive reciprocity, and meaningful communication between agencies and the different domains of public policy. In other words it needs a fresh round of problem redefinition by formulating Malaysia's Common Vision on Sustainability. The vision may provide a panoramic view of what sustainable consumption and ESC entails for Malaysia now and into the future.
- Consumer empowerment While traditional top–down hard measures such as prohibitions, taxes and quotas are still relevant to encourage sustainable consumption, more monetary incentives for showing pro-environment behaviour are also needed. In addition, Malaysia must increase the supply of environmentally friendly alternatives such as reliable public transportation and energy savings appliances. In recent years, advertisements on general aspects of green lifestyles received more attention in the electronic media. In the future more targeted messages should be communicated to influence specific actions by the citizen.
- Address pricing distortion Under pricing of natural resources is still a major driver of high consumption that leads to wastage. To ensure water, energy and the costs of managing wastes are visible in the national economy, the government should move towards full rationalization of their price structure even though this may be unpopular among citizens.
- Whole-of-government approach Many implementation issues remain because sustainability presents a systemic challenge for governments. Because green agencies also require specialisation and task disaggregation for effective service delivery, "one inevitable outcome of sector-based planning and implementation is policy fragmentation. Sustainable development provides governments with an overarching framework, or a meta-policy. Hence, coordination is key to overcome silos. Malaysia must pay more attention to coordination in attempt to increase and improve it. Measures such as the creation of interagency 'circuit breaker' teams may assist in solving problems of management silos and redundant service delivery.

References

- Aiken, S.R., Leigh, C.H., Leinbach, T.R., Moss, M.R. (1982). *Development and environment in Malaysia*. McGraw Hill International: Singapore.
- Aiken, S.R., Leigh, C.H., (1992). *Vanishing Rain Forests: The Ecological Transition in Malaysia*. Oxford University Press: New York.
- Dalal-Clayton, B & Bass, S. (2002) *Sustainable Development Strategies A Resource Book*. International Institute for Environment and Development. Earthscane: London.
- DoE and LESTARI. (2004). *Guideline for Implementation and Assessment of Sekolah Lestari Environmental Award*. Malindo Press Kuala Lumpur.
- Elyard, P. (2008). *Designing 2050: Pathways to sustainable prosperity on spaceship Earth.* Lulu Enterprises Publisher: Victoria.
- Economic Planning Unit and UN (2011) *Malaysia: The Millennium Development Goals at 2010,* United Nations Country Team: Kuala Lumpur.
- EPU. (2014). Sustainable Consumption & Production in Malaysia: A Baseline Study on Government Policies, Institutions and Practices. Economic Planning Unit of the Prime Minister's Department: Kuala Lumpur.
- Haron, S.A., L. Paim and N. Yahaya. (2005). Towards sustainable consumption: an examination of environmental knowledge among Malaysians. *International Journal of Consumer Studies*, 29: 426–36.
- Hassan A. et al. (2009). The adults non-formal environmental education: A Scenario in Sabah, Malaysia, *Social and Behavioural Sciences*. Vol. 1(1): 2006-2311.
- Hezri, A.A. (2011). The Sustainable Shift: institutional challenges for the environment in Malaysia. *Akademika*. Vol. 81(2): 59-69.
- Hezri, A.A. (2012). Balancing Profit and Accountability in Mining. *The Edge Financial Daily*, 24 September, page 15.
- Hezri, A.A. (2015). Mainstreaming Environment and Sustainable Development Policies. In: Weiss, M.H. (Ed.), Handbook on Contemporary Malaysia. Routledge; New York, pp.226-235.
- Hezri, A.A. (2014) Rearranging Government Agencies for the Sustainable Shift. *Journal of Sustainability Science and Management*, Vol. 9(1): 156-164.
- Hezri, A.A. and S.R. Dovers. (2011). Shifting the Policy Goal from Environment to Sustainable Development. In: H. Hill et al. (Eds.), *Malaysia's development challenges: Graduating from the middle* (pp. 276-296). Routledge: London
- Hezri, A. A., and M. Nordin Hasan. (2006). Towards sustainable development? The evolution of environmental policy in Malaysia. *Natural Resources Forum*, 30(1): 37-50
- Hezri, A.A. & R. Ghazali. (2011). A *Fair Green Economy? Studies of Agriculture, Energy and Waste Initiatives in Malaysia*. Occasional Paper Two: Social Dimensions of Green Economy and Sustainable Development. United Nations Research Institute for Social Development and Friedrich Ebert Stiftung; Geneva, 27 pages.
- Hezri, A.A., W.A. Kamal and G.P. Chuan (2012) "Governing sustainable development in Malaysia" Witthaus, M., Rowlands, C. and Griffiths, J., eds. *Future Perfect*. pp.170-174; report for the UN Conference on Sustainable Development. Tudor Rose: London.
- KeTTHA (2009). *National Renewable Energy Policy and Action Plan.* Ministry of Energy, Green Technology and Water: Kuala Lumpur.
- KeTTHA (2010). *National Green Technology Policy*. Ministry of Energy, Green Technology and Water: Kuala Lumpur.
- Khor and Lalchand (2014). A review on sustainable power generation in Malaysia to 2030: Historical perspective, current assessment, and future strategies. *Renewable and Sustainable Energy Reviews*. Vol.29: 952-960
- Koshy, K et al (2012). The Institutional Dimension of Sustainability: A look at Policy Response for Enhanced Practice at USM. Centre for Global Sustainability Studies (CGSS), Universiti Sains Malaysia.
- Lee, C. (2005). Water Tariff and Development: The Case of Malaysia. Working Paper No.117. Centre on Regulation and Competition. University of Manchester
- Lim, X-L & W-H. Lam. (2014). Public Acceptance of Marine Renewable Energy in Malaysia. *Energy Policy*. Vol.65: 16-26.
- Lorek, S. and J.H. Spangenberg. (2014). Sustainable consumption within a sustainable economy beyond green growth and green economies. *Journal of Cleaner Production*. Vol.63: 33-44.
- Malim, I.M.S., Suratman, M.N. and M.S. Daim. (2011). Riparian Buffer Zone: An Assessment of Public

- Awareness in Kota Damansara Community Forest Park. Paper presented at the 2011 IEEE Symposium on Business, Engineering and Industrial Applications, ISBEIA 2011, Langkawi, Malaysia. 25 to 28 September.
- Malaysia. 2010. The Tenth Malaysia Plan (2011-2015). Percetakan Nasional; Kuala Lumpur.
- Meerah, T.S.M., Halim, L., and T. Nadeson. (2010). Environmental citizenship: what level of knowledge, attitude, skill and participation the students own? *Procedia Social and Behavioral Sciences*: 5715-5719.
- MoHE. (2004). *National higher education strategic plan: Laying the foundation beyond 2020.* Kuala Lumpur: Ministry of Higher Education.
- Morshidi, S. (2009). Strategic planning directions of Malaysia's higher education: University autonomy in the midst of political uncertainties. *Higher Education*. Vol. 59: 461-473.
- MOSTE. (2002). *National Policy on the Environment*. Ministry of Science, Technology and the Environment, Kuala Lumpur.
- Nadeson, T. & Nor Shidawati Abdul Rasid. (2005). *The implementation of environmental education in Malaysian schools: An NGO's overview.* Paper presented in The Conference on Best of Both Worlds, Environmental Education for Sustainable Development: Kuala Lumpur, 6-8 September 2005.
- O'Toole, Jr., L.J. (2004). Implementation Theory and the Challenge of Sustainable Development: The Transformative Role of Learning. In: Lafferty, W.M. (ed.), *Governance for Sustainable Development: The Challenge of Adapting Form to Function.* Cheltenham: Edward Elgar, pp. 32-60.
- Ramakrishna, S. (2003). The environmental movement in Malaysia. In M.L. Weiss & S. Hassan (eds), *Social movements in Malaysia: From moral communities to NGOs.* London: Routledge Curzon.
- Roberts, B.H. & T. Kanaley (Eds). 2006. *Urbanisation and Sustainability in Asia: Case Studies of Good Practice*. Asian Development Bank: Manila.
- Rusli, M. and S.L. Cheh. (1999). Tactics of environmental NGOs in influencing public policy in Malaysia. *Pertanika Journal of Social Science and Humanities*, 7: 71–7.
- Sabah Environmental Protection Department. (2003). *Environmental indicator report*. Kota Kinabalu: Environmental Protection Department.
- Sauvé, L. (1996). Environmental education and sustainable development: A further appraisal. *Canadian Journal of Environmental Education*. Vol. 1: 7-34.
- Sham Sani, (1997). Environmental Quality Act 1974: Then and Now. Lestari Publisher: Kuala Lumpur.
- Sham Sani, (1993). Economic development and environmental management in Malaysia. *New Zealand Geographer*, 49: 64–68.
- Stevenson, R.B. (2006). Tensions and transitions in policy discourse: Recontextualizing a decontextualized EE/ESD debate. *Environmental Education Research*, Vol.12 (3-4): 277-290
- Taib, F.M. (1997). Malaysia and UNCED, An analysis of a diplomatic process 1989–1992. Kluwer Law International: London.
- UNDP (2009). *Human development report 2009: Overcoming barriers: Human mobility and development.*United Nations Development Programme: New York.
- UNESCO (2003). *World education indicators: Financing education*. United Nations Educational, Scientific and Cultural Organization: Paris.
- UNSD (1997) Agenda 21 Malaysia, 5th Session of the UNCSD. United Nations Commission on Sustainable Development: ..
- World Bank (2006). *Malaysia and the knowledge economy: Building a world-class higher education system.* The World Bank: Washington DC.
- World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press: Oxford.
- WWF Malaysia (Worldwide Fund for Nature Malaysia). (2009). *Environmental Citizenship: A Report on Emerging Perspectives in Malaysia*, WWF Malaysia and Partners: Kuala Lumpur.
- Zainal, A.S. et al. (2010). *Sustainable Universities: Principles and Practices*. Fundamental Research Grant Scheme (FRGS) Report. Universiti Sains Malaysia.
- Zailan, M., and Sh.Azad, S.A. (2007). Falsafah Pendidikan Tinggi di Malaysia sejak Merdeka hingga Hari Ini. In: M. Zailan, (Ed.), 50 Tahun Pendidikan Tinggi di Malaysia (1957-2007) (pp. 38-68). Penerbit Universiti Sains Malaysia: Penang.

Chapter 3:

Education for Sustainable Consumption in the Philippines

Current policy frameworks, implementation and governmental capacity

By Ruth S. GUZMAN, Rizal Technological University

I. Policies and Institutional Frameworks relevant to ESC

As a developing country, the Philippines has to overcome a number of problems associated with the common spiral of development such as high population growth, rapid urbanisation, and depletion of natural resources. It is the 13th most populous country in the world with a population of almost 100 million, 23 per cent of whom are living below the poverty line. Moreover, the country has not achieved self-sufficiency in its basic staple, rice, and continues to import rice to compensate for production shortfalls. The economy is growing at 7 per cent and remains mainly agricultural. The rise in GDP is mostly attributed to the growth in the service sectors, such as migrant labour and business process outsourcing. Business and industry is being dominated by a few families. However, the national literacy rate is high at 85 per cent. In terms of natural resources, although considered one of the 18 mega-diverse countries in the world, there is severe over-exploitation of its rich natural resources, such as a high rate of deforestation, overfishing and intensive exploitation of mineral resources. With a high rate of rural-urban migration, the resulting consumerism and urbanisation has put pressure on the carrying capacities of urban growth centres. Efforts to protect the environment must contend with poverty and intense competition for access to natural resources such as soils, forests and water to cater to a fast-growing population.

In the Philippine context, SCP is equated to resource efficiency, which is an important element in the country's transition to a greener growth development path. Furthermore, sustainable consumption does not necessarily means lessening individual consumption but having socially-responsible consumers, whose consumption does not compromise the wellbeing of others. Therefore, SCP in the Philippines must be characterised through sustainable lifestyles with low ecological and carbon footprints; rational policies on population growth vis-à-vis carrying capacities; eco-friendly technologies for both agriculture and manufacturing sectors; biodiversity conservation and protection towards food security amidst threats of climate change; greening of industry through the recycling of wastes and the greening of transportation and support infrastructure.

Furthermore, Chapter 9 of the Philippine Development Plan aims for a sustainable and climate-resilient environment and natural resources. The strategies outlined in this chapter reinforces "the management of forest, coastal and marine, land and biodiversity; enforcement of solid waste management, hazardous waste management, clean air and water act; updating air and water quality

standards and intensify monitoring, promotion of eco-friendly production technologies, and energy-efficient infrastructure and transport facilities; promotion of appropriate technology for waste management and establishment of sustainable markets for recyclables and recycled products" (NEDA website); and pursuing research, development and extension to improve the quality of the environment.

Within this context, the country therefore has to put more effort in balancing development objectives with environmental conservation. To attain this balance, it is imperative for the majority of the populace to be aware and to be oriented on sustainable development in general and more particularly, on sustainable consumption. At present, strategies for promoting ESC are largely initiatives in response to EE/ESD and not necessarily termed as ESC. Respondents in the interviews have rhetorically asked what ESC supposedly covers.

A. Relevant Policies for ESC

The Philippines ranks third in the world among countries most vulnerable to climate change-related disasters. Thus, it needs to make a transition to a greener development path towards achieving sustainable development. A number of provisions in the 1987 Philippine Constitution stipulate measures for the greening of the economy. One prominent provision obliges the State to improve living standards (Article 2 Section 9) and another bestows the people the right to a health and balanced ecology (Article 2 Section15 and 16). Based on these provisions, a number of laws promoting environmental and social equity have been promulgated in addition to those promulgated before the 1987 Philippine Constitution.

Relative to the mainstreaming of ESC in the country, there are a number of legislation and policy frameworks that could facilitate the integration of the concept in the various sectors. The concern for the environment has had early beginnings in the country starting with the implementation of the Revised Forestry Code in 1975. This was with regard to the protection of our natural resources which had been aggressively exploited at the time and therefore needed some regulation to stem the spate of deforestation during the period. Subsequently, the Philippine Environment Code was enacted, followed by similar legislations that were all geared towards conserving what has been left of our degraded environment.

The progression of laws and policies over time in Table 2 reflect the growing awareness of Philippine society to prioritize the preservation and conservation of our natural capital, such as land, water, air, minerals, energy resources and living resources. This becomes relevant to sustainable consumption in the context of the Philippines as being more of an agricultural rather than an industrial economy. Mainstreaming ESC at this time would be geared more fruitfully toward sustainable consumption of nature's goods and services and less on manufactured products.

Table 2. Relevant Policies Significantly Related to ESC and SCP in the Philippines

Year	Policy/Law	Content
1975	Pres.Decree (P.D.) 705	Revised Forestry Code of the Philippines
1977	P.D. 1151	Philippine Environment Policy
1977	P.D. 1152	Philippine Environment Code
1978	P.D. 1586	Philippine Environmental Impact Assessment System
1990	Cabinet Reso-lution # 37	Philippine Strategy for Sustainable Development
1990	Republic Act 6969	Toxic Substances and Hazardous and Nuclear Wastes Control Act
1991	RA 7394	Consumer Act
1992	RA 7586	National Integrated Protected Areas System
1992	Executive Order No. 15	Philippine Council for Sustainable Development
1995	RA 7942	Philippine Mining Act
1996	Executive Order 370	Philippine Agenda 21
1997	RA 8435	Agriculture and Fisheries Modernisation Act
1998	RA 8550	Philippine Fisheries Code
1999	RA 8749	Clean Air Act
2001	RA 9003	Ecological Solid Waste Management Act
2001	RA 9147	Wildlife Resources Conservation and Protection Act.
2002	RA 9072	National Caves and Cave Resources Management Act
2002	RA 9175	Chainsaw Act
2004	RA 9275	Philippine Clean Water Act
2004	Executive Order 301	Establishing a Green Procurement Program for all Departments,
		Bureaus, Offices and Agencies of the Executive Branch of Government
2006	RA 9367	Biofuels Act
2008	RA 9512	Environmental Education and Awareness Act
2008	RA 9513	Renewable Energy Act
2009	RA 9593	Tourism Act
2009	RA 9729	Climate Change Act
2010	RA 10068	Organic Agriculture Act
2010	RA 10121	National Disaster Risk Reduction and Management Act
2013	RA 10533	The Enhanced Basic Education Act of 2013

In the Philippines environmental movements began as early as the 1970's. Laws pertaining to the natural resources sector were also promulgated during the period such as the Forestry Reform Code (P.D. 705). The Philippine Environmental Policy (P.D. 11510) addresses the need to pursue a better quality of life for present and future generations while detailing general policies for achieving this, and it provides mandates for using environmental impact assessments in all development projects that can have a negative environmental impact. Meanwhile, the Philippine Environment Code (P.D. 1152) launched "a comprehensive national program of environmental protection and management, with reference to policies and standards of noise, air quality, water quality, classification of waters and waste management" (Guzman and Guzman, 2000).

Overall, the concern for EE/ESC/ESD is actively pursued by concerned government departments especially in the light of resource efficient use and low carbon technologies. Among the most concerned government office along this line is the Department of Environment and Natural Resources, who, though its Environmental Management Bureau is mandated for the implementation of six environmental laws (www. emb.gov.ph) as it tries to pursue ESC in its broadest sense, as follows:

- a) P.D.1586, otherwise known as the Philippine Environmental Impact Statement System (EIS) requires proponent of Environmentally Critical Projects (ECP) and projects located within Environmentally Critical Areas (ECAs) to obtain an Environmental Compliance Certificate prior to the commencement of the project. Meanwhile, those projects, which are not considered as ECP nor located within an ECA and are unlikely to cause adverse environmental impacts, are outside the purview of the EIS System. These projects are issued with Certificate of Non-Coverage upon request of the proponent.
- b) Republic Act 6969 Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990 provides "the legal framework for the country's program to control and manage the importation, manufacture, processing, distribution, use, transport treatment and disposal of toxic substance and hazardous and nuclear wastes".
- c) Republic Act 8749 Philippine Clean Air Act of 1999 mandates the Environmental Management Bureau with the establishment of a national program to prevent, manage, control and reverse air pollution through both regulatory and market based instruments. The Bureau is also expected to create a mechanism for proper identification of victims of adverse environmental impacts of development projects. This act took effect on November 25, 2000.
- d) Republic Act 9003 Ecological Solid Waste Management Act of 2000 and DAO 2001-34, its implementing rules were signed into law in 2001. This act calls for institutionalising a national program for managing the transfer, transport, processing and disposal of solid waste. The Department of Environment and Natural Resources defines the parameters through guidelines and targets for the reduction of solid waste through a series measures which include the proper segregation, collection, transport, storage, treatment and disposal of solid waste, as well as composting, recycling and re-using of solid waste. As the primary enforcer of this act, DENR is also expected to cooperate with local government units, self-regulating waste generators and other private sector groups.
- e) Republic Act 9275 Philippine Clean Water Act of 2004 was signed into law on March 24, 2004. It aims to "protect the country's water bodies from pollution from land-based sources (industries and commercial establishments, agriculture and community/household activities). It primarily provides for a comprehensive and integrated strategy to prevent and minimise pollution through a multi-sector and participatory approach involving all the stakeholders. The DENR is the primary government agency responsible for the implementation and enforcement of this Act, with the support of other government organisations, local government units, NGOs and the private sector".
- f) Republic Act 9512 The Environmental Awareness and Education Act of 2008 is "consistent with the policy of the State to protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature, and in recognition of the vital role of the youth in nation building and the role of education to foster patriotism and nationalism, accelerate social progress, and promote total human liberation and development, the state shall promote national awareness on the role of natural resources in economic growth and the importance of environmental conservation and ecological balance towards sustained national development".

In the pursuit of EE/ESC/ESD, it is necessary that government should set the goals and the targets for ESC mainstreaming. The government may have a very big dilemma regarding this pursuit. Government wants cleaner environment and promote EE/ESC/ESD with technology to comply with

high stringent standards but also needs to identify the optimum level required and still make it socially relevant and economically feasible while it contributes to environmental protection. A case in point is in the cutting of carbon emissions at the national level and determining how much we can afford to cut without compromising our national development targets. In the pronouncement of the policies, government is the main actor while the private sector, business, NGOs, takes part in its implementation.

Towards mainstreaming ESC, it is only logical to connect ESC with Environmental Education (EE). EE is relevant as it teaches children and youth to take better care of the earth as the he key word in ESC is also optimisation of resources and minimum waste generation, especially realising that our resources are all finite, and thus the need to use these resources wisely.

B. Policy Frameworks for Promotion and Mainstreaming of ESC Policies

i. The Philippine Development Plan (2011-2016)

In the pursuit of inclusive growth and lifting at most a fourth of the population from the clutches of poverty, the Philippines is re-focusing its development towards a green economy, through the recently updated Philippine Development Plan (PDP) 2011-2016 by emphasising the need for inclusive growth as well as "sustainable use of resources to benefit the present and future generations". In the context of sustainable consumption, the Industry and Services chapter of the PDP envisioned to promote, develop and sustain industry and services that are climate-smart and resilient, eco-efficient and environment friendly. It will likewise, enhance consumer welfare through intensifying the consumer education and advocacy; and consumer protection and trade regulation.

The Plan further identifies the following action points: "support and institutionalise cultural and values-oriented projects on TV, radio, print and Internet through partnership with media and other private sector and civil society entities; produce television documentaries and infomercials, to highlight positive Filipino values and promote sustainable development, peace and human security, good governance, disaster-risk reduction and climate-change preparedness... encourage higher education institutions to incorporate the promotion of peace, sustainable development, gender equality, and women empowerment in appropriate parts of the curriculum and in agendas for research and extension... improve adaptive capacities of communities by integrating climate change adaptation and disaster risk reduction and management in all education levels and in specialized technical training and research programs".

Furthermore, Chapter 9 of the Philippine Development Plan aims for a sustainable and climate-resilient environment and natural resources. The strategies outlined in this chapter reinforces "the management of forest, coastal and marine, land and biodiversity; enforcement of solid waste management, hazardous waste management, clean air and water act; updating air and water quality standards and intensify monitoring, promotion of eco-friendly production technologies, and energy-efficient infrastructure and transport facilities; promotion of appropriate technology for waste management and establishment of sustainable markets for recyclables and recycled products" (NEDA website); and pursuing research, development and extension to improve the quality of the environment.

