Curriculum Analysis
Of SEAMEO RECSAM Programmes
On Education for Sustainable Development (ESD)

Lee Shok Mee
Wahyudi
SEAMEO RECSAM, Penang, