

"Organising for Action in Environmental Education through Smart Partnerships: A Malaysian Experience"

**Esther Sarojini Daniel¹, esther@um.edu.my, Thiagarajan Nadeson²,
tnadeson@wwf.org.my, Mhd. Shafiee b. Abd Ghani³, pieeag@yahoo.com**

Abstract

Within the Malaysian School System, EE was introduced through the infusion and integration approach, as well as introduced in relevant subjects such as English Language, Malay Language, Geography, Science. However, these approaches were generally not coordinated and implemented effectively. Since 2003 though, approaches to EE have been better coordinated, especially through collaborative partnerships and shared resources and expertise. In spite of this, one of the latest 2005 environmental education research studies show that while Malaysians in general know and realize that the environment needs to be taken care of, most of them are not oriented to translating knowledge into action. Hence a national wide initiative comprising smart partnerships between government agencies, private organizations and non-governmental organizations (NGOs') is gearing up for action with an eye for a national environmental education policy. The initiative has several stages namely Phase 1: To draft an environmental education policy within the National Education System with inputs from multi-stakeholders by 2008 and Phase 2: To develop an effective framework for the setting-up and implementation of an EE policy. This paper will share the Malaysian experience of the first part of Phase 1 that is the preparation of a national survey to determine the existing and desired environmental citizenship level of the nation's citizens.

Introduction

"There are 192 countries in the world, but 75 per cent of the world's plant and animal species are found in 12 countries including Malaysia". (Malaysian National News Agency, 2006). Established as among the oldest rainforest in the world, and have existed as an ecosystem since 130 million years ago, Malaysian rainforest is older even than some parts of the Amazon and Congo. It's amazing to know this unique characteristic of Malaysia, being a small country to have such a vast biodiversity.

The 2005 "Biodiversity in the Next Millennium" study, which involved 400 American Institute of Biological Sciences members, revealed that mass extinction is now in its most rapid stage in the globe's 4.5 billion-year history. Most worrying is that the rate of destruction is even faster than what had occurred in the past, including the mass

¹ Associate Professor Dr Esther Sarojini Daniel, Department of Science and Mathematics, Faculty of Education, Universiti Malaya, Malaysia

² Thiagarajan Nadeson, Team Leader, Environmental Education Programme, Programme Department, World Wide Fund For Nature, Malaysia (WWF-Malaysia)

³ Mhd Shafiee bin Abdul Ghani, Assistant Director, Geography and Environmental Education Unit, Curriculum Development Centre, Ministry of Education, Malaysia

extinction of dinosaurs some 65 million years ago when Earth was hit by a giant meteor. The study placed the biodiversity loss as more serious when compared to depletion of the ozone layer, global warming and contamination. "For that, Malaysians should be proud of their heritage, but heritage comes with a heavy responsibility" (Malaysian National News Agency, 2006)

Background of Environmental Education in the Malaysian Education System

The primary and secondary formal education system in Malaysia is under the mandate of Ministry of Education (MOE). This formal education system is based and guided by Primary School Integrated Curriculum and Secondary Schools Integrated Curriculum. These curricula are translated for better comprehension into curriculum details, syllabus and textbooks, workbooks, activity books and practical books according to the needs of the pedagogical aspects of the subjects. The Curriculum Development Centre (CDC) of the Ministry of Education through various sections such as Social Science, Language and Literature, Science and Mathematics develops the curricula of all the subjects. The Textbook Division develops the textbooks with the participation of various MOE agencies and selected resource teachers. The Examination Syndicate through subject panels is solely responsible to prioritize what areas are subject for examination and selecting examination questions from a 'bank' for each examination.

As Malaysia's education system is closely linked to the systematic strategies and plans for development put in place in the nation's Outline Perspective Plan that are being implemented through five-year development plans since the mid-1960s, the focus of its plans and the corresponding policies, strategies and action plans are developed to be in-line with these development plans. (refer to Figure 1) The focus of the plans posts challenges to the MOE in developing the future generations of Malaysians to elevate the nation from a developing to a developed country. (Ministry of Education, National Report, 2004, pg. 17). With regards to the appreciation and care for the environment, MOE has made a strategic and wise decision by concluding a decision to infuse Environmental Education in its 112th Education Planning Committee meeting. (Ministry of Education, Letter, 2005) (refer to Figure 2)

