

EDUCATION FOR CHANGE:

A Case Study on Education for Sustainable Development in Southeast Asia



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Forward

Rapid and uneven economic growth and the often consequential environmental problems alongside remaining poverty and disparity are the key challenges present throughout the research of the Capacity Development and Education (CDE) Project at the Institute for Global Environmental Strategies (IGES) in Japan. In turn our challenge is to address these issues while aiming to find a balance of environmental sustainability and quality of life. In particular, the CDE Project's main research interest is how we can deliver the concept of Sustainable Development through education and training in our regional context when facing such a dilemma as a quarter of population in the Asia region still living on less than \$1. 25 a day.

The CDE Project has an opportunity to seek insights through research into the question of how we can promote ESD programmes in the Southeast Asia region, a region which faces urgent environmental problems due an incredible rate of economic growth while a considerable percentage of the population are exposed to extreme poverty. The challenges of poverty and the contrasting possibilities of economic growth are just one part of the reality of the region, as the environmental impacts remain as issues for all to consider now, and as a part of our future plans regionally and in every community. As a result, this paper reports a case study which identifies critical factors for promoting good practices and of ESD programmes and implementation at the local level. These findings were added to the results of a regional consultation meeting of educators and policy makers who discussed regional issues of ESD in policy and practice. When we consider a lack of studies in the ESD field to date, this report is therefore a significant contribution as it provides valuable research

evidence collected from diverse data resources and informants from actual practitioners in education sectors to political decision-makers in the governmental sector. What may be particularly useful and interesting to other researchers is the transboundary nature of the study itself, and of the focused topics of ESD, youth, and climate change.

I would like to express my deep thanks to the UNEP Regional Director Dr. Young-Woo Park and the UNEP Regional environmental Affairs Officer Mr. Mahesh Pradhan and the ASEAN Head of Environment and Disaster Management Unit Dr. Raman Letchumanan for assisting IGES and this study with constant support. I am also deeply grateful for all the interviewees and consultation meeting participants from the Southeast Asian countries which enabled us to complete this case study.

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Chapter 1: Introduction

“Our problems are solvable, but as we try to solve them, we will hear a million noes. No, we need not change; no, we cannot change; no, we must prepare for war; no, we cannot risk making peace, Yet after that final no will come a yes” (Sachs, 2008, 313).

1.1 Research Background

One of the more pressing global issues of the 21st century is the apparent duality of the attainment of sustainability and the drive for economic growth, in light of income disparity and ongoing environmental challenges. At present the world economy has reached a size of eight times that of the 1950s and will be another six times greater by 2050 (Sachs, 2008). Despite this rapid global economic growth, 1.4 billion people are still living in extreme poverty, with approximately twenty-five percent of the population in developing countries living below the international poverty line with less than \$1.25 a day including 1.120 billion people in the Asia-Pacific region (The World Bank, 2008a, 5). The result is a large part of the world’s population who survive on \$1.25 a day live in the Asia-Pacific region alone.

In particular, a quarter of the population in Southeast Asia still face the challenges of poverty daily to meet even the simplest level of existence. However the region is not only home to poverty and population, as of 2000 Asia shares nearly 38% of world income compared to just 23% in 1970 (Sachs, 25), and the fastest economic growth in the world over the past 40 years with an average GDP per capita growth rate of 3.31% compared to a global average of just 1.93% (The World Bank, 2008c).

These fast growth rates are accompanied by increased pressure on the environment, increased demand for goods and energy, and changing societal patterns such as urbanisation. Consequentially, climate change issues are an inevitable and urgent environmental challenge due to a rapid increase of per capita CO² emissions and increased energy consumption as a result of economic growth. As a reflection of these urgent issues, environment and climate change were the two of the key

Table 1.1: Average GDP per capita growth rates

Region	Average GDP per capita growth rates
World	1.93
Asia (excluding Middle East)	3.31
Central America & Caribbean	1.84
Europe	1.36
Middle East & North Africa	1.62
North America	2.18
Oceania	1.76
South America	1.50

themes at the G8 Environmental Ministers' Meeting in Hokkaido last year in 2008 (Hokkaido Toyako G8 Summit, 2008). The leaders called for global cooperation to address climate change and expressed their supports to achieve a Low Carbon Society.

Southeast Asia in particular is one of the most vulnerable regions facing a rise in sea level because of climate change and other environmental calamities. Most of the ASEAN countries have low-lying coasts which face major challenges in terms of relocating coastal populations and decreases in GDP as a result of rising sea level by the end of this century due to climate change.

Meanwhile, three fifths of the global youth population live in Asia (UNESCO, 2009, 5). Due to their numbers in terms of population and future consumption and production these youth are also a groups with great potential to empower and mobilise not only for their own benefit at present, but also for future global sustainable development. Nevertheless, the youth are often "characterised by striking paradoxes, *i.e.* extreme disparities in terms of economic, technological, social and cultural resources which vary enormously across regions, countries, localities and population groups" (UNESCO, 2009, 5). It is therefore critically necessary to understand how we can support this group to

let them be assured of their future survival and to improve their quality of life. Youth are also one of the main target groups of the UN's Decade of Education for Sustainable Development (DESD) along with other diverse stakeholders such as civil society and private sectors which by targeting through empowerment and education can contribute greatly to achieving the ultimate global goal of an environmentally and economically sustainable society. In this aspect education, awareness raising, and empowerment of youth has great potential to help mitigate growing contributions to climate change through increased emissions as a result of economic growth, and develop their capacity to adapt to the consequences of climate change through technology and innovation. These approaches are conceptualised in the global framework of Education for Sustainable Development (ESD).

Sheldon Shaeffer, Director of UNESCO Asia and Pacific Regional Bureau for Education also noted the importance of youth, among other key groups, in ESD in the 2005 UNESCO publication *"Situational Analysis of Education for Sustainable Development in the Asia-Pacific Regions"*. Nonetheless, the reality for the majority of Southeast Asian countries is that ESD has not been fully integrated within formal and informal education or infused into the curriculum, especially in relation to engaging youth and addressing the global issue of climate change. In this regard the current situation of ESD in Southeast Asia does not differ greatly from the situation in 2005 when the DESD began.

From the background above, a research framework was created based on key questions for a case study on ESD programmes which were developed with a focus on climate change and youth along with economic status of each country and in consideration of the indigenous contexts in the Southeast Asian countries. The key questions and focuses of this case study are explained in the following section.

1.2 Research Questions and Focus

In consideration of the regional issues on the balance between economic growth and environmental sustainability as discussed above, the following key questions were established:

- To provide an understanding of a good practice mechanism in ESD programmes within the specific context of Southeast Asian countries, especially: *What are the critical factors promoting good practice of ESD programmes at the local level?*
- To provide an understanding of the indigenous contexts in ESD programmes: *What do we need to consider in implementation of ESD programmes within the indigenous learning contexts in Southeast Asian countries?*

The key questions above were then evolved into the following two-sub questions limited to the two focuses: climate change issue and youth in the specific learning setting of ESD programmes:

- To identify practical strategies of good practice in ESD programmes specifically targeted to youth: *What are the critical factors for promoting ESD programmes to foster young people's engagement?*
- To address climate change issue: *What do we need to consider for educators in helping young people's understanding of climate change issues via ESD programmes?*

This research therefore was conducted with the following limitations:

- *This case study was conducted limited to formal and informal ESD programmes:* With pragmatic grounds, both formal and informal ESD programmes were selected for this research, as it was a way to collect rich data given the limited data

resources of ESD programmes and the nature of education in Southeast Asia;

- *The main target group of this research was youth:* The United Nations defines ‘youth as persons between the ages of 15 and 24 (UNESCO, 2009). In this study, ESD programmes targeted to students and youth between 14/15 and 19/20 years old i.e. from secondary students, technical trade schools, and colleges for a consistency of data collection criteria;
- *Three countries amongst the Southeast Asian countries – i.e. Singapore, Thailand and Vietnam - were selected within specific criteria* such as the economic growth rates, urgent climate change issues, CO² emissions and energy consumption (see Section 3.3 Data Selection), and;
- *In particular, ESD programmes in urban area were chosen:* For balanced data collection given the contextual factors of the case study countries, only ESD programmes conducted in urban area were considered. The rationale behind this directly relates to the three parallel case studies in Thailand, Vietnam and Singapore in which Singapore is both a city and a country with very limited non-urban areas. As such, Bangkok in Thailand and Hanoi in Vietnam were selected as major urban centres.

1.3 Research Methods and Organisation

This case study employed qualitative research methods using in-depth interviews, observations, group meetings and a consultation meeting. The main purpose for using diverse qualitative research methods was to collect data from different resources which can contribute to greater validity and reliability in the findings and data analysis (Newman et al., 2003).

- To obtain detailed dialogues and meaningful descriptions from key informants, interviews were used:* As there has been lack of research evidence on ESD – particularly from local level implementers, it was important to collect actual voices, experience and knowledge from people working with ESD who have actually been engaged in teaching and research activities such as NGO staff and school teachers. In addition, local and central government officers who have been involving in ESD-related policy decision-making processes were also included in the research design so as to give a view of the overall mechanism which is influenced and supported by a national and local strategic scheme (see Section 3.4.1).
- To avoid partiality and bias in data analysis and conclusions, a consultation meeting inclusive of diverse regional stakeholders was organised:* The consultation meetings consisted of a series of focused and discussion oriented sessions based on case studies and presentations on related ESD topics. One of the main purposes of the consultation meeting was for feedback and advice on the case study data analysis and findings. In consideration of this purpose, the key participants of the consultation meeting were ESD policy decision-makers, academic researchers, practitioners including NGO staffs and school teachers and international organisations such as UNEP, UNESCO and ASEAN. The consultation therefore brought high validity and reliability as different perspectives preserve objectivity in data analysis which contributed greatly to the case study. In addition to the purpose above, the consultation meeting also enabled us to collect information on the status of the national ESD policies and strategies; to obtain actual examples of implemented ESD projects at a local level that are linked within the national level policy, and; to discuss bridging the gap between policy discourse and high-level recognition to mainstream ESD and implementing in practice through specific cases (see Section 3.4.2).
- To collect supporting evidence, documents were gathered and observation sessions held to complement the dialogue and discourse based data:* Additional data were collected from interviewees in the form of publications such as textbooks, environmental magazines, and organisational sustainable development reports. Additionally,

observations were made of outdoor ESD programme. For instance, a half/full-day ESD programme conducted by NGO practitioners and school teachers' concerning actual teaching practice targeted at climate change and youth at a local level were observed. In qualitative research observations as a method of research can be useful by giving a different perspective of data described by interviewees and reports and can help strengthen the research findings (Denzin, 1989; and Guba, 1990).

1.4 Research Overview

The ultimate goal of this research project is to add to the understanding of ESD in Southeast Asia by giving concrete examples and insights into critical factors at the local level for ESD. Therefore, the research is aimed at:

- Contributing to the Decade of Education for Sustainable Development by providing a local level perspective of ESD policy and practice in Southeast Asia, and;
- Adding to the understanding of how climate change is being addressed in education in Southeast Asia, in particular for youth, and;
- Supporting ESD in Southeast Asia, in particular through the ASEAN Environmental Education Action Plan 2008-2012 by providing insight into critical factors for promoting ESD.

To achieve the aims above, three main data resources were employed in this research:

- Reviewing the existing publications on significant global and regional issues for ESD;

- Exploring ESD experts' experience and knowledge by conducting a multi-country case study on climate change and youth in the selected Southeast Asian countries, and;
- Obtaining ESD dialogues from a consultation meeting with ESD experts from diverse sectors from Southeast Asia to present on ESD in their respective areas.

This report aims to provide insights on the current status and realities of ESD in Southeast Asia and highlights important focus areas and the outlook of ESD in terms of action to undertake. The intended audience of this report is those working in international organisations and local civil society, educators and policy makers, and other researchers who have an interest or a stake in ESD. In particular the research outcomes are aimed to supporting collaboration and action on environmental education for sustainable development under the framework developed by ASEAN for the Southeast Asian region.

This paper consists of five chapters, the following section provides an outline of each chapter (see also Figure 1.1 below).

Chapter 1 consists of four main parts: rationale, key questions, research design, and an outline of this paper. In particular, this chapter shows overall order and the sequential research process presented in this paper.

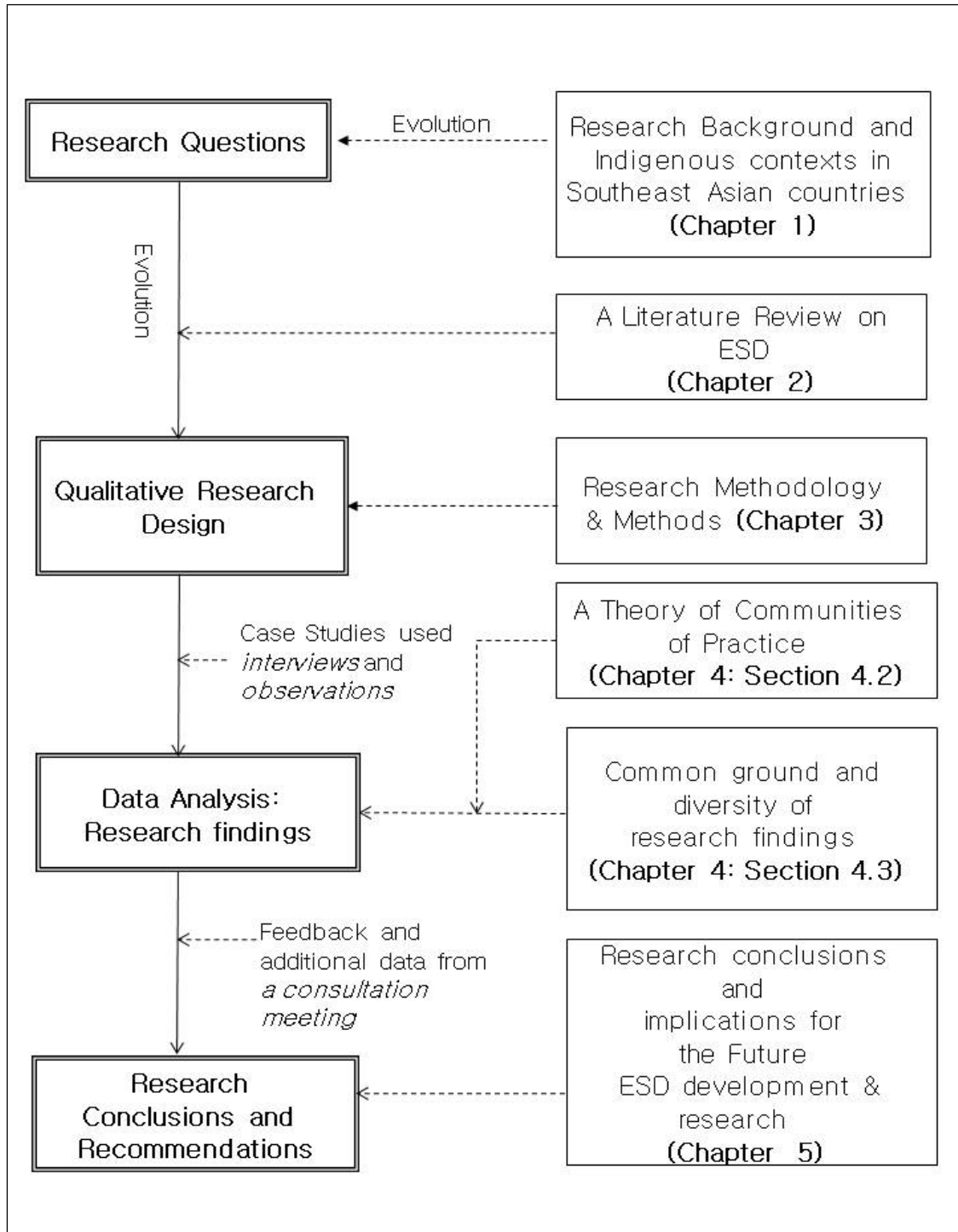
Chapter 2 covers historical and contemporary aspects of Education for Sustainable Development – including the perspectives taken by UNESCO as the lead agency for the Decade of Education for Sustainable Development (DESD), and IGES in conducting the research; and issues relevant to the topics of the region in terms of ESD such as the conceptualization of ESD in terms of Environmental Education.

Chapter 3 describes the research procedures explaining briefly the research parameters and methods of data collection, including how the research was carried out, which groups were interviewed and why, and some of the obstacles experienced and limitations of the design.

Chapter 4 presents the research findings and analysis. The research findings chapter begins by explaining the concepts of Communities of Practice, which forms the theoretical basis for the analysis, describes the indigenous features of each country in the case study followed by a theoretical analysis based on the core components of a community of practice; and summarises the results of the consultation meeting. The chapter concludes with a synthesis discussion of the finding from both data sources – case study and consultation meeting, and a conclusion.

Finally, Chapter 5 provides conclusions and points of consideration based on the entire research framework. This final section also presents recommendations and implications of the findings and some suggestions for future research and action on ESD in the Southeast Asia region.

Figure 1.1: Overall Sequence of the Research Process



Chapter 2: Conceptual Review of Education for Sustainable Development

“Human history is a race between education and catastrophe” (H G Wells in Outline of History, 1920).

2.1 Introduction

The purpose of this chapter is to review publications and resources which bear on the research topics and findings. This chapter consists of the following topics:

- Understanding Education for Sustainable Development (ESD) – ESD in various forms has been embraced by various organisations and researchers. One of the background elements behind how ESD is understood is found in the historical origins of Environmental Education (EE) and ESD (Section 2.2);
- ESD research areas – Key research areas and reporting on ESD are discussed to explore academic perspectives on ESD (Section 2.3), and;
- International consensus on ESD - The conceptualisation of ESD is explored, for instance, the global perspective as led by UNESCO at the beginning of the Decade of Education for Sustainable Development (DESD); how ESD has been portrayed in international publications, and; how ESD has expanded throughout the Asia-Pacific region (Section 2.4).

Publications were used to form the initial conceptual framework for the research which formed the framework for both the case study research and the regional consultation meeting (see

Chapter 3 for the research methodology and methods). The published and unpublished documents were gathered through two methods – searches of online databases and Internet sources, and through the collection of documents and publications from interviewees and key contacts in organisations. EBSCO and the Education Resource Information Center (ERIC) were the two most accessed online databases, with Google being the primary search engine. Keyword searches included the following words and various permutations of combinations to support better search results:

Education for sustainable development; ESD; sustainable development; environmental education; environmental education for sustainable development; EE; EE for SD; UNESCO; Decade of Education for Sustainable Development; DESD; ASEAN DESD; climate change; youth; policy.

From this review of what has been written and what is being said about ESD our purpose is to draw on the discussions to frame our own research and indicate areas for future research along with, and most importantly, ideas and recommendations for policy and project implementation. Therefore, the intent of this chapter, and indeed the entire report, is to encourage action to take place which follow the vision and goals of ESD.

2.2 Understanding Education for Sustainable Development

The purpose of this section is to give a brief review of ESD through publications and discussions on its foundations and meaning. This section also explains a definition or general understanding of ESD as it was understood for the research.

2.2.1 Education for Sustainable Development: Context and Concepts

One purpose of this research paper is to aid in understanding, particularly at the local level, the unique and cross-cutting nature of ESD and to provide insights into the reality of how ESD is conceptualised in the Southeast Asian region. In so doing we can help distinguish ESD as a distinct field separate, and even complimentary to Environmental Education (EE) in light of the propensity for ESD to be conceived as an extension of EE. In the following section we shall look at how global and regional organisations conceive ESD.

In his journal article on ESD David Selby describes ESD simply as “the educational manifestation of the concept of sustainable development” (2006, 352). In so doing he references the Bruntland Commissions definition of sustainable development, quoting it as “development that meets the needs of the present without compromising the ability of future generations to meet their needs” and marks the Earth Summit in Rio de Janeiro in 1992 as the main starting point for global recognition of sustainable development (*ibid.*, 2006, 352). Since that time sustainable development, and by extension ESD, has grown to encompass and address far reaching ideals and visions. With the supposed outcome of not compromising the needs of future generations to meet their needs, in the simplest sense, and with a concern for the relationship between society, the environment, and economic development – with culture as the underlying factor influencing how ESD is manifested around the world. Along with this is the connection between individuals and the ecological system around them. For example, “ESD aims to empower people to link personal well-being with societal well-being and the sustainability of ecosystems on which all human life is dependent” (Calderbank, 2008). UNESCO seems to have captured the essence of ESD as it is globally recognised with the following statement:

“ESD is a holistic concept, embracing societal, cultural, environmental and economic issues with comprehensive strategies, thereby “potentially touch[ing] on every aspect of life” (UNESCO, 2005b, 12).

Regionally, and even locally ESD can take on a definition with more, or less, specific information relevant to the local context, or the needs of the organisation which is addressing ESD. The following section will look at how organisations relevant to this research paper approach ESD.

UN and ESD

ESD as presented by the United Nations is directly related to the comprehensive document on sustainable development - Agenda 21. In Agenda 21 we can see a certain emphasis on the social and human aspect of sustainable development in respect to the impacts on the environment and the integration of environment and development concerns leading to improved environmental and living conditions (UNCED, Agenda 21, Section 1.1). While ESD is always considered in association with other UN initiatives and among UN organisations, two agencies have taken the lead in providing mutual support for ESD *i.e.* UNESCO and UNEP. UNESCO, as the lead agency for the Decade of Education for Sustainable Development (DESD) has proposed a vision for the DESD:

“A world where everyone has the opportunity to benefit from education and learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation” (UNESCO, 2005a, 6).

Public participation and inclusiveness are very central to UN ESD, as reviewing the publications of the DESD from 2005 onwards shows there is an ever increasing list of stakeholders with consistent calls for interaction and participation – in particular at the community level. The actions of UNESCO member states and UNESCO itself as the lead agency of the DESD are guided by basic “thrusts” of ESD, and that is access to and quality of education, reorienting education to create sustainable societies, developing public understanding and awareness of sustainable development, and to provide training (UNESCO, 2005a). UNEP adds to ESD organisationally by placing emphasis on training and environmental education; however that is not to say that EE is their only focus of course:

“ESD is a concept that goes far beyond environmental education. It is the educational process of achieving human development (“the three pillars of human development” proposed by UNDP: economic growth, social development, and environmental protection) in an inclusive, equitable and secure manner. It thus includes education for poverty alleviation, human rights, gender equality, cultural diversity, international understanding, peace and many more” (UNEP, 2008).

UNEP has also played a strong role in EE and ESD in Southeast Asia, having established a network of environmental educators in 1992 among other initiatives (UNEP, 2009), so in this light we can understand to a certain extent how it is that ESD is often seen in terms of EE in the region.