Moreover, the principles of Sustainable Consumption and Production (SCP) are articulated in the Philippine Agenda 21 (PA21) and its enhanced version with the aim of transitioning consumption and production behaviours towards SCP for the general public as well as the business sector. PA21 envisions "a better quality for all through the development of just, moral, creative, spiritual, economically vibrant, caring, diverse yet cohesive society characterised by appropriate productivity, participatory democratic process and living in harmony within the limits of the carrying capacity of nature and integrity of creation" (NEDA website).

ii. The Philippine Strategy for Sustainable Development (PSSD)

Historically, initiatives towards formulating a national plan of action for sustainable development took off in the 80's. The Philippines crafted its own sustainable development strategy even prior to the United Nations Conference on Environment and Development. The Philippine Strategy for Sustainable Development (PSSD) which was formulated in 1987 and formally adopted in 1990 was the country's first roadmap towards achieving economic growth and environmental integrity. Following closely on the agreements in the Stockholm Convention, the conceptual framework for the PSSD was laid down. It espoused that the only "rational way of planning the country's national progress is through sustainable development: that is, meeting the needs of citizens of today without limiting the options of future generations to fulfil their needs. It is development without destruction. It is the achievement of material progress without compromising the life-support functions of natural systems. And it is the pursuit of higher levels of quality of life while preserving or even enhancing environmental quality as the only true development" (PSDN website). The PSSD "stressed the need to view environmental protection and economic growth as mutually compatible. This implied that growth objectives should be compatible not only to the needs of society but also to the natural dynamics and carrying capacities of ecosystems" (PSDN website).

The goal of the PSSD was to "achieve economic growth with adequate protection of the country's biological resources and its diversity, vital ecosystem functions, and overall environmental quality". The PSSD had for its core a number of implementing strategies. This was "aimed at resolving and reconciling the diverse and sometimes conflicting environmental, demographic, economic and natural resource use issues arising from the country development efforts". The strategies were: "1) integration of environmental considerations in decision-making; 2) proper pricing of natural resources; 3) property rights reform; 4) establishment of an integrated protected areas system; 5) rehabilitation of degraded ecosystems; 6) strengthening of residuals management in industry (pollution control); 7) integration of population concerns and social welfare in development planning; 8) inducing growth in rural areas; 9) promotion of environmental education; and 10) strengthening of citizen's participation and constituency building" (PSDN website).

iii. Philippine Council for Sustainable Development (PCSD)

The PSSD was the precursor of the current and existing Philippine Council for Sustainable Development (PCSD) which was created through an Executive Order (No. 15) in 1992.

It is a multi-stakeholder body which provides policy advice to appropriate bodies on sustainable development issues of national interest. It is convened to ensure the implementation of the country's commitments in light of UNCED commitments and assure the integration of the interplay of social, economic and environmental concerns in the Philippine national policies, plans and programs involving all sectors of the society. The PCSD has had catalytic interventions for the continuous strengthening/localisation of the PA21. Initial efforts towards localisation bring to a total of 40 local bodies for sustainable development in the Philippines, of varying modalities at various levels of governance. These councils showcase active interaction of the government, civil society and business sectors.

The Philippines experience provides ample evidence that the integration of the three pillars of sustainable development cannot be achieved solely at the national level. Instead, it is realised both at the local community and national levels as consolidation of communities are formed and strengthened. A sustainable nation must be a community of sustainable local communities and a sustainable world, a community of such sustainable countries.

(Source: Lim 2013)

In pursuit of such, there is possibility of inclusion of dialogues within PCSD for a rational framework for ESC.

iv. Enhanced Philippine Agenda 21

In 1996, a National Agenda for Sustainable Development for the 21st Century was formulated in response to the 1992 Earth Summit in Rio de Janeiro. The preparation of the PA21 was spearheaded by the National Economic and Development Authority in collaboration with both government and NGOs. Apart from providing enabling economic and environmental policies and integrating the idea of sustainable development into the country's governance framework, the action agenda of PA21 specifically highlighted investments in human and social capital, health, population management, and human settlements, while recognising the need to address poverty of communities in forest-watershed, agricultural, coastal/marine, and urban ecosystems (NEDA, 2012).

The PA21 is a historic document that envisioned a better life for all Filipinos, laying down fifteen principles as basis for crafting its action agenda—the primacy of developing the human potential; holistic science and appropriate technology; cultural, moral and spiritual sensitivity; self-determination; national sovereignty; gender sensitivity; peace, order and national unity; social justice and inter- and intra-generational and spatial equity; participatory democracy; institutional viability; viable, sound and broad-based economic development; sustainable population; ecological soundness; bio-geographical equity and community-based resource management; and global cooperation. These principles also reflect the human and social development goals of PA21.

With regard to the impact of implementation of PA 21, based on various economic, social and environmental indicators, development in the Philippines appears to be sustainable but fragile. Progress has been steady but at relatively low and narrowly-based levels and is threatened by deteriorating environmental conditions (NEDA, 2011). However, even with the low performance of the Philippines in the implementation of PA21, there are also success stories.

The localisation of the PA21 through the implementation of the Governance for PA21 resulted to the establishment of Local Councils for SD in the entire country that resulted in the mainstreaming of SD into the different levels of governance. In Davao City, one success story is that of the PCEEM Davao Foundation, Incorporated. This evolved from a five-year bilateral project (in March 1998) jointly funded by the Government of the Philippines through the Department of Environment and Natural Resources and the Government of Canada through the Canadian International Development Agency. This project, which aimed to test a governance model using watersheds as units of management, was also implemented in Cebu, where watersheds have been degraded to an alarming stage. In Davao City, PCEEM chose the Talomo-Lipadas Watershed as its initial project site. In 2005, it expanded its geographic coverage in Davao River Watershed. As a project, the name 'PCEEM' stood for Philippines- Canada Environmental and Economic Management; today, after a successful local phase-in of the project, 'PCEEM' in 'PCEEM Davao' stands for 'People Collaborating for Environmental and Economic Management'.

Seen as a PA 21 imperative, the country is implementing the National Greening Program. It is a massive forest rehabilitation program of the government established by virtue of Executive Order No. 26 issued on February 24, 2011 by President Benigno S. Aquino III. It seeks to grow 1.5 billion trees in 1.5 million hectares nationwide within a period of six years, from 2011 to 2016. Aside from being a reforestation initiative, the NGP is also seen as a climate change mitigation strategy as it seeks to enhance the country's forest stock to absorb carbon dioxide, which is largely blamed for global warming. It is also designed to reduce poverty, providing alternative livelihood activities for marginalised upland and lowland households relating to seedling production and care and maintenance of newly-planted trees, thereby leading to green growth. (Source: Lim 2013)

v. Green Growth Initiative

Within the context of the Philippine Development Plan, which calls for the country's inclusive growth, sustainable development is pursued through a 16-point agenda, one of which is the conservation of the natural resources and the protection of the environment.

The genuine realisation of SD should be attained at the local level and translated to improved well-being of people at the community level. Mechanisms, system and structures, including good governance, should promote and support local actions for sustainable development. The country strongly believes that instead of creating new institutions for SD, it is more effective and efficient to mainstream the mandate for SD in existing structures and mechanisms, facilitated with the assistance of civil society and the business sectors through appropriate public-private partnership.

The Philippine government represented by the NEDA signed the Agreement on the Establishment of the Global Green Growth Institute during the United Nations Conference on Sustainable Development in Rio de Janeiro, Brazil. This move shall bring NEDA once again at the forefront of sustainable development initiatives.

(Source: Lim 2013)

This is in consonance with the move of the Department of Trade and Industry in its efforts to be more competitive in global markets. The country needs to develop Green Growth policy in order to establish the authority, responsibility and accountability of the Department of Trade and Industry for the Green Growth of Micro, Small and Medium Enterprises in particular and the economy in general. Such a policy would "expand the function of the Bureau of Micro, Small and Medium Enterprise Development to be the focal point on Green Growth within the Department of Trade and Industry. The most important mandates of the focal point would be to mainstream Green Growth into policy making at national and local levels" (NEDA website).

The transition to a green economy is "considered as an important rallying point for better integration of the three pillars of SD and also one of the approaches to finally achieve once-elusive growth targets in the Philippines. The transition to Green Growth and Green Economy is a big and yet welcome move for the country" (Lim 2013).

vi. The National Climate Change Action Plan (NCCAP)

An important policy framework that would be in conjunction with ESC is the National Climate Change Action Plan (NCCAP). This takes into consideration that mainstreaming of ESC could easily dovetail on the initiatives for climate change adaptation and mitigation and disaster risk reduction in the country. Climate Change Adaptation being a good anchor for ESC mainstreaming. The National Climate Change Framework Strategy has:

...recently been translated into the National Climate Change Action Plan (NCCAP), which prioritizes food security, water sufficiency, ecosystem and environmental stability, human security, climate-smart industries and services, sustainable energy, and capacity development as the strategic direction for 2011 to 2028. In response to the urgency for action on climate change, the Philippines passed Republic Act 9729, also known as the Climate Change Act of 2009, anchored on the constitutional provision which states that it is the policy of the State to afford full protection and the advancement of the right of the people to a balanced and healthful ecology... to fulfil human needs while maintaining the quality of the natural environment for current and future generations. (Climate Change Commission website)

C. Inclusion of ESC aspects in education, curriculum and teaching

The educational system in the country is managed by three different agencies; namely the Commission on Higher Education; the Technical Education and Skills Development Authority, to administer postsecondary middle-level manpower training and development and the Department of Education for basic education covering elementary, secondary and non-formal education. In the higher education, where 34 per cent of students are enrolled in public Higher Education Institutions (HEIs) while 66 per cent are enrolled in private HEI's, there are initiatives to integrate EE/ESD/ESC in all tertiary curricula where the concepts of ESC are also taught in the aspects of ecological waste management, water use efficiency and energy efficiency are being imparted in the curricular materials. Recently, a major shift in the system was effected by the approval of the Republic Action (R.A.10533) known as the Enhanced Basic Education Act of 2012, which adds two more years to basic education from 10 to 12 years. The Law is in its third year of implementation and there are still many adjustments being done to put in place the new curriculum (6 years elementary, 3 years junior high school and 3 years senior high) from the previous 10-year curriculum. The Department of Education is revising the materials to conform with the new K-12 curricula.

The stated goal of the Enhanced Basic Education Program (2012) is "to create a functional basic education system that will produce productive and responsible citizens equipped with the essential competencies and skills for both lifelong learning and employment". ESC can be introduced in the Science subject as exemplar lessons that can be prepared while the curricular reforms are being done. Presently, the concepts and skills of disaster risk reduction and climate change adaptation. Consonant with EE/ESC/ESD initiatives, are programs spearheaded by the Department of Education in synergy with the Department of Environment and Natural Resources and the Department of Budget and Management, such as the National Ecosavers Program with the tagline "Empowering the Filipino Schoolchildren through Ecosaving".

Aimed as a strategic approach to Ecological Solid Waste Management in all of the 763 public elementary and high schools in Metro Manila, the objectives are a 40 per cent increase in waste diversion rate to reduce stress on the collection system (i.e., number of trips by garbage trucks) and on the disposal system (i.e., landfills); littering avoidance to complement efforts in declogging waterways; "promotion of environmental awareness on the of natural resources in economic growth and the importance of environmental conservation and ecological balance"; and economic benefit for student-participants who derive an income from the scheme. Program partners are expected pilot the scheme within two years.

Figure 4. Functional Chart of the Environmental Education and Information Division, DENR

- Undertake advocacy activities to create public awareness through the use of print, broadcast, web-based, outdoor advertising, inter-personal and similar media; and the conduct of special events on the environment
- Coordinate integration of environmental education concerns in the school curricula at all levels.
- Spearheaded capacity building programs with various through the conduct of seminars, technical capability skills training, special events, and the promotion of good environmental practice among stakeholders;
- Collate and document information for the preparation of sectoral and integrated state of environment reports and build up environmental inventory database.



- Provide the public with reliable and useful information on existing status, trends, problems, programs and challenges of the environment
- Ensure that the most practical and most cost-effective technology is applied in the development of information materials on the environment.
- Undertake advocacy activities through the conduct of special events during whole yearround nationally and internationally significant dates on the environment.
- Conceptualize and develop multi-media resources for the environment including but not limited to print, broadcast, web-based, outdoor advertising and similar media.
- Monitor and evaluate the impact of multi-media resources on the environment for various stakeholders



- Coordinate the updating, implementation and monitoring of the National environmental Education Action Plan for Sustainable Development in support to the ASEAN Decade of Education for Sustainable Development
- Conduct education and capability building programs on the environmental laws and programs with various target stakeholders.
- Coordinate with the country's education departments, institutions and networks for the integration of environmental education concerns in the school curricula at all levels.
- promote the establishment and strengthening of regional centres of excellence on environmental education in partnership with various stakeholders.
- Promote the generation of environmental action programs at the community levels and ensure sustained participation of various sectors in such programs
- Monitor and evaluate the participation of various sectors in environmental protection efforts



- Collate and document information for the preparation, review and validation processes of national sectoral (status reports on air quality, water quality, solid wastes, toxic chemical and hazardous wastes) and integrated state of the environment reports
- Undertake institutional capacity development programs and activities on data collection protocols, management and interpretation for state of the environment reporting.
- Promote and make available environmental success stories (e.g.) environmental-technologies, environmental management techniques, pollution prevention, and environmental education).
- Organize and provide wider access to information relating to environmental education programs, activities and materials







Environmental Information Section

Environmental Education Section

Institutional Coordination and **Documentation Section**

(Source: Environmental Education and Information Division (EEID), Environmental Management Bureau, 2014)

The Environmental Education and Information Division is mandated with the promotion of public awareness on the environment and protecting public health through awareness raising, education and public participation. This is established as such with the conviction that environmental issues are best addressed through the empowerment and mobilisation of concerned citizens. Since the Environment Education and Information Division was organised in 1989, it considers among its accomplishments its major catalysis in the milestone events in the development of environmental education in the country as shown in Figure 5.

Philippine Strategy for Sustainable Development Strategy No.9 - Promotion of Environmental Education National Strategy on Environmental Education (1989) Philippine Agenda 21 National Environmental Education Action Plan (1992-2002) 1996 **ASEAN Environmental PATLEPAM** Education (1995)Action Plan (2000-2005) Environmental Education Curriculum Frameworks for All Levels (1998) National and Regional Educators' Trainings on the Use of the EE curriculum Framework for Basic Education, technical and Vocational Education, and Higher Education (2005) Creation of EMB Regional Environmental Education and Information Section (2002)Updated National Environmental Education Action Plan for Sustainable Development for 2005-2014 in support of the United Nations Decade of Education for Sustainable Development (2005-2014)

Figure 5. Milestone Events in the Development of Environmental Education in the Philippines

(Source: Environmental Education and Information Division (EEID), Environmental Management Bureau, 2014)

In order to get a broad perspective of the status of government capacity to mainstream ESC, a total of 32 interviews were done with representatives from government (environment, education, trade and industry, planning, energy, and agriculture, legislature), NGOs and the business sector as follows:

Table 3: Schedule of Interviews

Environment 1 Asst. Secretary for Administration and Field Operations, Department of Environment and Natural Resources (DENR) Dec. 20, 20 2 Director, Environmental Management Bureau (EMB) Jan. 8, 201 3 Environmental Management Bureau-Climate Change Office Jan. 9, 201 4 Division Chief, Environmental Education and Information Division, EMB Jan. 17, 20 Trade and Industry 5 Officer-in-Charge, National Consumer Affairs Council, Dept. of Trade and Industry Jan. 14, 20 6 Chairperson, National Consumer Affairs Council Jan. 14, 20				
and Natural Resources (DENR) 2 Director, Environmental Management Bureau (EMB) 3 Environmental Management Bureau-Climate Change Office 4 Division Chief, Environmental Education and Information Division, EMB Trade and Industry 5 Officer-in-Charge, National Consumer Affairs Council, Dept. of Trade and Industry Ghairperson, National Consumer Affairs Council Jan. 14, 20				
3 Environmental Management Bureau-Climate Change Office Jan. 9, 201 4 Division Chief, Environmental Education and Information Division, EMB Jan. 17, 20 Trade and Industry 5 Officer-in-Charge, National Consumer Affairs Council, Dept. of Trade and Industry Jan. 14, 20 6 Chairperson, National Consumer Affairs Council Jan. 14, 20)13			
4 Division Chief, Environmental Education and Information Division, EMB Jan. 17, 20 Trade and Industry 5 Officer-in-Charge, National Consumer Affairs Council, Dept. of Trade and Industry Jan. 14, 20 6 Chairperson, National Consumer Affairs Council Jan. 14, 20	4			
Trade and Industry5Officer-in-Charge, National Consumer Affairs Council, Dept. of Trade and IndustryJan. 14, 206Chairperson, National Consumer Affairs CouncilJan. 14, 20	4			
5 Officer-in-Charge, National Consumer Affairs Council, Dept. of Trade and Industry 6 Chairperson, National Consumer Affairs Council Jan. 14, 20	14			
6 Chairperson, National Consumer Affairs Council Jan. 14, 20				
	14			
7 Division Chief Faving and and Matters Division Office for the fortier Delice DTI DOI 1 7 204				
7 Division Chief, Environmental Matters Division, Office for Industrial Policy- DTI- BOI Jan. 7, 201	4			
Education				
8 Director, Institute of Environmental Science and Management, University of the Phil. Dec. 20, 20				
9 Vice-President for Research and Extension, Isabela State University Jan. 18, 20				
10 Faculty, Ateneo School of Government, Ateneo de Manila University Jan. 13, 20				
11 Faculty, Department of Environmental Studies, Miriam College Jan .13, 20				
Director, National Capital Region, Commission on Higher Education Jan. 23, 20				
Representative, A TEACHER Party-List, House of Representatives, Phil. Congress Feb. 10, 20				
14 Education Program Specialist , Bureau of Secondary Education , DepED Ma. 24, 20				
15 Education Program Specialist, Bureau of Elementary Education, DepED Mar. 24. 20	J14 			
Agriculture 16 Adviser to the Secretary, Office of the Secretary, Department of Agriculture (DA) Jan. 10, 20	11			
 Adviser to the Secretary, Office of the Secretary, Department of Agriculture (DA) Chief, Research Division, Bureau of Soils and Water Management, DA Jan. 10, 20 Jan. 17, 20 				
Energy	14			
18 Department of Energy Forum Jan. 8, 191	4			
Development Planning				
19 Director, Agriculture Staff, National Economic and Development Authority (NEDA) Jan. 14, 20	14			
Local Government Unit - Quezon City, Metro Manila				
Chief, Planning and Policy, Environmental Protection and Waste Management Division Dec. 13, 20 (EPWMD), Quezon City LGU)14			
21 Planning & Research Officer, EPWMD Jan. 8, 201	4			
22 Planning & Research Officer, EPWMD Jan. 8, 201	4			
23 Planning & Research Officer, EPWMD Jan. 9, 201	4			
24 Chair, Committee on Environment, Quezon City Council Jan. 17, 20	14			
25 Chair, Committee on Education, Quezon City Council Jan. 9, 201	4			
26 Chair, Committee on Climate Change and Disaster Preparedness, Quezon City Council Jan. 20, 20	14			
Non-Government Organizations				
27 Executive Director, Center for Environmental Concerns Jan. 8, 201	4			
28 Chief Executive Officer, Philippine Green Building Council Jan. 10, 20	14			
29 Executive Director, Philippine Center for Environmental Protection and Sustainable Jan. 16, 20 Development, Inc.	14			
30 President, Green Convergence Jan. 13, 20	14			
Business and Industry				
31 Chairman, Water Resources Committee; Renewable Energy and Fuel Committee, Jan. 10, 20	14			
Philippine Chamber of Commerce and Industry				
Chairman, Committee on Environment, Philippine Chamber of Commerce and Industry Feb. 5, 201	.4			

II. Governmental Strategies for promoting Sustainable Consumption

Current Initiatives are being observed in the various government ministries/departments concerned as being geared towards green growth that equates mostly with resource efficiency, cleaner production and low-carbon emissions.

A. Green Growth Programs of the National Government

i. Department of Environment and Natural Resources (DENR)

The Environment ministry (the Department of Environment and Natural Resources) implements programs in pursuit of green grown as follows:

Philippine Environment Partnership Programme

The Philippine Environment Partnership Program is a program concerning industries which aims to support industry self-regulation towards improved environmental performance. It provides a package of incentives and reward mechanisms to industries. Through this initiative, the Department of Environment and Natural Resources hopes to assist business establishments, particularly small and medium enterprises to adopt pollution prevention and cleaner production processes. It also facilitates industry regulatory privileges and assistance such as relaxation of reportorial requirements, simplified requirements for securing an Environmental Compliance Certificate and flexible payment schemes are also offered under the Philippine Environment Partnership Program.

(Source: Environmental Management Bureau)

Industrial Ecowatch

The Revised Industrial Ecowatch System is a public disclosure program that rates industries in color codes of gold, silver, green, blue, red and black. Under the Revised Industrial Ecowatch System, firms are rated Gold or Silver for environmental efforts that go beyond legal requirements. Other ratings include Green or Blue for sufficient efforts to comply with the Department of Environment and Natural Resources standards, Red for insufficient effort to abide by environmental regulations and Black for companies that make no effort to improve their compliance. Companies are given administrative incentives for participating in the program. It is likewise included as one of the criteria in giving rewards under the Philippine Clean Water Act.

(Source: Environmental Management Bureau)

Clean Development Mechanism (CDM)

The Clean Development Mechanism (CDM) was established under the Kyoto Protocol under the United Nations Framework Convention on Climate Change and is designed to assist developed countries to comply with their quantified emission limitation targets and at the same time help meet developing countries' sustainable development goals and objectives. To date, the Philippines have registered a total of 39 project activities on CDM. Among those registered with the CDM Executive Board in Bonn, Germany are renewable energy projects that include wind energy, mini-hydro, geothermal as well as waste-to-energy projects. The estimated emission reductions resulting from these projects is at about 1.4 million tons of CO2 equivalent.

(Source: Environmental Management Bureau)

ii. Department of Energy (DOE)

The Department of Energy is undertaking measures to accelerate the use of renewable and alternative energy sources and promote more efficient power generation and conservation. One such program is the Natural Gas Vehicle Program for Public Transport which was started in 2002. The project, in cooperation with the Malampaya consortium, installed compressed natural gas (CNG) refuelling stations in Batangas and Laguna that will service 200 gas-powered buses. A CNG-run vehicle emits 80 per cent less smog-forming nitrogen oxides.

(Source: Environmental Management Bureau)

iii. Department of Trade and Industry (DTI)

Under the Department of Trade and Industry, Bureau of Consumer Protection is a consumer body, the National Consumer Affairs Council, which is composed of government representatives from the agriculture, education, health, trade and industry plus the consumer sector represented by four NGO's: Nationwide Association of Consumers Inc.; Consumer Rights for Safe Food; Coalition for Consumer Protection and Welfare Inc.; and the National Federation of Women's Clubs of the Phils. including 2 representatives from the business sector while the energy and environment sector representatives are ex-officio members. One of the National Consumer Affairs Council missions is to assure consumer rights to live in a healthy and sustainable environment and largely promotes the 8 consumer rights to basic needs, safety, information, choice, representation, redress, consumer education and lastly, the right to a healthy environment.