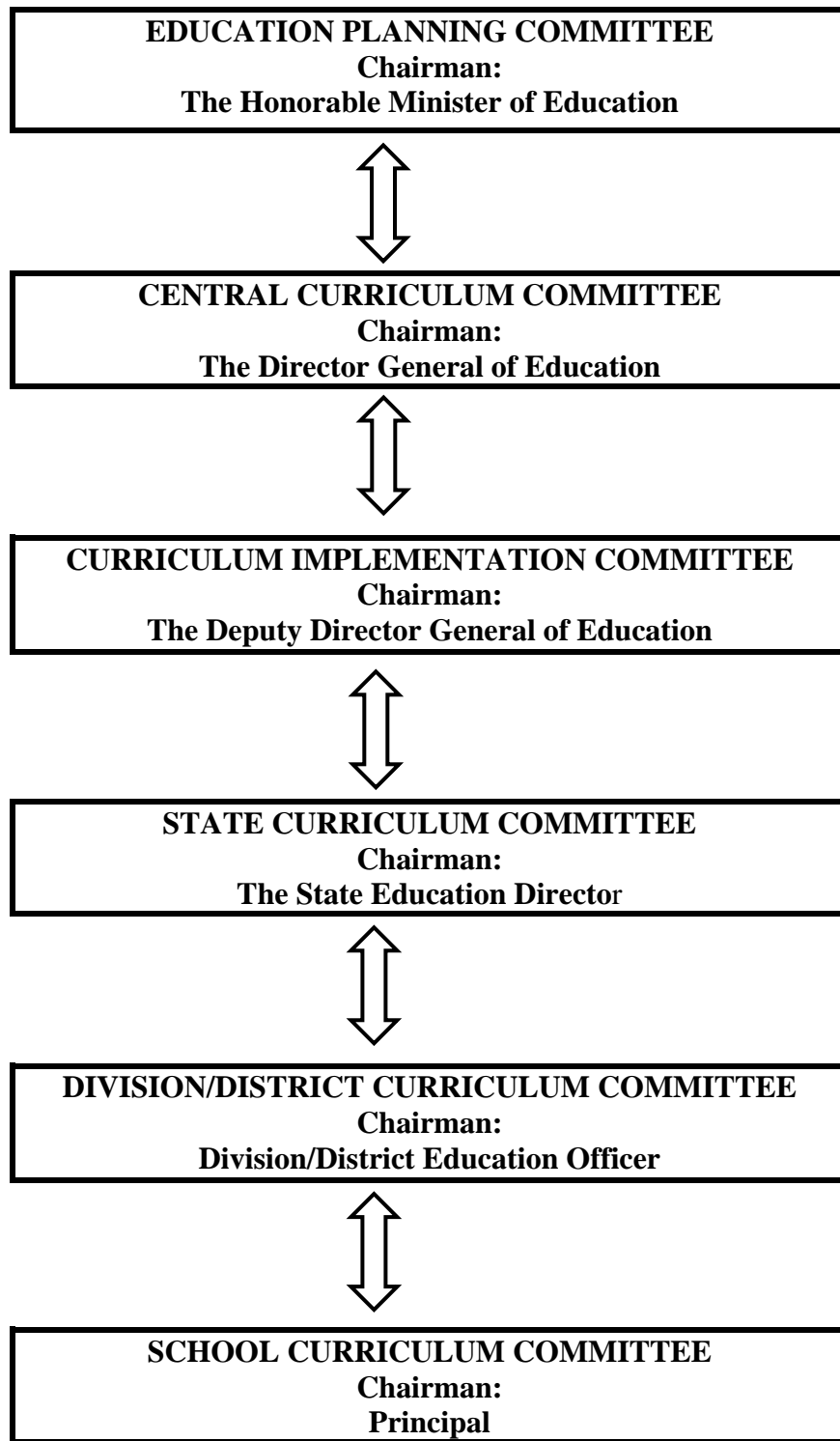


Figure 1: Curriculum Implementation Process
(Source: Ministry of Education, National Report, 2001)