ASEAN and ESD

The regional plan for ESD is the ASEAN Environmental Education Action Plan 2008-2012 (AEEAP), which succeeds the AEEAP 2002-2005 with the theme Environmental Education for Sustainable Development (ASEAN, 2008). The AEEAP is ASEAN’s contribution to the United Nations’ DESD, and it is clear that ESD in Southeast Asia is conceptualised in terms of environmental education in the region in view of the main regional framework, as the document states on the first page that EE is an integrating component of ESD. To a certain extent, EE and ESD are seen as parts of a whole, serving the purpose of educating citizens in all aspects of life about making ecological decisions and living sustainably, rather than as discrete enterprises.

The AEEAP shares many of the same tenants as UN ESD, and serves as the framework for collaboration and action on EE activities by ASEAN members. The AEEAP 2008-2012 has four target areas that show similarity to areas emphasised in UN ESD – a) Formal education b) Non-formal

education c) Human resources capacity building, and d) Networking, collaboration, and communication. The AEEAP defines EE in much the same way as the UN does ESD:

“Environmental Education (EE) has been defined as the process of helping people, through formal and non-formal education, to acquire understanding, skills, and values that will enable them to participate as active and informed citizens in the development of an ecologically sustainable and socially just society”(ASEAN, 2008, 1).

The approach then, to ESD for ASEAN member countries following the AEEAP is very much done with EE as a base to ESD. As the AEEAP 2008-2012 states “EE is key to the overall ESD strategy since humanity’s value for and understanding of nature, and its sustainable use and management of natural resources form the basis for sustainable economies, harmonious societies and healthy people”(ibid., 2008, 10).

IGES and ESD

Drawing on these resource from these organisation among other publications, for the research conception we have broadly defined ESD in terms of the previous discussions, and that is education that seeks to develop society to act in a sustainable manner, conscious to ecology of decisions made and relative to the local context with consideration for the social, economic and environmental spheres, with the main pathway to this being taken through existing channels developed by environmental education.

Although we are approaching the mid-way point of the Decade of Education for Sustainable Development (DESD), any discussion of ESD must also include the relation to Environmental Education, especially in Southeast Asia. As was noted by Sheldon Shaeffer, the Director of UNESCO

Asia and Pacific Regional Bureau for Education, for many people ESD is conceptualised in the context of EE (UNESCO, 2005b). Given the relatively long history and spread of EE and the purpose and intent of the existing ASEAN regional framework for EE which explicitly accounts for the DESD, it is simply the reality of the Southeast Asian region that ESD is conceptualised in terms of Environmental Education. There does seem to be a certain potential for limitations with this conceptualization, especially if ESD is considered primarily in terms of the United Nations and such things as their recommendations for aligning ESD with other UN educational initiatives such as the Decade of Literacy or Education for All as McKeown suggests (2007) and as is suggested in numerous DESD publications. Indeed, the ASEAN Environmental Education framework for the time period concurrent with the DESD is explicitly the regional contribution to the DESD. This close conceptualisation of EE and ESD is not necessarily to the detriment of ESD or retardation to making progress on the values and goals of global ESD initiatives such as the UN lead DESD, aside from perhaps alignment with other UN initiatives. Taken in context, making societal changes in light of sustainable development by using the environment as a starting point conceivably can be quite efficiently done given the well developed policy framework and widespread awareness of EE in the region as a base to work from, given that there is congruence and alignment of goals and vision and a clearly expressed plan for action.

Further, ESD by itself has the potential, along with climate change, as being seen as a Western construct and a burden on developing nations in terms of response in policy and implementation due to additional time and cost. In Southeast Asia ESD is in need of an avenue into mainstream politics and practices, and EE can be seen as a means of carrying ESD into the forefront and mainstream. What may be necessary then is to clarify, solidify, and reify ESD through collaborative research, information sharing, and partnership in implementation. As it is now there are many overlapping interpretations and definitions for ESD of varying congruence, making it somewhat of a challenge to define which projects are specifically “ESD”.

In this regard we can understand ESD in terms of the outcomes resulting from implementation such as changing societal perception and participation based on informed decision making, and adherence to common values of sustainable development and containing characteristics derived from such documents as Agenda 21 (UN, 1992 and UNESCO, 1992), such as reorienting education, increasing public awareness, providing training, or even quality of education. For the purpose of the research carried out for this report this can be seen as the lens through which IGES views ESD.

2.2.2 Education for Sustainable Development and Environmental Education

The purpose of this section is to briefly address a topic which can be considered in any discussion of ESD, especially in the context of Southeast Asia, and that is the relationship between ESD and Environmental Education (EE). To address this relationship this section will explore the fundamental differences between EE and ESD by looking at the foundations of each and specifically the goals, principles and intent of EE and ESD. This is necessary to consider as there is still discussion on ESD being conceptualised in the context of EE, or seen as a potential replacement or even competitor to EE. This section will attempt to distinguish the two, EE and ESD, and describe how fundamentally they are distinct in focus and intent.

The arguments presented here draw from an article by McKeown and Hopkins (2003) for discussing the foundations of EE and ESD, with supporting and contrasting accounts from other researchers. The premise is that due to the foundations, EE and ESD, while sharing certain similarities with content, differ quite significantly in intent and focus. McKeown and Hopkins (2003) make reference to three documents as the basis of their paper which are used to highlight the foundations of EE and ESD. It should be noted as well, that the authors acknowledge that both EE and ESD have

evolved since their formative years, but that their intent and focus very much remain close to the fundamental focal points from which they began.

The “essence” of EE is, as the authors put it, found in two documents, the Belgrade Charter which is found in the Final Report of the International Workshop on Environmental Education in 1975, and the Tbilisi Declaration which was a part of the Final Report of the Intergovernmental Conference on Environmental Education held in 1979. These documents were chosen for their historical significance in showing the records, goals, and basic principles of EE and help to clarify their intent when considered in the context of the time at which they were written (McKeown and Hopkins, 2003, 118). To aid with understanding the context, in addition to reviewing the documents, McKeown and Hopkins also spoke with some of the people involved with their actual writing, with Hopkins himself being integrally involved with formulating EE in the 1970’s. The Belgrade Charter expresses the goal of EE as to develop awareness and concern in the global population of the environment. Similar to ESD there is mention of the individual and collective movement towards finding solutions to then current problems and preventing new ones. The primary factors are related to environmental awareness and the capacity to find solutions and prevent problems, mainly in relation to environmental pollution, with “the environment” often being nearly synonymous with “pollution”. While there are similarities to ESD in this regard, it can be noted that there is no mention of society, economics, or development.

The Tbilisi Declaration built on the ideas from the Belgrade Charter and included additions to account for regional needs, localization (UNESCO, 1978 and UNESCO, 1980). While there was mention of society, participation, and development, it was in the context of focusing on the human impact on the environment. Socio-economic concerns are present, but the vantage point that is taken is one which views these concerns with an environmental eye and their relationship to the environment. Socio-economic concerns were utilized as a means to protect the environment. Indirectly it might be argued that by protecting the environment society can prosper or new economic opportunities can be found, but McKeown and Hopkins (2003) attest that that was not the

intention or spirit of the time. Rather, it can be said that the main thrust of the two documents is to protect the environment through education and raising awareness, and the focus is clearly from an environmental perspective from which society and economic concerns are viewed. Contrast this with Rio Declaration on Environment and Development (UN, 1992) where the key principles of sustainable development are set out. In this document principle one states that “Human beings are at the centre for concern for sustainable development” while “environmental protection shall constitute an integral part of the development process”. As Gomez (2005, 264) alludes to, environmental education will not be replaced or recreated by ESD as they have different motives conceptually, epistemologically, and strategically.

It is often said that every chapter of the sustainable development “blueprint”, Agenda 21, contains mention of “education”. Chapter 36 (UN, 1992) contains the major “thrusts” of education, awareness, and training: improving the quality of and access to basic education, reorienting existing education to address sustainable development, developing public awareness and understanding, and training. This essentially marked a shift in view from environmental protection and awareness regarding environmental issues to actually working to find a balance between socio-economic concerns such as poverty and development, along with environmental concerns. Environmental education was never without attention paid to socio-economic or cultural issues; the point here is that Agenda 21 and by extension ESD has an inherent emphasis on sustainable development and includes much more than what formed the foundations of EE, then and even now.

Furthermore, while EE would certainly benefit from a more literate world with better access to quality education in a community that endorses and promotes human rights, the emphasis on these issues is found in ESD as shown by looking at Agenda 21, UNESCO publications on ESD, and other academic literature on the subject (see for example Gonzalez-Gaudio, 2005; Landorf, Doscher, and Rocco, 2008). To be sure, both EE and ESD have been evolving over time with certain areas of overlap, but it is certainly fair to say that the difference is in the focus, with EE based in the environment with an eye on socio-economic and cultural relevancy in relation back to environmental

issues, while ESD has these as the foundation upon which other areas are viewed. Gomez makes the point that environmental education has played an important role in setting the trajectory for developing other types of education to address the crises faced by society and in looking forward environmental education can provide a critical reading of contemporary development thinking which is now typically inclusive of sustainability (2005, 262). Jickling in 1994 discussed environmental education and sustainable development and makes the point that analysis and the type of discussion provided here in this chapter cannot provide conclusive or concrete answers, merely a collection of logical arguments of varying merit on which to base decisions. In the context of environmental education Jickling warns against treating an abstract concept (EE in his case, ESD in our case) as an actual object stating “In the field of environmental education we appear to be witnessing a treasure hunt for an infinitely illusive abstract object.” His solution to solidify and reify abstract nouns is analysis of the concepts at hand and continual research to determine if the actual application of the concepts is consistent with the analysis. The discussion continues though, about the distinction between EE and ESD, which areas are better served by one approach or the other, and so forth, so it will be interesting to see how the results of such debate affect education, as well as the economic, social, and environmental spheres, if at all. In particular if the values or scope of one area are adopted by another.

All this being said however, and going back to Shaeffer’s comments and the description of ESD in Southeast Asia at the beginning of the chapter, it may not necessarily be a negative condition for ESD to stem from EE or be “conceptualised” in terms of EE. In their discussion of moving beyond the EE or ESD debate, McKeown and Hopkins (2003) suggest that no single discipline could contribute to all four thrusts of ESD as described by UNESCO as ESD is far too inclusive and that rather than asking “What is the difference between this discipline and ESD”, they suggest a better question is “What can this discipline contribute to ESD?”

We can build on this argument by considering that as long as the question being asked, especially by those with a strictly EE background, is not “What can ESD do for our field?” but “What

can our field do for ESD”, it is conceivable that the distinction can be made favourably and those who identify themselves more with EE can consider how to contribute to a similar, yet fundamentally distinct, enterprise. Further, as Selby points out (2006), there are thematic and epistemological issues in ESD as a comparatively “young” enterprise. As such, and in consideration of limited resources and the remaining years of the DESD, building on the foundations of EE, especially the political and educational support frameworks, can be a very practical means of moving forward with action on the many publications and meetings that have been produced to date.

2.3 Building Upon and Expanding Research on Education for Sustainable Development

McKeown and Hopkins (2007) follow up on their earlier writing about ESD and EE by focusing on this very topic of moving beyond the disciplinary debates and in so doing we can see an important issue. While many, in particular those in EE, ask “What can ESD do for us?” perhaps a better question is “What can we do for ESD?” The reasoning behind this line of questioning is an acceptance of ESD as not just multidisciplinary, but as something that works beyond the “disciplinary scale” on a local, national, and international scale in policy and educational systems. Selby (2006, 354) describes ESD as “loosening the clutches” of the natural sciences on studies relating to the environment in a broad “coalition” of interrelated disciplines that are free to work together beyond the margins of their fields.

Since 1990 there has been an ever increasing body of literature on ESD, as noted by Wright and Pullen (2007) who found almost 1500 articles containing reference to ESD between 1990 and 2005. It should be noted though that not all of the 1500 were articles about ESD per se, rather ESD was mentioned even if only briefly. These numbers are difficult to fully appreciate or draw conclusions from, as a search of the larger academic databases such as ERIC and EBSCOhost do not yield quite so many references on “ESD” or “Education for Sustainable Development”, between 118

and 145 as of January 2009. That is not to say that progress is not being made on building up research on ESD or on clarifying key areas and the future direction for research on ESD.

During a three-day meeting in 2006 researchers from around the world gathered for a workshop on ESD in Paris, with general agreement that there is little research specific to ESD but much research available that can inform ESD including sources that may not typically be utilised, such as business (McKeown, 2007). One major conclusion of their discussion was that research on ESD is “nascent”, or promising. In other words, they “agreed that there is little research directly related to ESD”, and that what does exist or bears on ESD commonly addresses one or two of the “thrusts” of ESD rather than encompassing more of the thrusts of ESD under one research endeavour (*ibid*, 2007, 94), thus leaving room for research which addresses ESD directly with a consideration of the core components of ESD. The findings of the conference included areas where research is needed including:

- a. Clarifying the concepts (i.e. What are ESD and ESD research?);
- b. Raising awareness;
- c. Analysis of policy;
- d. Analysis of curriculum, and;
- e. Evaluation of practices to identify good practices and the eventual development of case studies.

As well, the workshop discussed partnership to build on existing information and knowledge, and bridging the gap between policy makers, practitioners, and researchers as being essential to the success of the DESD (*ibid*, 2007). In addition to what was mentioned in the workshop, while some of the research on ESD is being conducted outside of education and sustainable development specific journals, much of the research on ESD, particularly since the announcement of the DESD, has focused

on defining ESD and the purpose and function of education and sustainable development in society. In addition there have been insightful and informative studies that focus on academic aspects of ESD, such as the nature of education and its role in empowerment and behavioural changes and the relation with politics (as seen in Gough and Scott, 2006; Selby, 2006). Even a review of the Journal of Education for Sustainable Development would indicate a strong tendency in published research for articles about the topic of ESD, about the conferences and papers being written on ESD, there has so far been very little space devoted to case study research and documenting the accounts of local level ESD practices and the realities faced by educators and policy makers.

That is to say that there are many valuable resources available on what researchers think about ESD, and that would suggest there is room for research on ESD as it is practiced in various contexts and cultures, as those are the very underlying characteristics of ESD. That is not to say that academic discourse is not relevant, as these types of articles and writing do raise important issues in education which should be raised, as ESD is an interesting educational movement in that it was not necessarily started by educators per se, rather by environmentalist and sustainable development proponents, and therefore educational matters such as pedagogy and methodology should be addressed, preferably in a manner that is accessible and suitable for those with a stake in ESD.

As was alluded to before, there does seem to exist an issue of accessibility to ESD. ESD is a rather difficult to grasp concept, as by design it is fluid and should take shape as each locality demands of it. However we may also consider that too much discourse on ESD may be what is actually keeping it from moving forward and becoming mainstream in that the discourse is occurring out of touch with many practitioners and policy makers. We hope with our research process, which involves close contact with practitioners and policy makers through in-depth interviews and consultation meetings, that we can help bridge the gap and facilitate the translation and flow of information between academics, policy makers, and the people working at the community level.

2.4 The Decade of Education for Sustainable Development

The purpose of this section is to describe in some detail the DESD through UNESCO publications, from its conception through to the current status of the components of the DESD. The section begins by describing the background of the DESD and follows up with how the UN and UNESCO in particular conceptualise ESD and clarifies the main stakeholders and their role in the DESD.

2.4.1 Background on the Decade of Education for Sustainable Development

While the ideas behind sustainable development have been in existence for many years, the formalised concept of sustainable development was first endorsed by the United Nations in 1987 following the report of the Brundtland Commission, *Our Common Future*, which endorsed sustainable development as an overarching framework or construct for future development policy at all levels of government (UNESCO, 2005a, 26). This leads to a series of meetings and discussion in the international community culminating in 1992 at the *Earth Summit* in Rio de Janeiro with Agenda 21. In relation to education, each chapter of Agenda 21 carries the theme of education being an important factor, stating that “education is critical for promoting sustainable development and improving the capacity of the people to address sustainable development issues” (UNCED, 1992, section 36.3), while Chapter 36 specifically discusses education and sustainability by “promoting education, public awareness, and training” (UNESCO, 2005a, 26).

Broadly, education has been recognised by the UN as fundamental in many aspects, and in particular this can be seen at every United Nations Conference which addressed sustainability issues in the 1990’s that education was crucial for implementing action strategies (UNESCO, 2005a). With Japan leading much of the drive at the Johannesburg World Summit on Sustainable Development in

2002 the Decade of Education for Sustainable Development (DESD) was proposed, signalling a recognition that education plays an important role and is central to the advancement of sustainable development at all levels, from the international to the local community (UNESCO, 2005a).

2.4.2 UN Characteristics of ESD

Generally, the overarching themes of ESD are commonly considered to be the overlapping characteristics of economic growth, social development, and environmental preservation coming together to improve the quality of life for the current and future generations, and this is how ESD is described by UNESCO in beginning the DESD (UNESCO, 2005a, 26). In 2005 UNESCO described ESD as “a dynamic and expansive undertaking that envisions a world where every person has the chance to benefit from educational opportunities and to learn the lifestyles, behaviours and values necessary to create a sustainable future”(UNESCO, 2005b, 20). Generally, ESD can be considered an approach to education and learning that encompasses formal and non-formal settings and can be a part of everyday life. The characteristics are described by stating that ESD:

- Is based on the principles and values that underlie sustainable development;
- Deals with the well being of all three realms of sustainability – environment, society and economy;
- Promotes life-long learning;
- Is locally relevant and culturally appropriate; is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has international effects and consequences;
- Engages formal, non-formal and informal education;
- Accommodates the evolving nature of the concept of sustainability;
- Addresses content, taking into account context, global issues and local priorities;
- Builds civil capacity for community-based decision-making, social tolerance, environmental stewardship, adaptable workforce and quality of life;

- Is interdisciplinary. No one discipline can claim ESD for its own, but all disciplines can contribute to ESD;
- Uses a variety of pedagogical techniques that promote participatory learning and higher-order thinking skills (UNESCO, 2005a, 30).

2.4.3 Foundations of the DESD

The idea of the Decade of Education for Sustainable Development (DESD) came about through a series of high-level international conferences and symposia. The concept of the DESD was formalised in 2002 at the United Nations General Assembly with Resolution 57/254 which declared 2005-2014 the Decade of Education for Sustainable Development, with UNESCO appointed the lead agency for the DESD (UNESCO, 2005a, 4). Following this, in 2003 UNESCO shared a framework for the International Implementation Scheme (IIS) to a worldwide consortium of researchers, academics, and other experts who contributed their expertise and opinions. The following year the draft scheme was submitted to the High-Level Panel on the Decade to the Director-General of UNESCO, leading to the final IIS being formally presented to the UN in New York and Paris in 2005.

As outlined in the UNESCO International Implementation Scheme the “overall goal of the DESD is to integrate the principles, values, and practices of sustainable development into all aspects of education and learning” (UNESCO, 2005b, 6). This education effort will encourage change in behaviour that will create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations.” Of particular note by UNESCO towards this goal is the described importance of partnerships and strategies with the intention to develop key targets to aim for at various levels from the community level to the international level. In addition to this are the objectives of the DESD which are to:

- Facilitate networking, linkages, exchange and interaction among stakeholders in ESD;

- Foster an increased quality of teaching and learning in education for sustainable development;
- Help countries make progress towards, and attain, the Millennium Development Goals (MDGs) through ESD efforts, and to;
- Provide countries with new opportunities to incorporate ESD into education reform efforts.

Furthermore at the national level the goals of the UN General Assembly are two-fold. On the one hand education, public awareness, and training will be used to promote and refine the ideals of and move towards sustainable development, while also promoting the importance of education and learning in sustainable development. This concept of education and sustainable development in the context of the DESD is divided into the following characteristics:

- Inter-disciplinary and holistic
- Value-driven
- Critical thinking and problem solving
- Multi-method
- Participatory decision-making
- Applicability
- Local relevancy (UNESCO, 2005b, 6).

The DESD seeks to change social structures and individual lifestyles through values of respect – for others, for diversity and differences, and for the environment and resources (ACCU, 2008). This will be accomplished through quality education and the underlying dimensions which form the foundation of ESD – economic growth, social development, and environmental protection and the preceding characteristics. The DESD then can be seen as a holistic undertaking with a broad reach to take education for sustainable development beyond environmental education and the natural sciences. As such the DESD includes the following fifteen strategic themes for ESD (ACCU, 2008):

Environmental Perspectives:	Natural Resources (water, energy, agriculture, biodiversity), Climate Change, Rural Development, Sustainable Urbanization, Disaster Prevention and Mitigation.
Socio-Cultural Perspectives:	Human Rights, Peace and Human Security, Gender Equality, Cultural Diversity and Intercultural Understanding, Health, HIV/AIDS, Governance.
Economic Perspectives:	Poverty Reduction, Corporate Responsibility and Accountability, Market Economy

2.4.4 Global and Regional Reports on the DESD

The purpose of this section is to detail the main publications on the DESD which show the intended outcomes, goals and vision, as well as the major stakeholders and their roles as described by UNESCO in their role as the lead agency of the DESD. This section will also describe additions made to the number of stakeholders, their clarified roles over time, and will conclude with a section on recent meetings and conferences held in relation to the DESD by drawing on the main points which have relevance to the case study.

In their role as the lead agency UNESCO is developing potential courses of action and providing guidance to participating governments and organisations; functioning as an instigator of networks and relations among a wide variety of stakeholders; encouraging and supporting research activities – in particular the development of indicators for monitoring and evaluation throughout the DESD; sharing good ESD practices and educational reforms such as the development of appropriate education programmes, some of which are available free online and are being localised in many countries. An important aspect of the DESD is integrating activities and creating synergies with other international initiatives such as the Millennium Development Goals, educational and literacy programmes such as Education for All and other such programmes that have a common vision of

education and sustainable development. In this way the DESD can be seen as a way of bridging with other international movements in education towards the overall themes of sustainable development.

To this end, the United Nations General Assembly resolution 59/237 encourages governments to include the DESD in their education plans and national development policies and to integrate the DESD vision and concepts into existing curriculums and programmes (UNESCO, 2005a). As such, how educational processes and sustainable development are approached will vary based on context and can take many forms around the world. The four main “thrusts” of ESD and generally the main tasks for UNESCO and the countries participating in the DESD are guided by the following (UNESCO, 2005a):

- Promoting and improving access to quality basic education;
- Reorienting existing education programmes to consider sustainable development;
- Developing public understanding and awareness, and;
- Providing training

Each of these points is interconnected with each other and with other development and educational goals. Improving basic education in terms of sustainable development involves reorienting the content and relevance of existing programmes to support moving in the direction of a sustainable future. Reorienting education includes not only the curriculum, but also teacher training to improve the quality of the delivery of ESD. Outside of formal education there are opportunities for other organizations to contribute to the DESD such as media campaigns which focus on bringing awareness to the general public which would involve cooperation between various media sources, governments, and civil society. To this end UNESCO has produced outputs to support the promotion of ESD such as the “Media as Partners in Education for Sustainable Development” in April 2008, a media kit which addresses economic and social issues in relation to sustainable development. This type of public education through media can play a synergistic role with training.