The Department of Trade and Industry promotes the establishment of world class, environment friendly economic zones all over the country to respond to the demands for ready-to-occupy locations for foreign investments. At the helm of this strategy is the Philippine Economic Zone Authority, an investment promotion agency and a government-owned corporation, attached to the Department of Trade. The Philippine Economic Zone Authority grants fiscal and non-fiscal incentives to developers of economic zones, export producers, and information technology (IT) service exporters. It offers ready-to-occupy locations in world class and environment-friendly ecozones and IT parks and buildings to foreign investors who are export producers or IT service exporters. The agency likewise promotes efficiency in production and the use of low carbon technologies among industries. (Source: Environmental Management Bureau)

iv. Department of Tourism (DOT)

The Department of Tourism promotes ecotourism particularly in rural areas in the country. Through its Grassroots Entrepreneurship and Employment in Tourism program, the Department of Tourism gives assistance in forms of financial aid, provision of skills, knowledge, values formation and other entitlements to programs and projects that espouse environmental sustainability in concerned regions throughout the country. The programs seek to empower communities to be leaders in protecting ecotourism sites by building up their micro, small and medium enterprises. Further, the National Ecotourism Strategy is an integrated management plan, providing a comprehensive direction for the future of ecotourism in the country. Among the other urgent national imperatives under the National Ecotourism Strategy are: provision of an economic rationale for conservation of natural and cultural sites to ensure the long-term sustainability of conservation management systems; promotion of wholesome styles of recreation in outdoor environments and provision of conservation awareness and education programs outside the classrooms; and creation of models that will demonstrate ways for local communities to engage in non-exploitative and sustainable utilisation of natural resources.

Currently, plans are underway for the development of a multi-stakeholder program to respond to tourism as a continually emerging industry, and the pursuit of low carbon tourism activities are going to be mapped out.

(Source: Environmental Management Bureau)

v. Department of Science and Technology (DOST)

The Department of Science and Technology, through its Integrated Program on Cleaner Production Technologies, aims to promote sustainable development and strengthen the competitiveness of Philippine industries through the adoption of cleaner production technologies. Its Environmental Division also assists industries and other concerned sectors reduce their pollution load with corresponding decrease in operating costs and comply with environmental standards through the conduct of research and development.

(Source: Environmental Management Bureau)

B. Local Government Unit – Quezon City (QC)

At the local level of government, various initiatives have also been started. This study focused on the implementation of green policies in the local government unit of Quezon City in Metro Manila. Quezon City is a leading Local Government Unit in the arena of green initiatives. The City has forged a Memorandum of Agreement with DENR on an Urban Greening Program for the Quezon City Memorial Circle grounds. The City is also actively involved in the organisations, both national and international, which are concerned with sustainable cities i.e., ICLEI.

Pursuing both green procurement and green building concepts, the City has linked with the Philippine Centre for Environmental Protection and Sustainable Development Inc. (PCEPSDI) and the Philippine Green Building Council (PhilGBC), City Mayor Herbert Bautista linked with these two institutions so that Quezon City can "come up with a sustainable public procurement program for the whole city hall, and green building standards for the whole city to be the first LGU to come up with a defined green program for government procurement and building policy standards" (Quezon City website).

These notable twin initiatives by the Quezon City Local Government Unit (see box below) are significant moves towards mainstreaming of sustainable consumption at the local level. Quezon City is the biggest city in terms of area (16,000 hectares), among the 18 municipalities and cities, in the Metro Manila Region with a population density of almost 20,000 persons per square kilometre and the highest rate of urban migration in the country. Under these conditions, the LGU has to keep a constant watch on environmental protection and management. Green buildings and green procurement are deemed as landmark strategies that augur well for the environment.

At the 2nd Environmental Planning and Policy Council Meeting which met last year, PCEPSDI Executive Director June Alvarez and PhilGBC Chairman Arch. Christopher Dela Cruz each presented recommendations for Quezon City's green programs. PCEPSDI presented the National Ecolabeling Programme-Green Choice Philippines, where the purchase and use of ecolabeled products and services will be aligned in the existing procurement processes of the Local Government Units. This is also in compliance with Executive Order 301 Series 2004, which directs all departments, bureaus, agencies and offices under the Executive Branch of government to establish a Green Procurement Program. Under this directive, the National Ecolabelling Programme — Green choice Philippine will act as the 3rd party verifier for the government's eco-purchases.

PhilGBC, on its part, presented its Building Ecologically Responsive Design for Excellence rating system as a tool to measure the environmental soundness of buildings. Arch. Dela Cruz commended QC for its initiative to have its own green building policy and standards.

As an agreement, Quezon City will partner with PCEPSDI to assist in the setting-up of the Green Public Procurement Program for the city and PhilGBC will be consulted in the green building standards and evaluation process. A formal Memorandum of Agreement has been signed to formally define institutional roles and functions.

PCEPSDI is the administrator and secretariat of the National Ecolabelling Programme – Green Choice Philippines in the country, which awards the Green Choice Philippines Seal to eco-products and services that demonstrate environmental leadership performance based on the international ISO 14020-series ecolabelling standards and evaluation process. It is an active member of the Global Ecolabelling Network, an association of ecolabelling programs around the world. PhilGBC, on the other hand, is associated with all Green Building Councils operating in different countries.

(Source: Quezon City)

Based on responses from key informants, Quezon City has also gained recognition for its Environmental Management Programs and especially on ecological waste management, reduction of plastics use, anti-littering campaign and cleaning of water bodies in the city. The management of these programs is under the Environmental Protection and Waste Management Department which monitors the LGU's initiatives, accomplishments and targets. The city Council has very pro-active and highly supportive of the various environmental protection initiatives. Linking with the academe, the City has launched its Luntian program, which mobilises tertiary college students enrolled in the National Service Training Program from the local colleges, to jointly conduct with the City various environmental projects. The under the Environmental Protection and Waste Management Department staff also took the initiative to conduct trainings on environmental education at the barangay level.

At present, strategies for promoting ESC are largely initiatives in response to EE/ESD and not necessarily termed as ESC. Respondents in the interviews have rhetorically asked what ESC supposedly covers. When it was explained to them the aspect of ESC on resource use efficiency and low carbon emission technology and practices, they then replied that they have been doing that. This means that EE/ESD efforts that were already initiated is considered under the same bandwagon as ESC, although for them a new terminology. At present, there is no consolidated and conscious effort of the government or NGOs, or even business to pursue ESC per se, although it is regarded that ESD initiatives fall within the purview of ESC. Instead, it is widely understood that ESD activities definitely puts ESC into the picture. Hopefully, as the green growth initiative gains ground, ESC could evolve into becoming one of its major defined approaches. Government however will have to carefully delineate its scope and offer a common and acceptable understanding of the term.

III. Practice and Implementation of ESC

A. Focus of existing projects and activities on ESC

In choosing to shift to a green growth path towards achieving sustainable development, the Philippines has prioritised the following five key sectors: agriculture and fisheries; environment and natural resources; infrastructure on energy (including renewable energy), waste, and water; green cities (including sustainable transport and urban development); and, green industries. Critical areas identified include setting green product standards and eco-labelling/eco-certification. The two areas mentioned are not yet completely integrated into the lifestyles of Filipino consumers, unlike in other Asian countries, such as Japan and Republic of Korea, which already set the pace in establishing more responsible consumers.

While the government is yet to establish a formal system for implementing ESC, it relies mostly on partnerships with private sectors, community groups or educational institutions, e.g. through Corporate Social Responsibility programs, community development program, green school/campus, eco-office, among others, in developing public awareness and understanding of sustainability especially in the different sectors. For mainstreaming ESC, it can be said that at the level of the professionals in the construction and building sector, there is already a widespread consciousness as these concerns are taken up often in seminars and conventions of architects and engineers, who are

involved in high finance construction projects and they comply with standards for green buildings such as Leadership in Energy and Environmental Design. However, there is a big knowledge gap between the professionals and the skilled workers. For example, in 2010, a study commissioned by the International Labour Organisation looked into opportunities in green jobs for the Philippines. As part of the recommendation of the study, it was said that it was at the level of blue collar jobs i.e. welders, masons, painters that intervention for ESC education may be needed. In construction projects, painters need to distinguish which paint products are most environment-friendly, lead-free and least toxic to the environment. In this connection, Technical Education and Skills Development Authority can be proactive to develop curriculum materials for their Tech-Voc courses, that incorporates the ESC concept of opting for industry practices that are eco-friendly, resource-efficient and do not compromise human health.

B. Participation/cooperation of CSO's and regional cooperation

On the other hand, initiatives from NGOs, such as the National Ecolabelling Programme - Green Choice Philippines (NELP-GCP), aim to "change the behavioural patterns in consumption and production that tend to misuse, abuse, and degrade the environment. Specifically, the NELP-GCP labels environment friendly products or services are being produced and distributed in the country by granting the Seal of Approval to green products under the categories of laundry detergent, cement, natural infill material, engine oil, ceramic tile, water-based paint, LED light, paper hand towel, tissue papers, induction lamp, electronic ballast, organic liquid disinfectant, fibre cement board and photocopier. Also, the programme has developed and approved the environmental criteria for certain products and services" (PCEPSDI website), such as desktop and laptop computers, liquid dishwashing products, food services, among others.

Business groups implement Internal Environmental Education Programs for their employees, consistent with an overall environmental policy and commitment to attain environmental performance goals, such as: Trainings on Environment Management Systems and ISO 14001, Environment Audit Training for plant managers and plant personnel, corporate staff and Environmental Health and Safety Units; and in – house training on efficient resource management e.g. energy and water conservation, and waste reduction. Through its annual Corporate Environment Training Series, the Philippine Business for the Environment, a NPO that assists companies to address their environmental concerns and responsibilities, offers courses to help companies build the environmental management capacity of their managers and personnel. It has trained over 1200 persons since it was launched in 2001. The Pollution Control Association of the Philippines also conducts regular courses for Pollution Control Officers focusing on environmental legislation and technical skills such as wastewater treatment. During the 2009-2010 Zero Basura Olympics Awards, several companies were recognised for their environment education efforts, among them: A. Soriano Corporation; The Cravings Group; Meralco Management Learning Development Centre; Coca Cola Foundation, Quezon Power; Team Energy; Ayala Centre Association, Inc. and Ayala Centre Property Management. The PBE also helps raise awareness on the impact of business on climate change and has trained and mentored several companies to measure and reduce their carbon footprint using the Greenhouse Gas Accounting Protocol developed by the World Resources Institute and the World Business Council for Sustainable Development (and piloted in the Philippines in 2008 with the Manila Observatory). Companies that PBE has worked with are: a coal-fired plant, telecommunications

company, an oil refinery, brewery, charter aviation company, car manufacturer, consumer products manufacturing company, and a water utility.

C. Good Practice examples

i. Green Buildings

There is a tremendous increase of building construction activities in the Philippines due to increased population in urban areas. The rapid expansion of the property sector is triggered also "by the demand for new and premium office space required by the business outsourcing industry" (de la Cruz et al. 2009). Economic prosperity of the Overseas Filipino Workers sector also stimulated the accelerated development of more residential condominiums in city centres. The associated environmental impacts of these developments are the fast depletion of energy and water resources, solid waste generation, increased transport emissions and loss of urban spaces.

Sustainable green building, in general, works under a holistic framework, incorporating environmental laws, initiatives and policies into developing an effective policy development tool matched with a consensus-driven green building rating tool. To assess and mobilise Filipinos to adapt and sustain green buildings, a rating tool has been designed and employed by the Philippine Green Building Council (PhilGBC) - BERDE, short for Building Ecologically Responsive Design for Excellence. The task is simple. In light of the environmental situation in the Philippines, taking into consideration the massive accumulation of solid waste, excessive energy consumption in urban areas, and persistent air and water pollution, there is a need to raise awareness on an alternative that can alleviate the negative impacts of human existence to the environment.

One of those alternatives is Green Buildings. To reiterate, green buildings "reduce our carbon footprint, optimise water consumption, reduce material input and waste generation, preserve our cultural heritage, and lastly, to preserve the site's natural ecology" (FPD Asia). The objective of BERDE is to measure the performance of a green building in terms of the following parameters: "sustainable site planning, water efficiency, energy efficiency and renewable energy usage, conservation of material and resources, and safe indoor environment quality within buildings" (FPD Asia). The results obtained by using this rating tool will not only be used to assess the green building capacity and condition, but will also be used as a basis for determining and formulating policies in the government.

Local government units likewise, have been active in the development and application of sustainable green buildings. Quezon City has passed "an ordinance requiring the design, construction or retrofitting of buildings, other structures and movable properties to meet minimum standards of a green infrastructure, providing incentives therefore and for other purposes" (Quezon City Government 2011). As part of mainstreaming the green building concept, the Quezon City Local Government Unit (LGU) is the first among LGUs to approve an ordinance giving incentives and tax exemptions to green buildings built within Quezon City.

ii. National Ecolabelling Programme/ Green Choice

The National Ecolabelling Programme - Green Choice Philippines (NELP-GCP) is one of the country's initiatives to exercise the fundamentals of sustainable development. It aims to change the behavioural patterns in consumption and production that tend to misuse, abuse, and degrade our environment. This voluntary third-party environmental declaration, which is guided by principles and procedures of ISO 14024, gained its legal footing when Republic Act 9003, the Ecological Solid Waste Management Act of 2000, was signed by Her Excellency President Gloria Macapagal Arroyo. RA 9003 states under Article 4, Section 27 that the Department of Trade and Industry shall formulate and implement a coding system for packaging materials and products to facilitate waste recycling and reuse. NELP-GCP envisions that environment friendly products or services are being produced and distributed in the country. Meanwhile, Executive Order 301 establishing a Green Procurement Program for All Departments, Bureaus, Offices and Agencies of the Executive Branch of Government mandates the executive branch of government to create a program that will green its supply chain. The implementation of said policy is expected to jumpstart the demand for green products, at least for government purchasing activities.

(Source: Riguer 2011)

The Philippine Centre for Environmental Protection and Sustainable Development Inc., NGO is the Administrator of the NELP-GCP that is "based on ISO 14024 – Guiding Principles and Procedures. NELP-GCP is a voluntary, multiple criteria-based, and third party programme that aims to encourage clean manufacturing practices and consumption of environmentally preferable products and services. The centre aims to establish and develop product/service criteria for the NELP-GCP. The target is to develop product categories for building and construction materials, and product criteria for NELP-GCP's priority products" (Philippine Greenpages). Part of this goal is to develop service criteria for food service in fast foods, fine dining restaurants, canteens and catering services, which will also involve a high-profile advocacy in the promotion of healthy eating and living, good nutrition and over-all wellness.

iii. Promotion of Organic Agriculture

One of the provisions of the Organic Agriculture Act (RA. 10068) stipulates the policy of the State "to promote, propagate, develop further and implement the practice of organic agriculture in the Philippines that will cumulatively condition and enrich the fertility of the soil, increase farm productivity, reduce pollution and destruction of the environment, prevent the depletion of natural resources, further protect the health of farmers, consumers and the general public, and save on imported farm inputs" (Sunstar Baguio Newspaper on Aug 29, 2013).

"Toward this end, a comprehensive program for the promotion of community-based organic fertilisers such as compost, pesticides and other farm inputs, together with a nationwide educational and promotional campaign for the use and processing, as well as the adoption of organic agricultural system as a viable alternative shall be undertaken" (Bafps website). Under this legislation, many initiatives have been taken. According to the Department of Agriculture, the modest target to shift to organic agriculture is pegged at 2 per cent in the first year of implementation of the law and progressing gradually to 5-10 per cent share of total agriculture production over time.

The Department of Agriculture through the Agricultural Training Institute and the Spread Organic Agriculture in the Philippines Movement will be releasing the second edition of the only Organic Agriculture Directory in the country. Organic agriculture can very well be a vehicle for sustainable consumption because it encourages going back to basics. This Department of Agriculture's advocacy encourages the farmers to produce food the

organic way so the benefits of organic agriculture such as healthy and organically-produced commodities without the harmful effects of chemicals can be enjoyed by producers and consumers alike. The Agricultural Training Institute is tasked to lead the advocacy efforts in the Philippines, it deemed important to educate, create awareness as well as communicate Organic Agriculture and its principles to consumers, producers and agricultural extension workers.

(Source: Department of Agriculture)

On the formal education side, especially in tertiary education, the Benguet State University (BSU) has started "developing an organic agriculture program as it braces for the stiffer competition in the agricultural industry with the Asian Free Trade Agreement taking effect in 2016" (philSTAR news). Though already incorporated within the school's curriculum that started in 2010, BSU president, Dr. Ben Ladlad, said they want to do more especially with the benefits that can be derived from the program, not only by Benguet province but the whole nation as well. Therefore, its organic agriculture program is focused more on research and development to alleviate the effects of climate change on the province's agriculture industry.

In 2009, the Cordillera Organic Agriculture Development Centre (COARDC) was launched and became the 6th research institution of the Benguet State University. According to COARDC Director Jose Balaoing, the program started with 10 students in 2010 who all graduated in 2012, becoming the first batch of certified organic agriculturists of the province. For the school year 2013-2014, there are already 41 students enrolled in the program. BSU declared itself as an organic university in 2004. Since then, various efforts were done to promote organic agriculture in its four-fold functions of instruction, extension, research and production. The University currently implements the BSU Internal Guarantee System (BIGS) for its farmer-cooperatives, maintains the organic market and offers the Certificate in Practical Organic Agriculture course while organic agriculture as a major is now being offered under the BS in Agriculture program. BSU is certified as organic Arabica coffee producer by the Institute of Market Ecology based in Switzerland and as organic farm of herbs, vegetables and fruits by the Organic Certification Centre of the Philippines. In the Organic Agriculture Act of the Philippines, R.A 10068, it is stipulated that growth in this particular agriculture sector will be around 2 per cent annually.

IV. Assessment of Current Approaches to Promoting Sustainable Development

The national and local governments are mainly responsible for achieving sustainable development. However, due to the government's fiscal position, policy implementation in the Philippines is normally underfunded. The underfunding underscores the need to have the private sector as the driving force in the greening effort with the government taking the supporting role. This requires information on the value and carbon footprint generated and added in each sector of society, which will determine the actions needed from the government to enhance value and lower footprint.

The enabling conditions for the mainstreaming of ESC are existing in the country today. Institutional arrangements among government entities have converged for possible integration of ESC in the public consciousness. It is to be noted that for ESC to become mainstream, this will mainly involve favourable arguments for its adoption along the lines of economy, environment, education and technology. The move will need to be orchestrated from currently existing institutional arrangements in the government departments.

A. Institutional Arrangements

In order to enable the integration of green growth strategies for the business sector, it seemed opportune that the Department of Trade and Industry prepared the green Medium, Small and Micro-Enterprise (MSME) agenda that has been incorporated in the MSME Development Plan, Philippine Development Plan and in the National Climate Change Action Plan. The green MSME agenda includes the climate smart industries, eco towns, adaptive mitigation for competitiveness enhancement, and job creation-strategies that would achieve an inclusive sustainable development, otherwise known as green economic development, conforming with the present trend of sustainability. The MSME agenda was prepared through the assistance of European Union and the Federal Ministry of European Cooperation and Development for the SWITCH-Asia project, the SMEs for Environment Accountability, Responsibility, and Transparency (SMART-Cebu) program. The project aims to increase the competitiveness of SMEs and contribute to a cleaner environment of Cebu. It is cofunded by the European Union and the German Federal Ministry for Economic Cooperation and Development to promote Sustainable Cleaner Production.

Further, the Department of Trade and Industry, pursuant to the Philippine Development Plan (PDP), pursuant to PDP 201-2016, endeavours to improve the business environment, increase productivity and efficiency, and enhance consumer welfare. It also aims to generate 4.6 M employment opportunities from industry and services sector, 2 M of which shall come from MSME sector and also increase the level of awareness of consumers on their rights and responsibilities, from 50 per cent to 80 per cent. With such a target in the next mid-term period of PDP, this would be a big boost to efforts to mainstream Education for Sustainable Consumption.

The Department of Environment and Natural resources and the Department of Energy through the National Consumer Affairs Council, of which both agencies are ex-officio members, must work in close coordination for the research and development of green technology, also Department of Trade and Industry for more eco-labelled products.

The Department of Environment and Natural Resources (DENR) is actively participating in the Government Energy Management Program of the Department of Energy, which aims to encourage energy efficiency among government offices. In fact, efficient lighting systems have been installed to contribute to lower electric consumption, thus resulting to savings. The National Economic and Development Authority has been consistently recognised as one of the government offices with high efficiency rating in terms of electricity consumption. As it also actively collaborates with DENR on the SWITCH-Asia Project, funded by the European Union, it aims at promoting SCP across Asia.

The National Economic and Development Authority, as an oversight agency, also supports policy-making, capacity building, partnerships and further works towards SCP in the Philippines, particularly on: "delinking the resource use and impact generation from economic growth through green industry in the context of green economy/green growth; mainstreaming SCP in the context of climate change scenario, poverty eradication and emerging global issues; up-scaling green industry action programs; establishing partnerships in scientific works; studying resource use intensity data collection for priority sectors; and, facilitating a behavioral change of consumption patterns" (Chiu 2012).

The catalytic role of the academe is also recognised in this area through networking and collaboration among tertiary educational institutions for raising awareness on environmental protection and management, including sustainable consumption among students. As such capability building of schools for environmental education and sustainable development and strengthening connections between academe to business and industry are crucial in sustaining efforts on ESC.

B. Leadership, Knowledge and Accountability

In the area of EE/ESC/ESD, leadership in government can be provided by the ministry for environment known as the Department of Environment and Natural Resources, (DENR), through its Environmental Management Bureau which has under its wings, the Environmental Education and Information Division (see previous section), and from the tri-focalised agencies in charge of education in the country, namely, 1) the Department of Education (for the k-12 basic education program covering until Senior High School); 2) the Commission on Higher Education (for tertiary and advanced education programs), and, 3)the Technical Education and Skills Development Authority (TESDA), which is in charge of technical-vocational skills certification programs. Coordination mechanisms are in place as seen by Interagency Committee Work on Environmental Education as stipulated in R.A. 9152, the Environmental Education and Awareness Act of 2010.

i. Department of Environment and Natural Resources (DENR)

Further, through DENR Special Order No. 142 creating the DENR Environmental Education Committee chaired by a DENR Undersecretary (later amended to be chaired by a DENR Assistant Secretary) and co-chaired by its Environmental Management Bureau. Its members are: DENR's various offices such as: Field Operations, Foreign-assisted and Special Projects Office, Public Affairs Office, Special Concerns Office, Human Resources Development Service, Protected Areas and Wildlife Bureau, Forest Management Bureau, Ecosystems Research and Development Bureau, Mines and Geosciences Bureau, Lands Management Bureau.