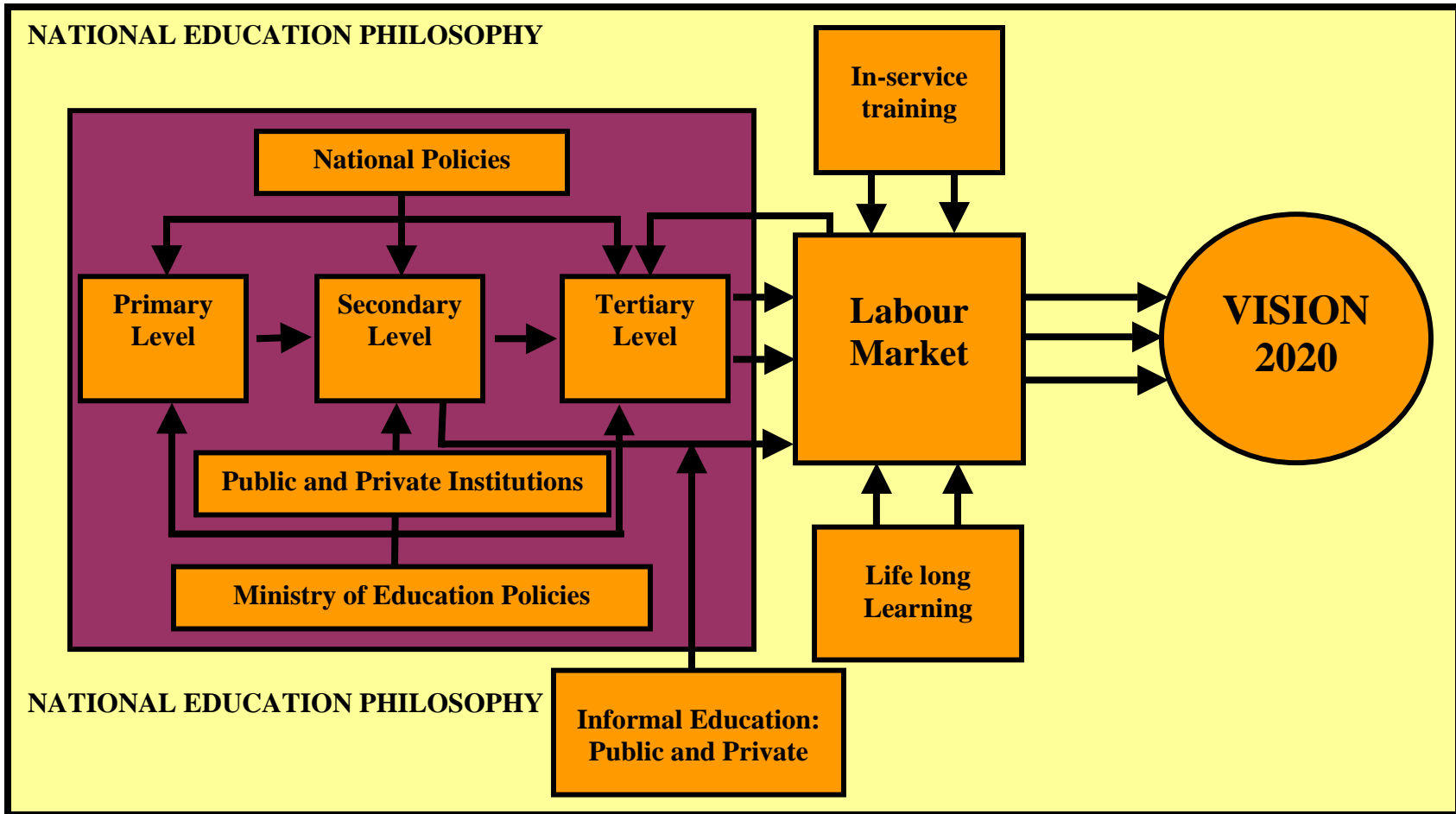


Figure 2: Interlink between Education and National Development
 (Source: Ministry of Education, National Report, 2004)

Some of the policies, strategies and action plans are shown in Table 1 as follows:

Table 1: Policies, strategies and action plans in Malaysia

No.	National Policy/Plan	Strategies/Action Plan/Statement
1.	National Policy on Biodiversity (1998)	Incorporate the study of biological diversity and related fields into the curricula of schools and institutions of higher learning
2.	National Policy on the Environment (2002)	To achieve a deeper and better understanding of the concepts of environmentally sound and sustainable development, and a caring attitude towards nature, EE and awareness will be promoted across the board, incorporating information dissemination and training, in line with Agenda 21
3.	National Integrity Plan (2004)	Community Institution – emphasizing on increasing the awareness of environmental conservation
4.	9th Malaysia Plan (2006-2010)	Appropriate interventions and changes will be made through the school curriculum to create a deeper and longer lasting awareness of the need to care for the environment. In addition, the energy, ideas, enthusiasm of the environmental NGOs will be harnessed to complement and supplement efforts by the government in promoting the environment.

Source: National Policy on Biodiversity (1998), National Policy on Environment (2002), Berita Harian (21/1/2006), EPU (2006) - 9th Malaysia Plan (2006)

According to a letter dated 22 February 2005, from the Secretary General's Office of the MOE, Environmental Education (EE) is being implemented in two ways. Firstly, in the daily teaching and learning process in the classroom in the relevant subjects. In primary education, EE is infused in subjects such as Local Studies, Civics and Citizenship and Science while in secondary education the subjects are Geography and Science. Secondly, EE is infused via co-curriculum activities especially through Nature Clubs. In addition, CDC has developed and distributed a Teachers' Guide Book to infuse EE across the pre-school, primary and secondary curriculum.

General Awareness of the Environment

Education is important in bringing about increased environmental awareness, and as such it cannot be denied in performing its role. In 1987, Gan Siowck Lee, in her study

reported that secondary school science teachers are not adequately prepared to integrate Environmental Education in schools. Sham (1993a) stated with regards to the nature and extent of environmental degradation that existed at that time, a high and sophisticated awareness level is required to ensure the future of our environment. Similarly, Che Kalbi Mohd. Ali (1999) reported that the knowledge of environmental issues among teacher trainees was only moderate. Once again, Noor Azmi Osman (2003) reported that the knowledge level of teachers about environmental issues is only at a moderate level. The level of public awareness on environmental issues was renewed in 1997 as a result of the haze problem, which caused a statewide emergency to be declared in the State of Sarawak. Following this renewal, calls were made for the implementation of the postponed air pollution control measures. Open burning offenders and owners of vehicles spewing excessive smoke were fined and, some vehicles were taken off the road until the problem was rectified.

However, according to the United Nations Economic and Social Commission for Asia and the Pacific (2003), environmental awareness is still in its preliminary stage in Malaysia. The report rather harshly stated that there are still many citizens who want bigger houses and greater mobility. If there is any collective protest at all, it is to express opposition to the location of disposal dumps for waste materials and toxic waste in accordance with the Not-In-My-Back-Yard (NIMBY) principle. This severe opinion is supported by a study by Abdul Aziz Shamsuddin (2003), which found that there was no significant correlation between the students' conceptual understanding of the environment and their willingness to protect the environment. There is still a great need for Malaysians to adopt more environmental conscious habits.

Sharifah A. Haron, Laily Paim and Nurizan Yahaya (2005), have given an account about the current state of affairs concerning environmental awareness in Malaysian households. Their study also investigated environmental knowledge, attitude, behavior and participation. Generally the study found that the respondents' environmental knowledge was high. The main sources of this knowledge were identified as newspapers, television and the radio. Lower levels of education were reflected in the level of environmental knowledge. Participation in environmental activities had a

positive influence on knowledge. The study also found that knowledge correlated positively with environmental attitudes, behaviors and participation.

A descriptive study by Lim Siaw Fong (2005) in two Selangor schools concurred with Sharifah et al.'s study, in that students' and teachers' general knowledge about the environment was high and that the main sources of environmental knowledge is the television and the newspapers. However, their understanding of environmental issues and recognition of environmental problems was only at the surface level. The findings also indicated that the awareness and sensitivity towards environmental issues were low. Furthermore, when it came to action, the respondents preferred conservation practices, which required little effort such as switching off fans, but did not commit to action like taking along their own shopping bags. Overall Lim's study revealed that the students' environmental awareness level was low and the teachers' environmental awareness level was only moderate. In the same study, it was found that environmental management of noise levels and waste management in the schools were not satisfactory.