UNESCO has produced an assortment of publications relating to the DESD, beginning the DESD with a series of publications with regional guidelines, specific areas and topics to be addressed, and case studies to illustrate national and local progress, and following up with publications which target a specific group such as the Media as Partners in ESD. The 2008 UNESCO Bangkok publication, *ESD on the Move - National and Sub-Regional ESD Initiatives in the Asia-Pacific Region* describes three in particular that have given strength and guidelines to the DESD and are helpful in ensuring the success of initiatives. These are the International Implementation Scheme, Working Paper: Asia-Pacific Regional Strategy for Education for Sustainable Development, and the Asia-Pacific Situational Analysis, all published in 2005. The following section will outline each of the publications in brief in order to clarify the background of literature on the DESD.

International Implementation Scheme

The International Implementation Scheme (IIS) paper outlines the major goals and values of the DESD while describing the importance of linkages to other international education initiatives. A partnership/alliance approach is emphasised, with responsibilities and value added of each partner and for UNESCO in their role as the lead agency outlined. A key feature of this document is the emphasis given on ownership. One of the main tasks for UNESCO as the lead agency is to build ownership in the wide range of partners involved with the DESD by expressing what each partner can bring to the Decade. The IIS shows partners at levels from the sub-national (local, community) to the international level, with examples proposed for each category. These categories were expanded and clarified in the follow up document, the *Working Paper: Asia Pacific Regional Strategy for Education for Sustainable Development*.

There are different levels and ranges of goals and values described in the IIS and other UNESCO DESD publications, with variations on wording and emphasis. The IIS states that the overall goal of the DESD is to “integrate the principles, values, and practices of sustainable development into

all aspects of education and learning” (UNESCO, 2005a, 6). The “primary” goal is as described by the United Nations General Assembly resolution 59/237, whereby governments are encouraged to consider implementing the Decade into their education systems and national development plans. Then there are the sub-goals for DESD at the national level which are to “refine and promote the vision of and transition to sustainable development” in all forms of education, public awareness and training on the one hand, and on the other hand “to enhance the profile of education and learning in sustainable development”. This leads to the objectives for the DESD which are to facilitate networking among stakeholders, increase the quality of teaching and learning in ESD, help countries make progress on their MDGs, and help partner countries to incorporate ESD into their education systems. UNESCO and the countries participating in the DESD have very similar tasks of improving access to quality education, reorienting education programmes to ESD, developing public understanding and awareness, and to provide training.

The basic vision of the DESD then encompasses these goals with a view of the world where all people have the opportunity to benefit from education and learn the values, behaviours, and lifestyles required for a sustainable future and for positive societal transformations (UNESCO, 2005a, 6). The challenge that ESD must address in order to achieve these goals and reach the vision and outcomes is to educate people to deal with the complex issues that our planet is facing.

The IIS provides a sample list of potential partners from the sub-national, national, regional, and international level. The list contains governmental organisations, civil society and NGOs, and private groups. These partners range from the provincial and district level to the national and regional level which includes intergovernmental groups and networks. Private is taken to include businesses and family units such as clans and individuals along with business associations, networks, and international corporations.

An important aspect of the DESD is the relation with other international initiatives. While the Millennium Development Goals provide tangible and measurable goals, the focus of Education for All is about opportunities for quality education, and the United Nations Literacy Decade is situated within the EFA and emphasises the fundamental necessity of literacy for education. All these initiatives have education as a core and necessary component, and the DESD promotes the values, relational processes, and behavioural outcomes which should be the key attributes of learning and education in all cases.

Working Paper: Asia Pacific Regional Strategy for Education for Sustainable Development

The working paper's main function is to serve as a guide to implementation of ESD throughout the Asia Pacific region (UNESCO, 2005c). In order to reflect the changing nature of economic, environmental, and socio-cultural issues the working paper was designed to be adaptable and open to revision to meet the needs of the multiple stakeholders involved in ESD. The working paper was also designed to be used in close conjunction with the Implementation Scheme which goes into more detail on background information and global directives for ESD. It states that it is not comprehensive; rather it serves as a platform for giving a snapshot of the region to share learning experiences and displays the direction various stakeholders are going. The working paper identifies core issues for ESD in the Asia Pacific region, gives guidelines for all stakeholders in general as well as recommendations for each stakeholder group in particular, and introduces the topic of monitoring and evaluation for the DESD. This final topic is addressed in great detail in the UNESCO publications *UN DESD Global Monitoring and Evaluation Framework* and *Asia-Pacific Guidelines for the Development of National ESD Indicators*.

Core ESD issues and examples from the Asia Pacific region are identified in the working paper based on country reports and analysis from South Asia, Central Asia, Southeast Asia, North Asia, and the Pacific. These issues do not necessarily represent the only issues faced in the region, nor are the

examples inclusive for all nations. Instead they illustrate key priority areas as described by researchers involved with UNESCO and the DESD, and can be seen in Table 2.1 below.

Table 2.1: Core ESD Issues for the Asia Pacific Region

Issues	Examples
Information and Awareness	Eco-media, media literacy, ICT
Knowledge Systems	Learning for local and indigenous knowledge, integrating traditional and modern technologies
Environmental Protection and Management	Biodiversity, climate change, natural resources, conservation
Peace and Equity	Conflict resolution, peace, equity, appropriate development, democracy
Local Context	Community development, empowerment
Transformation	Rural transformation, urbanisation, sustainable habitat, water, sanitation, public infrastructure
Culture	Diversity and intercultural/interfaith understanding
Cross-Cutting Issues and Themes	Human rights, citizenship, gender equality, sustainable futures, holistic approaches, innovation, partnerships, sustainable production and consumption, governance
Health	HIV/AIDS, malaria
Environmental Education	Integrated pest management, environmental awareness, community recycling programmes
Engagement of Leaders	Professional training courses, executive education, partnerships, networking

(UNESCO, 2005c, 4)

While the IIS identified the partner groups including governments and intergovernmental bodies, media, civil society, nongovernmental organisations and the private sector, the working paper refers to the groups mainly as stakeholders and clarifies and expands the groups into sub-groups and provides concise descriptions of their role and importance in the DESD.

In addressing the roles of the various stakeholders involved in the DESD, the working paper suggests the following for engaging all the stakeholders - advocacy, communication and information

sharing strategies among the different levels of partners for accessing resources and having dialogue, incentives to bring in other stakeholders such as the private sector, and action research by academics.

Specifically, the stakeholders as outlined by UNESCO are (UNESCO, 2005c, 5):

- Governments/UNESCO National Commissions
- Communities
- Private Sector
- Formal Education Institutions
- Civil Society
- Media
- Youth
- International Agencies

The next section will outline the key roles for each stakeholder group as recommended by UNESCO in the working paper.

Governments/UNESCO National commissions will address:

- Policy making and framework setting
- Promotion of public consultation and input
- National and international public campaigns
- Restructuring of educational systems to integrate ESD in existing curriculum
- Demonstration and pilot projects in cooperation with stakeholders to kick start related initiatives (UNESCO: 2005c: 5).

Governments will also require capacity development for both internal and external capacities, while support should be directed to ensure the inclusion of all levels of government from the national to the local level. The National Commissions will generally work in a coordinating role to mobilise organisations in support of ESD and to work in the development of mechanisms for national implementation of ESD.

Communities include a broad range of stakeholders and the role of the community in ESD is primarily to localise the values and vision of the DESD through community participation, cooperation and communication among the various institutions which includes addressing cross-cutting elements such as capacity building and gender, and research and documentation for contributing to policy.

The private sector's role as described in the UNESCO working paper is relatively indistinct, highlighting potential areas where private industry could contribute to achieving ESD goals and visions. UNESCO recommends partnerships among all the stakeholders, and calls for non-business stakeholders to understand the views and issues from a business perspective, and at the same time makes the point that relationships must be based on more than financial incentives but on improving social and environmental responsibility.

Formal education institutions primary role is reorienting existing curriculum and ways of teaching to incorporate ESD in a “whole school approach” where ESD is not seen as a subject in its own right but as a part of the entire way of addressing education.

Civil society organisations are seen by UNESCO as key stakeholders in the DESD due to their strong relationship with the local level, as well as their international connections. Further, civil society can play a key role in localising ESD and incorporating grassroots initiatives with the DESD vision.

Media are seen as key stakeholders in their role of creating public awareness of the values of ESD and in so doing help in promoting ownership of the vision of ESD in the general public. Through cooperation with NGOs, the paper suggests, media could access and bring information to marginalised groups. Meanwhile relationships with the private sector can be used to encourage triple bottom line reporting which takes into account environmental and societal issues by giving attention (free publicity) to companies with good practices.

Youth are described as being critical and a major force in bringing about changes. The report proposes for youth to be involved through government support and for higher education institutes to provide a platform for youth involvement in ESD activities. As well, youth networks and action research projects can be used to contribute to ESD in the region, in particular by making use of already existing networks and organisations which can have ESD included in their agendas.

International agencies include other UN organisations; however the main concern is for organisations other than those of the UN to be involved with the DESD. The purpose is to address and overcome duplication of efforts and mismatched activities, and to make best use of resources. It was recommended that donor and other organisations be suggested to include ESD as a priority area for funding and to encourage them to support ESD related reforms, with UNESCO being the main agency for making these recommendations. A number of initiatives for interagency ties were being formed at the time of publication by UNESCO for other UN organisations, along with a call for greater integration with existing initiatives such as the Millennium Development Goals and Education for All.

Asia Pacific Situational Analysis

The Situational Analysis paper provides a snapshot of ESD in the region at the time of writing. The Situational Analysis gives a description of ESD in each of the major geographic areas in the region, with one or two country examples for each area. The Working Paper on the other hand, while also providing a snapshot of the region in terms of ESD, focuses on the roles of the various stakeholders. The Situational Analysis was a major contributing document to the drafting of the Working Paper and the case studies intended for use in implementation of subsequent ESD initiatives and for making decisions based on evidence from the community, sub-national, and national level. As well, the paper aimed to strengthen regional cooperation and sharing. That being said, the paper is not a prescriptive document, rather a place to start from with plenty of room for adaptation and changes as time goes on.

The South East Asia (SEA) section begins with a description of the region, with all but two countries experiencing consistent positive economic growth from 1995-2005, which has been accompanied by environmental consequences (UNESCO, 2005b, 45). So far as awareness of ESD in SEA, the paper acknowledges that in formal education ESD is a relative newcomer to the region while environmental education (EE) has a large body of literature in the region devoted to it. For example, the paper notes that in most areas of the region EE initiatives were often the result of action from Ministries of Environment or Agriculture and had a focus on nature conservation and protecting local resources (*ibid.*, 2005b, 47) and that most countries have supportive policy environments for EE.

Regionally ASEAN member nations have adopted an Environmental Education Action Plan, while countries such as Thailand have had EE in formal and non-formal education for quite some time. The general tone however is that EE has dominated the perspective of considering the environment and sustainable development in education to date, and ESD as a standalone concept has some way to go to differentiate itself and find its place in SEA. As well, it is noted that universal primary education

has become nearly a reality in most countries in the region, including the three chosen for the case study – Vietnam, Thailand, and Singapore. However, along with advances in education enrolment, an emerging concern in SEA is not just the quantity of education but the quality of education.

With these issues in mind, the Situational Analysis identifies four areas for SEA for progressing ESD: promoting and improving basic education, re-orienting existing education programmes, developing public awareness and understanding of sustainability, and training. Re-orienting existing education is described in the Situational Analysis by using a quote from Byron's 1999 online paper entitled "*An overview of country reports on curriculum development in South and South-East Asia*" as education which will "prepare young people for the job market within the existing economic climate, while providing the human resources necessary to ensure sustainable national development" (As quoted in UNESCO, 2005c, 34). It is stated in the *Situational Analysis* that this can be achieved by:

- Improving the quality and scope of vocational education
- Strengthening science and technology education
- Developing competence in ICT skills by introducing or expanding the use of ICT in the classroom. (UNESCO, 2005c, 35)

Developing public awareness and understanding includes informal education through mass media and community functions where sustainable development can be included in the activities. In this fashion training is described in particular for vocational schools where ESD elements can be incorporated into the curriculum.

2.5 Summary and Conclusions

The purpose of the first section was to understand ESD as it is described by three organisations – the United Nations, ASEAN, and IGES. The section showed that UN ESD is clearly based on Agenda 21 and in so far as the UNESCO lead Decade of Education for Sustainable Development ESD is to be closely aligned with other UN programmes such as Education for All and the Millennium Development Goals. For ASEAN ESD is being built upon the framework set by the long history of EE in policy and practice in the region and expands on the environmental focus to emphasise socio-economic aspects. Conceptualising ESD in terms of EE may be seen as a limiting factor in some contexts, but in the case of ASEAN this seems to be suitable as their current action plan for EE in fact is their expressed contribution to the DESD and contains elements very similar to global perspectives on ESD. For this research report IGES takes a pragmatic view of ESD that considers the intent and outcomes as they relate to sustainable development, in particular the orientation of society towards more sustainable practices and behaviours through education and training whether in the name of Environmental education or ESD.

Issues in ESD research such as the ongoing debate between EE and ESD and areas where research on ESD is lacking have been discussed, and it has been argued that ESD is too broad for any one academic discipline or department to take total charge of. The main finding here is that rather than asking what ESD can contribute to an existing discipline to instead ask what the discipline can contribute to ESD. Issues in research on ESD include research on good practices and suggestions for research that covers multiple aspects of ESD. As well ESD is not thought to be well understood or even well known in general, with gaps between researchers, policy makers, and practitioners.

Finally, a review of the current literature on ESD shows that while the number of articles has been increasing over the years that much space has been devoted to analysis and discussion of the concepts of ESD or EE and ESD, while comparatively little attention has been paid to case studies and local level experiences and demonstrations of ESD that show any kind of action to go along with the discourse. Based on the current gaps in literature on ESD, it is necessary then for in-depth research on critical elements of ESD at the local level to develop further insights into the existing knowledge

and experience in good practice among not only practitioners in teaching fields but also policy-decision makers in supporting sectors through relevant and accessible research outcomes.

Chapter 3 Methodology and Methods

“Research is not a collection of ready-made answers to instruction-related questions, waiting to be claimed by eager and trusting teachers. It is a resource that can provide direction and substance for making instructional decisions when it is approached with purpose and caution” (Farstrup and Samuels, 1992).

3.1 Introduction

This chapter presents a comprehensive summary of the research process, from conceptualisation and justification of the topics to fieldwork methods and analysis. Multiple methods were employed including interviews, observations and group meetings to gather primary data for a case study, and a consultation meeting where the results of the case study were presented and insights from regional experts on ESD were collected. The first section of this chapter presents an outline of the research design and methods (Section 3.2). The next two sections provide details of the common parameters between the components of research which are ESD policies and practice aimed at youth and addressing climate change (see Section 3.3 and Section 3.4 for the rationales behind the data selection criteria and case selection respectively). Then the following section presents how data analysis was conducted from the case study and a consultation meeting (Section 3.5). Finally, the main parts of the chapter are summarised in the final section (Section 3.6).

3.2 Research Framework

The research began with a review of existing information coming from artefacts and published data in the form of publications on ESD and Environmental Education for Sustainable

Development in the public domain, reviews of past and current policies in each of the case study countries and regional guidelines for sustainable development related education. These secondary published sources were added to with resources gathered from interviewees while in the field, which were not always publically available.

There were three distinct components for gathering primary data as shown in Figure 3.1 below: interviews, observations and a consultation meeting. The predominant data resource of this research is ESD dialogues collected from both interviews and focused meetings including group meetings and a regional expert consultation meeting. As supplementary data source, observations were also employed. All data was obtained during over the following periods:

- Step 1 & Step 2: Interviews and observations: 25 August – 11 September, 2008 (Section 3.5.1)
- Step 3: Consultation meeting: 17-18 November, 2008 (Section 3.5.2)

Step 1: Interviews

To collect primary information, a semi-structured interview format was employed (please see Appendices 1.1-1.5 for the guides used for each stakeholder group). The semi-structured format was used in order to have greater consistency in terms of topics and key points across the cases on the one hand, and at the same time to allow the researchers flexibility during the interviews to give interviewees the opportunity to reflect on their experiences to account for critical factors unique to their particular situation, such as local contextual issues (Gubrium and Holstein, 2001). In addition, the interview interviewees (the terms interviewee and interviewees are used interchangeably in this report) were selected from three types of organisations which reflect the nature of formal and informal education in Southeast Asia: educational organisations – schools and NGOs; universities and

research institutions; and governmental departments as seen in Figure 3.1 below. These three perspectives were chosen to for collection of in-depth data based on experiences and knowledge in ESD programmes to allow for triangulation from multiple data sources. Investigator triangulation was used in the final analysis to corroborate accounts from multiple researchers conducting fieldwork under the same research framework.

Step 2: Observations

To strengthen validity and reliability of interview data analysis, observations were used in this research. Observed data was noted on an unstructured record sheet (see please Appendix 2). Seven out of 14 key interview informants' actual ESD-focused practices were observed. As Simpson and Tuson (1995) stressed, observations enable us to review the primary data from different perspectives and enhances the credibility of individual interview results.

Step 3: Consultation Meeting

This consultation meeting played a role in the research process as a critical data resource due to the unique nature of the format and invited participants. The consultation meeting was specifically planned as an opportunity to bring together ESD experts from different sectors such as schools, NGOs, universities and research institutions, and national and international level policy decision-makers. The intention, and result, was a close and informal session conducive to open and active dialogue on regional and local issues and good practices (see Choi, Pradham, Kipp, 2008 for the consultation meeting report including a summary of ESD dialogues, key messages and full length of papers – the key findings can be found in Appendix 3 of this paper and a summary of the proceedings are in Chapter 4). The consultation meeting was planned as a part of the overall research framework and

was held in consideration of the following purposes. The main purposes of the consultation meeting were as follow:

- To get feedback and draw on the case study for discussion and insight;
- To collect additional data on the status of the national ESD policy and its strategies in the Southeast Asia region;
- To obtain actual examples of implemented ESD projects at a local level that are linked within the national level policy;
- To discuss bridging the gap between policy discourse and high-level recognition to mainstream ESD and implementing its practice through specific cases, and;
- For discourse on critical factors for promoting ESD to achieve the goals of the DESD – presently and throughout the future.

As a summary to the above, a three-step process was chosen to gain in-depth information and insights which can help answer the research questions and to add validity to the case study by allowing practitioners and policy makers to comment on the findings and offer suggestions for greater accuracy and clarity in reporting and for suggesting future courses of action based on the findings. Furthermore in the post-fieldwork phase several interviewees were contacted again to verify data and clarify vague or unclear statements, and to confirm certain results of the analysis. The entire research process can be seen in Figure 3.1 below.

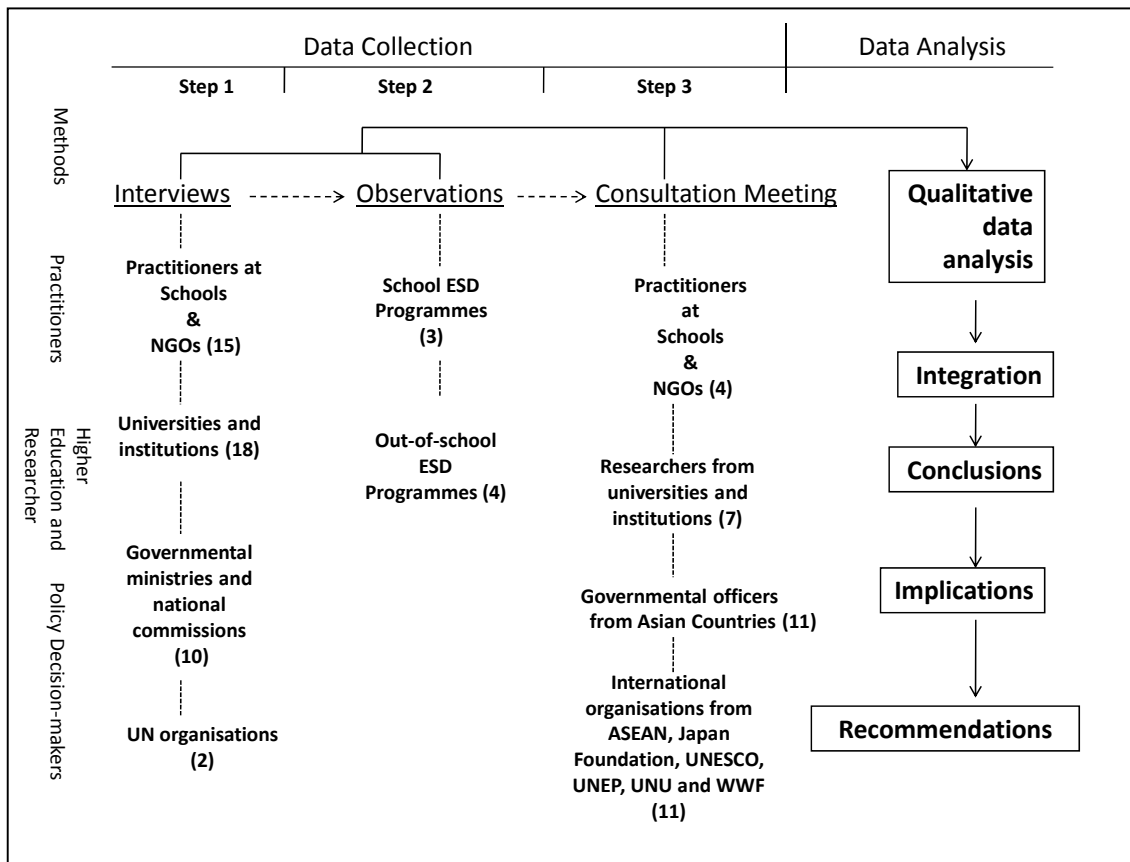


Figure 3.1: Sequential Research Framework

N.B.: The numbers in the round brackets present a total number of each type data source/ASEAN: Association of Southeast Asian Nations/UNESCO: United Nations Educational, Scientific and Cultural Organisation/ UNEP: United Nations Environment Programme/ UNU: United Nations University/WWF: World Wildlife Fund

3.3 Data Selection

The following sections present the rationale and justification for data sources and the primary concepts and criteria of the research framework.