The DENR coordinates various national/local activities of the Inter-Agency Steering Committee on Environmental Education with members from the aforecited R.A. 9512 institutions, including the Philippine Information Agency, National Economic and Development Authority, Philippine Association of Tertiary Level Educational Institutions in Environmental Protection and Management, Philippine Association of Colleges and Universities, Catholic Educational Association of the Philippines, Local Government Academy, Philippine Business for the Environment, Civil Society Counterpart Council in Sustainable Development, and the Philippine Federation for Environment.

The Environmental Management Bureau Regional Offices, initiated the convening since 2010 of Regional Inter-Agency Committees on Environmental Education, to work towards the regional implementation of the National Environmental Education Action Plan for SD as the Roadmap to the implementation of R.A. 9512 (Environmental Education and Awareness Act of 2010).

ii. Department of Education (DepED)

The Department of Education has integrated and enriched climate change concepts in the basic education curriculum particularly for subjects like Social Studies; Technology and Livelihood Education; Values Education; Music, Arts, Physical Education and Health; Filipino and English. Environmental concepts have been integrated in elementary education: soil, water and air pollution and ways of protecting soil, water and air; importance of maintaining the beauty of scenic spots; describing the environment of home environments and that of Filipino communities; significance of helping one another to achieve goals in the schools and community particularly for programs such as Clean and Green, Waste Management, Bantay Kalikasan, Kontra Kalat sa Dagat; health and environmental protection; avoidance of diseases and sicknesses by maintaining a clean environment; growing of vegetables and composting to protect the environment and support livelihoods.

In secondary education, examples of environmental concepts integrated into the curriculum are: chemical processes involved in environmental pollution, and biological and environmental aspects of colloids like aerosol sprays, smoke, etc.; geography and global phenomena such as global warning, El Nino, etc. and issues relating to the use of technology in ecological problems, transfer of technology; coordinate system of indigenous practices and environmentally-sound technologies that can lead to adaptation and mitigation responses to climate change; human activities that can lead to increase in greenhouse gas emissions such as widespread deforestation, rise in industrial activities all smoke from vehicles, waste management.

The Department of Education produces lesson exemplars on ESD in both basic education and alternative learning modalities. These lessons integrate environmental concepts for elementary education subjects in Filipino, English, Edukasyong Pantahanan at Pangkabuhayan. They have currently been produced as just single copies, and areawaiting funds for reproduction. The Department of Education also works closely with Department of Science and Technology's Science Education Institute which has developed "computer-aided instructional materials which feature simulations, animated graphics and images of selected lessons in elementary science and mathematics" (SEI website) through simulation lessons, the students experience something closely related to real life. They involve "the learners in a vicarious experience of events or processes, thus engaging the pupils to different fascinating, and virtually realistic opportunity to learn about" (ibid) matter, energy, environment, etc.

The Department of Education Bureau of Alternative Learning System (ALS) has produced self-learning modules in print and non-print formats which infuse environmental concepts. Further, nine of the Alternative Learning System core modules were converted into digitised form as follows: Environmental Causes of Diseases; Let's Clean Up the Environment; Wanted: Clean and Fresh Air; the Cost of Environment Degradation Using Scientific Method in Agriculture; the Ecosystem; Balance in Nature; Think Green; and Composting. Alternative Learning System core modules on ESD have been digitised, reproduced and distributed to community learning centres all over the country.

The Youth for Environment in Schools Organisation Camp has integrated ESD in its annual camp initiatives. The youth camp is a joint undertaking of the Department of Environment and Natural Resource and Department of Education. It serves "as a venue for the young and their mentors to

strengthen their personal environmental advocacies; discuss issues and urgent concerns that need to be addressed; learn facts and tools with which to approach recurring problems that threaten our environment; and advance and crystallise significant actions amidst the vast expanse of environmental protection and rehabilitation" (DENR, 2009).

iii. Commission on Higher Education

Pursuant to R.A.9512, the Commission on Higher Education (CHED) has enjoined all higher education institutions to integrate EEn into the curriculum, which has occurred most noticeably within the Civic Welfare and Training Service component of the National Service Training Programme (CWTS-NSTP). CHED, Department of National Defence and Technical Education and Skills Development Authority issued *The Minimum Standards for the NSTP Common and Specific Modules*. The minimum standard for the common module for all 3 components of the NSTP — Civic Welfare Training Service, Literacy Training Service and Reserved Officer Training Course includes Disaster Risk Reduction and Management Awareness, Environmental Protection and Other National Security Concerns such as Peace Education.

With the realisation of the need for individuals to have proper training on environment, CHED, in cooperation with its Technical Panels and Technical Committees has rationalised the Bachelor of Science in Environmental Science (BS ES) via the issuance of CHED Memorandum Order (CMO) 35, series of 2005. Further, CHED has awarded the Centre of Development in BS ES to Ateneo de Manila University in 2006, and has supported and funded their project, "Risk Assessment, Management and Recovery of Disaster-Affected Aquatic Ecosystem".

CHED underscores the inclusion of subjects in safety, waste management and environmental laws in the curricula such as, BS Chemistry (CMO 18, series of 2007), BS Biology (CMO 24, series of 2005), and BS Geology (CMO 35, series of 2008). Also, Environmental Engineering has been integrated under the Basic Engineering subject of the curricula of all engineering programs.

The following are CHED's issuances regarding the Programs and Standards of the Engineering Courses. Per CMO 35, BS Sanitary Engineering, aside from Environmental Engineering subject, Environmental Management, Solid Waste Management, Wastewater Management, and Environmental Engineering are among its fields of specialisation. In BS Architecture, one of the topics under the Natural Sciences subject is Science, Environment, and Society. Energy efficiency is also emphasised in the course outline, pursuant to CMO 61, series of 2006.

The revised undergraduate Teacher Education curriculum (CMO No. 30, s. 2004) prescribes special topics courses including Environmental Education. These special topics are in addition to General Education courses, and specialisation/content courses that are entry points for ESD e.g. social studies, values education, biological sciences. Environmental Science, Environmental Protection and Teacher Education have been set as one of the priority themes in CHED-funded-research as stipulated in the National Higher Education Research Agenda 2 (NHERA 2, 2009-2018). Thirty seven researches were funded from the years 2000 to 2009, and CHED allocated a total amount of P24 million to subsidise the researches, particularly for the said theme, through Grants-in-Aid Project. In pursuant to Executive Order No. 774, CHED spearheaded the conduct of an inventory of the flora and

fauna in the terrestrial and marine ecosystems in the country, mobilising its Zonal Research Centres and Program Cluster Implementers to facilitate the conduct of the said inventory. The same were used to establish the Biodiversity Database.

The continuing conduct of the National and Regional Search for Sustainable and Eco-friendly Schools and the Mini-Carbon Olympics for Schools continue to inspire schools as they aspire to be recognised as Green Schools. Education for Sustainable Consumption can be incorporated as one of the specific criteria under the existing broad criteria of Sustainability of School Initiatives in the competition instrument. This is an opportunity to modify the ESD slogan of "Think Globally, Act Locally" to an ESC slogan of "Think Green, Act Green towards Sustainable Lifestyles". Closely following this advocacy is the Philippine Association of Tertiary Level Educational Institutions in Environmental Protection and Management is an association of higher educational institutions established in 1995 focuses on promoting environmental education and management through information exchange, capacity building, curriculum development, collaborative programs on instruction, research and development. The Philippine Association of Tertiary Level Educational Institutions in Environmental Protection and Management will soon be linked to the Global Universities Partnership for Environment and Sustainability, a global network of universities in time for its annual assembly in 2015 celebrating 20 years of existence. On the other hand, the Greeneration movement for youth has been initiated by the Climate Change Commission to foster awareness for climate change adaptation, climate resiliency and disaster risk reduction through the promotion of sustainable lifestyles.

For local governments, the Local Government Academy of the Department of the Interior and Local Government has included as part of its Centre-based program for local government units, the Training on Social Transformation through Environmental Program for Effective Waste Management. This training aims to capacitate participants with new and effective ways to address the problems of Solid Waste Management. It focuses also on the significant roles of the individuals and households zeroing on the challenge of raising their awareness to become active partners in Solid Waste Management programmes.

iv. Technical Education and Skills Development Authority (TESDA)

The Tech-voc curricula has variosu ESD initiatives, including: Galing Mekaniko Program of Cagayan, a skills training on the repair and maintenance of 4-stroke motorcycle which is low carbon monoxide emitting compared to the traditional two-stroke motorcycles; in 2009, Cagayan also conducted a Forum on Global Warming and Climate Change for the trainees of the Regional Training Centre and private technical and vocational education institutions.

TESDA Region IV-A provided technical expertise in the Random Roadside Inspection of Mobile Air Conditioning System of motor vehicles in the region. TESDA Region VIII integrates environmental awareness topics during the conduct of Training Induction/Job Induction Program of TESDA training institutions, and in the technology and vocation education curriculum, pursuit of solid waste management and 5S programs, fabrication of a multi-purpose shredder machine with an operations manual, visit to shop grantees of the National Chloro-fluorocarbon Phase-out Program to encourage their Refrigeration Air-Conditioning technicians to undergo free competency assessment.

TESDA, through selected schools of arts and trades and provincial training centres, has produced the following: video materials on ozone science for refrigeration and air-conditioning sectors; module on repair and retrofitting air conditioning and refrigeration, and recovering and recycling in these same sectors; power-point slides on basic occupational safety and health; composting kit; module on fabrication of shredder for composting; poster on energy conservation and good housekeeping. However, all of these materials are generally in single or very few copies. A milestone conference on ESD hosted by the Philippines is the 16th IVETA-CPSP International Conference on ESD in the Technical Vocational Education and Training (TVET) held November 2011 in Manila. It was aimed at the following: (a) integrating ESD in TVET platforms; (b) facilitating interest and commitment towards ESD; (c) cross-sharing of experiences, best practices and approaches; and (d) examining the potential of "Greener" TVET.

v. Department of Science and Technology

The Department of Science and Technology provides scholarship grants for graduate studies on Environmental Science, generates a number of technologies and provides technical services to industry, supports the conduct of development of environment-related studies and implements projects which have significant effects in our environment such as topics on industrial waste materials, heavy metal contamination, mineral production, assessment of soil conservation, development of different products like non-fibre membrane for wastewater treatment and coco peat filter bed for treatment of heavy metals, among others – additionally, the Philippine natural dyes and natural fibres research and development programme.

The Department of Science and Technology's Philippine Science High School system and the Special Science High Schools of the Department of Education, under the newly-instituted K-12 curricula, has included "Environmental Science as an elective subject. It deals with major environmental problems and seeks to inculcate in the students, the need to solve these problems. Its curriculum includes major science concepts and environmental issues/concerns about the atmosphere, hydrosphere, lithosphere, energy resources and waste management" (Senate of the Philippines 2011).

vi. Philippine Information Agency

The Philippine Information Agency provides media coverage and advocacy support to protected area management, celebrations such as environment month, National Disaster Consciousness, Earth Day, Search for Clean and Green Programs, International Day for the Ozone Layer Protection, rehabilitation of Mt. Mayapay in Caraga, Gawad Pangulo sa Kapaligiran, Gawad Probinsiya sa Kapaligiran, DENR People's Hours. It also supports various fora on ESD such as global warming/climate change, environmental sanitation, dialogue on illegal logging, media summit on eco-tourism, and orientation of smoke-free city in Surigao Del Sur. Other information support extended by the Philippine Information Agency include the airing of television plugs on disaster preparedness (three times a day/for 182 days) over Catanduanes Community Television Network, preparation of 32 print/618 broadcast releases and radio airing of green Philippines/climate change materials, 8 print/141 broadcast releases and radio airing of mining related materials. PIA provides promotion and publicity support, advocacy planning, and technical assistance in the production of IEC materials to various activities implemented on climate change and global warming, water

conservation/ clean and safe water, hazardous waste contamination/solid waste management, disaster management, green industry campaign, Clean Air Act, Airshed Governing Board, typhoon and flood awareness.

C. Overall Assessment for Mainstreaming ESC in the Philippines

The overall assessment of government capacity to mainstream ESC is highly positive. Institutional arrangements are in place and can be optimised to push an ESC agenda. However, it entails putting the act together and overcoming issues and constraints that were revealed in the course of this research. We need to evaluate the issues; determine general and specific capacities of actors to implement a viable ESC agenda in the country. The response in the interviews indicated that ESC will not be vested in a single agency or body because to the question of whom they view has the highest responsibility to achieve SD (circular economy, low-carbon development, green growth), the majority of the respondents, on an individual basis, checked all the boxes. In large measure, priorities haven't been sufficiently established in terms of environmental protection and conservation. It was observed however that EE/ESC/ESD is partly institutionalized, but there are some gaps, and interventions in terms of programs will need to be implemented to for it to be mainstreamed.

To effectively mainstream ESC in the Philippines, several issues and constraints still need to be overcome by government, business and industry and civil society as follows:

- Majority of the Filipino population are low to middle income group. Concern for the
 environment is not yet highly ingrained to the public. Major efforts are underway however to
 integrate environmental protection and conservation in the national consciousness.
- No subsidy for products that use eco-friendly technology. Use of market-based instruments
 to foster awareness and promotion of eco-friendly products need to be in place. Currently,
 these are sporadic initiatives not yet widely institutionalised
- Issues on self-sufficiency/ poverty and being a developing economy; inaccessibility and unaffordability of basic goods that most people need are still experienced by some segments of society
- Low investment of the government on science, technology and research i.e., life cycle analysis; low-carbon technologies however are slowly being introduced
- Need for consolidated efforts following a road map for Green Growth that will have sustainable consumption as one of its pillars
- A less enlightened consumer base that is not focused on sustainability efforts. Efforts spearheaded by the National Consumer Affairs Council, a section in the Department of Trade and Industry, is minimally supported spending only for office operations, and thus, minimal training activities

Correspondingly, development of capacities needed for the mainstreaming still need to be addressed by the different sectors. These capacities will contribute to the synergies required in operationalizing the priority actions towards mainstreaming ESC in the Philippines. At present, strategies for promoting ESC are largely initiatives in response to EE/ESD and not necessarily termed as ESC. Respondents in the interviews have rhetorically asked what ESC supposedly covers.

Table 4. Capacities to develop and Priority Actions Needed for ESC Mainstreaming in the Philippines

V. Recommendations for improving the Practice of ESC in the Philippines

A. Promotion and Strengthening of Current Practices Relevant to ESC

- Promote sustainable application and usage of renewable energy and ecologically-efficient technologies as major components of ESC/ESD.
- Intensify waste segregation and improve waste management at all levels, i.e. source, discard, recovery, composting and recycling.
- Recognize the important catalytic role of Local Government Units (LGU's). The role of the Local
 Government Unit is important, especially in raising consumer awareness. Towards this, broadcast
 and television as media would be a good channel for mainstreaming. It will play a great part in
 influencing attitudes.
- Promote organic agriculture. People are actually willing to pay more for organic products. Hopefully, this niche market will be expanded through time.
- Promote a unified and common understanding of ESC that is understandable by the different sectors within the context of the different environmental laws that have been promulgated.

Integrating ESC into the National Environmental Education Action Plan (NEEAP). Environmental
education is considered as among the more important strategies for sustainable development for
it plays a crucial role in bringing about greater understanding and appreciation of the multifaceted character of environmental issues.

B. Policy strategies on Mainstreaming ESC

- The country needs a clear road map to sustainability for the government to be strategising for the long term in the direction of EE/ESC and ESD. This should involve various government Departments, i.e. environment, education, trade and industry, agriculture, science and technology, socio-economic planning, especially as initiatives are all anchored on combating climate change and promoting climate resiliency and adaptation to climate change.
- Crafting of a National Action Plan for ESC which subsumes the theme of environmental sustainability is recommended. This will require intergovernmental coordination and could be spearheaded by the Philippine Council for Sustainable Development, mobilising its various committees and subcommittees. Initial activities would be the convening of a National Forum on Education for Sustainable Consumption and Production.
- Towards this end, an immediate doable action is the filing of a House Resolution in the House of Representatives, which Rep. Piamonte of the A Teacher Party List will sponsor on the importance of mainstreaming education for sustainable consumption, and calling all stakeholders to participate in a round table discussion that could harmonise points raised during interviews with different sectors. A generic framework is needed, then cascading into specific initiatives that will address specific sectors and areas.
- Need for more research and database. "Scientific evidence has traditionally played a prominent role in environmental policy formulation. This is the domain of e.g. Life cycle assessment studies and related concepts. Such tools are based on technical and 'hard' data, such as carbon footprints, while paying less attention to the 'soft' data related to consumption patterns, such as lifestyles, values and attitudes, or consumer biographies" (IOW/IES/SIFO 2009). A sound evidence base is important to rally people behind green products and for them to utilise and consume it.
- Make ESC socially sustainable and socially desirable. "Another new element in public policies to promote sustainable consumption is a more explicit consideration of the social dimension of sustainability. As far as our empirical work reveals; however, this is not the case yet. Policies still mainly address environmental problems of consumption, while the social dimension of current consumption patterns, such as the working conditions in upstream stages of the product life cycle or the terms of international trade, have not yet been captured to the same extent" (IOW/IES/SIFO 2009). Use of social media should be prioritised in making ESC a desired situation at individual level and societal levels.
- ESC needs to be "properly founded by acknowledging household consumption as an explicit policy domain. Building upon that, the policy approach taken should enable policy makers to take flexible roles, integrate relevant stakeholders in an appropriate way, and establish an institutional framework that supports effective policy implementation" (IOW/IES/SIFO 2009).
- Consumption must be addressed "not only as an individual (buying) behaviour, but rather as a social process, that refer to best available evidence and, finally, that take environmental and social requirements into account" (IOW/IES/SIFO 2009).

 Sustainable consumption policies need to be periodically evaluated and monitored against a comprehensive set of criteria

C. Recommendations for Improving Philippine capacity for ESC implementation

- Levels of knowledge and capacity development for all the major stakeholders must be addressed and this knowledge must be accessible to all sectors at the national and local levels.
- Priorities need to be established on what sector to push for ESC. Most of the interview respondents indicated energy, water and food products as priority for ESC. In this light, we need to push for the approval of bills pending in Congress such as the Philippine Energy Efficiency Bill, the National Green Building Code, and a National Renewable Energy Program to implement the Renewable Energy Act.
- Institutionalise EE/ESC/ESD at all levels of education. Since the DENR through the Environmental Management Bureau-Environmental Education and Information Division is initiating and sustaining EE programs directed at the various academic institutions, an EE/ESC/ESD focal person or EE/ESC/ESD Desk to be instituted/identified at the central and regional offices of the trifocal agencies i.e. the Commission on Higher Education, Technical Education and Skills Development Authority and Department of Education to manage and monitor the planning and synergise implementation of these activities. Encourage more participation of schools in eco-friendly and sustainable schools competition.
- Encourage high environmental performance of the business sector through the Philippine Chamber of Commerce's triple E Environment, Ecology and Economy awards and the DENR's Partnership for Environmental Protection Program.
- Develop policies that would encourage or favour green or sustainable production. Sustainable
 consumption (demand) can be attained with ample volume of sustainable production (supply).
 Alternatively, policies need to be crafted to phase out unsustainable products.
- The green procurement program of the government must be promoted and sustained by government entities themselves. Recently, MOU's with 8 government agencies have been signed with the Philippine Centre for Environmental Protection and Sustainable Development Inc. to require their respective suppliers to provide eco-labelled products. This kind of consciousness must be fostered and promoted by government so that there will be a change in mentality. That however cannot be achieved overnight.
- To facilitate the mainstreaming of ESC, a timely intervention is to envision PCEPSDI to evolve into a national clearing house, for knowledge and information, and for that knowledge to be managed as a centre for information, that would have to be part of a national action plan for sustainable consumption and production. This will answer a need from small businesses and industry on where to obtain information, i.e. how to proceed with cleaner production. One of the major competencies needed would be life cycle analysis. Especially because the emphasis in manufacturing now would be 'low carbon emission' development of manufactured goods and services. The National Eco-labelling Programme—Green Choice programme needs to be strengthened. Ideally, Life Cycle Assessment's should become like a nutritional label on the product, but providing information instead on its carbon footprint to help the consumer make an enlightened choice and decision. The Board of Investments, under the Department of Trade and Industry, may opt to prioritise investments on green products.

It is imperative that with the end of the Decade for Sustainable Education in 2014, new approaches will have to be found to sustain the gains of the past decade on promoting ESD. ESC can be the appropriate rallying point for another decade of ESD public awareness efforts. In the Philippines, the entry of the country in the Global Green Growth Initiative augurs well for ESC. Dialogues can start at the Philippine Council for Sustainable Development especially so that the planned long-term Philippine Sustainable Development Action Plan (PSDAP) is now in the offing and is a rolling plan that will be implemented in phases with corresponding strategies each phase. The PSDAP will be aligned with the Philippine Development Plan 2011-2016 and will serve as guiding post for short and medium term plans that will be developed in the covered period. Philippines Council for SD is headed by the National Economic and Development Authority Director General and can then mobilise the appropriate committee/subcommittee to be involved, i.e., the IEC Committee is chaired by the Environmental Education Division of the Environmental Management Bureau.

Policy-wise, it would be prudent to combine and synergise efforts and initiatives from government, business and industry, nongovernment organisations, academe and the public to determine and attain the needed critical mass to effectively achieve a positive shift towards public readiness and acceptance of education for sustainable consumption and, ultimately, for sustainable lifestyles to become common behaviour and be mainstreamed into Philippine society.