Therefore, after years of effort to try and integrate environmental education, studies keep revealing that Malaysians have not reached a certain desired level of commitments towards our environment. There seems to be some kind of impasse of our citizens' outlook towards caring for our environment. This could indicate a need to foster smart partnerships in order to enhance the infusion of EE in Malaysian education.

Why is the Smart Partnership Initiative Necessary?

In a report by the Ministry of Science, Technology and Environment to the United Nations Framework Convention on Climatic Change in 2000, several important points were given namely,

- (i) Concerns over environmental issues among the general public in Malaysia vary widely,
- (ii) Attitudes are also largely influenced by mass media coverage of environmental matters,
- (iii) In spite of the heightened awareness because of the haze and El-Nino Phenomenon of 1997 and 1998, many people lack understanding of the delicate interrelationships between man, and all species of animals and plants, and

- (iv) Fewer still have knowledge about the various institutional initiatives being taken at the national, regional, international, multilateral or global level to improve the environment.

Malaysia desires to achieve the status of a developed country by the year 2020. This will mean there is a need for rapid economic growth. This growth must be guided by the principles of sustainable development. The extent to which sustainable development is achieved will ultimately depend upon the knowledge and awareness of the environment of the people.

According to Nadeson and Abd. Rashid (2005), the implementation of the planned curriculum in schools has to be disseminated accurately to the teachers and school administrative officers and staff so that they can inculcate skills in interpreting the concepts and objectives of the school curriculum. Due to the lack of a policy within the National Education Policy (NEP), EE remains very much on the side of the mainstream educational initiatives and reforms. The lack of specific allocations to provide training for teachers in the skills of infusion or in the development of resources of EE needs immediate remedial measures. Thus, despite some training opportunities offered by NGOs, the implementation at the school level is very much cursory as support provided by the main educational institution is insufficient.

A well-established framework regulating the education system must be backed by policies that support its implementation. (Ministry of Education, National Report, 2004, pg. 4). According to the National Education Policy (2004) document, there are 23 policies within the NEP. A clear and easy to comprehend policy is important for the implementers so that the programmes and activities conducted will be in-line with the objective of the NEP. Although the NEP is mentioned as a translation of and it supports all the other major National Policies such as Vision 2020, unfortunately, a policy on Environmental Education is not included in the NEP.

This is the point where the WWF-Malaysia Smart Partnership initiative for Action becomes crucial. Schiller (2002) defines partnership as,

"A partnership by definition involves two or more parties committed to a common task, sharing risk and yielding a reward to all the partners. The service goals need to be achieved more efficiently together than alone. And successful public-private partnerships enable both parties to do what they do best to achieve a common goal." (p.2)

Carrido and Hays (2001) put forward a simple model of how people can work together, in the kind of collaboration needed in the 21st Century for sustainable business enterprise and development (Figure 3).

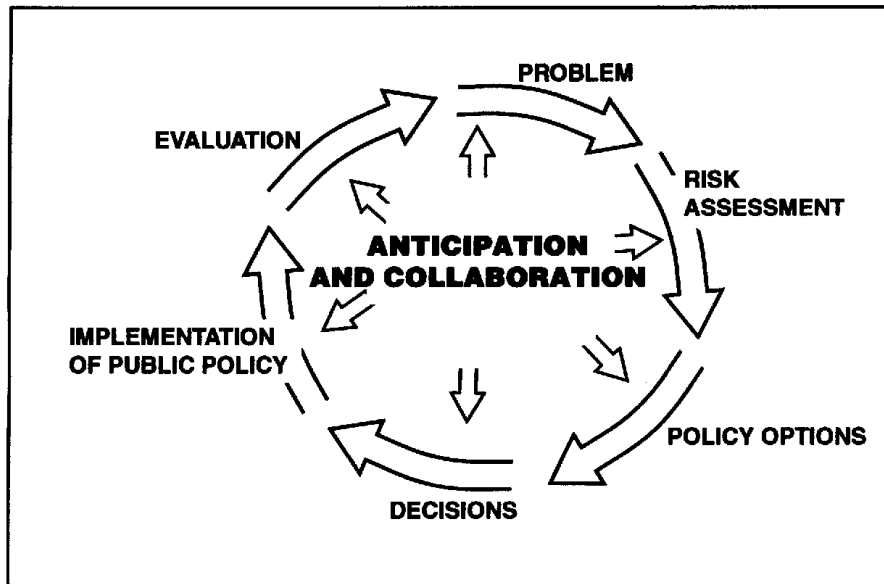


Figure 3: Schematic illustration of the kind of strategic collaboration that is needed in the 21st century to increase the resiliency of business enterprise and urban development to natural hazards.

The Malaysian Experience

In Malaysia as early as in 1993, the ‘Smart Partnership’ concept emerged as the members of the Commonwealth Partnership for Technology Management (CPTM) and the Malaysian Industry Government Group for High Technology (MIGHT) held a dialogue in Kuala Lumpur. In actual fact the ‘Smart Partnership’ concept is based upon the business principles of **Sustainable, Measurable, Achievable, Realistic and Time bound** objectives and is based on the philosophy of a win-win strategy. Networking activities and numerous joint ventures can be initiated and help identify useful opportunities at all levels (Private Sector Foundation Uganda, 2002). This ‘Smart Partnership’ philosophy has been found to create synergy among the partners, which can potentially, resulted in success.