3.3.1 Data Resources

ESD and youth

Sustainable development and the elements of Agenda 21 can be manifested in all parts of society, from government policy making decisions to private enterprise and individuals making decisions about their spending and consumption. In all aspects of learning, from formal training to informal education, ESD is the manifestation of Agenda 21. At the beginning of the Decade of Education for Sustainable Development (DESD), UNESCO Director-General Koichiro Matsuura stated that "The ultimate goal of the Decade is that education for sustainable development must be more than just a slogan. It must be a concrete reality for all of us - individuals, organisations, governments - in all our daily decisions and actions" (UNESCO, 2005d). As such, a major part of the research was to investigate the nature of ESD in specific regions in order to help determine the extent to which ESD is becoming a concrete reality by including multiple stakeholders in the case study and consultation meeting discussions.

For this report "youth" are as defined by the United Nations as persons between the ages of 15 and 24 (UNESCO, 2008b). Youth were chosen as they are identified as playing an important role in promoting ESD in United Nations publications such as the Situational Analysis along with rural and

indigenous communities (UNESCO, 2005b). However, not all nations such as Singapore have rural areas or clearly defined and accessible indigenous population. For these reasons urban areas were selected, as all nations have an identifiable and accessible urban centre, though not all countries have a rural area. Therefore, urban youth were chosen as a suitable group to target. Finally, the case study was centred on an urgent global issue, climate change. While it would be interesting to look at how youth are approached in general, it was useful in this study to frame the inquiry around a common topic that has global relevance in order to have a point of reference among the case study countries. The following section explains in further detail.

Relevance of climate change as an international issue

Just prior to the beginning of the research project, climate change and the environment emerged as two of the main themes at the G8 Summit in Japan. The *Declaration of Leaders Meeting of Major Economies on Energy Security and Climate Change* states “Climate change is one of the great global challenges of our time” and continues on to express the commitments made by the leaders and their respective country’s to combat climate change with consideration to each nation’s capabilities and responsibilities and long-term cooperation. As such, climate change is recognisable as a global issue, a topic that every country can know as having significance to their local economic, social, and environmental conditions. Of particular relevance to the Southeast Asia region are rising sea levels as a likely result of human activity and climate change. In 1997 the IPCC noted trends of rising sea levels in Bangkok and northern Vietnam attributable to human and meteorological effects and a trend in the region of relative sea-level changes indicating an increase over the past half-century (IPCC, 1997, 11.2.2.4). Finally, in the International Implementation Scheme for the DESD the challenge for ESD is to educate people on complex issues which bridge the economic, social, and environmental spheres, with climate change given as an example of the global issues requiring broad educational strategies such as ESD. For these reasons climate change was chosen as a concept to base the research on and to form the cases around.

3.3.2 Data Criteria

This section will describe how the cases were selected in relation to the main concepts of the study. Although there is considerable debate on the relationship between economic growth measurements such as GDP per capita and green house gas emissions and in recognition that economic growth can have varying affects on different environmental concerns depending on a number of factors (Huang, Lee and Wu, 2009), for simplicity and in order to focus on the matters at hand in selecting cases we made the assumption that economic growth certainly does have a strong relationship with increased emissions and that emissions are a major contributing factor to climate change and the subsequent environmental and socio-economic calamities.

GDP growth and CO² emissions per capita

As a region, the ten ASEAN member states have collectively experienced higher GDP per capita growth than other developing countries around the world, and compared to all other regions composed of a majority of developing countries, ASEAN is well above average for GDP growth in the past decade and a half. Most countries have seen increased energy use and CO₂ emission. The following table was compiled using the online database at www.EarthTrends.org.

Economic/Income Levels

To further classify and select the countries for the case study we used the World Bank's classification based on economic status from high income economy to low income economy which is based on 2007 gross national income data (World Bank, 2008b). Classification of economies by the World Bank:

- Low-Income Economies: Myanmar, Lao PDR, Vietnam, Cambodia
- Lower-Middle-income Economies: Indonesia, the Philippines, Thailand
- Upper-Middle-income Economies: Malaysia
- High-income Economies: Brunei Darussalam, Singapore

Table 3.1- Average GDP Growth and CO² Emission (1990-2006, 1990-2004)

Country/Region/Organisation	Average GDP per capita growth rates 1990-2006 Units: % per capita	Average CO2 emissions per capita 1990-2004 Units: Metric tons of CO2/person
ASEAN	3.9	4.51
All developing countries	3.1	1.87
Central America & Caribbean	1.31	2.91
Middle East & North Africa	1.62	3.79
Sub-Saharan Africa	0.36	0.86
Brunei Darussalam	-0.20	20.86
Cambodia	5.21	0.05
Indonesia	3.23	1.27
Lao PDR	3.81	0.15
Malaysia	3.97	4.85
Myanmar	6.34	0.16
Philippines	1.01	0.90
Singapore	3.80	13.59
Thailand	4.06	2.75
Vietnam	5.63	0.55

Due to time and budget considerations just one country from low, middle-range, and high income economies were selected. The final consideration then was secondary education across the nations in order to be able to have a case study with comparatively equal levels of education for youth. For the lower income economies Vietnam had the highest gross enrolment ratio of 73% from 1999-2005 (UNESCO, 2006). And while Malaysia has slightly higher enrolment ratios for secondary education and higher gross CO2 emission, the actual rate of growth for emissions was higher in Thailand in recent years. Singapore has experienced more consistent economic growth and emissions rates compared to the other high-income economy, Brunei Darussalam. As such, the final choices for the case study were Vietnam, Thailand, and Singapore.

3.4 Data Collection

Data was collected from the case study in the selected three countries using interviews and observation (Section 3.4.1) and a consultation meeting which included presentations on local, regional, and national ESD policies and initiatives, and focused group discussions (Section 3.4.2).

3.4.1 Case Study

The methods used in gathering data for the case study were interviews, observations, and document analysis. Data was analysed inductively and using categories derived from the research questions and literature (i.e. climate change, youth engagement, ESD and EE, etc) and in relation to communities of practice – joint enterprise, mutual engagement, and shared repertoire.

Recalling the research guidelines of climate change, ESD, and youth, we searched for projects which included these either as a direct focus or indirectly through the results and outcomes of their activities. In addition, we were interested in projects which could be linked from local implementation to the policy level. In other words, projects which could clearly be located within the existing policy framework.

Interviews

The interviewees were selected based on stakeholders outlined in UNESCO's International Implementation Scheme and other ESD documents. In regards to the research purpose the three

groups which were chosen were – educators in formal and non-formal settings, government workers, and those working in civil society. The criterion for interviewees was not strict in the sense that they had to exhibit specific knowledge of ESD or the DESD in particular. Rather that their practices and policies they either made or worked under were associated with education for sustainable development, that climate change was an issue that they addressed in some regard, and that the purpose or outcomes of their endeavours were for the benefit of youth. The interview guides for each type of interviewee can be found in Appendix 1.

Interviewees then were quite diverse, and the extent to the number of each type of interviewee in some ways can be seen to reflect the very nature of ESD in each country. The Thai and Vietnamese cases had a predominance of NGOs involved that worked with and between schools and the government. While in Singapore schools were very involved with ESD projects, a reflection of the importance of school in the lives of youth which are also influenced greatly by the role of the government. Interviews were conducted individually and in groups and lasted typically from 30-90 minutes. When possible, observations were conducted with the interviewee’s programmes and lasted from one half to one full day and were recorded using the observation sheet found in Appendix 2. The table below shows the breakdown of numbers of interviewees from each category.

Table 3.2: Case Study Interviewee Numbers

Country	Schools/NGOs	Universities and research institutes	Government ministries and national commissions	United Nations organisations
Vietnam	7	2	2	1
Singapore	4	9	4	/
Thailand	4	7	4	1

3.4.2 Consultation Meeting

The consultation meeting was held in Bangkok, Thailand from 17-18 November, 2008 with the purpose of bringing together people from the policy level to the project level to discuss ESD in the Southeast Asia region (see Appendix 3, or Choi, Pradham and Kipp, 2008). The aim was to address regional issues and how to advance towards mainstreaming ESD and achieving the goals of the DESD. Speakers from the ASEAN Secretariat, UNEP-Bangkok gave a regional and national perspective, while IGES presented on the case study that is included in this report. Presenters from Thailand, Brunei Darussalam, Vietnam, Lao PDR, Singapore, and Philippines presented on their country policies and activities regarding ESD, youth, and climate change. Discussion periods were held to discuss future courses of action and topics to focus our efforts on in light of limited resources and how to develop capabilities. A total of 33 participants attended and contributed to the discussions. The proceedings from the consultation meeting were used as data for this report with the results present in this report in Chapter 4. A detailed list of participants can be found in Appendix 4.

3.5 Data Management and Analysis

The data from the case study fieldwork and consultation meeting was analysed inductively using the concepts from the research framework and the theoretical basis from the theory of communities of practice. The conceptual components are derived from section 3.2 and section 3.3 – climate change, youth, and ESD in Southeast Asia. The core concepts of a community of practice are explained in section 4.2, with the main components being joint enterprise, mutual engagement, and shared repertoire.

As an example of how the data was analysed using the theoretical framework of “Communities of Practice” the following tables show how the interview transcripts and notes were used to develop a framework based on the findings. The transcripts and interview notes were coded using descriptive codes which were used to identify critical factors of the ESD community. These critical elements were then categorised using descriptions of their characteristics in relation to the core component of the theory. In this example Mutual Engagement is the encompassing component with two main categories – collaboration and discourse. The critical elements, based upon the interview dialogues, were then created.

Table 3.3: Case Study Theoretical Analysis

Structural Component	Joint enterprise	
Categories	Community membership	Social/community responsibility
Critical Elements	A sense of membership Human resource development	Life-skill teaching approach Local/cultural knowledge-based approach
Supporting Quotations and Excerpts	We encourage local communities and schools to take some roles during our several-days-river trip programme <i>in order to let them join us</i> . This is quite necessary when we consider what sustainable development where most of people face in poverty and daily livelihood difficulties [...] It should be provide knowledge to handle daily life needs . Especially, it can bring a synergy when the local traditional knowledge is emerged into the programme. Actually, Thailand has rich cultural backgrounds (Interviewee-A, Deputy Chief Operating Officer, NGO, Thailand, August 2008).	The local wisdom is critical to adopt the concept of ESD as it cannot be succeed when the local people cannot understand or accepted [...] the local wisdom is kind of local people’s knowledge which has accumulated from their experiences or descended from ancestors (Interviewee J, Head – Educational Group, Thailand, August 2008).
Structural Component	Mutual Engagement	
Categories	Cooperation	Motivation
Critical Elements	Cooperative environment Active stakeholder involvement Co-benefit partnerships	Self-contentment Organisational/personal incentives Community/society recognition

Supporting Quotations and Excerpts	We have informal and formal networking for advice and input in order to avoid overlap and to receive advice. We hold joint and group sessions with all stakeholders [national, regional, local level government officials and educators], it was impressive, but daunting, so complex, but good to give momentum and create a constructive atmosphere. For the Women's Union it was the first time they had been invited to such a session with other stakeholders (Interviewee H ,Vietnam, September 2008)	We don't want it to be just the government...we want the community to be involved because of 'social environmental responsibility'...we use engagement platforms to bring together community groups to share ideas and avoid overlap, so they [other stakeholders] can make a programme on their own ... we want our partners to take action (Interviewee G, Singapore, September, 2008)
Structural Component	Shared Repertoire	
Categories	Communication	Environmental empowerment and local context
Critical Elements	Communicative skills Building a resource pool	Awareness of environmental empowerment and local context Organisational/personal self-problem-solving capacity
Supporting Quotations and Excerpts	We invited our partners to the workshop, NGOs, the government, corporate sponsors...for skills training and to kick-off the programme. It was interesting that a few months after the event people were still visiting the website, compared to traditional media which has a short lifespan, and the slides and presentations are still now being disseminated to secondary schools...a planned propagation effect that promotes the programme to youth and our school (Interviewee Q, Singapore, September, 2008)	My school is a hub for environmental educational programme. I mean... we are helping our students to share their story with others. We often invite people from this community, their parents and even local universities to let students share their experiences in their environmental projects with them. [...] True repertoires to demonstrate how students gave their efforts on keeping their environment have a power to move people and society (Interviewee-O, Environmental Geography Teacher/Director, Secondary School, Thailand, August, 2008)

3.6 Summary

This chapter described the research process and how the primary and secondary sources of data were gathered. In choosing the main topics of research – ESD, climate change, and youth – and in selecting the region and countries for research contemporary global and regionally inclusive issues were considered. Climate change was chosen as an inclusive transboundary issue that is related to economic growth through increased emissions and resource usage. Economic growth, emissions, and income levels factored in choosing which countries to include in the case study. Youth were the main target group due to a number of factors. They are a key group of ESD and the DESD, and as a group youth can be clearly defined and of course naturally exist in all countries. In a region such as Southeast Asia not all key groups identified in ESD and DESD literature can be reasonably accessed or clearly defined, such as indigenous groups or rural groups. For example, the majority of the population in Thailand live outside the one major urban centre, while the majority of Singapore lives within an urban centre, thus making rural or indigenous group comparisons difficult, if not impossible. For balanced data collection urban centres were chosen as the geographic focal point. Secondary data was gathered through internet and database searches on the main research topics, and from unpublished sources such as internal documents. The main source of data for this paper comes from a case study conducted in Vietnam, Thailand, and Singapore in August and September, 2008. The case study informants were from formal and non-formal education such as universities, public schools, and NGOs; and from government offices such as ministries of education or environment. The case study was followed by a consultation meeting of practitioners and policy makers from ASEAN member countries whose work involves ESD. The consultation meeting served in part to give feedback on the case study, while the results of the presentations and discussion sessions are included as data for this report.

Chapter 4 Research Findings

4.1 Introduction

This chapter presents the data collected from the case study and the consultation meeting on Education for Sustainable Development (ESD) in Southeast Asia. The data is presented in terms of the conceptual and theoretical basis for the case study –that is Communities of Practice of ESD approaches to climate change and youth. This chapter contains the following sections:

- Communities of Practice – this section details the theoretical basis for the analysis of the research findings (Section 4.2);
- Case study – this section begins with background information on the three countries of the case study, Thailand, Singapore, Vietnam, and presents the findings from the case study in terms of the communities of practice framework, and ends with a summary and discussion of the findings (Section 4.3);
- Consultation meeting – this section presents the results from the consultation meeting held in Bangkok to build upon the case study findings (Section 4.4);
- Research findings discussion – this section brings together results from the case study and consultation meeting, including areas for further research (Section 4.5), and;
- Summary and conclusion (see Section 4.6).

4.2 Theoretical Basis for Data Analysis - Communities of Practice

An understanding of how ESD is defined internationally and regionally with emphasis on collaborative and cooperative efforts participated in by multiple stakeholders in the community lead

us to the theory of communities of practice to help identify important characteristics of the communities in the case study. A community of practice is not a new concept within the ESD field as already communities of practice in and around ESD have been formally created. The communities of practice concepts have been applied to a global ESD community of practitioners and professionals known as Regional Centres of Expertise (RCE) and for creating communities to address specific topics such as curriculum development in the name of improving quality of education under the related scheme of Education For All (Operatti, 2007). As such, and with consideration for the goals and purpose of ESD in Southeast Asia, we have considered the case study data in terms of the concepts of communities of practice. The remainder of this section will explain in further detail what these concepts entail.

The concept of “communities of practice” is primarily built on work by Etienne Wenger and Jean Lave in the 1990’s, with Wenger’s book “Communities of Practice: Learning, Meaning, and Identity” providing much of the theoretical basis for future applications of the communities of practice theory. The components of the theory and ways of describing them have changed slightly over time, though the fundamental features remain much the same. Drawing on the book and on writing by Wenger and others we have the following description of a community of practice:

Communities of practice are groups of people who share a concern or an interest, or an area of expertise, for *something they do* and they *learn* how to do it better as they *interact* regularly in their common ongoing efforts (Wenger, 1998a; Wenger, 1998b; Wenger, McDermott, Snyder, 2002).

The communities of practice theory originated as a social learning theory that assumes we learn and become who we are and develop in what we do through our interaction with others, and how we interact with them develops meaning and purpose, and various types of artefacts such as books, photos, or other documents and beneficial knowledge and experiences are generated as a result of our interactions. Members of a community of practice have a shared view of the domain in

which they practice their trade or craft, and have a mutual sense of belonging and commitment that is reinforced through interaction and the creation of a repertoire of experiences and artefacts that help to solidify their engagement and ultimately, enables them to become better at their practice. As with the RCE's, the practice does not need to occupy the same geographic space or meet due to requirements. Rather, the community forms because those involved recognise their shared interest and they realise value and betterment through their engagement.

The key components of a community of practice are *joint enterprise*, *mutual engagement*, and a *shared repertoire* of resources and experiences through which the members of the communities of practice learn and solve common problems and to do their practice better. The following explains in more detail about these aspects.

- **What they do** - Identity defined by a shared *domain* of interests and key issues. Implies a commitment to the domain, responsibility felt for the development of the community, and a shared competence or expertise that distinguishes members from other people in their pursuit of a *joint enterprise*.
- **How they interact** – in the *community* of those involved in pursuing their interest in the domain, *mutual engagement* occurs for the benefit of gaining knowledge and competence. Key features are building relationships for interaction and learning, and to share information which helps each other – a sense of belonging.
- **What they have** – a *shared repertoire* of *resources and capabilities* developed from their interactions through the course of their engagement – experiences, tools, problem solving methods, documents and the like. An important factor with the community generated repertoire is to make the resources available and useful through the means of engagement. This in turn supports and gives meaning to their engagement and contributes to their capacity and effectiveness in conducting what it is they do.

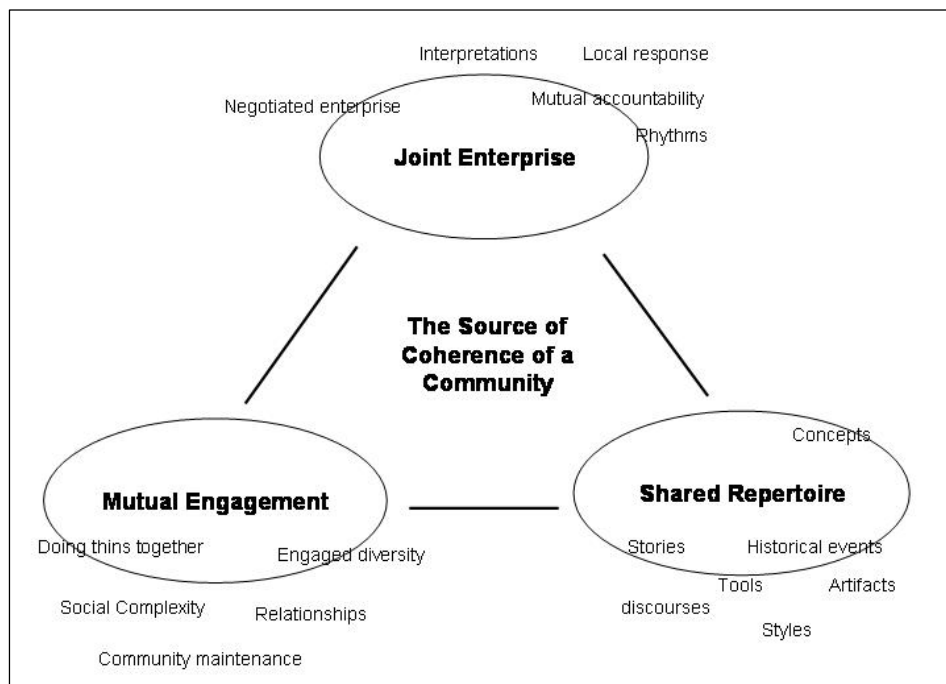


Figure 4.1: Dimensions of a Practice as the Property of a Community (Wenger, 1998: 73)

What they do can be informal or formal, it can be explicitly acknowledged or more discreet or every day. The key factor is that through their relations and actions (*engagement*) people develop abilities and knowledge (as part of the *repertoire*) that contribute to their endeavours (*enterprise*), and that participation is meaningful and leads to better outcomes. This is critical in identifying and sustaining a community of practice as more than casual encounters or meetings for the sake of meetings.

For example despite working in the same institute, casual conversation between colleagues does not necessarily account for mutual engagement. However, if the regular encounters become a source of information sharing and provision of knowledge that contributes to their shared practice then it leans much more to the community of practice concept. The same condition applies on a

larger scale, for example conferences or meetings that are disconnected, without continuity, or which do not develop a shared repertoire of accessible and practical resources.

In accord with the discussion of ESD in Chapter 2, in particular the lack of consensus about what exactly is ESD and the predominance in the academic discourse to focus on these issues, shared repertoire as a component of a community of practice has particular relevance to ESD. There are three important components of shared repertoire – reification, participation, and alignment. In a basic sense, reification is taking an abstract concept and making it concrete. For example, the concept of ESD by itself is rather abstract, but can be made concrete by using examples that represent the values, goals, and objectives of ESD and in so doing developing a part of the shared repertoire. Participation is quite dependent on reification in that if a concept is difficult to grasp only a few who understand it will be able to fully participate in the practice. Reification then becomes greater as participation and engagement increase and a more clear understanding of the practice unfolds. Participation and reification cannot be considered in isolation from each other, as the more clear a concept the greater the participation and engagement of the members of the community of practice, assuming that it is beneficial to do so and they are able apply their learning to their enterprise. As Wenger states (1998), “In general, viewed as reification, a more abstract formulation will require more intense and specific participation to remain meaningful” (p. 67). The more a process, or practice, is documented, talked about, and clarified, the effect is to enhance participation. Bringing reification and participation together requires a common purpose to work towards; the result is what Wenger refers to as alignment:

Alignment requires specific forms of participation and reification to support the required co-ordination [...] With insufficient participation, our relations to broader enterprises tend to remain literal and procedural: our co-ordination tends to be based on compliance rather than participation in meaning [...] With insufficient reification, co-ordination across time and space may depend too much on the partiality of specific participants, or it may simply be too vague, illusory or contentious to create alignment (Wenger, 1998a, 187).

In a community of practice, for concepts that are abstract or still rather cerebral it may be beneficial to bring together those who are already significantly participating and use their experiences as examples to make the abstract concept more concrete in order to increase participation outside of a select few individuals or groups with a strong interest in the concept. This can be done through developing networks and making examples of successful practices and projects, and by documenting what has been done in order to create a repertoire of resources and experiences which can further facilitate engagement and contribute to learning and understanding for the joint enterprise. The relation to the discourse and practice of ESD can be understood in this light, with the position of ESD relative to other disciplines becoming more apparent through discussions and interactions, supported by local, regional, and global networks of association.