References

- Chiu, S.F. (2012). *Green Economy and Sustainable Consumption and Production (SCP) in the Philippines*. Proceedings Global Research Forum on Sustainable Consumption and Production Workshop, June 2012, Rio de Janeiro, Brazil.
- Climate Change Commission. (2011). *National Climate Change Action Plan 2011-2028*. Climate Change Commission: Manila.
- Climate Change Commission. (2011). *Philippines Research and Development Agenda in support of the National Climate Change Action Plan Strategic Priorities* (2011-2028). CCC: Manila..
- de la Cruz, C.C et al. (2009). *Development of a Green Building Rating System for the Philippines*. Philippine Green Building Council: Manila.
- Guzman, R. & R. Guzman. (2000). *Environmental education for sustainable development*. Wisdom Advocates Publishing: Manila, 291 pages.
- Institute for Ecological Economy Research (IOW), Institute for European Studies (IES, The National Institute for Consumer Research (SIFO) IOW/IES/SIFO (2009) *Promoting Sustainable Consumption New Policy Approaches*. Policy Brief. IOW/IES/SIFO.
- Lim M.L.D (2013) Institutional Coordination for Green Growth in the Philippines, prepared for the Session 3 Institutional Coordination for Green Growth of GGCP Workshop in Bogor, Indonesia.
- National Economic Development Authority. (2011). *Philippine Development Plan In Pursuit of Inclusive Growth.* 2011-2016. NEDA: Manila.
- Quezon City Government (2011) *Green Infrastructure Rules and Regulation*. The Department of Building Official Quezon City Government: Quezon
- Riguer, M.G.L. (2011). *Generating Green Jobs through Green Procurement*. ILS Discussion Paper Series 2011. Institute for Labor Studies: Manila.
- Senate of the Philippines (2011) *Updates on the Implementation of Laws*. Fourteenth Congress 2007-2010. Pasay City.

Websites:

Climate Change Commission of the Office of the President of Philippines. Retrieved December 2013 from www.climate.gov.ph

Commission on Higher Education. Retrieved December 2013, from CHED: www.ched.gov.ph

Department of Agriculture, Bureau of Agricultural and Fisheries. Retrieved December 2013, from BAFPA: http://bafpa.da.gov.ph

Department of Agriculture, Bureau of Agriculture and Fisheries Standards. Retrieved December 2013 from Bafpa: www.bafps.da.gov.ph

Department of Education. Retrieved December 2013, from DEPED: www.deped.gov.ph

Department of Environment and Natural Resources 2009 *EBNRNewsletter*, April-June 2009; http://erdb.denr.gov.ph/publications/erdb/e-v3n2.pdf

Department of Environment and Natural Resources, Environmental Management Bureau. Retrieved December 2013 from EMB: www.emb.gov.ph

FPD Asia. Retrieved December 2013, from FPD Asia: http://fpdasia.net/newsupdates.html

National Economic and Development Authority. Retrieved December 2013 from NEDA: www.neda.gov.ph

Philippine Centre for Environmental Protection and Sustainable Development, inc. Retrieved December 2013 from PCEPSDI: www.pcepsdi.org.ph/ecolabel.html

Philippine Greenpages. Retrieved December 2013 from: www.philippinegreenpages.com

Philippine Sustainable Development Network. Retrieved December 2013 from PSDN: www.psdn.org.ph

PhilSTAR News. Retrieved January 2014 from: www.philstar.com/nation/archive/to-stories

Quezon City. Retrieved December 2013, from: www.donaimelda.quezoncity.gov.ph

Science Education Institute, Department of Science and Technology. Retrieved December 2013 from SEI: www.sei.dost.ph

Chapter 4:

Education for Sustainable Consumption in Thailand Current policy frameworks, implementation and governmental capacity

By Athapol ANUNTHAVORASAKUL, Chulalongkorn University

I. Introduction

At present, consumption patterns of humanity is crucially discussed as a root cause of environmental damage. As a developing country, Thailand is now facing the fragile transforming era of development paradigm and needs to revise the standpoint and direction in order to move towawards sustainability. This research was conducted to assess the situation and capacity of Thailand government and other sectors to implement Sustainable Consumption and Education for Sustainable Consumption in its context.

II. Overview of ESC

This research aims to (1) identify the existing policy framework strategies for promote sustainable consumption and ESC, (2) identify the existing strategies and mechanism for ESC implementation, (3) analyse lesson learnt from good practices in ESC implementation, and (4) assess the current situation and government capacity for ESC implementation. Qualitative approach was used for collecting data from both policy makers and ESC practitioners. Seven policy makers from two ministries and NPOs were recruited to be interviewed by purposive and snowball sampling. Concerned with the importance of sharing platform among practitioners, 30 informants from formal education and nonformal education and informal learning were invited to join the group interview in 5 regions. List of key questions were introduced to all interviewees before the interview, some interviewees allow researcher to share pictures of their own activities. Content analysis technique was used after data collecting process and tri-angulation technique was recruited for validity checking.

Box 1: Research method and key question for data collecting

Method

- Document Research
- In-depth Interview with Policy Makers
- Group Interview with Practitioners in Formal Education
- Group Interview with Practitioners in Non-formal Education and Informal Learning

Key Questions

- What are the key policies promoting ESC at national and organizational levels?
- Are there any linkage between national policy and organizational policy?
- What are the key policies on ESC initiated by your organization?
- How did your organization implement policies into practice?
- Who are the main targets and key agency in ESC implementation?
- What strategy and mechanism do you develop for ESC implementation? And how did they work?
- What are good practices and lesson learnt in ESC implementation?
- What are significant changes and results of your program or project on ESC?

Table 5: In-depth Interview Target for ESC Survey

Date	Status of Interviewees	Organisation		
7 th February 2014	Project Manager	Siam Commercial Foundation		
22 nd February 2014	Section Staff	Environmental Education Section		
		Ministry of Natural Resource and Environment		
27 th February 2014	Director	Environmental Education Section		
		Ministry of Natural Resource and Environment		
24th March 2014	Section Staff	Office of Educational Innovation Development		
		Ministry of Education		
27 st March 2014	Director	Office of Strategic Development		
		Ministry of Natural Resource and Environment		

Table 6: Group Interview Target with ESC Practitioners in Formal Education

Region	Date	Status of Interviewees	Organisation
North-eastern	14 th December 2013	Teacher	Wang Nam Keow School
		Teacher	Tha Lee Wittaya School
		Teacher	Rong Kam School
Northern	18 th January 2014	Teacher	Fang Chanoopatham School
		School Director	Bann Nam Min School
		Teacher	Bann San Pasak School
Central and	22 nd February 2014	Teacher	Ta Klee Prachasan School
Western		Teacher	Talingchan Wittaya School
		Teacher	Wat Srakaew School
Bangkok	1 st March 2014	Teacher	Klong Pittaya Longkorn School
Metropolitan and		Teacher	Nhong Kan school
Eastern		School Director	Anuban Wat Klongyai School
Southern	8 th March 2014	Director	Tassana Walaya School
		Director	Prik Municipality School
		Teacher	Prik Municipality School

Table 7: Group Interview Target with ESC Practitioners in Non-formal Education and In-formal Learning

Region	Date	Status of Interviewees	Organisation
North-eastern	14 th December 2013	Network co-ordinator	In-Paeng Network
		Director	Tum-Home Center
		Trainer	Asom Energy
Northern	18 th January 2014	Community Leader	Baan Mahapothi
		Director	Public Health and Environment Section, Nan Municipality
		Community Leader	Baan Samkha
Central and 22 nd February 2014 Western		Leader	Pak Prasarn Jai Group (Vegetable- Link)
		Leader	Love Thachin Club
		Leader	Bang Krabue Community
Bangkok	1 st March 2014	Plan Manager	Thailand Environment Institute
Metropolitan and Eastern		Leader	Lamphu Bangkrasob Environmental Conservation Group
		Staff	Foundation of Environmental Education for Sustainable Development
Southern	8 th March 2014	Director	Kon Rak Thin Association
		Leader	Learning Center on King's Discipline
		Director	Educational Section Prik Municipality

III. Relevant Policy Frameworks on Sustainable Consumption and Production (SCP) Sufficiency Economy Philosophy (SEP) and Education for Sustainable Consumption (ESC)

A. Policy Frameworks on SCP

For years, Sustainable Consumption and Production (SCP) have been discussed in the process of policy making at different level. Responding to global development agenda, Office of the National Economic and Social Development Board had introduced the concepts of both SCP to the 11th National Economic and Social Development Plan (2012-2016) through relevant concepts such environmental-friendly, eco-friendly and low-carbon-society. Those concepts were replicated in many parts of the plan including vision, mission, objective and also development strategy.

In 2011, the new government proposed the "Country Strategy" to the public. Green Growth was one of the key strategies that the government aims to mainstream. Two years later, the Ministry of Natural Resource and Environment declared its own Strategic Plan (2013-2018) to support government achieves goals on Green Growth. Term of "Environmental-friendly low carbon society" was used in the strategy 14 where "Promote environmental-friendly consumption, production and service" was initiated as a flagship project with two main activities. Vertical linkage among National plan, Government Policy and Ministry's Strategic Plan presented Thailand has a strong policy support to implement SCP.

Box 2: Sustainable Consumption in National Economic and Social Development Plan

The Eleventh National Economic and Social Development Plan (2012-2016)

Vision

"A happy society with equity, fairness and resilience."

Missions

(3) To enhance the efficiency of production and services based on local wisdom, knowledge, innovation and creativity by developing food and energy security, reforming the structure of the economy and consumption to be environmentally friendly, and strengthening relations with neighbouring countries in the region for economic and social benefits.

Objectives

(3) To develop efficient and sustainable economy by upgrading production and services based on technology, innovation and creativity with effective regional linkages, improving food and energy security, upgrading eco-friendly production and consumption toward a low-carbon-society.

Development Strategies

(5.2) Development of the lifelong learning society.

(5.2.2) Develop human resources aimed at increasing resilience for change.

Quality of Thais at all ages will be increased. Skills for lifelong learning will be developed focusing on knowledge, innovation, and creativity, and based on the development of five minds—disciplined mind, synthesized mind, creative mind, respectful mind and ethical mind in order to be capable of working in various jobs over a lifetime, relevant to the changing labour market. People will be instilled with the values of social responsibility, respect for the law, human rights, environmentally friendly production and consumption, and learn to cope appropriately with climate change and disasters.

B. Policy Frameworks on Sufficiency Economy Philosophy (SEP)

World-widely known as an initiative of His Majesty the King Bhumipol Adulayadesh, Sufficiency Economy Philosophy (SEP) had been integrated within the National Economic and Social Development Plan since 2002 as a core pillar. For decades, SEP's Model has been implemented in various sectors not only agriculture, but private sector, household and education sector. The three dimensions of Sufficiency, Reasonableness and Self-Immunity with two conditions of Knowledge and Virtue are now recognised by people nationwide. It was so-called SEP is the answer of Thailand to global call on Sustainable Development. Based on the agricultural background of the philosophy, SEP was firstly debated on its limit to be implemented in community and rural development. Through the years, development practitioners from different sectors have worked collaboratively to approve that it can be used to improve quality of life in various setting including tourism, modern office, global business and schooling. With these reasons, SEP now is integrated to multi-level policy development and promoted continuously through formal education, non-formal education and informal learning.

Box 3: Sustainable Consumption in Ministry's Strategic Plan

Ministry of Natural Resource and Environment's Strategic Plan (2013-2018)

Strategy 14

Promote new consumption pattern towards "Environmental-friendly low carbon society"

Flagship Project No.5

Promote environmental-friendly consumption, production and service

Key activities

Activity 1: Build a new paradigm and change people behaviour towards Environmental-friendly consumption and production society

- Promote understanding and awareness on usefulness of environmental-friendly consumption and production
- (2) Promote knowledge and network of environmental-friendly consumption and production
- (3) Communicate and promote environmental-friendly consumption and production Activity 2: Promote Environmental-friendly production and service
- (1) Promote and support of consumption environmental-friendly product and service in each sector
- (2) Promote and support business sector concern with the importance of environmental-friendly consumption and production
- (3) Develop approval and certified system including criteria and standard of environmentalfriendly product and service, and promote increasing market share of environmentalfriendly product and service

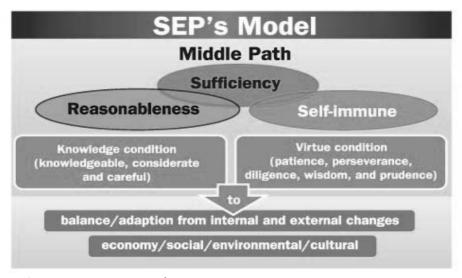


Figure 6: SEP Framework

C. ESC in Basic Education Curriculum

Sustainable Consumption (SC) has existed in Thailand Basic Education Core Curriculum B.E. 2551 (A.D. 2008) concretely. Term of "Sufficiency Living" has been introduced countrywide as a goal and a desirable characteristic in Basic Curriculum and the contents of SC and "Sufficiency Economy" has been introduced in Basic Curriculum through Social Studies (in the sub group of Economics), Science and Career Education and Technology subject group at Primary and Secondary levels.

Table 8: Example of Sustainable Consumption relevant Learning Standards and indicators in Science at Primary Level (Grade 6)

Core Group	Science
Sub-group	Life and Environment
Learning Standards	Standards Science 2.2 Understand the importance of natural resource and utilisation of natural resource at local national and global level, and implement knowledge in natural resource management sustainably
Learning Indicators (Grade 6)	 Search for data and discuss on how natural resource in each area value in living Analyse on how population growth impact on natural resource utilisation Discuss on result of natural and man-made change in environment in living community Discuss on proper approach to protect natural resource and environment Participate in Local Environmental Protection

Table 9: Example of Sustainable Consumption relevant Learning Standards and indicators in Social Studies at Primary Level (Grade 4-6)

Core Group	Social Stud	Social Studies			
Sub-group	Economics				
Learning Standards	- Uı - Us	Social Studies 3.1 - Understand and able to manage resource for production consumption - Use limited resource effectively and efficiency - Understand the principles of Sufficiency Economy for living in balance			
Learning Indicators					
Grade 4		Grade 5	Grade 6		
I. Identify factors of buying product and service Identify consumer's rights and benefits Explain the principles of		Identify factors of producing product and service Apply the principles of Sufficiency Economy in daily life at family, school and community level	Explain role of responsible producer Explain role of smart consumer Explain method and profit of Sustainable Resource Utilisation		

IV. Institutional Structures for Implementation ESC

At the implementation stage, institutional structure and mechanism of both government and NGOs sector are developed for ESC practices. Thailand's government organisations play its significant role to pilot and expand ESC while NGOs and business sectors have strengths to support ESC practice in many aspects for example budgeting, academic and technical support. Institutional structure and mechanism for ESC differ to type of policy and key stakeholder who take role as a focal point (see table below).

Table 10: Different institutional structure and mechanism for ESC implementation in Thailand

Policies	Int'l Structures/Mechanisms	Status	
Policy Frameworks on SCP	Ministry of Natural Resource and Environment	Government Organisation (GOs)	
Policy Frameworks on Sufficiency Economy	National sub-committee to Mobilising Sufficiency Economy	Multi-sector network of GOs	
Philosophy (SEP)	Collaboration committee between Ministry of Education, The Crown Property Bureau and Siam Commercial Bank Foundation	Multi-sector network of GOs, NGOs and Private Company	
ESC in Basic Education Curriculum	Office of Basic Education Office of Educational Innovation Development Ministry of Education	GOs	
	Department of Environmental Quality Promotion Ministry of Natural Resource and Environment	GOs	
	Collaboration committee on Green School Project	Multi-sector network of GOs, NGOs and Private Company	

V. Practice and Implementation of ESC

A. Sufficiency Schools Project

Sufficiency School Project is one of the most nationwide successes in mobilising of Sufficiency Economy Philosophy to Education and Youth Development. Based on three principles Volunteer Mind, Participation and Bottom-up, the project aims to develop an appropriate approach for Sufficiency Economy Education and embed Philosophy of Sufficiency Economy to Schools and Educational System. Key strategies to achieve its goals are (1) Capacity Building for Teachers, Supervisor and Teacher Educators, (2) Knowledge Management via face-to-face interaction and online platform and (3) Monitoring and Evaluation. At the present it has developed 135 Model Schools as a Learning Centre at the provincial level and produced sets of educational products for instance Curriculum Material, School Guidelines, Books, Lesson Learned Summary and Research valuable for schools in different contexts including remote areas as well as large schools in the urban settings.

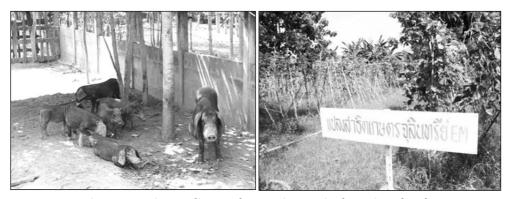


Picture 1: Sharing Platform of Sufficiency Schools

For decade, it has expanded its network from 8 schools in the first year to 800 schools in 5 years of piloting phase (2007-2011). With the strong trainer team, supporting team and Knowledge Management system, now it aims to scale-up to 9,999 schools by 2016.

B. School Feeding Program

This program was first introduced by HRH Princess Sirinthorn aims to encourage enrolment of poor students in the remote areas, who are undernourishment due to poverty. Now this program is supported by Thai Government via Local administrative organisation with the small budget. So, schools have responsibility to provide the free school lunch program by themselves. The *new theory on agriculture under His Majesty the King Bhumiphol's philosophy of Sufficiency Economy* is suggested to the schools which conduct the school feeding program now. It proposes the effective way to school sustaining their feeding program within Sustainable Resource Management concepts but there are some schools still weak in the Whole School Approach supporting the program.



Picture 2: Pig Feeding and EM using agriculture in school



Picture 3: Bamboo Shoot Planting Site and Pond for Catfish Feeding



Picture 4: Non-chemical rice production from the first step to packaging at last



Picture 5: Herb Garden and Chicken Feeding over the catfish pond

C. Strengthening Environmental Education in Thailand (SEET Project) (the New Phase)

The Office of Educational Innovation Development is one of the key actors for Environmental Education community in Thailand. *Strengthening Environmental Education in Thailand (SEET Project)* is known as its successful project to improve quality of education through school EE program. With the flexible approach of WSA (Whole School Approach) SEET project locates itself as an entry point for innovation piloting and implementation. During 2011-2013, SEET project has launched on the campaign "Green Product and Green Movement in Schools". Based on its experience of EE program in school, SEET provide sets of knowledge in various topics to network school such as Life Cycle Assessment tools, Carbon Footprints, Criteria and self-assessment for Green School and curriculum material. Trained Supervisor in the project play their important role to support and coach new school in their network. Monthly visiting is required for supervisor while member schools will be provided training by mobile trainer team including experienced teacher, supervisor and school director. Now it has 200 schools approximately involved in this project.

D. The Eco-School Project

Eco-school Project was initiated by Department of Environmental Quality Promotion (DEQP), Ministry of Natural Resource and Environment in January 2008. DEQP had experiences on Environmental Education (EE) in school for more than fifteen years. Most of their works are support the provincial centre on Environmental Education (PCEE). Similar to other EE projects, DEQP faced that it's impossible to produce 'One Model' for every school. Various projects launched by each PCEE reflect the context of EE learning in different places. EE teachers commented that it's necessary to select the appropriate learning topic to integrate to school curriculum and also it was need to simplify the knowledge on resource management and ecosystem to daily life based activities. With the piles of lesson learned, Eco-school project challenged EE teachers to step up their EE experiences with five topics: (1) Waste and Pollution, (2) Biodiversity, (3) Climate Change, (4) Environmental Conservation, and (5) Cultural Conservation and Local Wisdom. The Whole School Approach was introduced in the guideline and Eco-school indicators. The first phase of project (2008-2010) includes 41 schools in 4 regions for piloting the model then move to the second phase of "Thematic and Areabased EE Model" in 38 schools in 4 provinces: Chiengrai, BuangKarn, Pathumthani and Krabi. Strength point for schools attending the Eco-school project is academic support of staff from DEQP in corporate with professor team from 4 universities including Chulalongkorn University, Chiengmai

University, Prince Songkla University and Udonthani Rajabhat University. Mentoring and Coaching through school visit activities, Monitoring and Evaluation with set of self-assessment instruments and educational innovation feeding are factors motivating school teachers and school directors who active involvement for quality education. From the end of 2013 DEQP work with Chulalongkorn University developed "Teacher manual on Eco-friendly Consumption" to introduce to its network within 2014.



Picture 6: 3R (Reduce-Reuse-Recycle) principle at implementation in School



Picture 7: Solar Energy demonstrated site in school



Picture 8: Grease Trap and 'Brew' Pool for organic fertiliser



Picture 9: 'Brew' bin for EM composting process and biomass fuel production

E. In-Paeng Network

In-Paeng Network is the biggest community of practitioners for community development based on the principle of self-reliance, sufficiency and non-chemical agriculture. Located in North-eastern region where most people face very severe conditions of agriculture in remote area. Desertification, soil erosion and flash flood are the key factors. With these reasons, people need to learn how to manage their land, natural resource and agricultural activities sustainably. More than 800 household in this network learn from each other and develop their own "Area-based knowledge" of sustainable consumption and responsible production. For decade, In-Paeng has played its role as a livable classroom so called "Villager University" for Thai Society.



Picture 10: Learning in Community, Community of Learning

F. Agri-nature Foundation

Agri-nature Foundation is nationwide network of eco-friendly agricultural new wave in Thailand. Aiming to promote a new paradigm of agricultural living sustainably and sufficiency, the foundation has rapidly grown by years. With hundreds of member organisation, learning centres and community, Agri-nature provides 11 training programs for different groups with its own knowledge and expertise on "SCP based on Sufficiency Economy Philosophy".



Picture 11: SEP Framework in practice



Picture 12: SCP based on Sufficiency Economy Philosophy

VI. Assessment of Current Approach to Promoting Sustainable Consumption

A. Strengths

- <u>Institutional Arrangement</u>: Multi-lateral Engagement: The common point to strengthen change of Consumption pattern towards Sustainable Consumption and Production is collaboration among multi-stakeholders with appropriate way to build-up multi-lateral engagement.
- Knowledge: Sets of Knowledge summary based on real practices are rich and fruitful.
 Transfer of knowledge should be prioritised for ESC mainstreaming

- <u>Accountability</u>: Based on each case, Monitoring and Evaluation System and Knowledge Management System are significant mechanisms to conduct and communicate between and within network. It is one key of success in ESC implementation
- <u>Human Capital</u>: Strong Team, Networking and Full Support from various organisations are strength of ESC community of practices to achieve their own goals.

B. Weakness

- <u>Leadership</u>: Strong leadership is still needed for mobilise the network and make change happen.
- <u>Assessing the internal-transformation</u>: Abstract question about "How to" evaluate to changes in learners' mind-set especially it relates to daily life activities which happen everywhere and every time.

VII. Recommendations for Improving the Practice of ESC in Thailand

- <u>General Practice of ESC</u>: Movement in ESC is still slow but SE is more popular and more familiar to people, so it brings about the big question on "How" can we make a bridge between global movement and local movement towards more sustainable future?
- <u>Policy Strategies of ESC</u>: At the national policy SC is expected to support for change but there
 are limit for cross-ministry implementation, Thailand ESC needs a platform of sharing both
 policies and practices.
- Needs of Capacity Building for ESC: In order to mainstream SE and Sustaining SE in whole Education System with quality, capacity building for ESC educator is crucially necessary.