How does this Smart Partnership philosophy fit into Environmental Education? Non-governmental organizations (NGOs) have been at the forefront of Environmental Education initiatives. These initiatives include collaboration with Government efforts such as teacher training and curriculum development. In this section of the paper a particular collaboration will be discussed- a Smart Partnership initiative - being undertaken at the present with a focus of bringing about an Environmental Education Policy.

The WWF-Malaysia Smart Partnership Initiative- Phase 1

First, a situational analysis by WWF- Malaysia identified that an in-depth working relationship with strategic partners and relevant government stakeholders to influence the government decision-makers to provide greater emphasis on EE was vital. As a result of the situation analysis exercise, a vision and overall objective has been identified. The vision of WWF-Malaysia's Formal Environmental Education programme is 'to bring about changes in attitudes and action in the society to embrace and internalize the concept of environmental citizenship through learning and sharing'. The overall objective is 'to ensure that MOE places more emphasis on EE in the National Education System (NES) by 2010' (Daniel & Nadeson, 2006)

The initiation of a smart partnership therefore became important and vital to ensure the success of this collaborative project. The primary stakeholders were then identified, namely the MOE agencies such as CDC, SD, TED, the Malaysian Public Universities, DOE, Government Resource Managers such as the Department of Wildlife and the National Park (DWNP), the Forestry Department (FD), the Department of Fisheries (DoF), the Forest Research Institute of Malaysia (FRIM), relevant private corporations and other environmental NGOs. The collaborative structure between the various stakeholders of the smart partnership can be summarized as in Figure 4, which shows the stakeholders being grouped into the Technical and the Survey Task Force committees to as collaborative partners.

The paper will now turn to the actual process that has taken place and is still taking place in order to realize the goal for an Environmental Education policy.

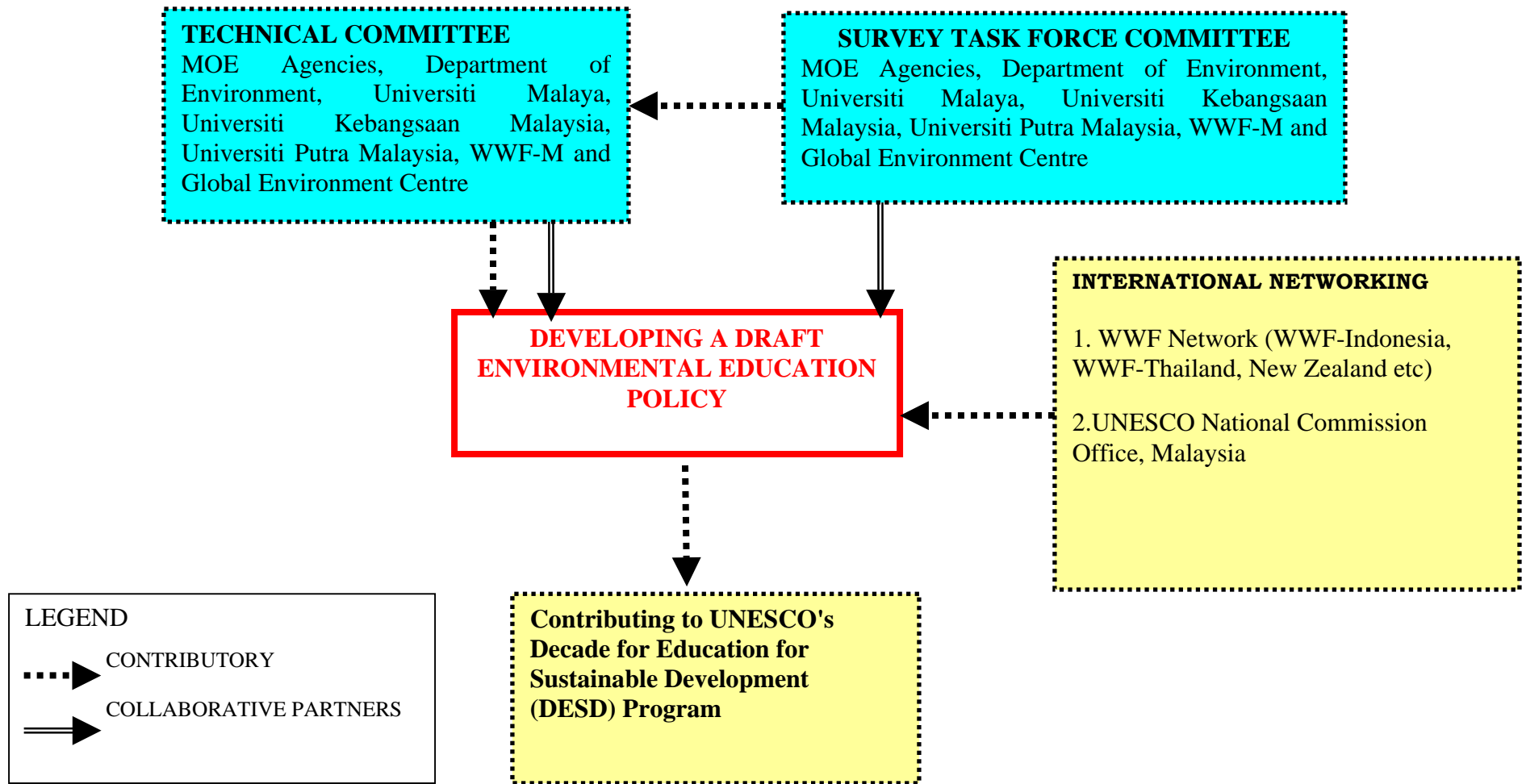


Figure 4: Collaborative Structure for Environmental Education Policy Project (Daniel & Nadeson, 2006)

Beginnings for Action

WWF-Malaysia set the beginnings for action by suggesting a nation-wide survey. The various stakeholders then started the decision-making about the survey methodology that began with a general discussion of three very important and timely issues namely,

- (i) Why do we want Environmental Education (non-formal/formal)?
- (ii) Why is the infusing of EE not as we would like to be? and
- (iii) Do we need EE as a separate subject?