In the case of the Regional Centres of Expertise, the RCEs form a network developed from existing formal, non-formal and informal educational organisations for the purpose of delivering education for sustainable development to local and regional communities”(Fadeeva and Mochizuki, 2008, p 291) and are essentially designed and function as a community of practice. Among the RCEs an electronic network exists to share experiences, knowledge, and education modules with the intent of further developing their “community of practice” (UNU, 2008). A topic-specific community of practice has been formed for improving quality of education through curriculum development to achieve the goals of UNESCO’s Education for All, which of course shares mutually beneficial goals with ESD (Operatti, 2007). For the educators and policy makers involved ESD and curriculum account for one part of their overall work life, while engagement with the community of practice and the shared repertoire of resources and knowledge available to them to contributes to that aspect as necessary.

Communities of practice can exist in and among organisations, and those involved with the community of practice can be involved as an extension of their regular work. As Pinto dos Santos

points out (2004) this can result in some tension when multiple communities are engaged in by individuals, particularly when there are differing values or expectations between the communities. For example tensions can exist due to questions about loyalty between ones main everyday endeavours and their role in the community of practice, and these are challenges that a community of practice may face. It is not atypical for practitioners to form their community of practice beyond their ordinary practice, as a supplement or addition to what they do in their day to day enterprise that contributes to certain components of their work.

Geographic proximity, either working in the same office or existing in the same global region, does not ensure a successful community of practice. Evidence of this is seen in the RCE's, with twenty-two individual RCEs in ten countries around the world it was found that regional challenges were so diverse that rather than group RCEs by location that grouping based on "thematic areas of interest" was the most successful and meaningful option (UNU, 2008, p 2).

In the context of our findings we can identify two communities of practice. From the case study we can see local communities of practice of people involved with environmental and sustainable development education at the local level. The challenge identified at the consultation meeting was how to make these communities visible and connect them with others in the region to share information so they can improve their practice, in particular know-how. This is the second community of practice, a regional community that is connected by a policy framework and supported both by instruments of the policy and beyond the framework through informal or personal means. The purpose is twofold – to connect practitioners and policymakers, and to share information, resources, and experiences.

4.3 Case Study Findings

In this section findings are presented from the case study that was conducted in August and September 2008 in Thailand, Singapore, and Vietnam. The primary data for the case study was collected through in-depth interviews and observations of ESD programmes in-field and through documents collected from interviewees during the fieldwork period. Interviewees were from formal and non-formal educational institutions such as school-based programmes and NGO run programmes, government officials from environmental and educational departments, and international organisations. Chapter 3 gives further information on how the research was carried out and particulars on the selection process for interviewees and concepts. This section is divided into the following sections:

- Section 4.3.1 describes the current state of the ESD community of practice in each country to give an understanding of the context and nature of ESD in general as was found for the case study;
- Section 4.3.2 provides analysis of each of the cases in terms of the indigenous factors for each country relative to the components of the theoretical framework;
- Section 4.3.3 builds on the previous sections with a comparative analysis across the cases in terms of the theoretical framework;
- Section 4.3.4 summarises the analysis from the proceeding sections and clarifies the case study findings in terms of the theoretical and conceptual underpinnings – communities of practice and ESD projects addressing climate change targeted at youth, and;
- Section 4.3.5 provides a discussion of the case study findings and summary with particular attention paid to the fundamental components of ESD and climate change.

4.3.1 Current State of ESD in the Communities of Practice

The Thai case focused on three educational programmes operated by two non-formal and one formal education organisations. Overall, in Thailand there was a very strong emphasis on community, both in terms of engagement and participation. In this case it was observed that formal education has had an increasing role as a hub in the community between youth, their parents, others in the community, and the government.

As with many other areas in Southeast Asia the nomenclature and manifestation of ESD was predominantly in terms of Environmental Education with socio-cultural aspects gaining significance in the curriculum and scope of programmes. There was a strong NGO role in the sustainable development community, in part due to their place in the national policy framework regarding local level implementation. The programmes in the case study contained a mix of locally significant issues such as mangrove planting addressed together with international concerns such as climate change. This was one way of making a global issue such as climate change locally relevant. In this particular case study of Thailand it was evident that empowerment and capacity development were fundamental to EE for Sustainable Development initiatives. In terms of the four main “thrusts” of ESD, these programmes can be seen mainly as encompassing the component of raising public awareness and understanding, reorienting existing educations, and quality of education.



Figure 4.2: Students share a learning experience in Thailand. (Photo credit M. Y. Choi, August, 2008)

In Singapore at both the national level and within schools there were typically two approaches to reaching youth and addressing climate change - broad campaigns for developing awareness and action, and programmes targeted at developing the capacity of individuals or small groups. At the school level a major concern was infusing the curriculum in academic institutions with

sustainable development and environmental topics, and at the same time ensuring “fundamentals first” and producing graduates with the skills and experiences to make them attractive to employers – one of the most important concerns expressed.

In the case of Singapore then, reorienting education and public awareness and understanding of climate change and sustainable development were the major thrusts of the ESD programmes of the case study. Addressing climate change was relatively straightforward – to reduce their contributions through emissions and to find alternative sources of energy and means of consumption. The climate change issue was a major driver of activity, especially for on-campus awareness and action campaigns. The interviewees noted that around 2000-2003 youth were generally aware of sustainable development and environmental issues, though



Figure 4.3: Awareness raising campaign in Singapore alerts locals to the consequences of littering. Monetary incentives were found to be very effective for capturing the attention of Singaporeans. When asked about recycling instead of throwing away such materials as cans, bottles, and paper interviewees from the Ministry of Environment and Water Resources responded that for the general public the approach is one step at a time. First is to develop the habit of putting trash not on the ground or rivers but into bins, then to focus on dedicated bins and containers. Targeted campaigns exist for specific groups or locations such as schools and offices. (photo credit R. Kipp, September, 2008)

from 2004-present most of the interviewees noted a more ‘active’ and engaged youth, attributing this partly to government programmes to engage and empower youth; the internet for connecting likeminded people; and the growth of NGOs as a medium for youth to address issues relevant to them. ESD as it is known internationally is still an emerging concept, with Singapore having only rejoined UNESCO in 2007, though sustainable development has a very strong presence in policy and practice.

In Vietnam Environmental Education has a strong existence in policy and practice, although EE is quite oriented towards environmental protection with orientation towards socio-economic considerations a relatively recent development. Based on the interviewees' experiences it was changes in national policy regarding EE in schools and decreased funding for extra-curricular education at the local level that gave access to schools and training colleges. The interviewees in the case study were mainly NGOs engaged in environmental education, with quality of education, teaching, and curriculum as major entry points for EE into formal and informal education, as there was a need for external support (NGOs) following the policy and funding changes. The EE-based NGOs used environmental education topics such as the effects of climate change on the local community as a basis for their teacher training programmes and for creating curricula for EE and sustainable development. The NGOs would engage with the Youth Unions and other youth groups for information sharing and capacity development, as well as with one another as needed to take advantage of each organisation's unique knowledge or resources. When conducting school based programmes it was common to include many community-based groups and parents for training and understanding in order to facilitate the continuation of the programmes long term. It was noted by the NGOs working in Hanoi that urban youth are becoming very sophisticated and connected and are using the internet to create their own "community of choice". In this case the main "thrusts" of ESD seen were quality of education, training, and raising awareness.

4.3.2 Indigenous factors of the Communities of Practice

The purpose of this section is to present the data from each case study country in terms of the dimensions of a community of practice in the context of the indigenous factors relevant to each particular case. In this section we can begin to get an understanding of the indigenous context of the ESD programmes and what is needed to consider for implementation of an ESD programme. This addresses the second research question: *What do we need to consider in implementation of ESD programmes with the indigenous learning contexts in Southeast Asian counties?*

Excerpts from the in-depth interviews which correspond with the description and analysis occur throughout the chapter along with photographs taken during observations to give a stronger impression of the interviewees' experiences and how the data was interpreted.

4.3.2.1 Joint Enterprise

Key characteristics of joint enterprise in Thailand were a sense of social responsibility and community membership to allow voluntary participation. It was essential, in this case, for programmes to have activities with clear goals which lead to participants having a greater sense of community and self-accomplishment. Facilitating this were programmes which developed human resources by allowing participants to learn from the local environment and accounting for socio-cultural issues. This situation was described by a interviewee at an NGO that taught about sustainable development and daily life along the banks of a river near Bangkok. In this case the purpose was to convey knowledge which

Local constraints in engaging with the global challenge of climate change

We are interested in educational programme for sustainable development, especially community-based on from our position, a NGO, but it is so difficult when we recruit students. [because] School teachers are given their attention to their subjects mainly. School doesn't have clear and whole concepts of climate change, and even don't know what is sustainable development, although central & local governments encourage schools to involved in these kinds of activities. [...] So, such as cooperation amongst different people from schools including teachers and administrative staffs, local government and NGOs are urgently needed (Interviewee-B, Environmental educator, NGO, Bangkok, August, 2008).

contributes to daily life needs, and brings a synergy when the local traditional knowledge is merged with the programme's objectives of teaching about sustainable development and everyday life in the face of poverty and daily livelihood difficulties. In this instance there is a duality of the various communities which exist in one geographic area, with the NGOs and schools conducting ESD activities as a core component of the community of practice for sustainable development and the community.

Two critical factors of joint enterprise in Singapore were partnership and entrepreneurship. Many of the partnerships were based upon like-mindedness and togetherness, a social congruence for having an entrepreneurial mindset as fundamental to understanding and collaborating with others. Partnership was facilitated by official means such as engagement platforms to bring together groups to share ideas and avoid overlap. An entrepreneurial mindset itself was critical to the joint enterprise in Singapore in that participation was outcome oriented and was balanced with an underlying condition of putting the fundamentals of a trade or field first even when considering sustainable development. There seemed to be a tacit overlaying concern for the “fundamentals” of a field or professional training which often seemed to be in contrast with a personal concern for addressing sustainability.

At Singapore Polytechnic in the School of the Built Environment this was dealt with in a unique manner in which sustainable development and “green design” were made as fundamentals to courses and a requirement for graduation. This was done on the one hand due to government regulations regarding “eco” or “green” design thereby making graduates more attractive to employers, and on the other hand to attract youth who had a personal interest in sustainability to the programme. This helped integrate the aspects of skill development and fundamentals together with working for sustainable development in Singapore by developing the youth’s competence and expertise in design in a way which contributed to the sustainable development goals of Singapore. It was expressed by interviewees in the government and educational institutions that Singapore has a vision of “exporting” their knowledge and expertise of green and sustainable development policy and initiatives regionally and to position themselves as a leader in the field and an example to neighbouring countries.

**Government and education:
Developing sustainability awareness**

The (sustainability) movement caught on about five years ago, but there was a fear of [it] affecting business, but things are still okay and a big part of it comes from education...and want to be seen as supporting the government’s plan...at the grassroots level the government creates awareness (Interviewee O, Singapore, September, 2008).

In the Vietnamese case critical aspects of the joint enterprise were addressing local demand in conjunction with localising regional and global issues. Local demand primarily meant quality of education which came about due to changes in policy and funding support from the central government which greatly opened the door for environmental and sustainable development educators and NGOs to begin conducting work in formal settings. As such, this important characteristic came about as a result of two main factors – necessity of addressing this issue as driven by the existing policy framework and using quality of education as an entry point for environmental education for sustainable development. As well, quality of education was described by many of the interviewees as being a major discussion topic and demand from the general public, so aligning their own interests and initiatives to encompass quality of education was a strategic consideration in some aspects. Interestingly, much of the sense of community came from experiences in working with the

Localisation in Vietnam

“We don’t talk specifically about sustainable development or climate change because of terminology, people just don’t understand it, it’s not relevant to them...we speak the language necessary for working with the government and the local community”(Interviewee D, Vietnam. September, 2008).

Response when asked for critical factors on why they do well as an organisation relative to obstacles foreign organisations encountered. Speaking the language also refers to knowing how to communicate with the government.

Vietnamese government system, something which came to form a kind of shared competence which distinguished the more experienced educators and NGOs working at the programme and policy level as members of the community from smaller organisations or new entrants to the area. This also reflects the aspect of being able to work within the local context as an important characteristic of the joint enterprise. Relative to the other two countries in the case study making EE and ESD local through pilot projects using locally relevant terminology in particular was an important component of the interviewees practice. This applied also to climate change which was often met with relative scepticism.

4.3.2.2 Mutual Engagement

The nature of mutual engagement in Thailand really quite typifies the entire case, and that is with active cooperation among many members from throughout the community with the school as a hub for engaging with other community members. Two key components of the Thai mutual engagement were cooperation and motivation. Cooperation was based on mutually beneficial partnerships and a cooperative environment driven by co-benefit partnerships for individual participants and organisations. Motivation for active cooperation

Participatory communities in Thailand

We encourage local communities and schools to take some roles during our several-days-river trip programme in order to let them join us. This is quite necessary when we consider what sustainable development where most of people face in poverty and daily livelihood difficulties [...] It should be provide knowledge to handle daily life needs . Especially, it can bring a synergy when the local traditional knowledge is emerged into the programme. Actually, Thailand has rich cultural backgrounds (Interviewee-A, Deputy Chief Operating Officer, NGO, Bangkok, August, 2008).

drew on the self-contentment participants felt through engaging in the community-based ESD activities, which lead to community and social recognition – an important motivating factor. Overall mutual engagement in the Thai case was critically important so as to draw in non-experts on sustainable development into the fold as it was noted by interviewees that many do not have a clear idea of sustainable development or environmental issues such as climate change despite government policies and encouragement for these kinds of activities it was still mainly up to the NGOs and environmental educators to be a source of engagement in the broader community.

In Singapore the entrepreneurial mindset which was important for recognising the joint enterprise gave much of the meaning to the engagement. This way of thinking formed a shared identity among the interviewees which was a part of the foundation for mutual engagement through multi-stakeholder discourse.



Figure 4.4: Green spaces and green design are critical factors for urban planning in Singapore. The colourful buildings are public housing where more than 80% of Singaporeans reside. (Photo credit R. Kipp, September, 2008)

in society given an opportunity to be involved in the policy discourse. The plan of the government offices responsible for environmental and sustainable development policy and initiatives was such that many stakeholders would be involved in projects while engagement with the government was very common. This feedback mechanism seemed to greatly contribute to the inclusiveness and engagement in Singapore. As well, incentives exist for engaging with other stakeholders and for community members to actively initiate and participate in sustainable development and environmental initiatives. A critical aspect of engagement in Singapore was new media, in particular online communities such as Facebook or MySpace, and using new media as a means of expression for youth.

An important aspect for mutual engagement was recognition. That is, those who had success and stood out for their participation and action were frequently and formally recognised by the government with awards and prizes. This seemed to be very important for sharing information and building relationships, especially for youth who could become even more involved with sustainable development and the environment due to the recognition they received and the relationships they made. Of critical importance to the stakeholder discourse was inclusiveness with many groups

The mutual engagement in Vietnam can be seen as occurring for very practical and pragmatic interaction based on competencies that participants could share with others. For example while one NGO was quite adept at using environmental education in schools in order to develop awareness about sustainable development and local environmental issues, as they expanded their programmes into other regions their scope also widened to include curriculum development and teacher training.



Figure 4.5: Youth-led civil society groups have begun promoting bicycle use in Hanoi to combat emissions. Bicycles are still greatly outnumbered by 2 and 3 wheel emission producing modes of transportation in Hanoi, Vietnam (photo credit R. Kipp, September, 2008)

exclusively as their means of communicating and supporting youth to share information and provide guidance on their environmental activities, while youth are forming communities around locally relevant topics such as air quality.

4.3.2.3 Shared Repertoire

The shared repertoire in the Thai case to a greater extent than the other cases relied upon the development of primarily intangible resources in the form experiences and skills which provided valuable and locally relevant knowledge to individuals, schools, and organisations and delivered

As such they engaged with other NGOs and government officials who had expertise in these areas and who in some cases had a shared perception for integrating environmental and sustainable development issues into public schools. As they interacted their collective expertise grew along with their sense of community. This in turn enabled the community of practice as a whole to engage with other community stakeholders due to greater resources and knowledge. The base of this was engagement with others who could contribute in specific ways and flexibility to work with the existing political system. Similar to Singapore, though certainly not to the same extent, Information Communication Technology (ICT) was a very important means of engagement for many interviewees. One NGO used yahoo groups almost

through community-based programmes in formal and non-formal education in cooperative and

ESD in Thailand = shared learning experiences

My school is a hub for environmental educational programme. I mean... we are helping our students to share their story with others. We often invite people from this community, their parents and even local universities to let students share their experiences in their environmental projects with them. [...] True repertoires to demonstrate how students gave their efforts on keeping their environment have a power to move people and society (Interviewee-O, Environmental Geography Teacher/Director of Global Action School Programme, Secondary School, Bangkok, August, 2008).

collaborative endeavours. These resources were aimed towards developing awareness and environmental empowerment leading to, ideally, capacity for organisational and personal problem solving and action on environmental issues.

In Singapore the shared repertoire included both tangible publications and intangible experiences and capabilities. Singapore

Polytechnic has published a biennial “Environment and Sustainability Report” that, in their words places on record all that they do to “engender economic, ecological and social responsibility” within their community. The report is published as a part of their social responsibility and environmental policy at the school, and it seemed to be a strong source of pride for the school to account for their efforts towards what can be considered ESD in Singapore.

An experience shared by many Singaporeans in the “green” community is a series of programmes started by the government for creating youth environmental leaders through training, mentorship, and support for “sustainability” projects in their local communities. Of the interviewees working at NGOs or on university campuses promoting climate change, all were graduates of the government programmes and still engaged with other youth and government offices as a result of the programme. The experiences in their youth of having training and conducting ESD activities contributed greatly to the community of practice in Singapore.

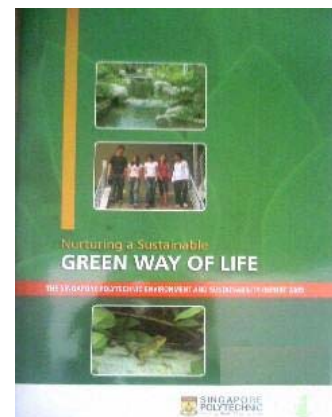


Figure 4.6: The Singapore Polytechnic Environment and Sustainability Report 2005 booklet. (Photo credit R. Kipp, September, 2008)

The shared repertoire in Vietnam for the interviewees of the case study was built up very much on experiences gained from working in the particular political climate of Vietnam and through expertise built up through consistently improving and developing their programmes. Much of their resources were intangible, gained through their mutual engagement and cooperation. The most prevalent tangible resources were textbooks and magazines for youth.

At the NGOs in particular developed their experiences and capabilities this also showed a relationship with their relevance and interaction with the policy process within the government. The NGOs which had less engagement compared to other NGOs, despite expertise and capability, showed little relevance and connection to the policy process. Meanwhile other NGOs who engaged with others in order to, for example, make use of relevant competencies, were becoming more and more relevant to local and national policy and implementation.

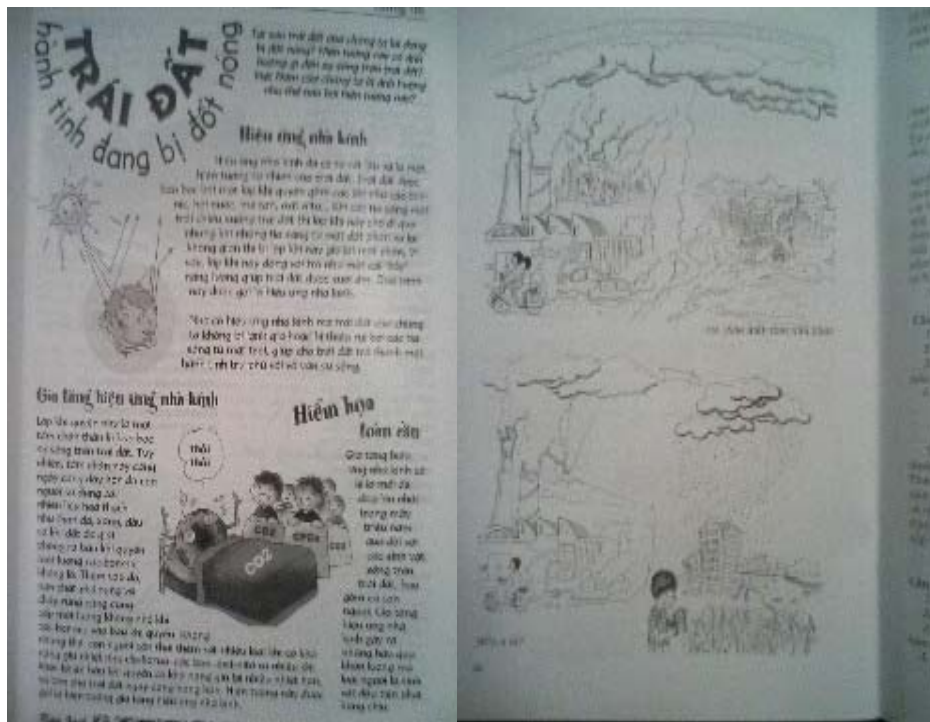


Figure 4.7: These images show the results of ESD-activities which address climate change in relation to local issues in Vietnam. The photo on the left is from an environmental education curriculum book made through the collaborative efforts of NGOs and educators. The image on the right is from a magazine produced with youth as the target audience. (Photo credit R. Kipp, September, 2008, publications produced by Education for Nature, Vietnam)

The following table shows the key characteristics drawn from the interviewees' accounts and the observations during the case study field work. As was explained in Chapter 3 the characteristics were drawn from the interview dialogues and received documents to form a descriptive account of each component of the analytic framework.