References

- Ministry of Education Thailand. (2008) *The Basic Education Core Curriculum B.E. 2551*. Ministry of Education: Bangkok.
- National Economic and Social Development. (2011) *The Eleventh National Economic and Social Development Plan 2012-2016*, National Economic and Social Development Board, Office of the Prime Minister: Bangkok.
- Ministry of Natural Resources and Environment. (2013) Strategic Plan 2013-2018. MNRE: Bangkok.

Chapter 5:

Assessing Capacity for Education for Sustainable Consumption Implementation

A comparative analysis of three country case studies

By Paul OFEI-MANU, Institute for Global Environmental Strategies

The preceding chapters looked at institutional structures and capacities of governments of Malaysia, the Philippines and Thailand to facilitate ESC initiatives and programmes and attempt to integrate these efforts into national policies and development plans towards sustainability. Conclusions of each country case indicated strong foundations for the promotion of ESC in the respective country. However, certain implementation gaps and needs were also identified and recommendations made for them.

This chapter firstly gives an overview of some of the existing capacity assessment frameworks and then compares the three country cases to identify gaps in the system as well as opportunities to build human capacity and infrastructural resources, institutions, process and knowledge. Through this comparative analysis, common recommendations will be provided for national policies on strengthening ESC implementation relating to the three case study countries and ideally also to a wider number of similarly situated countries. It is notable to point out that even though the focus was on ESC, due to the often close association of ESC to SCP and sometimes to ESD in certain contexts, the analysis covered all three aspects in some situations.

I. Capacity Assessment Framework

As in any other field, a country's successful implementation of an ESC plan, strategy, project or programme is dependent on the level and strength of human and infrastructural capacity it possesses. In response to this, several capacity assessment frameworks have been developed over the years, notable among which include: the 5-C approach, the Managing for Development Results Capacity Scan approach, International Food Policy Research Institute capacity assessment approach, IGES ESD capacity framework and the United Nations Development Programme (UNDP) capacity assessment framework. Below is a brief description of these capacity assessment frameworks:

• The 5-C Approach: Developed by the European Centre for Development Policy Management, the 5-C approach assesses capacities at the individual and system-level levels in an organisation. This approach describes capacity as the meeting point of five central capabilities of organisations. They are the capability to a) commit and engage, b) carry out tasks, c) relate and attract resources and support, d) adapt and self-renew, and e) balance diversity and coherence (Baser and Morgan in Babu and Kolavalli, (2013)).

- Managing for Development Results Capacity Scan (MfDR CAP-Scan): This assessment approach by governments tries to identify the strengths and gaps during public sector capacity development. The process involves 4 capacity development stages namely awareness, experimentation, transition, and sustainable implementation. This is done in the context of five pillars or entry points: leadership, partnerships, planning and budgeting and statistics, monitoring and evaluation, and accountability (MfDR 2009).
- The International Food Policy Research Institute (IFPRI) capacity assessment approach: The International Food Policy Research Institute uses both supply and demand of capacity at the individual, organisation, and enabling environment levels to assess capacity for food policy research, analysis and implementation. This is against the backdrop that a country's demand for capacity is determined by its policy objectives which in turn are determined by strategies whose function include identifying the relevant contributing sectors and ministries responsible for policy planning design and implementation. Capacity supply measurement involves the following three-step assessment process: 1) identifying the players and organisations considered relevant, enumerating their capacities and assessing their efficiency, 2) identifying the specific capacity needs of each player and organisation at each level and stage and, 3) identifying how individuals and organisations interact in the policymaking arena (Babu and Kolavilli, 2013).
- The Institute for Global Environmental Strategies (IGES) Education for Sustainable Development (ESD) capacity framework IGES through its educational research on ESD implementation has developed an ESD capacity framework that can be used to assess individual country cases. The framework draws on the UNDP's capacity assessment framework components of change (namely institutional arrangements, leadership, knowledge, and accountability). Emphasising systematic review, the framework further consists of 1) input capacities to address the structural components that would ensure ESD implementation, 2) throughput capacities to address the framing of good ESD practice and its contents, and 3) output capacities that address quality of learning performance, the impacts ESD is having on learners together with appropriate accountability mechanisms and practices (Didham and Ofei-Manu, 2012: 88-9).
- The United Nations Development Programme (UNDP) capacity assessment framework The UNDP framework uses the refined capacity development approach. It is structured around the following five steps: 1) stakeholders engagement on capacity development, 2) assessment of capacity assets and needs, 3) formulation of capacity development response, 4) implementation of the response, and 5) evaluation of the capacity development (UNDP, 2010). Furthermore, UNDP uses three dimensions with which it assesses capacity needs. They are:
 - i. Points of Entry: It refers to the individual level, organisational level or the enabling environment level with the individual dimension relating to a range of abilities. It emphasises components such as inter-disciplinarity and process skills with influences from aspect such as attitude, perception, cultural orientation and

intuitive faculty as subjective determinants. The institutional capacity requirements underscore collective learning and institutional change and deals with multiple perceptions or world-views and understandings in addition to skills. The systemic dimension closely associates with 'enabling environment', and it comprises "appropriate policy and legal frameworks, a clear definition of institutional roles and mandates, widespread access to information", and also vertical linkages from which assessment can be initiated (UNDP, 2010; UNDP, 2008).

- ii. The core issues define the scope of the assessment and may include: "leadership, policy and legal framework, mutual accountability mechanisms, public engagement, and human, financial, physical, and environmental resources"; and
- iii. Five functional capacities: multi-stakeholder engagement/dialogue, situation analysis and vision creation, policy and strategy formulation, budget, management and implementation, monitoring and evaluation and b) technical capacities (UNDP 2008: 2).

The UNDP framework was chosen for this study because it is being adopted and applied in several sectors and fields including the education and DRR communities due to reasons including the following: 1) It is flexible and hence allows for adapting it to several capacity development situations, 2) It is able to link the three points of entry and hence promote a holistic user approach across the three, 3) it emphasises systematisation; for example a nation's assets, plans and strategies and expertise can be systematised and capacity development can be measured, 4) It emphasises adaptation to local conditions and hence discourages the use of rigid blueprints (UNDP, 2008).

Aspects of the core issues dimension in 'ii' will provide the main context for the discussion in this chapter namely: 1) institutional arrangements, 2) leadership, 3) knowledge, and 4) accountability. *Institutional Arrangements* consists of streamlined processes, clear definition of roles and responsibilities, merit-based appraisal mechanism, and coordination mechanism. It has significant relevance in governance, public sector management and several development activities. It tends to address the policies, procedures, systems and processes that countries have in place to operationalise their political mandates, development policies and objectives as a way to promote good governance. Recent calls have been made for spatial and temporal linking of institutional initiatives or programmes to enhance efficiency and impact by optimising procedural structures. By so doing, new procedures and programmes that are often developed without incorporation into previously existing ones, a practice commonly found in intra-ministerial and multi-agency work (UNDP, 2008; UNDP, 2010) will be minimised.

Leadership comprises clearly formulated vision, communication standards, management tools and outreach mechanism. It expresses itself at multiple ways and has vision, competence and integrity as its core elements. Effective leadership can manifest at the individual, group and organisational capacity levels and is thus capable of helping to advance a vision-driven strategic planning and agenda that is vision-driven. Capacity development strategies like strengthening the abilities of the organisation on vision setting, transparency, a sense of readiness, systems thinking, assessment of potential risks and managing them through establishing collective management systems that encourage learning (UNDP, 2008 and UNDP, 2010) are all seen to enhance leadership.

Knowledge is composed of research supply and demand linkage mechanisms, brain gain and retention strategies, and knowledge sharing tools and mechanisms and is considered as the core of capacity development. It includes knowledge enhancement and construction processes and use of different teaching approaches and in all settings of education. Improvement in expertise and organisational learning strategies, professional training, experience sharing and knowledge management systems in the organisations are some of the approaches to strengthen knowledge capacity (at this level). Societal level building of knowledge capacity is often best addressed through reforming formal education systems to ensure the acquisition of skills and knowledge by the younger generation in order to deal with current and emerging sustainability risks (Didham, 2011). Actionable knowledge can also be effected and facilitated through "organisational networks, communities of practice and multi-agency and multi-stakeholder information and learning platforms that assembles together entities of the non-formal education sector including civil society organisations, government and donor agencies" (CADRI, 2010; UNDP, 2008 and UNDP, 2010).

Accountability as an important level of change is premised on its ability to offer oversight through M&E, so that processes and programmes result in the expected objectives and provide mechanisms to overcome obstacles and identify gaps when necessary. It is composed of audit systems and practice standards, participatory planning, and stakeholder feedback mechanisms. Additionally, by establishing systems that ensure public accountability and transparency, the responsibilities of governments to meet the needs of their citizens are also ensured. Accountability carries with it an added benefit of encouraging mutual engagement of citizens in development activities. Strengthening the feedback mechanisms such as open access to information, encouraging citizen participation in the public discourse through voicing out their opinions, ensuring robust monitoring and evaluation systems, and integrating knowledge and experiences for future programmes are other aspects that can improve accountability practices (UNDP, 2008; UNDP, 2010; Didham, 2011).

II. ESC Strategies in Malaysia

Policy development and formulation in Malaysia has evolved through several stages towards green growth and currently consists of SCP-related policies, programmes and organisations. The national policy document outlines 'education and awareness' as a green strategy and has placed a strong emphasis on low-carbon strategies and greening the economy. The main institutional bodies seeing to the implementation of the ESC-related policies and initiatives are the Economic Planning division of the Prime Minister's Department, the Ministry of Natural Resources and Environment and the Ministry of Energy, Green Technology and Water. The Ministry of Education and the Malaysian Environment Department (under the Ministry of Natural Resources and Environment) coordinate and oversee an award called the Sustainable School Award to encourage whole school environmental management and protection, EE curriculum and professional development. Furthermore, the Ministry of Natural Resources and Environment initiated a textbook review to enhance environmental content. Also EE has been incorporated into all subjects in secondary schools for students to acquire environmental knowledge to become concerned about the environment, be critical thinkers and be able to find solutions to the problems.

On relevant policy SCP/ESC frameworks, the 10th Malaysian Plan and the Economic Transformation Programme serve as two overarching policy documents on development and they cite the importance of SCP through judicious conservation, management and use of forest resources and diversification of energy sources towards low-carbon emissions, respectively. Two other important ESC/SCP-relevant policy documents are:

- The National Green Technology Policy of the Ministry of Energy, Green Technology and Water: It aims to green the energy, buildings, water and waste management and transportation sectors and facilitates the elevation of green technology by government with respect to potential growth. The policy also accorded business a greater leadership role in enabling technology and innovation for green technology that would lead to i) a reduction in greenhouse emissions, ii) reduction in energy use with increase in economic growth and iii) adoption of green technology and reduction in overall resource and energy consumption.
- The National Renewable Energy Policy and Action Plan (NREPAP): It has 5 policy objectives geared towards renewable energy, industry and the environment. Numerous other policies and plans exist at the national level.

Additionally, a National Lifecycle Inventory Database is also being developed to promote cleaner technology with regards to efficient water supply electricity generation, petroleum and natural gas exploration and petrochemicals. Development of forest management practices services through Development of own Criteria and Indicators (MC&I) by the forest sector to improve forest management practices also serves as a basis for developing global standards. There are also several examples of ESC-related fiscal initiatives as well as informational policy ones.

Practical examples of promotion and implementation of ESC/SCP and ESD are also seen both in the higher educational institutions (HEI) and the non-formal sector. ESC integration in Malaysian education involves several (ESC) initiatives exemplified by the Sustainable School Award as well as several examples of school-led SCP oriented initiatives. Universities are more advanced in ESC activities than lower level schools and there are many campus sustainability initiatives with several examples. In the non-formal sector, even though Malaysians may have a fair knowledge/awareness of the environment, they are less knowledgeable of the science of the underlying causes of these environmental problems. Although no formal ESD policy currently exists, several ESD-related initiatives are available. They include: 1) Establishment of research centres for sustainability studies in two Malaysian universities, 2) Developing a framework for a sustainability curriculum, and 3) Creating regional/national sustainability networks with particular reference to the RCEs. Malaysia's ESC policy and Institutional framework has also been strengthened through EU's EU-SWITCH funding to 1) bring about a transition to SCP and 2) incorporate aspects of ESC into the 11th Malaysia Plan towards the eventual development of a national SCP policy blueprint.

III. ESC Strategies in the Philippines

With national priorities focused on five key sectors namely agriculture and fisheries, environment and natural resources, energy infrastructure including renewable energy, the 1987 Filipino Constitution has enabled a pathway towards SD through greening the economy. The constitution has also used of Agenda 21 as a blueprint to facilitate the flow of implementation of SCP, ESD and ESC from the national level to the local level. Furthermore, the National EE Action Plan has served as a premise for addressing ESC/SCP and ESD. Overall, EE/ESD/ESC is actively promoted by the responsible government departments especially with respect to resource efficiency and use of low-carbon technologies.

The institutional structures for implementing ESC in the Philippines include the following:

- The Philippines Development Plan (2011-2016) which underlines inclusive growth and use of resources in such a way as to sustain the development of the present and future generations;
- The Philippine Strategy of Sustainable Development (PSSD) which has a number of implementation strategies at its core and emphasises the importance of holistically viewing economic growth and environmental protection in the Philippines as mutually compatible;
- The Philippine Council for Sustainable Development (PCSD) that offers policy advise on the integration of the three dimensions of SD and its implementation to national SD bodies as well as coordinating over 40 local bodies to strengthen and localise PA21; and
- Enhanced Philippines Agenda 21 which reflects the human and social development goals for the Filipinos and is based on 15 principles that attempt to formulate a sustainability agenda for all Filipinos. The localisation of the PA 21 has led to several important practical projects such as watershed governance and a massive reforestation initiative that doubles as a climate change mitigation strategy. Other structures include the Green Growth Initiative and National Climate Change Action Plan.

Overseen by three governmental agencies, there are frameworks to integrate ESC into the curricula of especially tertiary institutions where ESC aspects appear in ecological waste management, water use efficiency, and energy efficiency. Opportunity exists to incorporate ESC related content into the curriculum at the basic level of education, by the Department of Education. Overall, ESC implementation in the formal system is yet to be mainstreamed hence government relies mostly on partnerships with private sectors, community groups and educational institutions through several programmes.

Two of the strategies for promoting sustainable consumption in the Philippines are: 1) Use of National Green Growth Programmes by national departments and institutions such as the Department of Environment and Natural Resources (DENR) that aims to assist especially SMEs to adopt processes that prevent pollution and enhance improved environmental performance through the Philippines Environmental Partnership Programme; Industrial Ecowatch; Clean Development Mechanism (CDM); and Department of Energy and Industry (DTI) which has measures to accelerate use of renewable and alternative energy sources (e.g., the National Gas Vehicle Programme for Public Transport of 2002 to service 200 gas-powered buses), etc. and 2) Through local governments where exist very good examples of cities engaged in green initiatives.

IV. ESC Strategies in Thailand

The overall vision of sustainability of the Thai people is premised on the Sufficiency Economy Philosophy (SEP) currently integrated as a core pillar into the National Economic Development Plan since 2002 and applied in many sectors across Thailand. It is the only country that is known to have integrated SEP and ESD in the national curriculum with formulated standards and indicators of learning.

The institutional structures that oversee the implementation of ESC policies under different mechanisms comprise of governmental organisations that oversee the expansion of ESC though policy, and the NGOs and the private sector that tend to support ESC implementation through financial, technical and academic support. The Ministry of Natural Resource and Environment handles the policy frameworks on SCP, the National Subcommittee on Mobilising SEP and the Interagency Committee of the Ministry of Education, the Crown Property Bureau and Siam Commercial Bank Foundation are responsible for implementing the policy frameworks on SEP while the implementation of ESC in the basic education curriculum is overseen by several institutions namely Office of Basic Education, Office of Educational Innovation Development at the Ministry of Education, Department of Environmental Quality Promotion at the Ministry of Natural Resource and Environment and the Collaboration Committee on Green School Project.

Regarding policy frameworks and mandates, SCP was integrated into the 11th National Economic and Social Development (NESD) Plan (2012-2016) with expression of SCP in the Plan's mission statement, objectives and development strategies. Additionally, in 2011, a policy framework called 'Country Strategy' was proposed by the Thai government aimed at mainstreaming green growth in the country's development process. This was followed by the Ministry of Natural Resources and Environment's Strategic Plan (2013-2018) which include promoting "environmentally-friendly low carbon society" in support of government to achieve the set goals for green growth. The key activities under the flagship projects of Strategy 14 of the Plan shows strong SCP components. ESC as sustainable consumption in the national education curriculum is taught at the primary school level grades 4-6 both in Life and Environment under Science and in Economics under Social Studies. In addition, learning outcomes indicators have been developed each for grades 4-6.

Practical examples of ESC Implementation in both formal and informal sectors include the following:

- Sufficiency School Project considered as one of the most successful nationwide and mainly
 premised on use of SEP towards youth education and development with capacity building of
 teachers, inter-personal and online interactions, and M&E as key strategies;
- Practical expression of ESC in schools through the feeding programme that uses the sustainable resource management concepts enshrined in the SEP;
- Through the Eco-School project initiated in 2008 by the Department of Environmental Quality Promotion of the Ministry of Natural Resource and Environment, experienced-based learning of resource management of ecosystems (previously as EE subjects) was strengthened coupled with M&E and self -assessments; and

 Locally appropriate and culturally relevant SCP knowledge construction by the In-Paeng Network members in rural northeast Thailand resulting in the practice of non-chemical agriculture, sufficiency and self-reliance. The Agri-nature Foundation is another example of eco-friendly, sustainable agriculture based on the SEP principle.

V. Assessment of Present Capacity for Implementing ESC in Southeast Asia

An assessment of the capacities of governments of Malaysia, the Philippines and Thailand to implement effective ESC based on a comparative analysis was done. The UNDP's capacity assessment framework comprising the four levers of institutional arrangements, leadership, knowledge and accountability was used and the ranking scale (scores) employed is explained as follows: 0 > No Identified Examples; 1 > Example exists but not yet mainstreamed; 2 > Examples exist with identifiable achievements/impacts; and 3 > Mainstreamed across system and high achievements/impacts (Didham, 2011).

A. Institutional Arrangements

The scores under this lever out of a total of 12 are as follows: Malaysia scored 6, the Philippines scored 6 and Thailand scored 6 (Table 11). All three countries arguably have streamlined processes for SCP and to some extent ESC (and SEP). In Malaysia, multi-level implementation of SCP and ESC-related policies at the federal, state and local government levels was reported. Furthermore, there have been policy frameworks to advance green technology and energy economy including ESC implementation. The three institutions previously named are the most influential in greening the economy. Also, there are specific national ESC-related initiatives with specific target groups and implementation authorities. In the Philippines several environmental legislations and policies that can facilitate ESC integration exist including the pro-green growth Medium, Small and Micro-Enterprise agenda. Additionally, several institutional structures and strategies including the EE Awareness Act of 2008 for ESC implementation are available. Thailand has several policy frameworks and institutional structures on SCP, SEP and ESC in place and SCP is integrated into the 11th National Economic and Social Development (NESD) Plan (2012-2016). SEP has been integrated into NESD Plan since 2002 in a multi-level policy development.

The 'roles and responsibilities' aspect of the three countries were generally well defined. Malaysia reported a multi-actor led implementation of EE/SCP/ESC where relevant government ministries, tertiary institutions and NGOs are involved in different aspects of implementation or in joint endeavors. Also, the private sector was allowed the role to roll out green technology business. In the Philippines, EE/ESD/ESC is actively promoted by the responsible government departments especially with respect to resource efficiency and use of low-carbon technologies. An example is the Department of Environment and Natural Resource's Environmental Management Bureau which is mandated to implement six environmental laws related to sustainable consumption and education. Also, three governmental agencies oversee the integration of EE/ESD/ESC into the curricula of especially tertiary institutions. Additionally, the Philippine Information Agency supports and promotes the media-related aspects of the environment, education, consumption, etc. In Thailand, EE/ESD/ESC implementation was done by related government departments as discussed under 'ESC

Strategies in Thailand'. Also, ESC implementation in the basic education curriculum is overseen by institutions namely Office of Basic Education, Office of Educational Innovation Development at the Ministry of Education. Furthermore, the implementation and expansion of SCP (and SEP) policy frameworks is overseen by governmental organisations while NGOs and private businesses offer financial, technical and academic support.

The 'merit-based appraisal mechanism' component employed by Malaysia involved the Ministry of Natural Resources and the Environment initiating a textbook review to enhance content with regard to environmental values and also addressing distorted environmental facts in EE. In the Philippines, the Department of Education's contribution to appraising the implementation of SC/ESC/ESD include 1) enrichment of the primary and secondary schools curricula by integrating climate change concepts; 2) working with the Department of Science and Technology to produce instructional materials based on simulations, computer graphics and images that mimic real life situations hence help enrich student experience; 3) infusing environmental concepts into the self-learning module of the Department's Alternative Learning System; 4) revision of the Teacher Education Curriculum by introducing environment related subjects including EE, etc. In Thailand, the Strategy 14 of the Ministry of Natural Resources and Environment's Strategic Plan (2013-2018) is set to significantly provide forms of support and thus strengthen the "Country Strategy" of 2011.

On 'coordination mechanism', Malaysian NGOs coordinated with government agencies to organise environmentally related events. Also, ESC and ESD were implemented simultaneously through research, curriculum development and national/ regional networking particularly at the tertiary level. Furthermore, governmental interagency coordination with civil society resulted in several policy statements from 1978-2010. In the Philippines there was coordination of several relevant departments to support in institutionalising ESC related activities in the PDP (2011 -2016). Also, the DENR, mandated by the EE and Awareness Act coordinates various national and local activities through the Inter-Agency Committee. The integration of the green growth strategies into development plans including those of Philippine Development Plan; the Medium, Small and Micro-Enterprises (MSME) Development Plan; and the National Climate Change Action Plan by the Department of Trade and Industry as part of the development for the Switch-Asia Project (with assistance from the EU and the Federal Ministry of European Cooperation. In Thailand, the interagency body for coordination (Collaboration Committee) brought together the Ministry of Education, The Crown Property Bureau and Siam Commercial Bank.

Table 11. Institutional Arrangement in Education for Sustainable Consumption.