The discussion of the above issues only served to strengthen the goal of an environmental education policy to be achieved at the end of the smart partnership initiative in 2008. The initial specific objectives of the partnership were,

- (i) to identify level of environmental knowledge,
- (ii) to identify level of environmental attitudes,
- (iii) to identify level of responsible behaviour,
- (iv) to identify current implementation of EE,
- (v) to identify current processes in EE,
- (vi) to identify institutional mechanism, and
- (vii) to comprehend individual ownership towards the environment.

These objectives set at the beginning began to be modified as the partnership gained momentum. Based upon these objectives the scope of the study was discussed and it was put forward that the five domains of environmental education to be included in the survey would be knowledge, awareness, attitudes, skills, and participation. This was at first seen to be a traditional model (Figure 5).

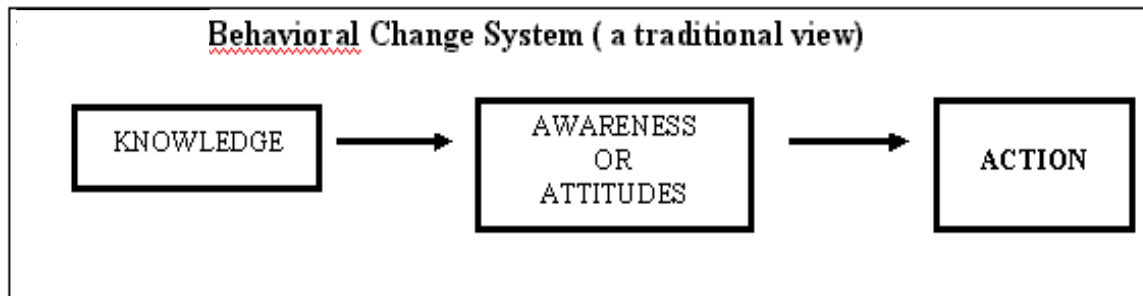


Figure 5: Source: (Ramsey & Rickson, 1977)

Monroe and Dissinger (1994) stated that the Environmental Education practised in the United States follow this traditional model. The five dimensions can be defined as below:-

Awareness to help social groups and individuals acquire an awareness and sensitivity to the total environment and its allied problems.

Knowledge to help social groups and individuals gain a variety of experiences in and acquire a basic understanding of the environment and its associated problems.

Attitudes to help social groups and individuals acquire a set of values and feelings of concern for the environment and motivation for actively participating in environmental improvement and protection.

Skills to help social groups and individuals acquire the skills for identifying and solving environmental problems.

Participation to help provide social groups and individuals with an opportunity to be actively involved at all levels in working toward resolution of environmental problems.

However, before a decision was made, the technical and survey task force committees were also exposed to a more modern model (Figure 6) which was discussed in depth and at length in several meetings.

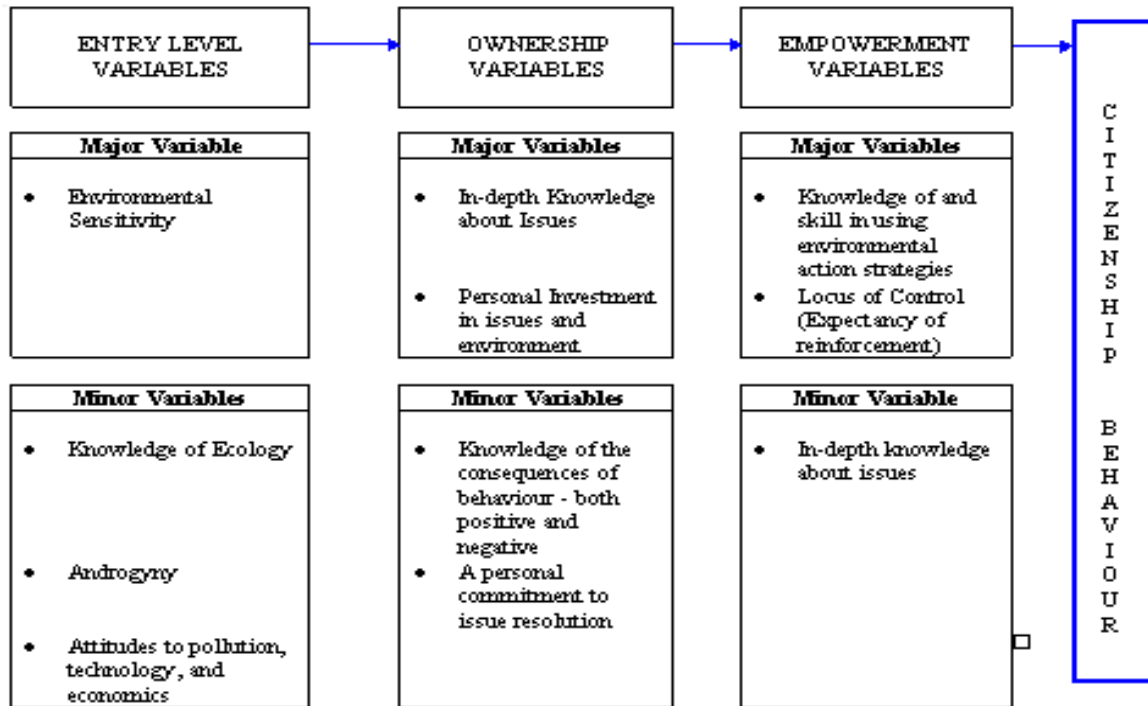


Figure 6: Updated model for Environmental Education (Murphey, 2004)