Table 4.1: Key Characteristics of Local Communities of Practice

Core components	Singapore	Thailand	Vietnam
Joint Enterprise	Partnership	Community membership	Quality of education
	Entrepreneurship	Social/community responsibility	Localisation
Mutual Engagement	Stakeholder discourse	Cooperation	Relationship building
	Shared identity	Motivation	Shared perception
Shared Repertoire	Documents	Communication	Contextual Experiences
	Related Experiences	Environmental empowerment	Knowledge and capabilities

4.3.3 Comparison of Similarities and Differences Across the Cases

The purpose this section is to compare findings across each of the case study countries in terms of the similarities and diverse aspects in relation to the core components of the

There has to be an internal demand (in the organisation), also we have to decide for ourselves, but so far we haven't decided yet because there isn't a demand. [Educators/policy makers] demand more materials about nature, they're quite demanding, they know what they want. If they (schools) wanted something they would typically go to the [education ministry]. [Climate change knowledge/awareness?] It's not really a familiar thing to the community in general (Interviewee E, Vietnam, September, 2008).

theoretical framework – *joint enterprise, mutual engagement, and shared repertoire*. In so doing we can provide insights into the critical factors of good practices for ESD programmes at the local level, thereby contributing to the first research question: *What are the critical factors for promoting good practice of ESD programmes at the local level?*

4.3.3.1 Joint Enterprise

Across each of the countries the greatest similarity was how the communities of practice were community oriented in such a way as to show a commitment and connection to the demands of the local cultural and policy context. In Vietnam for example, when asked about producing educational materials for climate change the interviewees generally responded that there was not a large demand from educators or the government in particular with the result that despite their own interest and concerns climate change was mainly conceptualised in terms of other locally relevant issues for which there was a demand for such as livelihood development to adapt to the effects of changing weather patterns – without consensus on the cause nor explicitly addressing climate change. A similarity can be drawn between Thailand and Singapore in the nature of their joint enterprise in the aspect of community responsibility and human resources development – developing useful and practical skills based on sustainable development. In Singapore

In terms of diversity among the countries, in Vietnam in particular, perhaps because the NGOs were working with “foreign” topics such as ESD and climate change, that they had a greater sense of cohesion in their joint enterprise based on the fact that what they do is not familiar or local but in order to achieve their goals what they are aiming for must be done in a local context. This seemed to add to clarifying the community of practice participants and distinguished them from other educators in Vietnam, this aspect of having foreign knowledge or know-how. This challenge of introducing a foreign concept as a part of the joint enterprise was most seen in Vietnam, as in Singapore there was virtually no question of accepting climate change as being relevant locally, so in

this aspect the nature of the joint enterprise varied. The contrast with Singapore is that this did not seem to be a concern as the challenge wasn't so much in convincing the local population of the benefits of "going green" or the realities of climate change per se, although these were issues the government was addressing to the general population. Rather the joint enterprise was distinguished and recognised for the fact that they were taking action and exhibiting personal decisions regarding climate change and sustainable development as individuals and small groups within organisations. Singapore and Thailand clearly differed however in the local/culture knowledge-based approach which was a key aspect in Thailand though not as much in Singapore, perhaps due to their blanket acceptance of climate change as being real and relevant and sustainable development having potential for being profitable.

4.3.3.2 Mutual Engagement

The communities of practice in the case study shared similarities in their foundation of cooperation and inclusion through multi-stakeholder discourse, personal incentives, and recognition. The community of practice participants in general displayed a very pragmatic approach in engaging with other stakeholders, in particular by educators working with other stakeholders in the community through their work in sustainable development education, due in part to limited resources and knowledge on specific topics.



Figure 4.8: Mangrove tree planting project for youth in Thailand. This type of project was used to show youth how global climate changes can have local level consequences. (Picture credit M. Y. Choi, August, 2008)

Differentiation in Singapore occurred in particular by the engagement and network of relationships which were interconnected among a handful of key groups and stakeholders - individuals and institutions which frequently interacted in a rather tight network reminiscent of

Singapore society as a whole. Contrast this with Vietnam where the community of practice was much more loosely connected through formal relationships, often on an “as needed” or “ad hoc” basis for the purpose of accomplishing specific tasks or components of a programme. However contrast this with the Thai case where the relationships were relatively steadier and cooperatively built over time, though also with diverse stakeholder involvement.

4.3.3.3 Shared Repertoire

The greatest similarity across the cases in terms of the shared repertoire was the emphasis on communicative skills and the importance of the physical resource pool relevant to the necessities of the local context. Rather than strong and clear diversity the variation among the cases came in the degree to which each element was regarded by the interviewees. In Vietnam for example much of the shared repertoire of the community of practice, in particular the NGOs, was their experiences as they grew as an organisation, further increasing their engagement with other stakeholders and continually generating new experiences and competencies given the local context. The same could be said for Singapore where in such a close-knit community the ability to communicate effectively with the government one day, and a local citizens group the next was clearly expressed as being important. In Vietnam and Thailand this was also important, but due to the relative size and numbers of NGOs and the population in each country the diversification based on closeness to the policy or project level did not exist in Singapore to the extent that it did in the other countries. The publications that were produced as a result of their mutual engagement did appear to be the source of strong connection between members of the community of practice. For example, in Vietnam textbooks, curriculum, and magazines with an environmental and sustainable development theme were often the result of collaboration and resources sharing, though reports on organisational performance in sustainable development or addressing climate change were not nearly as common as in Singapore.

The contrast in the repertoire of the community of practice in Singapore from that of Vietnam and Thailand was the abundance of physical documents to account for past accomplishments and practices and to publicise and raise awareness on current endeavours. The community of practice was very open and publications and policy related documents are easily available on the internet. The participants of this case study in Thailand as well tended to rely on a sharing of experiences and building up a resource pool of knowledgeable and informed individuals and connected organisations, with publications to a lesser extent making up their shared repertoire. That is not to say that knowhow and publications are the only part of the repertoire. For example in Thailand the mangrove tree planting, which drew a connection to combating the effects of climate change, stood as long lasting evidence of the work of the sustainable development community.

4.3.4 Key Aspects and Diversities in the Communities of Practice

The purpose of this section is to summarise and clarify the main findings from the case study in terms of the theoretical framework of communities of practice.

The communities of practice in the case study exhibited diverse and common features that enabled them to function and contribute to collectively improving the knowledge and skills of the participants and in turn, contribute to the outcomes of educating for sustainable development. The joint enterprise was often characterised by participatory activities that shared a common element of being community oriented with a focus on aligning the interest of other stakeholders. How the communities came together was characterised by collaboration and discourse that balanced inclusiveness with flexibility and understanding of the competing interests that also bear on how and why the participants could be engaged. What seemed to be a factor in solidifying the communities of practice in each country and could really define who they were and what they could do as

practitioners of ESD was the shared repertoire of resources and experiences accumulated through their engagement with one another through their practice.

The experiences and knowhow helped to distinguish the community of practice and give them recognition in the broader community as experts and reliable to turn to for information. The publications in particular were often a source of pride, as tangible proof of their work and commitment to sustainable development and education, and were a means of connecting with non-experts and drawing in others to the community of practice. The experiences that were gained through engaging with other stakeholders over time and through improving their practice stood out as a very critical element for developing a sense of community and identity. This aspect helped distinguish the participants not just from other types of practitioners, but also from their previous selves as they could look back at their accomplishments and knowledge gained through their activities and shared experiences. What really differentiated the communities of practice in each of the countries was the structure and network of relations between them. On the following pages are three diagrams which model the communities of practice in each of the case study countries.

The Thai case shows how the schools which conducted ESD programmes were seen as a hub between other stakeholders in the community. Through the ESD activities which were described previously the other stakeholders engaged with the schools and NGOs and learned about climate change, among other social and environmental topics.

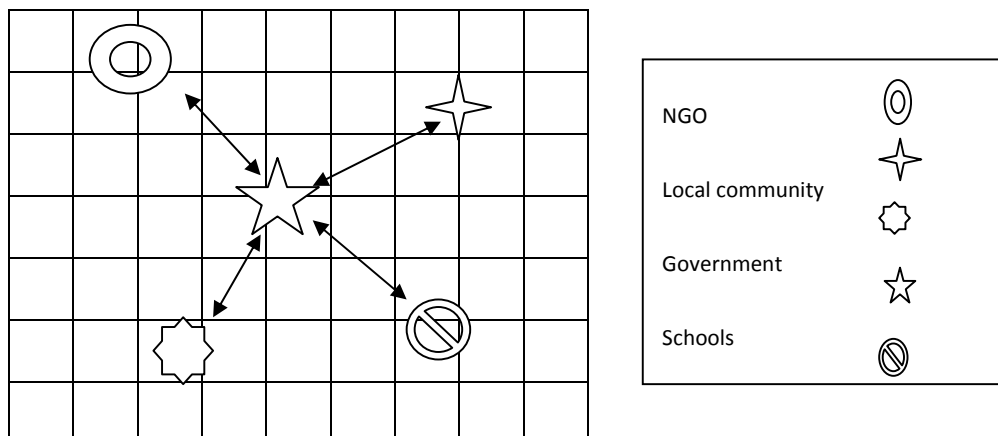


Figure 4.9: Model of community of practice between stakeholders in Thailand

In Singapore the community of practice was a rather close knit community linked through personal relations and policy. The standout characteristic was how the participants worked in close alignment with the goals set for the community of Singapore as a whole in a mutually aligned effort. Each had their own purpose and drive, but there was a very strong sense of togetherness and movement in a similar direction, as a community of individual stakeholders.

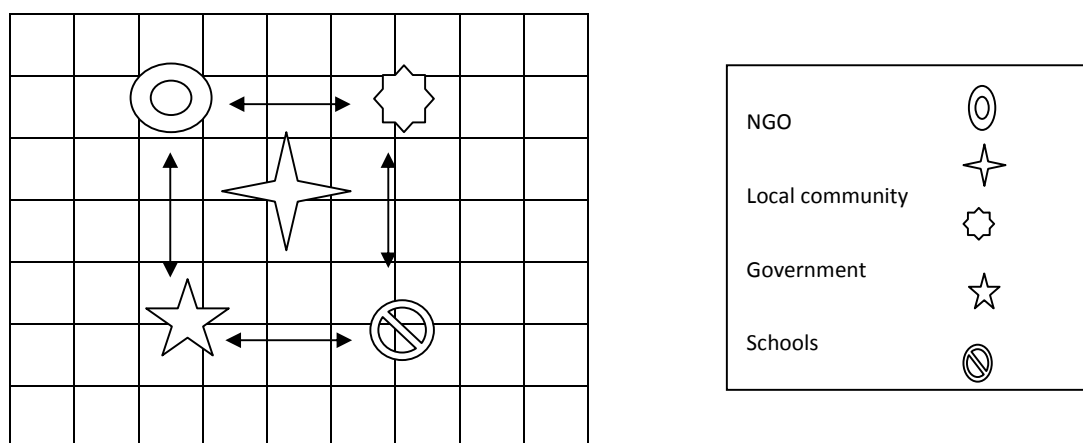


Figure 4.10: Model of community of practice between stakeholders in Singapore

In Vietnam the community of practice was quite diverse and spread out over many areas and local communities. A few of the larger organisations had a close relationship to the central government while medium sized NGOs worked closer with the regional governments and operated only in local areas. Many of the participants engaged with one another through a project or training session or informational seminar either sponsored by a participant of the ESD community or a close relation to it.

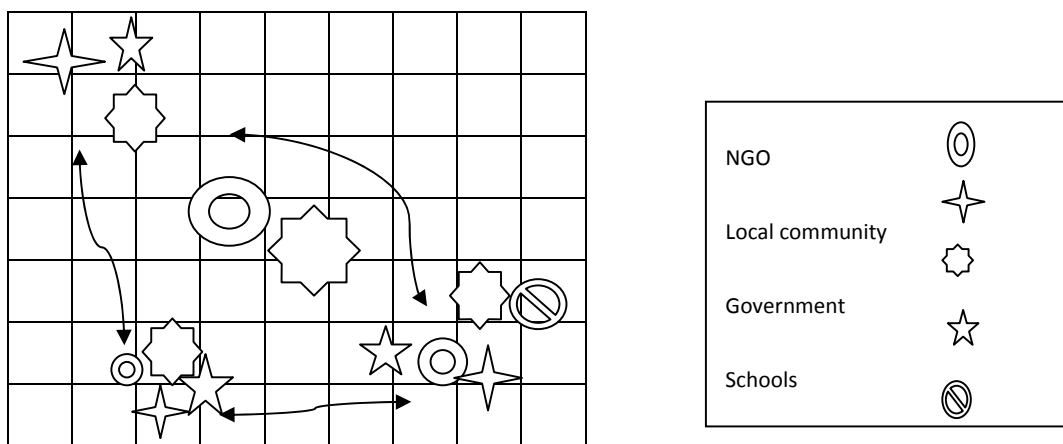


Figure 4.11: *Model of community of practice between stakeholders in Vietnam*

4.3.5 Case Study Discussion

The purpose of this section is for discussion and reflection on the case study findings in terms of the conceptual framework based on ESD, climate change, and youth.

4.3.5.1 Education for Sustainable Development

Among the interviewees in the case study ESD is primarily conceptualised in terms of Environmental Education. It may be safe to say that environmental education is being oriented towards sustainable development as per Agenda 21 more so than ESD is spreading and developing in its own right. In policy and in practice environmental education seems to lend itself to conceptualisation and actualisation to a far greater degree than ESD, which seems to be fairly cerebral and lacking the concrete form enjoyed by EE in Southeast Asia. There was certainly “local level ESD” in which existed some of the core concepts of Chapter 36 of Agenda 21 and later additions to the central structure of ESD, though it may be jumping to conclusions to directly relate these practices to the global vision of ESD and the Decade of Education for Sustainable Development, as correlation though does not imply causation. To be sure, the core concepts such as reorienting education or changing behaviours to sustainable living patterns are also fundamental to much of the activity being undertaken by the interviewees as a part of environmental education, or EE for SD, or other “green” type of initiatives. That is to say that “ESD” as it may be known by academic, researchers, and some on the policy and implementation side was not necessarily the cause of these outcomes. It is simply that these concepts are by and large manifested in this context through environmental education or those with a cursory awareness of ESD. As it stands in policy, the regional framework and contribution to the DESD is entitled “Environmental Education for Sustainable Development” (ASEAN, 2008). It emerged through the interview process that the differentiation between EE and ESD was not so clear in some cases, with one interviewee asking rhetorically “Education for what?” in wondering about the purpose of ESD as it was not attached to specifics in her context.

This ambiguity was also expressed by interviewees questioning what ESD could do that EE could not or was not already covering. In other words, wondering what could be gained by embracing “ESD” on the whole and applying it to their practice that could not otherwise be gained by making additions to their existing central focus of EE, as sort of EE Plus rather than *ESD*. This issue seemed to

not be a challenge to “ESD” and the concepts therein, rather a challenge to having another “buzz word” or not seeing the benefit in simply renaming things that are already being done. One area where this has implications is existing relationships with other stakeholders, in particular donors. It was pointed out by interviewees from three NGOs that if they were to acknowledge their programmes as being “ESD” or apply that label as such, that it could lead to difficulties in getting funding from donors who were not familiar with the term. This challenge also existed for practitioners who had established a relationship with local officials based on “Environmental Education” having to reframe their programmes as “ESD”. It was simply easier to “do” whichever aspects of ESD that related to them rather than be “rebranded” as “ESD”. Which leads back to the discussion in Chapter 2, and that is the challenge may be in making the case for ESD.

If in the simplest sense we look at ESD as being “values based education” that seeks to change behaviours and lifestyle to be more sustainable, and in a broad sense linking ESD with other global initiatives and a much wider range of values and outcomes, then it may be safe to say that ESD is generally conceptualised in the narrower simplest sense in Southeast Asia by those who know about ESD and practice ESD or EE for SD or some other related permutation of these concepts.

The following list summarises some of the key aspects of each country in the case study based on the accounts from interviewees and observations made during in-field observations.

Singapore

- Very strong home-grown “ESD in nature” structure and goals
- Pride in what has been accomplished mostly independently and of Singapore identity
- Uncertainty about role of UNESCO

Thailand

- Important role of formal education as a hub in the community
- Informal – NGOs having greater leeway for implementation than formal
- Interchange between government and NGOs predominant factor related to ESD
- Constant back-and-forth between community at large as part of the ESD enterprise

Vietnam

- Strong element of conservation/preservation from EE-centric education
- Necessity of a specific “Vietnam case” , scarcity of translations/trained ESD experts
- Unclear knowledge of what ESD will do and what/who it’s for
- Concern of it being a buzzword that will fade

4.3.5.2 Climate Change

Approaches to climate change were quite similar in Thailand and Vietnam, where climate change was taught in conjunction with “local” topics such as mangroves or local water quality, with adaptation to the effects the main concern. In Vietnam there was a certain degree of doubt cast on the validity of claims about climate change and weather patterns. Some interviewees felt that on the one hand Vietnamese weather was changing, but the causes could not be verified, it was simply “Vietnamese weather changes”. On the other hand, the same interviewee felt that even if climate change was causing environmental problems that the root cause was Western industrialisation. As such, if climate change is actually causing “Vietnamese weather changes” then Vietnam could only respond to the effects while continuing to develop as Vietnamese resources are limited and need to be spent on domestic economic development, not spent on environmental problems caused by the

West. In this regard climate change was an uncertain and unclear issue, similar to ESD, and is not at present in the scope of concerns locally as there was not a strong demand from educators or local governments for education or training on climate change specifically.

Compared with Vietnam it seems that in Thailand the respondents have, based on their experiences with other stakeholders, gone one step further in recognizing climate change and wanting to do more with this topic with youth. The greatest challenge for addressing climate change was identifying a means of making climate change local and relevant to urban youth. This challenge manifested itself in a number of ways, including finding space for climate change in schools where attention and resources are directed towards the main core subject areas, with little room to spare for “international” issues. Further complicating the issue was finding a clear and complete conceptualisation of climate change in an appropriate format for youth in particular and for the community at large. Contrast this with Singapore where climate change was approached rather straight forward – how to mitigate their contribution to emissions through reduced use of greenhouse gas causing sources of energy and reducing energy consumption in general through changes in behaviour and better technology.



Figure 4.12: National University of Singapore student-led on campus climate change awareness and action campaign, with support from local sponsors and the government. Limited resources and long-term thinking makes collaboration with other stakeholder a necessity. (Photo credit Robert Kipp, September 2008)

The sentiment expressed in Singapore was an entrepreneurial outlook that shaped the attitude towards climate change for the educators, practitioners, and government officials from the case study. Typically it was felt that climate change was an issue that Singapore must address and

could lead the region on mitigating contributions to climate change through education, training and technology such as creating “eco-friendly” products and sources of energy. This finding has been suggested by other researchers such as Hamilton-Hart who describes Singapore’s decision to accede to the Kyoto Protocol as primarily a strategic move (2006). Cheam also came to a similar conclusion following the Singapore government’s 2007 commitment of \$350million dedicated to transforming the city-state into a “global clean energy hub” (2007).

In each of the three case study countries we can find similarities and differences resulting from local attitudes and culture. Thailand and Vietnam shared an adaptation approach, though with greatly differing demand for education on climate change. Vietnam in particular did not have a strong demand from educators for climate change materials, while Thailand faced struggles of accessing locally relevant resources. Singapore in contrast has made climate change a national issue that is being addressed with a “green entrepreneur” mindset.

4.4 Consultation Meeting Summary of Key Findings

The purpose of this section is to present the key findings and results from the presentations and discussion sessions at the consultation meeting. Much of the discussion was centred on formal education and how to make ESD and climate change relevant and practical to all stakeholders in that context. The full text from the consultation meeting proceedings executive summary can be found in Appendix 3. The main result of the discussion on ESD was that time and resources should be focused on action and sharing information about ESD projects. In this light it was felt that as practitioners and policy makers, we can move beyond discussing ESD and what ESD means, and move forward with our projects and research on ESD in practice and policy. This had a two-fold purpose. On the one hand, rather than be concerned about the differences, to show through our projects and research what ESD means in Southeast Asia. And by doing so others could be introduced to ESD through greater

exposure and understanding of what ESD, as it was noted during the second discussion period that it is difficult to rely on individual motivated people to implement ESD. In this light the next step is to start looking outside our community of people who are knowledgeable about ESD to promoting and mainstreaming ESD as Mr. Cantell from UNESCO-Bangkok said, with a *clear, brief, and practical* message.



Figure 4.13: Mr. Mikko Cantell presents on UNESCO and ESD in the Asia-Pacific. (Photo credit Robert Kipp, Bangkok, Thailand. November. 2008)

The participants noted the necessity of documenting ESD activities and to make the accumulated knowledge and resources accessible regionally, to avoid overlap, and to build up our shared repertoire to give concrete evidence and examples of ESD. This could be done through the ASEAN Environmental Education Inventory Database, and supported by the ASEAN Environmental Education Action Plan (AEEAP). Establishing a regional network, possibly with a Secretariat to support regional cooperation, make international connections, and to support the sustainability of ESD.

Climate change was identified as a topic that can be applied to all the member countries as a transboundary issue in support of a regional approach to ESD. In line with this was recognising *youth* as a group to focus on due to their relevance to ASEAN policy and the Decade of Education for Sustainable Development.

In regards to youth in terms of ESD and climate change issues the discussion frequently turned to engagement and empowerment, with the five key approaches from a workshop held in 2008 for the AEEAP being central to the discussion. Of these five recommendations “Green schools” or “Eco-schools” were discussed as a useful means to build regional connections through sharing experience and networking around a regularly practiced and common activity. Again, the ASEAN database was recommended as having potential as being central to the process. Developing youth leaders by targeting key individuals was suggested, with the note that while being engaged with youth and developing their capacity is important, and just as important is for educators to step back from the process and give youth the freedom and space to engage and act on their own. Using the ASEAN framework was suggested to create a “Youth for a Sustainable Environment” network.

There was great interest in Information Communication Technology (ICT) for engaging with youth, though concern was shown for making sure that other elements of education are present when using ICT in that ICT is a tool for engagement and learning, not an end in itself.

A reoccurring theme of the consultation meeting was the troubles faced by educators and policy makers in terms of funding and resources. One area where this was especially present was in teaching about climate change. It was expressed how educators have difficulty in finding accurate and useful resources for teaching youth that are also relevant to the local context. Further challenging educator’s efforts to teach climate change is finding room in the curriculum for climate change issues. This was also the case for sustainable development issues. Possible solutions were to have closer engagement with parents and policy makers – a sort of push-pull relationship for

teachers, and to weigh the relevance and necessity of elective courses that may be exchanged for course in sustainable development. Major challenges seem to be how to engage non-experts with ESD, how to make global issues such as climate change locally relevant, and to continue with practical and constructive dialogue on ESD.

And while the discussions were very open and insightful, there were a number of topics which were not fully addressed:

- How to garner political support to promote ESD implementation at national and local levels as it can be a very useful and unifying tool for the ASEAN countries, especially at the beginning of the era of ESD.
- How we can ensure ESD agendas filter down through to the national and local level from the international and regional levels as there is still a disparity in understanding, drive, and congruence.
- How to narrow the gap between policy, academia, and practitioner – including educators and NGOs, as from the discussions there does seem to be an invisible barrier between, and even among, these stakeholders.