Components of Institutional Arrangements	Malaysia	Philippines	Thailand
Streamlined processes	2	1	2
Clear definition of roles and responsibilities	1	2	2
Merit-based appraisal mechanism	1	1	1
Coordination mechanism	2	2	1
Total Score for Institutional Arrangements	6	6	6

Scale: 0 > No Identified Examples; 1> Example exist but not yet mainstreamed; 2> Existing examples and identifiable achievements /impacts 3> Mainstreamed across system and high achievements /impacts

B. Leadership

The three countries exhibited a considerable to fair amount of leadership. The leadership lever potential score totaled 12 and the country scores are as follows: Malaysia scored 8, the Philippines score 8 and Thailand scored 7 (Table 12). Using a leadership style that is more strong-armed and regulatory than voluntary, environmental policy, institutions, and practice in Malaysia have evolved over time, to respond to the global green economy agenda. This leadership is exemplified by the establishment of cleaner beverage industries in each region. Strong leadership has been shown by government in EE/ESC implementation across school levels. Furthermore, there is a state level commitment to Agenda 21 that acts as an overall SD implementation reference document. In the Philippines a systematic development and promotion of EE of which ESC is linked across time was done. Additionally, the government has put in place green growth programmes through its appropriate departments and mechanisms in addition to a strong commitment to Agenda 21 as a blueprint for SD implementation. The SEP serves as a rallying concept of the Thai people for humanity towards sustainable development.

With regard to 'management tools' Malaysia gave a greater management role to the business sector on the promotion of green technology. 'Outreach mechanism' subcomponent employed by Malaysia includes 1) a fair level of awareness of environmental challenges exemplified by Selangor and Sabah; 2) establishment of national EE training centres to train educators, 3) operation of non-formal nature education centres for children and adults by WWF and Malaysia Nature Society, 4) public education about the environment led by established NGOs, and 5) setting up and facilitation of the Regional Centres of Expertise (RCE) networks. In the Philippines, outreach leadership was provided through government agencies such as Department of Education and Department of Environment and Natural Resources. In Thailand SEP was promoted by its integration into the NESD Plan at multi-level in policy processes continuously through the formal, non-formal and informal education sectors.

Table 12. Leadership in Education for Sustainable Consumption

Components of Leadership	Malaysia	Philippines	Thailand
Clearly Formulated Vision	3	3	3
Communication Standards	1	2	1
Management Tools	2	1	2
Outreach Mechanism	2	2	1
Total Score for Institutional Arrangements	8	8	7

Scale: 0 > No Identified Examples; 1> Example exist but not yet mainstreamed; 2> Existing examples and identifiable achievements /impacts 3> Mainstreamed across system and high achievements /impacts

C. Knowledge

Under this lever of change totaling 9, Malaysia scored 6, the Philippines 5 and Thailand 6 (Table 13). On 'research supply and demand linkage mechanisms', Malaysia has created sustainability research and advocacy centres. In Thailand, organisations including In-Paeng Network and Agri-nature Foundation run training programmes and are involved in the production of their own relevant knowledge. On 'brain gain and retention strategies', Malaysia engaged in pre-service and in-service training of teachers on EE and teaching of environmentally-related courses and specialised short courses at the universities. In the Philippines, ESC is being integrated into the tertiary curricula and the tertiary educational institutions are engaged in capacity building and awareness raising on sustainable consumption. ESC is also being mainstreamed in the construction and building sector through seminars and conventions of architects and engineers. Thailand engaged in capacity building of teachers, face-to-face and online interactions on ESC. Malaysia addresses the 'knowledge sharing tools and mechanisms' component by developing a guidebook by the Curriculum Development Centre for primary and secondary school teachers.

Table 13. Knowledge in Education for Sustainable Consumption

Components of Knowledge	Malaysia	Philippines	Thailand
Research Supply and Demand Linkage Mechanisms	3	2	3
Brain Gain and Retention Strategies	2	2	2
Knowledge Sharing Tools and Mechanisms	1	1	1
Total Score for Institutional Arrangements	6	5	6

Scale: 0 > No Identified Examples; 1> Example exist but not yet mainstreamed; 2> Existing examples and identifiable achievements /impacts 3> Mainstreamed across system and high achievements /impacts

D. Accountability

With regard to values scored under accountability, Malaysia scored 3, the Philippines scored 4 and Thailand scored 4 (Table 14). Examples of audit systems and practice standards in Malaysia include 1) Low-C framework and assessment systems comprising 15 performance criteria and 42 sub-criteria based on the built environment, 2) a comprehensive development of forest management practices services through development of its own Criteria and Indicators (MC&I) to serve as a basis for developing global standards; and 3) introduction of the E-Assessment system at the local government level. In the Philippines, the National Eco-labeling programme (Green Choice Philippines) acts as the third party verifier for government eco-purchases. It also employs the Building Ecologically Responsive Design for Excellence as a rating tool for measuring environmentally sound buildings. In Thailand, monitoring and evaluation and self-assessments of the SEP was employed and learning outcomes indicators have been developed for grades 4-6. Participatory Planning in Malaysia at the state level was demonstrated in Selangor which used Agenda 21 and other policy documents and guidelines to minimise CO₂ emissions, reduce hill slope development, to go 'paperless' in the office, etc. It has also resulted in consumers and shopping complexes participating in "No Plastic Day'. There has also been the gradual introduction of ESC-related initiatives at the local level exemplified by Petaling Jaya City. In the Philippines, environmental policy planning meetings were held at the city level like in Quezon City with introduction of say the National Eco-labeling programme. Furthermore, active participation in the Department of Energy's Government Energy Management Programme with regard to energy efficiency in the offices was recorded. Participatory planning in Thailand is demonstrated in the Eco-school project where personnel from the appropriate ministries and faculty team up and mentor and coach students/teachers during school visitation activities.

Table 14. Accountability in Education for Sustainable Consumption

Components of Accountability	Malaysia	Philippines	Thailand	
Audit Systems and Practice Standards	1	1	2	
Participatory Planning	2	2	1	
Stakeholder Feedback Mechanisms	0	1	1	
Total Score for Institutional Arrangements	3	4	4	
Scale: 0 > No Identified Examples; 1> Example exist but not yet mainstreamed; 2> Existing examples and identifiable achievements /impacts 3> Mainstreamed across system and high achievements /impacts				

VI. Overall Capacity Assessment of the Levers of Change

With the total potential score for all four levers of change at 42, each country was then allotted a capacity rating based on the percentage achieved out of the total possible score. The total capacity score for each country case namely Malaysia, the Philippines and Thailand was 23 (54.8%) (see Table 15) even though variation in capacity exists at the sub-component level. The general capacity levels for each lever of change could also be determined. Thus the average capacity ratings for the levers of change across the three country cases are as follows (with corresponding total scores in brackets): institutional arrangement: 50.0 % (18); leadership: 63.8% (23); knowledge: 62.9% (17); and accountability: 40.7% (11). Even though it should be acknowledged that specific sub-components have reached the point of being mainstreamed, several other sub-components still need further improvements before mainstreaming can be considered. In fact, in all the countries investigated, scoring a 3 which suggests such a subcomponent (of lever of change) has been mainstreamed across the system and with accompanying high impacts has not been realised across the four core issues assessed. In the previous study under institutional arrangements, 'definition of roles and responsibilities' for ESC and the inclusion of inter-agency coordination mechanism were found as needing enhancement to ensure synergy and coherence of the education programmes in those countries. In this study, under institutional arrangement it was the 'merit-based appraisal mechanism' component across all countries that was found to be lacking even though what constitute 'merit-based appraisal' component was not easily identified in the cases in general.

Under leadership 'communication standards' was found as most in need of further strengthening. 'Knowledge-sharing tools and mechanisms' under knowledge lever also needs further strengthening. 'Stake-holder feedback mechanisms' followed by 'audit systems and practice standards' under accountability are the sub-components most in need of strengthening. 'Stakeholder feedback mechanism' scored the least relative to the other sub-components across all the cases with Malaysia needing to do the most work in that regard. Although there has been improvement in capacity rating across the levers of change, the results are consistent with the previous results obtained in a similar study in Northeast Asia three years earlier in which leadership and accountability levers were the highest and lowest capacity ratings, respectively.

Table 15. Total Scores for Capacity Assessment of the Levers of Change

	Institutional Arrangement	Leadership	Knowledge	Accountability	Total Score for Capacity Assessment	Total Capacity Rating
Malaysia	6	8	6	3	23	54.8 %
Philippines	6	8	5	4	23	54.8 %
Thailand	6	7	6	4	23	54.8 %
Total potential Score	12	12	9	9	42	100%

Some points to note here in this chapter and also in relation to the previous study on Northeast Asia are as follows: First, the observation of very little deviation (from the median score) between the capacity assessment scores of the three countries. Second, in general, there has been capacity improvement in SCP/ESC/ESD in the sub-region compared to an earlier study in the Northeast Asia sub-region in 2011 that yielded the following total capacity assessment scores: People's Republic of China 16; Japan 19 and Republic of Korea 14 (Didham, 2011). That does not mean that improvement in ESC implementation in Northeast Asia has lagged behind that of Southeast Asia. In fact, against the backdrop of increase in sustainability-related programmes and activities in the sub-region, a similar study in the Northeast Asian countries previously investigated could yield similar or even better results (higher scores). It is also noteworthy that in both studies ESC implementation and practice were sometimes effected under different labels such as EE and ESD. The capacity score of all the country cases under accountability scored less than 50%: Malaysia scored 3 out of 9, and the Philippines and Thailand scored 4 out of 9 each. This notwithstanding, there is more room to mainstream all four levers of change in all country cases especially the accountability lever across the entire ESC implementation system. Third, comparing the countries' capacity ratings to the ranking scale of 1 to 3 (already defined in the text) (Didham, 2011), it could be posited that while all the cases had examples of aspects of capacity that could be identified at an average score of 1 (except 'stake-holder feedback mechanisms' under accountability in Malaysia) and others still trending towards identifiable achievements and impacts (average score of 2), mainstreaming these aspects in the national or regional/municipal development plans is yet to be realised.

Figure 7 shows the total capacity scores for the four levers of change and Figure 8 shows the percentage capacity rating obtained for each lever in each country. In spite of the commonality of existing capacities and smaller amount of deviation between the cases in both figures, leadership and accountability were the levers with the highest and lowest levels of capacity, respectively just like the previous study. The analysis also underscores the common features of the accountability lever as the entry point most in need of capacity building.

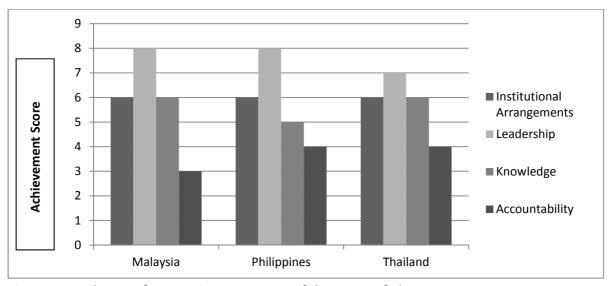


Figure 7. Total Scores for Capacity Assessment of the Levers of Change

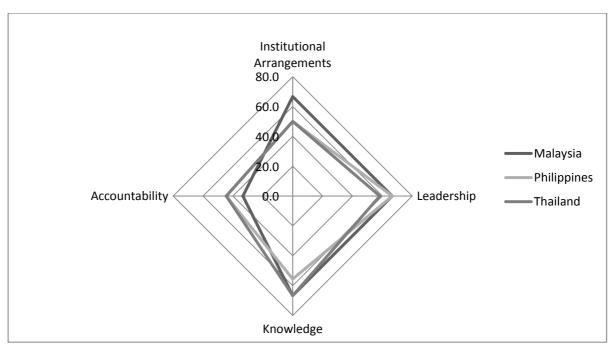


Figure 8. Percentage Capacity Rating of Countries Based on Total Potential Score (%)

Some of the important aspects pertaining to the four entry points described by Didham (2011, pp. 95-6) are summarised as follows:

- Institutional arrangement: Interagency or inter-ministerial coordination is a pre-requisite for developing effective definition of roles and responsibility for ESC implementation.
- Leadership: The importance of a clearly formulated vision needs to be broken down into forms well-understood, clearly explained, disseminated and managed in order not to become an obstacle.
- Knowledge: Generating knowledge to support the proactive involvement of citizens is as important a capacity as doing the same for ESC policy making and implementation. Furthermore, knowledge linked research supply and demand should prioritise the knowledge and tools needed by individuals to live sustainably just as much as they do to improve policy. Also, building resilience and therefore adaptive capacity of the youth through knowledge provision, improved learning methods and skills in order to face an uncertain future should be the wider societal goal.
- Accountability: An effective ESC implementation could result from a multi-stakeholder participatory process by the people that define low carbon, sustainability target achievements linked to auditing systems.

In conclusion, all three country cases showed solid fundamentals in sustainable consumption promotion by the respective governments mainly at the national level but sometimes at the local (regional and city) level. Many opportunities however exist for strengthening ESC implementation through better integration of policies and programmes to maximise impact. One effective way of doing this is to strengthen the vertical implementation linkages between the national and grassroots levels, as well as strengthening the horizontal linkages between sister agencies and organisations. At the individual, grassroots level the establishment of the 10 YFP on Sustainable Lifestyles and

Education programme could not have come at a better time as the effective adoption and implementation of this programme in countries will help strengthen these vertical linkages and therefore accelerate the successful achievement of the overall ESC implementation in these countries. For effective implementation at both policy and practice levels, there is also the need to strengthen the competency of ESC personnel such as practitioners, researchers, educators and policy makers through capacity building. It is also important that ESC and other sustainability education related policy processes be actively attended by representatives from these countries at both policy and practice levels.

References

- Babu, C.S. and Kolavalli, S. (2013) *Ghana Strategy Support Program: Methods of Capacity Needs Assessment A Discussion Note.* International Food Policy Research Institute: Washington, DC USA. Available at: http://www.ifpri.org/sites/default/files/publications/gsspdn26.pdf
- CADRI (Capacity Development for Disaster Risk Initiative) (2010) Basics of Capacity Development for Disaster Risk Reduction. Available at:
 - http://www.rootchange.org/about_us/resources/publications/CADRI_brochure%20final.pdf
- Didham, R. J. (2011) "Assessing Capacity for ESC Implementation" in *The Role of Governments in Education for Sustainable Consumption: Strengthening capacity for effective implementation in China, Japan, and Republic of Korea*. Didham RJ. (ed). IGES Policy Report 2011-03. IGES: Hayama.
- Didham, R. J. and Ofei-Manu, P. (2012) *Monitoring and Evaluation of Education for Sustainable Development.* IGES Policy Report 2012-06. IGES: Hayama.
- MfDR (Managing for Development Results) (2009) MfDR CAP-Scan. Available at: http://www.mfdr.org/ CAPScan/1NewDocuments/CAPSCAN_Booklet-En-09.pdf
- UNDP (2008) Capacity Assessment: Practice Note. UNDP: New York.
- UNDP (2010) Supporting Capacity Development: The UNDP Approach. UN: New York.

Chapter 6:

Strengthening the Implementation of Education for Sustainable Consumption

Recommendations for improving governmental capacity for ESC provision

By Robert J. DIDHAM and So-Young LEE, Institute for Global Environmental Strategies

The previous chapters of this report have reviewed the existing policies, institutions and facilitative structures for implementing ESC and promoting sustainable consumption in three Southeast Asian countries; Malaysia, Philippines and Thailand. A comparative capacity analysis of these three countries has identified both the common and unique circumstances for the implementation of ESC across these three countries, specifically related to the existing institutional arrangements, leadership, knowledge and accountability mechanisms in each country. Drawing on the findings from the previous chapters, this final chapter will now consider how implementation of ESC may be strengthened in each country and how governments may play more effective roles in the promotion of sustainable consumption. This chapter will also review the findings of the earlier study conducted under the same research framework in Northeast Asia (i.e. China, Japan, and Republic of Korea) in order to consider the more common aspects and recommendations that are relevant across all six countries (and thus may be common for ESC throughout Asia or in general). Finally, in the closing of this chapter, reflection will be given to the emerging trends in education and learning for sustainability with special attention being paid to the evolving nature of ESC and the wider embracement of the concept of education for sustainable lifestyles.

This report began by contextualising an understanding of ESC within the wider surrounding policies for Sustainable Consumption and Production (SCP) and Education for Sustainable Development (ESD). This recognition of ESC and its close links to these concepts is important in identifying the relevant capacities governments already have in place for promoting sustainable consumption because the practice of ESC is grounded within the overarching framework of sustainable development and directly guided by these two international agendas for SCP and ESD. All three studied countries have been actively responding to both SCP and ESD, and one of the main reasons to discuss ESC in this context is the strong opportunities it provides for better linking these two policy strains and bringing them down to a level that is practically implementable within the context of people's daily lives.

Each country has a slightly different policy path, but now in all three countries there are growing interests for the inclusion of ESC within formal and non-formal education. For all three countries, environmental education is the oldest topical-form of education that addressed sustainable consumption, and it is from EE that the countries moved into adopting ESD. In Malaysia, SCP and Green Growth have been the main drivers in recent sustainable development policies. While in the Philippines, sustainable development has continued to be influenced by the country's strong uptake

of Agenda 21 and the Philippine Strategy of Sustainable Development. For Thailand, the national path to sustainable development is expressed under the country's unique Philosophy for Sufficiency Economy which has also framed the approach to ESD and education for sufficiency economy within the formal curriculum. Although each country has placed emphasis on slightly different components of sustainable development, all three do prioritise education as an important means of implementation, and in each country there is clear recognition that ESC should be an included component of education.

I. Major Findings from Three Country Study of ESC Capacities

Leadership proved the strongest area of capacity for ESC in all three countries, which was especially strengthened due to each countries' clear vision and strategy for the type of sustainable development they aim to achieve. The importance and value of a clearly formulated vision in providing overall direction to a country's work on sustainable development and ESC is well demonstrated in these three countries. Such a vision can be a powerful guiding mechanism that influences improvement across other capacities and their sub-components. Communication standards and outreach mechanisms on sustainable consumption in general and ESC in particular need improving. While a vision is valuable in creating direction, this needs to be supported by clear actions and implementation. To achieve this for sustainable consumption, people need to gain better awareness of the specific types of choices and behaviours that they can take to have a positive influence of sustainable development. Currently though, this level of practical formulation is not so well defined or promoted in the three countries, although each has a limited number of demonstrated good practices for achieving this that could be further mainstreamed.

The next highest ranked capacity in each country and the only other capacity in which countries received the highest ranking in a single sub-component was knowledge capacity. For this, countries proved strongest in having clear mechanisms for linking research supply and demand, however it was only in Malaysia and Thailand where this mechanism was strongly mainstreamed. The research and advocacy centres in Malaysia and the training programmes aimed at supporting local knowledge production in Thailand both prove valuable mechanisms for strengthening ESC promotion. Under this capacity though, all three countries were found to be lacking in knowledge sharing tools and mechanisms. In the field of ESC, where information and topics are evolving at grassroots and classroom levels, effective knowledge sharing can be an important key to identifying and upscaling innovative practices. While a good system to collect and share local-level sustainable consumption practices can be seen as a valuable form of non-formal ESC in its own right.

It was possible to identify several good examples in each country related to the components under institutional arrangements, however none of the countries demonstrated mainstreaming of these efforts. Although each country does currently have policy enacted that mandate ESC, because these mandates are parts of larger sustainable development or SCP policies, there is a lack of clear pathways or streamlined process for implementing ESC in both formal and non-formal education. For formal education, one clear objective should be the replication of these ESC mandates directly within the national curriculums of these countries, as they of course serve as the most direct vehicle for influencing what is taught within the schools. For non-formal education, the promotion of sustainable consumption can often be a difficult affair because it requires a greater level of inter-

ministerial collaboration to reflect SCP principles across a large number of priority areas. Thus, the establishment of an inter-ministerial committee to respond to such needs can prove an effective way to align SCP policies across the activities of different line ministries, and through doing so achieve more effective promotion and institutionalisation of sustainable consumption practices.

Both clearly defined roles/responsibilities and coordination mechanisms for ESC are partially developed in these countries while still allowing room for further improvement and mainstreaming. Collaboration between the government and other relevant SCP actors such as the private sector, civil society and academia is one promising area for supporting greater promotion of sustainable consumption in which each country has some existing examples of good practice. Under the institutional arrangements capacity, the most significant improvements are needed in relation to merit-based appraisal mechanisms. Audits of curriculum content aim to both streamline and improve topical coverage on environmental issues, but it does not take active measures to reward and promote better practice. Although, the schemes to certify and award whole-school or green school efforts in each country is a positive merit and appraisal mechanism that has a strong influence on shifting the overall learning environment.

Accountability was the weakest capacity in all three countries. The identified efforts in accountability in the three countries mainly focus on ensuring that appropriate environmental topics are included in the curriculum but do not clearly specify ESC, and these accountability mechanisms currently do not address the actual implementation or practice of ESC. The three countries all show positive capacities in accountability for sustainable consumption practices and have set of systems and criteria to assess specific consumption-related items and behaviours. This approach though is not well applied in relation to ESC and there are limited means to judge or ensure the impact of formal and non-formal ESC activities. The developed learning performance indicators on sufficiency economy philosophy are the clearest attempt that has been made to determine if formal education is reaching its desired results. Accountability, based on the framework used in this study, would be greatly improved if there was more active stakeholder engagement in defining the sustainable consumption goals and pathways in their countries, cities and localities.

II. ESC Recommendations for Malaysia, Philippines and Thailand

The comparison of the common strengths and weaknesses, as well as identification of unique features in each country, help to elucidate various approaches for strengthening each capacity for ESC implementation and roles governments can play in facilitating this.

A. Leadership – Translating Vision into Action

While each country has a strong vision for becoming a sustainability society, the major challenge they now face is translating this vision into practical actions to achieve this transformation. Within the context of ESD, it is specifically the topical focus of ESC to promote the types of practical actions that people can take within their daily lives and to understand how these actions contribute meaningfully to achieving the more long-term and abstract goals of sustainable development. In close alignment with the work of SCP, ESC can also aim to help establish a meaningful social dialogue on what it means to create a

sustainable quality of life that is equally achievable by all while conserving our natural resources within the limits of planetary boundaries.

These aspects of ESC can be specifically supported through development of communication standards/tools and the expansion of outreach mechanisms. Strengthening both SC and ESC communication standards support people in understanding how their actions influence on the triple dimensions of sustainable development. Type III environmental labelling, such as energy efficiency labelling on appliances, can help consumers determine good practices and could be expanded to cover other relevant information (such as water efficiency labelling as already used in Australia and Hong Kong). While regulation and incentivisation can also signal to consumers which practices are most negative and most positive to make. Understanding how government policies can positively support consumer behaviour, as well as the establishment of a market that facilitates sustainable consumption practices, may be better supported by academic research on SC and ESC. Through collaboration in research and development, it would also be feasible to identify additional consumption and lifestyle areas where shifts in practices may have a meaningful impact on achieving a low carbon, sustainable society. While the above recommendations are aimed at non-formal ESC, for formal ESC an important learning objective would be to understand the importance of such information (i.e. labelling, regulations and incentives) in determining how one's own practices and behaviours influence the achievement of a sustainable society. Outreach mechanisms would ideally support this objective in non-formal ESC, and in addition they could also be used to promote good practices and highlight achievements.