After much discussion and debate among the committees, it was decided that the traditional domains shown in Figure 5 will be followed in the survey design and the variables suggested in the modern model will be considered at the analysis stage to see what emerges with the data collected.

The Survey

The literature review has revealed that after years of talk and effort, the environmental citizenship level is not satisfactory for a nation that is moving towards an industrialized status by 2020. What research has found among Malaysian citizens can be stated simply in summary as below,

- (a) Good Factual Knowledge of Environmental Problems
- (b) Moderate level of understanding of Environmental Issues
- (c) Low level of Positive Environmental Action

It was collectively agreed in the Survey Task Force Committee meetings that the present initiative should not just become another survey, the results of which will collect dust. The smart partnership members wanted this survey to be one with ‘heart and soul’ – a survey, which will help acquire instructive and useful data to provide insight to reach the desired goal of an environmental policy. The committee focused upon what has not been determined by research, namely,

- (a) Why was factual knowledge about Environmental problems among Malaysians was good?
- (b) Why is it that Malaysians only have a moderate level of understanding about Environmental Issues? and
- (c) Why is it that Malaysians have a low level of commitment when it comes to the environment?

The survey was planned and designed to evoke feelings within the respondents so that an accurate measurement of knowledge, awareness, attitudes, skills and behaviour among the various stakeholder groups selected can be obtained. An example of a survey question is given below to give the reader an idea of what is meant by wanting obtain and accurate assessment of Malaysian commitment to the environment.

Part 1: A Sample Survey Question:

You notice that the pet shop you went to/passed by is selling an endangered animal like the *Indian Star Tortoise*. What would you do in this situation?

- a. I would buy the tortoise for myself
- b. I would report the pet shop to authorities
- c. I would find more information about the turtle
- d. I wouldn't do anything about it

Questions such as the one given above and many more like it were discussed at many meetings and the final version of the survey consisted of Part 1 that is common to all the identified groups. Part 2 of the survey was designed with open-ended questions to collect qualitative descriptive data unique to each group. Examples are given below.

Part 2: A Sample Open-Ended Question for Students:

One day, you were playing with your friends at a nearby playground and one of them took out an elastic sling to hit at a few birds. What would you do?

Part 2: A Sample Open-Ended Question for Parents

Parents and the public have a strong influence on children's development. As such, how do you play your role in inculcating the importance of environmental values and good practices to the young generation?

The final research objectives were determined as,

- (i) Determine the existing level of environmental citizenship
- (ii) Determine the intended level of environmental citizenship
- (iii) Determine the factors required to move environmental citizenship up to the anticipated higher level
- (iv) Put forward a model for the initiation and implementation of an environmental education policy

Eight target groups were chosen as the sample groups. The sample groups are as follows:

- (i) Primary, Secondary and Post-Secondary Students
- (ii) College and University Students
- (iii) Teachers Training Institutes Trainees
- (iv) Teachers Training Institutes Trainers
- (v) University Lecturers
- (vi) Parents and Public
- (vi) Business, Industries and Media
- (v) Politicians, Governments Staff and NGOs

All the above listed sample groups were identified as major population component of Malaysia that influence directly and indirectly the environment through being members of the social, economic, politic and administrative system of Malaysia. The survey task force committee believed that they could be the sample representative of the population of Malaysia of which some inference could be derived to determine the identified set of objectives.

For the purpose of the present smart partnership research initiative, the existing level of environmental citizenship was described as where we are now in terms of knowledge, awareness, attitude, skills and behaviour among our population, in other words the present status of environmental awareness, literacy and social responsibility and such. The intended level of environmental citizenship was defined to be able to describe the anticipated environmental awareness, literacy and social responsibility in terms of knowledge, awareness, attitude, skills and behavior among our population. A model based on data is expected to emerge from the study to support the initiation of an Environmental Education policy. Generally both quantitative and qualitative data will be collected in order to lend support for the expected model.

To ensure all the stakeholders understand the smooth flow of the survey, the subsequence flow of events until the development of the final draft of the EE policy, the project is divided into two phases as per the Figure 7.