The model on the following page shows roughly the connection between domestic policy makers and practitioners in Southeast Asia through such events as the consultation meeting held in Bangkok and the ASEAN Environmental Education Inventory online, through research and publications of the outputs and outcomes from projects and policy studies, and through other regional and international groups. One of the outcomes of the consultation meeting was to collect, connect, and share best practices in Southeast Asia and to make connections beyond the region.

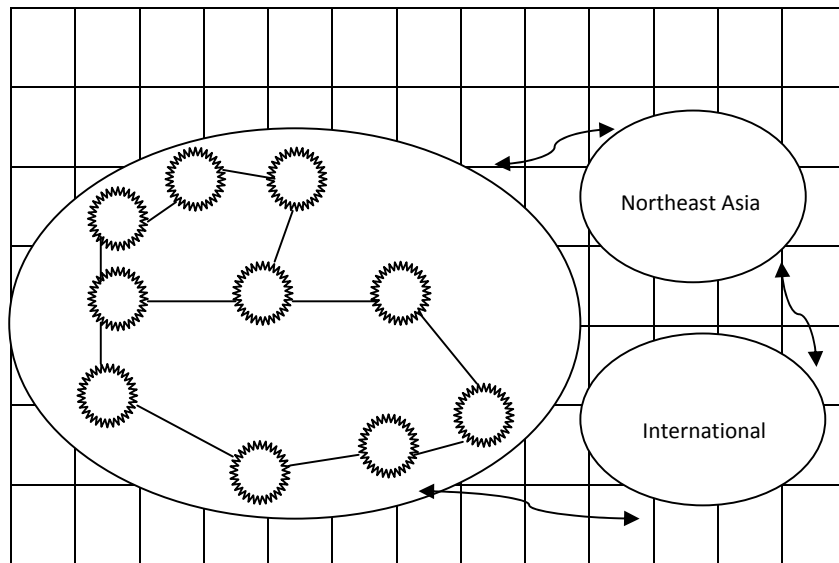


Figure 4.14: *Model of regional community of practice in Southeast Asia and global connections*

4.5 Synthesis of Findings

The case study and the consultation meeting shared many common topics and outcomes from slightly different perspectives. As the consultation meeting was for regional ESD experts including policy level participants and practitioners with an understanding of the concepts, and conceptualisations, of ESD regionally the discussions and outcomes tended towards regional collaboration, in particular between those already knowledgeable about ESD. The case study was local in scope, looking at critical factors at the local level, with the findings and outcomes based on local understanding of ESD which was often conceptualised in relation to environmental education and locally relevant issues.

As may be expected, the emphasis in the consultation meeting was on regional inclusiveness and collaboration, while the case study interviewees' focus was very much on their own community and on producing locally relevant outcomes. The case study interviewees' collaborative focus naturally ended as far as their available resource would allow, usually locally and with greater thought put towards engaging with other stakeholders in the immediate community, there was little mention of the regional perspective. The challenge appears to be making the intentions of regionally focused ESD experts relevant locally, in particular to non-experts. In this regard green schools seemed to be a very promising enterprise for bridging the gap between experts and non-experts and in connecting the local level regionally. There are many things that can and have been said about ESD in Southeast Asia and in each of the case study countries. The following Table 4.2 briefly summarises succinctly the key characteristics by drawing on the interviewee's descriptions from the case study, from the literature review, and from the discussions and presentations from the consultation meeting.

Table 4.2: Characteristics of ESD

Research Findings: Characteristics of ESD			
Singapore	Thailand	Vietnam	Regional
Local "ESD" programmes oriented more so towards sustainable development than traditional environmental education focus, perhaps due to a lack of natural resources locally.	ESD programmes with schools as a hub in the local community. Community oriented Environmental Education for Sustainable Development.	Environmental education enjoys a well established political and implementation framework and public recognition. Thus ESD oriented towards local demand for environmental topics. ESD may be considered as a "foreign" concept, though is growing among NGOs.	High level recognition when conceptualised in terms of environmental education. Regional framework in place for coordination and sharing. Seen as a transboundary issue appropriate for regional cooperation and inclusiveness

The consultation meeting addressed areas not emphasised in the case study, in particular parent involvement and influence on the curriculum, regional networking, and greater emphasis on infusing the curriculum- for example how to fit climate change into the curriculum. Climate changes

in particular was a topic most case study interviewees and consultation meeting participants felt was important or were interested in, but were struggling with how it can be made relevant to their local community (see Table 4.3 below). This would seem to indicate that climate change and even ESD for non-experts are still mainly conceptualised in the media or high-level discourse and that it is difficult to see as relevant on a daily or individual basis.

Table 4.3: Characteristics of Climate Change in ESD

Research Findings: Characteristics of Climate Change in ESD			
Singapore	Thailand	Vietnam	Regional
Generally accepted as real and relevant; Attention to climate change itself often tied to other locally relevant issues such as youth empowerment, entrepreneurship, and regional leadership.	Generally accepted as a real concern, challenges of local relevance; Demand from educators for resources in local language. Challenge of finding space in the curriculum	Considerable challenges in making locally relevant; Very little demand from educators for climate change specific resources. Demand for “environmental” topics	High level recognition of the importance of climate change – though possibly for political reason rather than to affect real change. Seen as a transboundary issue which can be mobilised for regional cooperation and inclusiveness.

In the cases Information Communication Technology (ICT) came across as being increasingly important for engaging youth, and as was discussed in the consultation meeting ICT can be used as a medium for expression and giving voice to youth. Further, ICT can conveniently combine multiple interests and bridge geographic boundaries; however there is the concern of the focus shifting from the educational message to the delivery. Indeed, “fundamentals first” is an issue not just in regards to integrating sustainable development in education, but in educating for sustainable development.

Table 4.4: Cohesive Structural Framework of Good Practice of ESD Programmes

Structural Components	Categories	Critical Elements
Joint enterprise	Community membership	A sense of membership
		Human resource development
	Social/community responsibility	Clear common activity goals
		Life-skill teaching approach
		Local/cultural knowledge-based approach
Mutual engagement	Cooperation	Cooperative environment
		Active stakeholder involvement
		Co-benefit partnerships
	Motivation	Self-contentment
		Organisational/personal incentives
		Community/society recognition
Shared repertoire	Communication	Communicative skills
		Building a resource pool
	Environmental empowerment	Awareness of environmental empowerment
		Organisational/personal self-problem-solving capacity

4.6 Conclusions

With climate change and ESD to some extent, at least in Southeast Asia for those trying to teach about it, there seems to be an impasse between awareness and actionable plans. Primarily this seems to be a result of a lack of resources relevant to the local context and in the local language, and a lack of a common understanding of the topics at hand, in particular how they relate to the narrower local context. Perhaps in this case, as Holdgate states (1996, 228) the precondition for global success of globally significant issues is to think locally and act locally, with a mind for the global community. This could particularly apply to policy level endorsement of global issues that hasn't resulted in a local level response. John Bains makes the observation that "most people have an environmental horizon

which is very local – the end of the street or the top of the next hill. Sustainability has first to make sense of that neighbourhood level, if it is even to reach global proportions” (Baines, 1995, as cited in Warburton, 1997, 15). This perception could very well describe the findings from this report in that ESD and even climate change may have global reach, but do not yet make sense at the local level.

In conclusion we can see that ESD is slowly gaining recognition and support, though mainly by association with environmental education and through key individuals in the community of practice who are closely involved with research and policy related to EE and ESD. ESD certainly has high-level recognition in government and among academic researchers, but generally low local awareness. In this regard it may be safe to say that the broad goals and vision of global ESD remain full of promise, though this does not necessarily mean that ESD is not growing in Southeast Asia. Primarily, it is growing in the context of the existing perception of “environmental issues” and the history of policy and practice already present. While ESD on its own remains an ambiguous concept in the view of many of the interviewees, EE for SD and less broad conceptualisations of sustainable development in education certainly seem to be well known and concrete. Which brings us back to the issues addressed in Chapter 2, and this is what are the key questions to ask as this time - How to promote ESD? or How to make the case for doing so?

One final point that deserves recognition is the importance of Information Communication Technology and New Media. It was quite apparent just how incredibly important making good use of ICT is for keeping up with and engaging urban youth. In particular the internet presents more options to choose their “community” and take ownership of projects and can be an excellent opportunity for fusion of local knowledge and international wisdom.

At the end of the data analysis we can emphasize the importance of education and capacity development to sustainable development and climate change by developing awareness and empowerment to respond to environmental issues through adapting to the effects and mitigating our

contribution to the likely causes. To this end education and capacity development are the main drivers of awareness and empowerment which lead to the response to climate change.

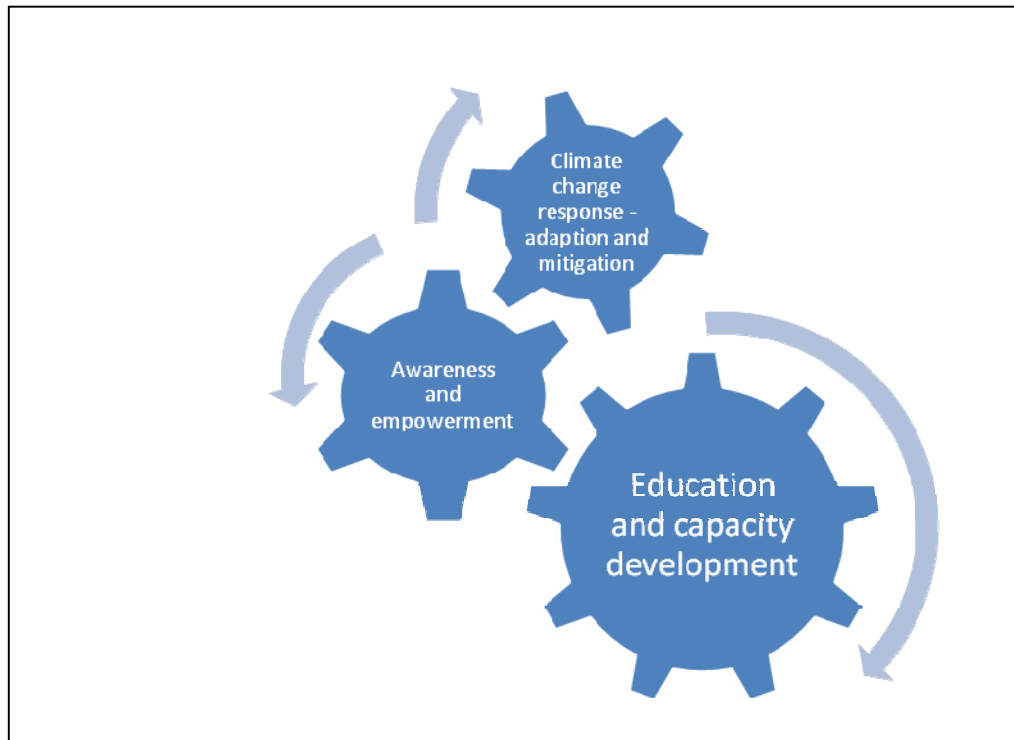


Figure 4.15 Education and capacity development drives response to climate change

Chapter 5 Conclusions and Recommendations

5.1 Introduction

This research paper has explored Education for Sustainable Development (ESD) programmes at a local level in Southeast Asia in order to explore critical factors for promoting ESD and carrying out ESD projects. This chapter will present the main conclusions drawn from the three data sources – publications and internet sources, the case study, and the regional strategic consultation meeting (Section 5.2). The second section presents conclusions (Section 5.3). The chapter concludes with implications of these findings and recommendations for future courses of action (Section 5.4).

5.2 Main Research Findings: Communities of Practice and ESD in Southeast Asia

Overall, the communities of practice for ESD and “environmental education for sustainable development” as an adopted format of ESD is quite strong and well functioning at the local level in each of the case study countries in Southeast Asia, despite some difficulties resulting from a lack of material and financial resources. The regional “community of practice” for ESD is still under development, relying to a large extent on informal networks of association and perhaps for many a shared personal interest in ESD. Compared with the local level where, by and large, the community of practice was engaged with as a professional engagement.

Based on the theory of “community of practice” argued by Wenger (1998), it was possible to identify 15 elements promoting good practice of ESD programmes at a local level. These 15 elements

are referred to as “critical factors of a cohesive structural framework of ESD Programmes” in this research. This framework consists of three core components (see also Table 4.3):

- **Joint Enterprise** engaged by community members and community itself is one of the key cohesive components promoting ESD programmes successfully at a local level. This component has two categorised characteristics i.e. 1) community membership and 2) social/community responsibility. The community membership engagement can be promoted when a) a sense of membership; and b) human resource development are strengthened. In addition, the social and community responsibility can be enhanced when the ESD programmes are c) provided with clear common activity goals; d) approached life-skill teaching methods; and e) local and cultural knowledge-based learning.
- **Mutual Engagement** is the second key cohesive components of active ESD programmes. The mutual engagement can be strengthened by 1) cooperation and; 2) motivation amongst individuals and organisations in a community. In particular, regarding the category “cooperation”, a) cooperative environment; and b) active stakeholder involvements are essential to encourage individuals and organisations to participate in achieving the ultimate goal *i.e.* building a sustainable community. Motivation for participating actively in ESD programmes are closely linked with c) co-benefit partnerships; d) individual/organisational self-contentment from experiences with ESD programmes and outcomes; e) practical personal and organisational incentives; and f) community/society recognition towards individual/organisational achievements in ESD.
- **Shared repertoire** requires 1) active communication and 2) environmental empowerment. For active communication, a) individual communicative skills; and b) building a resource pool which let people access and obtain practical information to implement ESD programmes or take environmental action are basic conditions. To enhance environmental empowerment, a) increasing awareness of environmental empowerment is critical as a deeper understanding of the need of their action for building a sustainable community. It also makes people begin to consider themselves a part of their community.

In addition; b) organisational/personal self-problem-solving capacity is also fundamental not only for strengthening self-directed action ability but also let them continue ESD activities for a long term period.

5.3 Conclusions

In this section conclusion are presented in terms of the conceptual framework of the research process by drawing on the findings and analysis. 5.3.1 ESD in Southeast Asia addresses the first sub-research question – What are the critical factors for promoting ESD programmes to foster young people’s engagement? Section 5.3.2 addresses the second sub-research question – What do we need to consider for educators in helping young people’s understanding of climate change issues via ESD programmes?

5.3.1 ESD in Southeast Asia

ESD, in one form or another, can be found throughout Southeast Asia. How it is defined or conceptualised by policy makers, practitioners, and researchers naturally varies by context. To be sure, ESD in Southeast Asia has high level recognition in policy and is gaining the attention of researchers and educators, but is still an ambiguous concept for many in policy and in practice. In particular, ESD as it is conceptualised globally with very broad and encompassing coverage, and with links to other educational movements, there does seem to be a gap between high level discourse and actual implementation in that the global vision of ESD could not be conceptualised in the local context. The challenge may not be that ESD is conceptualised in terms of Environmental Education, rather that ESD is not understood by non-experts. What does seem to have widespread recognition is environmental education, which in Southeast Asia is being expanded as “environmental education for

sustainable development”. In a sense, this would seem to indicate a need to not just promote ESD as a standalone concept, but how to make the case for doing so – assuming that it is felt as necessary to indeed do so. Section 5.2 and Table 5.1 describe critical factors for promoting ESD programmes that can foster youth engagement based on the concepts derived from the theory of a community of practice. Taking these into consideration together with the research findings and discussion should provide valuable insights and suggestions for future ESD programmes.

5.3.2 Climate Change and Educators in Southeast Asia

While climate change clearly has worldwide recognition and a majority of people express the opinion that action should be taken or that they would even be willing to sacrifice some comforts or personal expense in order to combat climate change, our findings indicate that beyond media attention and high-level policy that climate change may not be a significant reality in the local context in the case study and consultation meeting countries.

From our case study and consultation meeting we found that a major challenge is making climate change locally relevant. For educators, in particular in formal education, the challenge was two-fold: a) locally relevant materials, and b) finding space in the curriculum for whatever materials they could find. That being said, in terms of regional cooperation and collaboration climate change was seen as an excellent issue to focus on for transboundary benefits, and to share resources, especially in youth oriented ESD programmes. Youth seemed to be a group that was keenly aware of the issue, often through ICT and new media rather than formal education. Educators, though clearly aware, face major challenges of finding reliable and locally relevant materials of a suitable quality and finding space in the curriculum among core and required subjects. But awareness and action can be as far apart as the gap between policy and practitioner. With this understanding of the common issues facing educators in helping youth understand climate change, the use of new media and ICT should not be overlooked. As we saw in the Vietnamese case, while little demand was coming from

local educators for climate change materials, youth had engaged with each other via the internet to learn about climate change and form a small group to raise awareness in their local community. Singapore also had very specific cases of ICT being used to connect likeminded individuals around climate change issues. Sharing reliable and relevant resources nationally and regionally in Southeast Asia through such media as the internet and the ASEAN Environmental Education Inventory Database should be an important consideration for educators.

5.3.3 Cohesive Structural Framework of ESD Programmes at a Local Level

This structural framework of good practice of ESD programmes at a local level used in this paper consists of three components: *Joint enterprise*, *mutual engagement* and *shared repertoire*. Despite diverse political, economical and cultural contexts influencing ESD in Southeast Asia, these three components were commonly identified as a fundamental implementation framework in actual practice. Regarding the component “joint enterprise”, community membership and human resource development and diverse methods approach including life-skills and local knowledge learning are the critical conditions for engaging in ESD. For “mutual engagement” of people and organisations in ESD, a positive cooperative working atmosphere joined in by diverse stakeholders is critical. Strong motivation also fosters mutual engagement by providing co-benefit partnership, practical incentives and individual and organisational self-contentment. One of the noticeable components of this structural framework of ESD programmes is the final component “shared repertoire”. Although there has been a lack of resources in ESD along with receiving relatively slow speeds in being mainstreamed in Southeast Asia thus far, it was possible to find that people familiar with ESD and EE for SD share their rich repertoire via active communication and by increasing environmental empowerment. In particular, communicative skills and building a resource pool to show accomplishments which people and organisation can access easily and share are critical to facilitate active communication amongst individuals and organisations engaged in ESD activities. To strengthen environmental empowerment, individual factors are critical such as increasing awareness and developing problem-solving capacity.

5.4 Research Implications and Recommendations

The research findings provide a new approach to understanding the nature of a mechanism of good practice in ESD programmes at a local level. From the research conclusions above, it was possible to find key messages to three main ESD groups targeted in this research i.e. practitioners, researchers and policy decision-makers as follows.

For Practitioners

Youth are becoming increasingly sophisticated and approaches to youth should take into account their changing relationship with media and communication as these contribute greatly to developing awareness and participation. As the Singapore case in particular shows, the process of creating awareness, then collaborating on projects, then finally supporting projects as people take action themselves can be a very effective process. The condition though is to think ahead many years and in terms of what a generation of youth are expected and willing to do as they grow older. Therefore, ESD practitioners need to consider:

- Greater understanding of the significance of an active participatory approach in delivering ESD which let youth understand and actively engage in ESD programmes – guided youth driven programmes in particular, and;
- Greater efforts on development of a diverse pedagogy for implementing and infusing ESD into the existing indigenous contexts, and;
- More awareness of environmental empowerment to address climate change with realistic and tangible approach with methods utilising local knowledge and languages.

Researchers:

Much of the existing publications on ESD are theoretically based, opinion research. While recognising the relevance of building up a theoretical basis for ESD, more real world examples – theoretically based or even descriptive case studies giving context and learning examples, would add robustness and clarity to ESD from the local to the global level. In a similar line with these points, researchers may consider the following:

- In-depth research on how we can localise the concept of ESD within a specific context and within the EE-dominated arena that is Southeast Asia. This is because, ESD enjoys very high level commitment but conceptually it does not seem to be clearly defined nor understood within the existing systems at the local level. Many “ESD in practice but not in name” projects do exist throughout the region, though mainly through environmental education, thus with less attention paid to socio-economic spheres of sustainable development, and;
- Development of climate change and youth oriented ESD research which can be easily adopted and accessed by practitioners. In doing so, researchers need greater awareness of the significance of structuring practical research evidence into ESD programmes which in turn allows practitioners to incorporate these findings easily and simply into their actual practice.

Policy decision-makers

Climate change is clearly well recognised, particularly at the higher levels of government in Southeast Asia, but is proving to be challenging for educators to make a relevant connection to local issues. In addition, access to information about ESD and climate change programmes is limited despite the presence of very good examples of “best practice” in the region partly due to a disconnect between practitioners regionally and a lack of materials in the local language. To reflect this status to deliver ESD and address climate change, the following can be suggested to policy decision-makers:

- Formulating efficient ESD strategic policy which not only considered the national needs for sustainable development but also reflect local demands and unique contexts which

enable it to reach to a local level in alignment with the goals central government through a dedicated engagement platform with stakeholder groups;

- Significance of support for human resources capacity development in ESD, as qualified experts are one of key sources to convey and implement ESD policy in actual fields and enable specific and functional connections regionally through ESD networks;
- Greater awareness of the gap between governmental policy decisions and practitioners and what is needed to implement ESD. In doing so, it is necessary to open a gate to listen to actual voice from ESD practitioners working in schools and NGOs. It also necessary to support research fields in order to accumulate evidence relevant to the indigenous context and incorporate these findings into policy decision-making processes.

Appendix 1: Interview Schedules

The following are the guides used for the interviews.