B. Knowledge - Supporting Innovation and Upscaling

The previous section on findings already discussed the need for improved knowledge sharing tools and mechanisms, which applies both for SC and ESC. The collection and dissemination of information on best practices in sustainable consumption and lifestyles is an important aspect of ESC. Building on this aspect can support the improvement of the knowledge capacity by establishing a greater common pool of information and knowledge while also ensuring its effective dissemination and application. Keeping in mind that ESC is not only an educational mandate but also a mandate under SCP, it thus has an important role to play not only in knowledge dissemination but also in research and knowledge generation. Narrowly, ESC research may only be concerned with how to achieve effective learning and behavior change for sustainable consumption, but more broadly speaking it can also include wider consideration of social learning and social change processes and their influence on sustainability transformations.

Within formal education, IT based knowledge sharing tools can support the dissemination of teaching materials. As the trend towards decentralised curriculums (as a percentage of the overall curriculum) is on the rise in SE Asia, this may be especially important for supporting teachers with learning materials on "localised" teaching topics. The need for greater in-service teacher training on ESD and ESC themes, topics and teaching methodologies is another major knowledge sharing mechanism that would strongly build capacity in this area.

C. Institutional Arrangements - Multi-stakeholder Collaboration and Recognition

Streamlining of ESC processes in formal education would be an important means to strengthen its implementation. The starting point for this is clear identification of ESC as a core component of ESD and its firm inclusion in the curriculum. Additionally, the application of learning performance indicators can support merit-based appraisal. The process may be further streamlined by ensuring all subsidiary components of education support the implementation of ESC, including teacher training, the development of learning materials, and in school management. To achieve the previous point, it is necessary for governments to provide support through effective coordination mechanisms and clearly defined roles/responsibilities. As already identified, the whole-school and green school schemes are effective ways for awarding schools who undertake greater levels of innovation, while also more widely encouraging higher standards of practice. Such schemes could not only consider resource improvements within the management of schools, but they could potentially consider how active students are in shifting consumption practices and behaviours in their surrounding communities which highlights the importance of citizenship as an aspect addressed in ESC.

Institutional arrangements for non-formal ESC highly overlap with those that exist for SCP, and as mentioned they are currently hindered by the lack of inter-ministerial collaboration on this matter. Coordination mechanisms are not only required between government agencies, but also to strengthen the collaboration between sectors and with businesses, NGOs and universities — as examples of these multi-stakeholder partnerships demonstrate high-levels of impact in promoting ESC and influencing consumer behavior. Merit-based appraisal mechanisms could also be used in non-formal ESC as a means to identify and highlight innovative initiatives or key actors. For example, in East Asia there are already a number of initiatives that aim to promote cities and companies who are taking significant actions in SCP and sustainable development.

D. Accountability – Finding Tools to Quantify and Qualify ESC Impacts

Accountability in formal education is generally improved through various forms of monitoring and evaluation. One needed aspect is regular review of curriculum contents and materials, and in relation to ESC a specific focus of such review could be to consider if these contents and materials are relevant to and address current issues related to sustainable consumption. A second aspect is criteria to measure changes in consumption practices by students and by schools. Learning performance targets provides a third form of accountability that can help review and assess ESC outcomes and achievements. Finally, in terms of ESC implementation in the classroom, the use of formative and summative assessment by the teacher is the clearest means to identify students' learning needs and ensure that they are met. The application of formative and summative assessment though would need to be first supported by pre-service and in-service teacher training on these approaches. Accountability in regards to non-formal education is addressed in Table 16 based on the explanation given in 2011 report on ESC in Northeast Asian countries.

III. General Recommendations on improving governments' roles in ESC

In IGES's 2011 Policy Report on strengthening ESC policy and implementation strategies for Northeast Asian countries, policy recommendations were provided on advancing governmental capacities for long-term and effective implementation in China, Japan and Republic of Korea (see Table 16). Based on the research on ESC governmental capacities in Malaysia, Philippines, and Thailand, the following recommendations for the Northeast Asian countries in 2011 are again relevant and applicable to Southeast Asian countries in 2014.

Table 16. Recommendations for Improving ESC Governmental Capacity

Policy Recommendation	Contents
Expanding Roles and Responsibilities beyond National Governments	 National Government should be the primary actor in stimulating major shifts in consumption patterns; but, overburden is placed on governments to affect changes at the level of socio-cultural values and traditions. The role of government to coordinate the cooperation and participation of multi-stakeholders can be better shared across the multiplicity of actors whose various expertises would help to strengthen the overall impact of initiatives. Increased public participation in vision forming for a sustainable society supports greater public ownership and facilitating it at the local level through community groups also creates further powerful actors. Local governments can initiate effective ESC projects as they are better situated to respond to local contexts, needs, and partnerships with civil society to strengthen the practical implementation of many projects. Thus, further efforts are needed to strengthen the relationship between national and local governments in responding to SCP and ESC.
Applying Multiple Policy Mechanisms and Inter- Ministerial/Agency approaches	 Successful implementation of a variety of policy tools and approaches for ESC strengthens overall effect, but requires policy integration through holistic inter-ministry/agency coordination that draws on each agencies most effective capacities. For example, industry and infrastructure related agency ensure greener consumption options are readily available; then, economic and finance ministries establish systems i.e. eco-points while environment and education ministries work with engaging the public to promote initiatives. Government should work to mainstream these practices across public agencies and to encourage wider participation of multi-stakeholders through the respective coordination agencies each government already has.
Defining Policy Priorities and Target Areas for SC	 Confusion over the definition of SC continues to hinder effective policy formation. Governments need to identify clearly what they intend to achieve in promoting SC both in quantitative and qualitative issues. Each countries interpretation of ESC could differ from each other regarding their specific national and local contexts to distinguish their priorities and objectives. SC should be aligned with the social objective of improving overall quality of life along with improving the health of the environment we live in. Additional research is needed to identify what types of values, behaviours and practices support proactive participation in sustainable consumption.

Improving Accountability to strengthen the overall system

- Accountability can be addressed across three main project phases as: inputs to the planning phase, throughputs of the implementation phase, outputs and results of the given initiative.
- Accountability lever capacity building provides benefits by helping to strengthen the institutional arrangements lever.
- Specific mechanisms for supporting accountability include: participatory planning mechanisms, work plan and performance targets, and M&E.
- Participatory planning provides accountability to strategy/programme design through: 1) situation analysis/assessments, 2) elaborating a common vision, and 3) defining development goals and priorities.
- Work plans and performance targets help to establish a clear set of actions over a given time frame and identification of relevant actors (i.e. work plan), and it provides a set of targets that allow for quick assessment of how well implementation is proceeding.
- Monitoring and evaluation aims to track the longer-term outcomes and impacts an initiative is achieving, as well as serving to identify both threats and opportunities to be addressed in future planning/project cycles.

Addressing ESC as a thematic approach to ESD and SCP

- ESC can aid in synergising different aspects of the overall SD agenda
 especially SCP, ESD and sustainable lifestyles.
- ESC is an important learning model by building from the idea of selfaware learners who draw direct connections to the interrelationship between individual actions and their daily life.
- SC proves not only the acceptance of the idea of SD but also the commitment in making this transition; therefore, this commitment of responsibility is a key ingredient for progressive learning in the areas of ESD and SCP.

(Source: Didham 2011)

These three Southeast Asia country cases support the first recommendation of *Expanding national governments roles and responsibilities for ESC*. Similar to the cases in Northeast countries, three Southeast countries demonstrate that national governments tend to have a shortage of resources for sustainability implementation as a service provider. This offers opportunities to bring relevant support from public and private sectors. In result, the national government can play a facilitator role and encourage the implementation of ESC, i.e. public awareness raising and lifestyle changes through social learning. Another important aspect is that implementation of ESC and promotion of sustainable consumption/lifestyle practices occurs most relevantly and practically at the local level, and thus a strong interplay between national level planning and policy formation and local level practice and implementation needs to be more strongly developed. Mechanisms for sharing good practices, successful approaches and tools among relevant practitioners is one proven way to facilitate better collaboration as well as the collective testing and generation of new knowledge.

In a similar context, Applying multiple policy mechanisms and inter-ministerial/agency approaches, the second recommendation was also strongly emphasised in Southeast country cases. The necessity of whole-government and cross-ministerial approaches for creating joined-up thinking was encouraged as the concepts for the coordination and integration of a policymaking framework. Each of the three countries in this study have developed comprehensive and holistic visions of the sustainable societies they aim to achieve, however the communication standards and management tools to support the integrated application and delivery of these visions are yet to be mainstreamed

across the large number of agencies who hold varying levels of responsibility for the implementation of these visions. Particularly with ESC, the studies demonstrate a need to strengthen collaboration beyond education and environment agencies, as well as a strong potential to motivate greater SC action when initiatives are brought down to local levels through engaging with people directly in aspects of their daily lifestyle patterns and practices.

Defining policy priorities and target areas for SC was the third recommendation for the Northeast country cases. According to Southeast country case studies, it emphasises the value of redefining and formulating a common vision for sustainability, especially in Thailand where the nationally and culturally-framed Philosophy of Sufficiency Economy concept is more popular and familiar to Thai people than is sustainable development. In Thailand especially, but also in Malaysia and the Philippines, the realisation of a vision on sustainability has supported strong direction and cohesion for these countries' development initiatives. However, in each case these visions remain slightly idealistic and undefined. There is a lack of clarity especially on how daily life practices and consumption patterns impact on or facilitate these visions. This has two important consequences: 1) there are no clear priorities from a policy perspective on what are the major changes in practice that ESC should promote, and 2) individuals lack clarity on the types of meaningful actions that they can take to effect positive change for the sustainability or their respective country. Clarification and contextualisation of what "sustainable consumption" means in each country and identification/ promotion of specific, concrete actions that individuals can take would help to strengthen the contents and message of ESC. Furthermore, it is also acknowledged in the academic literature that the "value-action gap" continues to hinder progress and that the existing models of proenvironmental behaviour change are inadequate at guiding effective policy formation on this subject. More research, and particularly pragmatic, real-world research is needed to further explain and develop effective models of how proactive participation in sustainable consumption may be best facilitated.

As demonstrated in Thailand's case, the visions of sustainability in each region and country are similar but various. Additionally, many Asian countries have attempted to solve their unsustainable patterns of consumption and lifestyle in their own ways rather than accept another push from the developed countries as found in the Malaysian case. It shows that we need not to control a homogeneous ESC policy but to encourage more relevant contextualisation in each case. For example, developing countries or low-income consumers in developed countries may utilise second-hand sharing networks for their sustainable consumption practice, while developed countries and high-income consumers in developing countries may be more eager to purchase eco-labelled and premium products, electric cars and other status symbols of their sustainable consumption choices.

One of the more interesting differences that is noticeable between the country cases from the previous Northeast Asia study and those from this study of Southeast Asian countries is a growing change in the way ESC is addressed from a negative-orientation towards a more positive-orientation, i.e. a change from warning about bad practices to one aimed at promoting good practices. This is most likely a change that is occurring more generally in the overall framing of sustainable consumption and the evolution of ESC. Rather than being a clear distinction between the countries represented in the two respective sub-regional studies, this is more likely to do with the time discrepancy between the two studies. The early framing of ESC leaned much more towards raising

awareness on the negative outcomes of unsustainable consumption and through this aiming to convince individuals to change their practices due to a feeling of responsibility for the impacts they have. This trend has gradually shifted towards a greater focus on the positive aspects of sustainable consumption. However, with the more recent rise to prominence of the idea of "sustainable lifestyles" and its close coupling to ESC, we find as in the three Southeast Asian countries a stronger focus on conveying how sustainable consumption practices can help to secure more healthy, happy and resilient lifestyles is a more compelling approach. This point is extremely significant because this subtle change in the focus of ESC allows it to respond better to the needs of people and to produce more positive reactions.

IV. Emerging Trends and Themes in ESC and Sustainable Lifestyles

Although this study focussed on the capacities of government agencies to implement effective ESC, the previous point also highlights the importance of the effective framing of ESC contents and delivery of learning achievements. In framing ESC, it is important to note its dualistic link to both ESD and SCP, and its ability to serve as a practical bridge between these two concepts. During the regional workshops organised in parallel to this research process, participants noted the fact that ESC instruction often starts from a real-world, experiential basis as a significant difference from both ESD and SCP. While these two other concepts often serve as larger meta-narratives, teaching on these topics is most often top-down starting with theory and abstract conceptualisation. ESC can flip the teaching process around by first beginning with engaging students in practical actions, experiential learning and problem solving and then use these experiences to build up to learning on the principles and theory behind sustainable development. Additionally, with the evolution of the ESC concept and its recent coupling with the concept of sustainable lifestyles which reflects not only an individual's consumption choices but also a much wider series of lifestyle choices that impact on sustainability, the promotion of Education for Sustainable Lifestyles (ESL) may likely supplant that of ESC in the future.

Looking towards a movement from ESC to ESL, it is essential that these education frameworks not only consider the expected knowledge to be delivered during these initiatives, but that they also account for skill-based and value-based learning that will enable sustainable lifestyles. In fact, one may argue that the knowledge-based learning attributes of ESC/ESL are both too lengthy and still evolving to create a comprehensive check list of learning objectives. To deal with this challenge, better consideration of the skill-based learning attributes of ESC/ESL is critical, for it is these skills that will develop capacities in individuals to be life-long learners and act as sustainable citizens/change agents. The life-long learning skills that ESC/ESL can deliver include:

- Critical and complex thinking,
- Seeking alternative solutions,
- Real-world problem-solving,
- Future-mindedness,
- Adapting to and advocating for change,
- Social action, collaboration and cooperation,
- Conflict resolution, negotiation, creativity and imagination,

- Interdisciplinary and transdisciplinary research skills,
- Adaptive learning,
- Contextualisation of issues,
- Personal introspection, visioning and buy-in to identifying change and adapting to it,
- Systems thinking and thinking that is focused on values.

(Ofei-Manu and Didham, 2014: 7)

The gaining of these life-long learning skills may overtime be more effective in supporting sustainable lifestyle practices than the specific knowledge gained during individual ESC/ESL courses because these learning skills will allow the recipient to continue to learn and adapt/reframe his or her knowledge to realities of the surrounding world. And due to the fact of the context specific nature of sustainable consumption practices, this type of adaptive learning and critical reflexivity is essential to ensuring the continuation of one's sustainable lifestyle. In the emerging discussion on ESL, the objective is not only for individuals gaining life-long learning skills to construct and manage their individual lifestyles, but it is also to create a learning society through cooperation and deliberation that is able to take ownership of social change and sustainability transformations.

References

- Didham, R. J., ed. (2011) The Role of Governments in Education for Sustainable Consumption: Strengthening capacity for effective implementation in China, Japan, and Republic of Korea. IGES Policy Report 2011-03. IGES: Hayama.
- Ofei-Manu, P. and Didham, R. J. (2014) *Quality Education for Sustainable Development: A priority in achieving sustainability and well-being for all.* IGES Policy Brief, No. 28. IGES: Hayama.

APPENDIX 1: Concept Note for the Case Study

The Role of Governments in Education for Sustainable Consumption (ESC): Strengthening Capacity for Effective Implementation in Southeast Asia

CONCEPT NOTE

Research Background

Sustainable consumption is an integral element of sustainable development and an issue of paramount importance to the United Nations. At the UN Conference on Sustainable Development (Rio+20) held in Brazil, June 2012, the Heads of State reaffirmed that promoting sustainable patterns of consumption and production is an essential requirement for sustainable development and the Rio+20 outcome document *The Future We Want* adopted the 10-Year Framework of Programme on Sustainable Consumption and Production (SCP). This 10YFP was initially called for in the Johannesburg Plan of Implementation in 2002 and subsequently developed through the Marrakech Process on SCP, the SCP Task Forces, and regional SCP roundtables and strategies. It provides a "global framework of action to enhance international cooperation to accelerate the shift towards SCP in both developed and developing countries" (UNEP 2012).

The importance of education in facilitating a shift towards sustainable development and in promoting sustainable lifestyles has also been internationally reaffirmed in the UN's decision to launch a UN Decade of Education for Sustainable Development 2005-2014. Hence, Education for Sustainable Consumption (ESC) is understood as one of the ways to promote responsible environmental citizenship. The Marrakech Task Force on ESC focussed on the role of formal and non-formal learning processes in providing knowledge, awareness and competences aimed at enabling individuals and social groups to be the key actors of change towards more sustainable consumption behaviours. Following on the work of the Task Force on ESC, UNEP produced *Here and Now! Recommendations and Guidelines for ESC* in 2010 that offers a tool to assist policy-makers, educators and teachers in achieving ESC implementation. Based on this publication and a strong demand for guidance on how to integrate ESC, UNEP initiated a pilot project on the Institutional Strengthening of ESC in 2011 aimed at advancing ESC implementation and strategies at the national level. The first round of pilots was carried out in Chile, Indonesia and Tanzania.

As one of the pilot project's advisory group members, the Institute of Global Environmental Strategies (IGES) participated in the project and research on ESC at the national and regional level. This drew on IGES's own policy research on strengthening capacities for effective ESC implementation and identifying pathways to facilitate mainstreaming of ESC in China, Japan, and the Republic of Korea since 2009. This research provided an important case study of the institutional structure and governmental capacities in Northeast Asia for initiating ESC programmes and integrating these efforts into the wider policies and structures for sustainable development. As more efforts are needed for development of an experience-based model for institutional strengthening of ESC through policy-making and implementation at the national and regional level, it is an appropriate time to examine the current status and obstacles of ESC policy practice in the sub-region of Southeast Asia. This project will complete the cases of the Asia-Pacific Region on strengthening ESC policy and implementation strategies along with the previous Northeast studies and will be the foundation for the following Asia-Pacific Regional Analysis. The result will not only support the emphasis of the 10 YFP on the importance of supporting initiatives and on-going programmes for SCP but also contributes to the regional replication of UNEP's Institutional Strengthening of ESC project by investigating current efforts and sharing best practices on ESC project implementation.

Research Objectives

This research aims to identify opportunities for increasing capacity of governments; support the improvement of the overall quality of frameworks for ESC implementation; achieve greater long-term

improvement of ESC; and provide benefits for wider policies on SD including SCP and ESD. Along with conducting strategic policy research, it aims to enhance the quality and implementation of ESC in further Southeast Asian countries especially in Malaysia, Philippines and Thailand.

The major objectives of the research on ESC in Southeast Asia are:

- Reporting current status of Education for Sustainable Consumption in each country;
- Identifying the key aspects of the current governmental context for promoting sustainable consumption and consumer awareness raising and highlighting relevant policies on SCP generally and ESC specifically from the each country;
- Providing an opportunity to bring together both ESC responsible policy-decision makers from governments and ESC experts from NGOs, universities and institutes in one place to *exchange* productive dialogues to lessen the gap between these arenas, and;
- Supporting future ESC policies and effective implementation by: 1) identifying the current strengths and weaknesses in existing ESC knowledge held by relevant policy decision-makers;
 2) identifying opportunities for better policy integration between wider SCP policies and specific ESC initiatives, and;
 3) developing strategies for improving the current approach to promoting sustainable consumption.

Project Phases

National studies will be conducted in three countries. These studies are organized in three phases.

- 1. Research on existing policies and institutional structures for ESC: The development of the research framework for this project will be based on the previous frameworks applied in IGES's policy report *The Role of Governments in ESC (2011)* and from *UNEP Pilot Project on the Institutional Strengthening of ESC.* Data collection will be conducted through interviews with direct contacts and relevant stakeholders and this will be supplemented by review of existing policy documents.
- 2. Workshop: Report current status of ESC and in three countries will provide an opportunity to develop practical policies which link policy decision-makers and practitioners/researchers to enable them to implement efficient ESC together and will support future ESC policies and implementation. Workshop offers an opportunity to improve dialogue between government, academia and civil society organization.
- 3. Policy Report: It will contain an analysis of context and institutional frameworks relevant to ESC and coordination opportunities with national sustainable development and education strategies as well Identification of national priorities and best approaches to ESC and development of policy recommendations on how better plan and implement ESC.

APPENDIX 2: Interview Questions for the Case Study



Interview Questions for

The Role of Governments in Education for Sustainable Consumption (ESC): Strengthening Capacity for Effective Implementation in Southeast Asia

- 1a) What are the main policies that shape the government's efforts on promoting sustainable consumption? 1b) What are the main policies that shape the government's efforts on implementing Education for Sustainable Consumption and consumer awareness raising? 2) Are there any specific definitions, criteria or benchmarks for "sustainable consumption" set by your department/organization (or by the wider government)? 3a) What are the main strategies for promoting sustainable consumption and responsible consumer behaviour that guide you department/organization's efforts in this area? 3b) What are the main strategies for raising consumer awareness about sustainable consumption and implementing education for sustainable consumption? 3c) What systems/processes are in place for implementing ESC? 4) Who are viewed as the main actors with responsibility for achieving sustainable development (i.e. circular economy, low-carbon development, green growth)? Select all that apply and identify which actors have highest responsibility: □ National Government ☐ Local Government ☐ Citizens/Consumers Industry Businesses NGOs and Civil Society 5) What are the priority areas that the government targets for sustainable consumption (i.e. food, energy
- and water)?
- 6a) What areas of consumer practice and consumption choices does the government target for improvement?
- 6b) Why these areas and how do the hope to encourage improvement?
- 7) What are existing programs or projects your department/organization is implementing to promote sustainable consumption and responsible consumer behaviour?
- 8) How successful have these projects been? Are there any measurements or statistics to demonstrate this success? Are there monitoring and evaluation mechanisms in place?
- 9) What are the main success factors of these projects? What are the main weaknesses?

- 10a) What are the main constraints for the successful implementation of these sustainable consumption and ESC initiatives?
- 11) What are the main ways in which the government tries to engage consumers and encourage public participation in programs on ESC?
- 12) Does the government partner with any civil society organizations/NGOs in their work on promoting sustainable consumption? What are the relationships of this form of cooperation?
- 13) What is your opinion of the existing institutional capacity of your department/organization for promoting sustainable consumption (and what is the existing institutional capacity of the wider government as a whole)?
- 14) How could governmental capacity for promoting sustainable consumption and implementing ESC be improved?

Institute for Global Environmental Strategies 公益財団法人 地球環境戦略研究機関

2108-11, Kamiyamaguchi, Hayama, Kanagawa, 240-0115, Japan 〒240-0115 神奈川県三浦郡葉山町上山口 2108-11

Tel: +81-46-855-3700 Fax: +81-46-855-3709 Website: http://www.iges.or.jp/