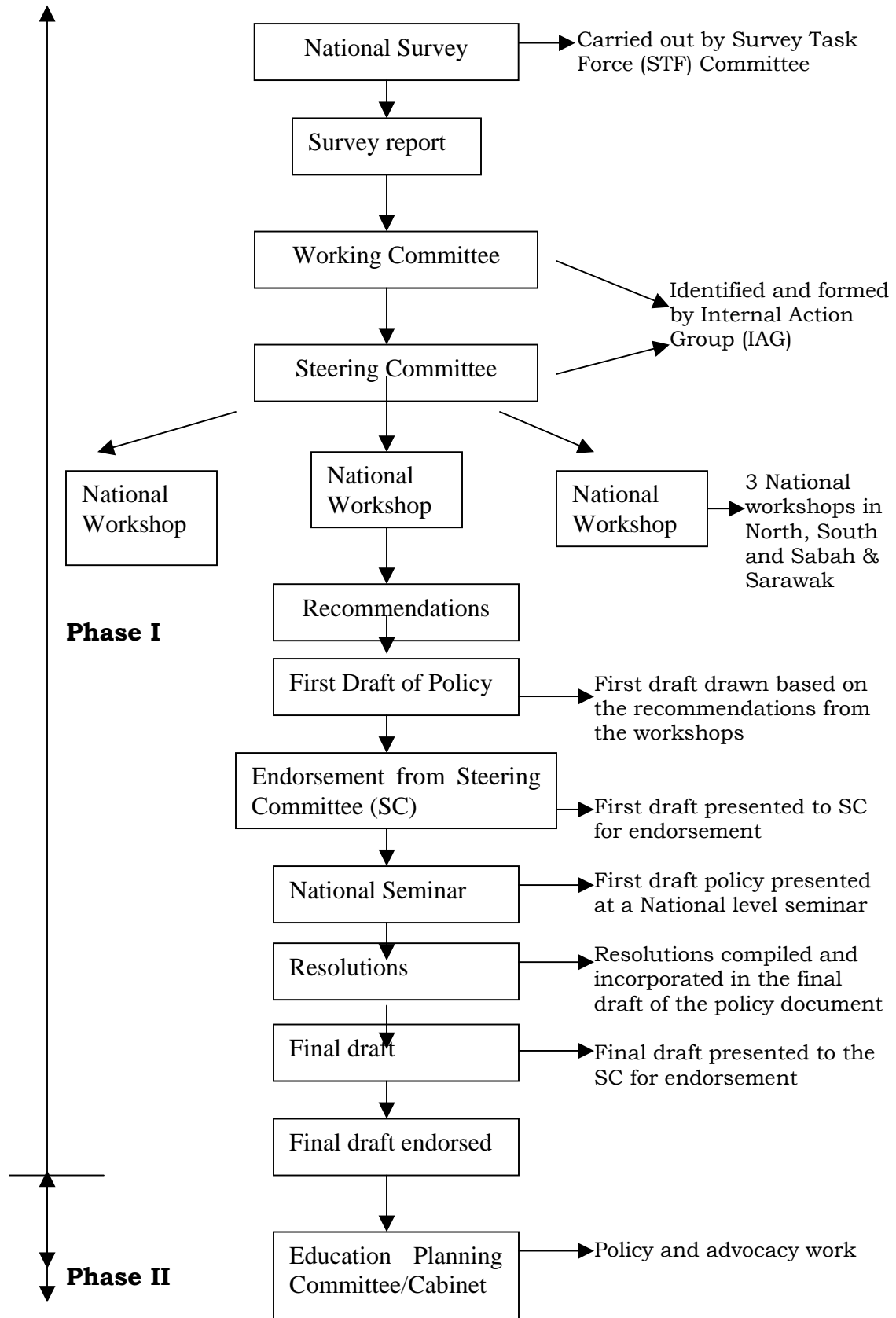


Figure 7: Flow of events for Phase 1 & 2

Conclusion

The smart partnership between WWF-Malaysia and the various stakeholders described in this paper is a prelude to the suggestion of a national Environmental Education Policy. Twelve years ago in 1994, UNESCO-ACEID has outlined many principles of best practice in contemporary EE, namely,

- (i) Environmental education considers the environment in its totality, i.e. ecological, political, natural, technological, sociological, aesthetic and built environments.
- (ii) Environmental education develops awareness of the importance, beauty and wonder that is, and can be, found in these aspects of the environment.
- (iii) Environmental education is a response to the challenge of moving towards an ecologically and socially sustainable world.
- (iv) Environmental education is concerned with the interaction between the quality of the biophysical environment and the socio-economic environment.
- (v) Environmental education transcends the division of knowledge, skills and attitudes by seeking commitment to action in an informed manner to realistic sustainability.
- (vi) Environmental education recognizes the value of local knowledge, practices and perceptions in enhancing sustainability.
- (vii) Environmental education considers the global as well as the local environment. Since the world is a set of inter-related systems, there is a need for a world perspective on environmental issues.
- (viii) Environmental education focuses on current and future perspectives on environmental conditions.
- (ix) Environmental education is interdisciplinary and can be taught through and used to enhance all subjects in the curriculum.
- (x) Environmental education emphasizes participation in preventing and solving environmental problems and revokes the passive accumulation of information about the environment. It should foster and arouse a sense of personal responsibility. Greater motivation and commitment towards the resolution of the environmental situation.
- (xi) Action is both a vehicle for and an outcome of environmental education.

Nongovernmental organizations (NGOs) have been in the forefront in EE initiatives taking place in the formal and non-formal sector since environmental education began. The two main challenges that faces the WWF-Malaysia Smart Partnership initiative are,

- (i) to promote positive attitudes and informed decisions of Malaysian citizens and government leaders that are necessary for sustainability, and
- (ii) to teach people at all levels the benefits of integrating conservation with the need for development.

EE has the potential to make a major contribution to achieve these two challenges. EE enhances the public's understanding of the need for biodiversity. EE also educates the public about how their actions affect natural ecosystems and how positive steps taken to minimize impacts on these ecosystems will translate into improvements in our overall environment. This is the ultimate goal of the WWF-Malaysia Smart Partnership.

The nation-wide survey presented in this paper is underway in collecting invaluable data and is the beginning of ensuring that environmental education will be sealed with an effective education policy and not takes a back seat in the coming years as we realize vision 2020.

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