Appendix 1-1 – Interview Schedule for Policy Decision Makers in the National Government

Target Group	National government
Introduction	Request permission to conduct the interview Introduction of my research Consent for audio tape-recording Explanation about the interview process and purpose
Personal background	Work history Personal background in their field and relation to EE/ESD
Background of ESD policies	Main considerations when designing and implementing policy
Current status of ESD policies and initiatives	What are the existing policies regarding ESD? How did they start? What was the reason for making ESD policies? Who/what do they apply to? Why were they designed? Who designed them?
Future plans	What direction do they see ESD policies taking? What gives them that feeling? How will they ensure their policies are carried out?
Partnerships	Do they partner with other agencies/departments? How did these partnerships begin, in relation to ESD? Who is responsible for promoting ESD? Collaborate with other non-governmental groups - NGOs, private sector, etc?
Wrap up	Confirm statements and any ambiguities Thank interviewee

Also ask about:
feedback mechanisms between stakeholders
existing indicators for ESD/EE/SD
How previous EE/SD policies affect implementation of ESD

Appendix 1-2 – Interview Schedule for Policy Decision Makers at the Local Level

Target Group	Local government officials
Introduction	Request permission to conduct the interview Introduction of my research Consent for audio tape-recording Explanation about the interview process and purpose
Personal background	Work history Personal background in their field and relation to EE/ESD
Background of ESD policies	Main considerations when implementing ESD policy Local situation regarding environmental issues Indigenous issues regarding ESD topics and implementation of policy
Current status of ESD policies and initiatives	What are the existing policies regarding ESD? (if not, why? Or what exists regarding ESD topics) How did they start? What was the reason for making ESD policies? Who/what do they apply to? What would they attribute the success/failure/current status of their programmes? Any barriers to carrying out policies at their level?
Future plans	What direction do they see ESD programmes taking in the future? What gives them that feeling? What do they see not being addressed at this time by the national policies? Any barriers to achieving their goals?
Partnerships	Do they partner with other agencies/departments? How did these partnerships begin, in relation to ESD? Who is responsible for promoting ESD? Collaborate with other non-governmental groups - NGOs, private sector
Other programmes	How about other national policies that became successful programmes and projects? How did they come about? What really seemed to make them a success?
Wrap up	Confirm statements and any ambiguities Thank interviewee

Also ask about:
feedback mechanisms between stakeholders
existing indicators for ESD/EE/SD
How previous EE/SD policies affect implementation of ESD

Appendix 1-3 – Interview Schedule for Educators and Officials

Target Group	School officials and teachers
Introduction	Request permission to conduct the interview Introduction of my research Consent for audio tape-recording Explanation about the interview process and purpose
Personal background	Work history, interest in EE/ESD? Personal background in their field and relation to EE/ESD
Background of ESD policies	Their personal experiences with ESD/EE policy implementation through programmes and projects Have they had any particular training in ESD, EE, or SD? - own initiative or required to? Local situation regarding environmental/social issues Local issues regarding ESD topics and implementation of policy
Current status of ESD policies and initiatives	What are the existing policies regarding ESD? (if not, why? Or what exists regarding ESD topics) What types of programmes and projects do they currently have? How did they begin? Who/what do they apply to? Purpose? What would they attribute the success/failure/current status of their programmes? Any barriers to carrying out policies and projects at their level? How do they deal with these issues?
Application of ESD	How do they incorporate SD concepts into their classroom? Specific ESD course or integrate ESD concepts into the existing curriculum? What topics do they pay special attention to? Climate change and emissions?
Partnerships	Do they partner with other organisations - community groups, NGOs? How did these partnerships begin, in relation to ESD or otherwise? Who is responsible for the partnerships?
Other programmes	How about other national policies that became successful programmes and projects? How did they come about? What really seemed to make them a success? If they could change something about the current system, what would it be?
Wrap up	Confirm statements and any ambiguities Thank interviewee

Appendix 1-4 – Interview Schedule for NGO Practitioners

Target Group	NGO staff
Introduction	Request permission to conduct the interview Introduction of my research Consent for audio tape-recording Explanation about the interview process and purpose
Personal background	Work history, interest in EE/ESD? Personal background in their field and relation to EE/ESD
Background of ESD policies	Their personal experiences with ESD/EE policy implementation through programmes and projects Have they had any particular training in ESD, EE, or SD? - own initiative or required to? Local situation regarding environmental/social issues Local issues regarding ESD topics and implementation of policy
Current status of ESD policies and initiatives	What are the existing policies regarding ESD? Own policies/mandate? Follow government? What types of programmes and projects do they currently have? How did they begin? Who/what do they apply to? Purpose? What would they attribute the success/failure/current status of their programmes? Any barriers to carrying out policies and projects at their level? How do they deal with these issues?
Application of ESD	How do they incorporate SD concepts into their programmes? Why? How did they decide on ESD - environmental and social issues? What topics do they pay special attention to? Climate change and emissions? How do they see things going in the future? Their own org, the community, the government What would they like to see? What would be ideal? How could that be attained?
Partnerships	Do they partner with other organisations - community groups, NGOs, schools, govt? How did these partnerships begin, in relation to ESD or otherwise? Who is responsible for the partnerships? Relevance to the success, or failure, of their projects?
Other programmes	How about other policies that became successful programmes and projects? How did they come about? What really seemed to make them a success? If they could change something about the current system, what would it be?
Wrap up	Confirm statements and any ambiguities Thank interviewee

Appendix 1-5 – Interview Schedule for Researchers

Target Group	University professors and administrators
Introduction	Request permission to conduct the interview Introduction of my research Consent for audio tape-recording Explanation about the interview process and purpose
Personal background	Work history, interest in EE/ESD? Personal background in their field and relation to EE/ESD
Background of ESD experiences	Their personal experiences with ESD/EE policy and practice Have they had any particular training in ESD, EE, or SD? - own initiative or required to? Background of ESD in their own research/courses
Current status of ESD policies and initiatives	What are the existing policies regarding ESD at their school? How do they see ESD in relation to the curriculum? Integrate into existing course? Or as a stand-alone module/course? Conflict between ESD and already existing goals - economic growth, entrepreneurialism? Any barriers to promoting ESD at their institution? How do they deal with these issues? How to make ESD relevant - incentives to incorporate into school system?
Application of ESD	What topics do they pay special attention to? Climate change and emissions? How do they see things going in the future? Their own org, the community, the government What would they like to see? What would be ideal? How could that be attained?
Partnerships	Do they partner with other organisations - community groups, NGOs, schools, govt? How did these partnerships begin, in relation to ESD or otherwise? Who is responsible for the partnerships? Relevance to the success, or failure, of their projects?
Other programmes	How about other policies that became successful programmes and projects? How did they come about? What really seemed to make them a success? If they could change something about the current system, what would it be?
Wrap up	Confirm statements and any ambiguities Thank interviewee

Appendix 2: Observation Record Sheet

Programme Recording Number:
Title of programme:
Title of school:
Date/Month/Year:
Participant number/Grade:
Field/Class location:
Field/Class learning environment characteristics:
Learning Aims:
Learning Aids:
Observation Records

Appendix 3: Regional Strategic Consultation Meeting

In this appendix are background information and a summary of the findings from the consultation meeting which was held in Bangkok, Thailand in November, 2008. The following is excerpted from the Report on the Regional Strategy Consultation Meeting on Education for Sustainable Development in Southeast Asia (Choi, Pradhan and Kipp, 2008)

BACKGROUND

Rationale

The concept for the consultation meeting began with four rationales which provided the basis and focus for the presentations and discussion sessions.

Ultimate goal and target groups of the DESD – As described at the beginning of the Decade of Education for Sustainable Development in 2005 by the Director-General of UNESCO, Koichi Matsuura, the ultimate goal of the DESD is to make ESD a concrete reality for everyone. Youth were a focal point as they are a key stakeholder group in the DESD and have a fairly standard definition around the world.

Urgent environmental issue – climate change was chosen as a main concept for two reasons. First, it has been identified as one of our greatest global challenges and one of the most important summit themes at the 2008 G8 meeting in Hokkaido, Japan. Secondly, it is an issue with trans-boundary relevance that every nation regardless of diversity – from Singapore to Philippines, could identify with.

Economic growth and emissions – due to the incredible growth rates experienced over the past 15 years in Southeast Asia emissions and climate change are becoming increasingly important for the region, in particular for developing awareness and the right kind of knowledge for society to take appropriate courses of action to create a balance of economic development and environmental protection.

ESD challenges in Southeast Asia – one of the major challenges of ESD in the region has been mainstreaming into formal and informal education while being seen as uniquely beneficial and distinct from environmental education.

Aim

The overall aim of the consultation meeting was to bring together various types of practitioners and policy makers from around Southeast Asia in order to:

- Report on current conditions of ESD policies and strategies regionally, nationally, and locally;
- Present examples of successful local level projects that are well linked to the policy level, to help facilitate discussions and share technical and logistical information for project implementation;
- Discuss bridging the gap between policy and high-level recognition of ESD, and the realities of local level awareness and implementation;
- Have open discourse on critical factors for taking action on ESD and to achieve the goals of the DESD; and
- Draw on the IGES case study for discussion and insights into future courses of action for ESD, particularly for youth and climate change.

Expected outcomes

The consultation meeting was a unique opportunity for a diverse group of practitioners and policy makers to sit down together to discuss the reality of ESD in their individual contexts and how those contexts can be brought into closer alignment to help move us along towards the goals of the DESD and relevant regional policies. The results of the presentations and discussions were expected to lead to the following outcomes:

- Identify strategies to contribute to developing unique and practical approaches to promoting ESD in the Southeast Asia region;

- Support current and future initiatives regarding CO2 emissions and climate change through ESD policies and implementation among ASEAN member states;
- Develop a channel for sharing information and knowledge among those working in ASEAN countries, regardless of levels of economic growth and development, and;
- Identify the clear direction of ESD projects and areas for IGES to follow up on through research.

Targeted invitees

In order to support the aims and outcomes of the consultation meeting the following groups of stakeholders were invited:

- Government officials from ministries of education and environment;
- Educators from institutions instructing youth including formal and non-formal education;
- Civil society and other practitioners whose work involves youth, climate change, and ESD.

KEY MESSAGES OF THE CONSULTATION MEETING

The purpose of this section is to present a summary of the main topics of discussion and themes from the presentations and Q&A sessions. While the themes of the consultation meeting and the presentations were mainly ESD in relation to approaches to youth and climate change, through the course of discussion, a number of subtopics arose which highlighted important areas and guidelines to consider for future research and action to undertake.

Undoubtedly, the presentations and discussions largely took an environmental perspective, with social and economic spheres being brought up in association with the environment or as outcome resulting from actions oriented to environmental issues. As well, much of the discourse was centred on formal education, in particular how to make ESD relevant and practical to all stakeholders in that context. The following is a list of the main themes from the presentations and discussions.

Education for Sustainable Development

The discussion was generally geared towards taking action and building upon the dialogues that have occurred to date, and in so doing to provide tangible evidence of ESD in the region. During the discussion several participants described what they felt as feeling uncomfortable with ESD due to the relationship and comparisons with environmental education (EE), partly due to little tangible evidence to distinguish the two. Therefore it was felt that time should not be spent discussing ESD itself so much, rather to focus our energies on carrying out projects and research, along with documenting and sharing our work. The implication being, that by taking action and sharing information ESD can be further reified through practice and progress to become more mainstream through the accumulation of projects and knowledge, and recognition of processes and policies which support the fundamentals of ESD. To enable this action we should continue using climate change as a focus for ESD in the region as it is a trans-boundary issue, together with youth as a target group due to their relevance to ASEAN interests and the Decade of Education for Sustainable Development

Youth

The discussion on youth took two forms – how to engage youth, and in so doing the necessity of empowering youth to take responsibility for the activities they have been engaged in. The discussion of future action for engaging youth was essentially centred on five recommendations from the ASEAN Implementation Workshop held in July, 2008. Of these five points the discussion turned towards green schools programmes in particular along with utilising the ASEAN Environmental Education Inventory Database for sharing ideas across the region. Empowering youth involves leadership training and having the confidence to step back from a project and let the youth involved create the drive and momentum. An interesting suggestion was to include youth in forums such as the consultation meetings to provide feedback.

Climate Change

Climate change was generally recognised as an excellent issue to employ as a central topic for ESD projects and research to focus on. However there is a real issue of access to locally relevant and suitable quality materials, and knowledgeable educators to teach about climate change. There is a challenge of making such an international issue relevant at the local level under conditions of limited resources and expertise, and with limited policy or process to allow for its inclusion in a school curriculum.

Teacher Engagement

On the one hand educators were described as being very interested in climate change and ESD, but experiencing a lack of resources – locally relevant and topic specific materials such as for climate change; while on the other hand not having room in the curriculum for special topics such as climate change. Complicating this, educators were not familiar or simply not in touch with policy or the policy making processes which influence their curriculum.

Infusing the Curriculum

The issue of finding room in the curriculum for educators was addressed with consideration for two important stakeholders –for educators to have better communication with policy makers and awareness of existing policies, and drawing on external demands such as those from industry and parents. As well, it was mentioned that many curricula such as in business schools have many elective courses, so finding room for sustainable development should be very possible if a concerted effort was made. In this discussion a distinction should be made between having sustainable development as a separate module or stand-alone course, versus actually incorporating the concepts and values of ESD into each and every subject.

Parent Involvement

Although not a prevalent topic of the presentations per se, parent involvement became a common topic for discussion in the Q&A sessions. In particular, the discussion moved to parents as an important stakeholder group to consider due to their influence on the lives of youth and their demands on school curricula. And while it is common to discuss making ESD or climate change relevant to local issues or interesting to students through new media, there was a clear necessity for engaging with parents to keep them informed and interested in their children’s educations and to indirectly spread awareness of ESD.

Network for Information Sharing

Networking for information sharing had two main purposes: to serve as a connection for those who practice ESD or are interested in ESD regionally; and to document and demonstrate good examples of EE and ESD projects and programmes in terms of content and implementation so as to build up a database of knowledge and processes. In addition these networks can contribute to providing a form of quality assurance for specific topics and to support sustainability of ESD. For instance, the establishment of a network Secretariat to be the regional focus, to make connection to other international networks and to help ensure sustainability of the network.

Action on plans

It was recognised that various strategies and policies exist with similar focus and intent, so the next necessary step is to take action on the plans. An important aspect of taking action is regional inclusiveness and to document and share the implementation of EE and ESD programmes and projects among ASEAN member states.

Post-consultation Meeting Observations

The discussion and presentations resulted in new and interesting ideas which can contribute to ESD in the region. And three topics which were raised in the discussions yet stand to reason as deserving further attention and research due to the limited time and focus of the consultation meeting are as follows:

1. How to garner political support to promote ESD implementation at national and local levels as it can be a very useful and unifying tool for the ASEAN countries, especially at the beginning of the era of ESD.
2. How we can ensure ESD agendas filter down through to the national and local level from the international and regional levels as there is still a disparity in understanding, drive, and congruence.
3. How to narrow the gap between policy, academia, and practitioner – including educators and NGOs, as from the discussions there does seem to be an invisible barrier between, and even among, these stakeholders.



Appendix 4 Consultation Meeting Participants

	Position	Country/Organisation
UN Organisations		
1	Regional Director and Representative	UNEP, Regional Office for Asia and the Pacific, Bangkok
2	Regional Environmental Affairs Officer	UNEP, Bangkok Office
3	Compliance Assistance Programme	OzonAction Programme, UNEP, Bangkok Office
4	Regional Information Officer	UNEP, Bangkok Office
5	Associate Expert	UNESCO, Bangkok Office
6	Visiting Researcher	UNU, Japan
International Organisations		
7	Head	Environment and Disaster Management, ASEAN Secretariat
8	Thailand Country Director,	WWF, Programme Office; WWG Greater Mekong Thailand Country Office
9	EE Unit Head	WWF, Programme Office; WWG Greater Mekong Thailand Country Office, Bang Pu Nature Education Center
10	Project Manager	Nature and Agriculture Education Centre, WWF Greater Mekong Thailand Country
11	Programme Associate	The Japan Foundation Bangkok
International Institutions		
12	Project Manager/Senior Policy Researcher	IGES, Hayama, Japan
13	Visiting Researcher	IGES, Hayama, Japan
Brunei Darussalam		
14	Senior Education Officer	The Science, Technology & Environment Partnership Centre, Ministry of Education
15	Senior Education Officer	The Science, Technology & Environment Partnership Centre, Ministry of Education
16	Head, Environmental Planning and Management	Department of Environment, Parks & Recreation, Ministry of Development.
17	Acting Environmental Officer	Department of Environment, Parks & Recreation, Ministry of Development.
Lao PDR		
18	Director of Environment Promotion Division	Department of Environment Water Resource and Environment Administration
Philippines		
19	Chief	Environmental Education and Information Division Environmental Management Bureau-DENR
Vietnam		
20	Educational Officer	Institute for Education Science about Environmental Education
Singapore		

21	Lecturer	School of Business, Singapore Polytechnic
Thailand		
Ministries		
22	Head of Environmental Education Section	Department of Environmental Quality Promotion, Ministry Natural resources and Environment
23	Director	Ministry of Education, Office of the Basic Education Commission, Bureau of Educational Innovation Development
24	Educational Official	Bureau of Education Innovation Development Office of the Basic Education Commission Ministry of Education
25	Teacher	Ministry of Education, Office of the Basic Education Commission, Bureau of Educational Innovation Development
26	Educational Official	Ministry of Education, Office of the Basic Education Commission, Bureau of Educational Innovation Development
Institutions		
27	Senior Director	Thailand Environment Institute
University		
28	Deputy Director/Assistant Professor	R &D Centre on Education for Sustainable Development/Chulalongkorn University
29	Director	Social Research Institute, Chulalongkorn University
International Centres and Schools		
30	Head of Programs and Deputy Chief Operating Officer	Magic Eyes Barge Program, Prem Tinsulanonda Center for International Education
31	Science Teacher	Ruanrudee International School
32	Director of Development	Ruanrudee International School
33	Environmental Class Teacher/Researcher	Environment and Resource Management Department, Roong Aroon School

Appendix 5: Case Study List of Interviewees

Thailand			
No.	Key Informants	Position	Working Experiences
1	Interviewee-A	Head of Programs and Deputy Chief Operating Officer, Environmental educational organisation	Supervising & coordinating EE for SD/ESD Youth programme
2	Interviewee-B	Environmental educator, Environmental educational organisation	Teaching EE for SD/ESD Youth programme
3	Interviewee-C	Director, Ministry of Education	In charge of Basic Education Curriculum & National Education Act of Basic Education
4	Interviewee-D	Educational Official, Ministry of Education	In charge of Natural Conservation for Sustainable Learning
5	Interviewee-E	Leading environmental educator, Natural Education Center	Teaching EE for SD/ESD Youth programme
6	Interviewee-F	Head of Environmental Education Section, Ministry Natural resources and Environment	Involvement in Environmental Education for Sustainable Development Master Plan (2008-2012) & Thailand's Economic and Social Development: current Agenda
7	Interviewee-G	Director of Social Research Institute, University	Research on EE for SD/ESD at a local & national levels
8	Interviewee-H	Project Manager, Nature Education Centre	Supervising & coordinating EE for SD/ESD Youth programme
9	Interviewee-I	Senior Director, Thai Environmental Institute	Research on EE for SD/ESD at a local & national levels
10	Interviewee-J	Head, Educational Group	Teaching EE for SD/ESD Youth programme
11	Interviewee-K	Deputy Director, Secondary School	Supervising & coordinating EE for SD/ESD Youth programme
12	Interviewee-L	Teacher, Secondary School	Teaching EE for SD/ESD Youth programme
13	Interviewee-M	Teacher, Environmental Geography, Secondary School	Teaching EE for SD/ESD Youth programme
14	Interviewee-N	Professor, University	Research on EE for SD/ESD at a local & national levels
15	Interviewee-O	Environmental Geography Teacher/Director, School Programme, Secondary School	Supervising & coordinating EE for SD/ESD Youth programme
Vietnam			
No.	Key Informants	Position	Relevant background
1	Interviewee-A	Country Representative – Environmental International NGO	Policy level work on climate change
2	Interviewee-B	Programme Manager Climate Change Programme – Environmental International NGO	Currently implementing climate change programmes and case studies.
3	Interviewee-C	Researcher on Sustainable Development and IT	Government employee researching climate change, economic development, and action plans
4	Interviewee-D	Specialist in ESD – International organisation	Promoting ESD through networks and training sessions, in particular for NGOs.

5	Interviewee-E	EE Coordinator – International Environmental NGO	Policy and programme level coordinator for environmental education, particularly for youth
6	Interviewee-F	EE Officer – International Environmental NGO	Programme and project level work on formal and non-formal education for environmental and sustainable development issues.
7	Interviewee-G	Country Manager - NGO	Youth oriented environmental and social development NGO. Youth empowerment and training. Project level.
8	Interviewee-H	Country Representative - NGO	Teacher training, in particular in curriculum development and teaching quality using environmental education and sustainable development.
9	Interviewee-I	Deputy Secretary-General, UNESCO National Commission	Policy level work on ESD/Agenda 21.
10	Interviewee-J	Education Sector Officer – UNESCO National Commission	Works close policies and planning for promoting ESD. Awareness raising and infrastructure building.
11	Interviewee-K	Programs Director - NGO	Environmental and sustainable development education – focusing on youth through programmes and magazines/textbooks.
12	Interviewee-L	Deputy Director, educational research institute	Policy level work on environmental education and ESD.

Singapore

No.	Key Informants	Position	Relevant background
1	Interviewee-A	Lecturer, National University of Singapore	Conducts research on ESD/EE in Singapore. Implementing a sustainable development module.
2	Interviewee-B	Campus Sustainability Officer, National University of Singapore Office of Safety, Health, & Environment	Developed on-campus climate change action plans and activities
3	Interviewee-C	Campus Sustainability Officer, National University of Singapore Office of Safety, Health, & Environment	Developed on-campus climate change action plans and activities
4	Interviewee-D	Professor, National University of Singapore	Expert in environmental law issues for Singapore and the region
5	Interviewee-E	Associate Professor, National University of Singapore	Instructor for environmental law
6	Interviewee-F	Director, Green Future Solutions/Asia is Green	Media related NGO promoting ESD and EE related issues
7	Interviewee-G	Assistant Director, National Environment Agency 3P Partnership	Developing community awareness and action programmes for, among other things, climate change
8	Interviewee-H	Deputy Director, National Environment Agency 3P Partnership	Managing awareness raising and implementation programmes, community and youth programmes – including climate change
9	Interviewee-I	Executive Director, National Youth Achievement Award Council	Works to support recognition for environmental and social efforts put forth by youth through awards and recognition.
10	Interviewee-J	Deputy Executive Director, National Youth Achievement Award Council	Supports recognition and award system for motivated and outstanding youth.

11	Interviewee-K	Assistant Director, Singapore National Commission for UNESCO Ministry of Education	Recently had training in ESD and working to identify which ESD goals can be supported with the existing framework
12	Interviewee-L	President, ECO-Singapore	Associated with government sponsored programmes as a youth, started own NGO with socially oriented sustainable development values and goals.
13	Interviewee-M	Professor of Biological Sciences, National Institute of Education	Prominent environmentalist in Singapore, and trainer of teachers and school principals at the only training school in the country
14	Interviewee-N	Senior Assistant Director, National Environment Agency 3P Partnership	Developed and facilitates the promotion and implementation of community focused sustainable development and environmental actions
15	Interviewee-O	Director, Singapore Polytechnic School of the Built Environment	Head of the school that has integrated environmental sustainability concepts into the curriculum. ISO 14001 certification and developing internal climate change awareness and action programmes
16	Interviewee-P	Lecturer, Singapore Polytechnic School of the Built Environment	Involved with Environmental Health and Safety Management in the school, works to ensure these topics are in the modules being taught.
17	Interviewee-Q	Lecturer Singapore Polytechnic School of Business	Began a programme to reach out to youth using new media to build skills and awareness about climate change

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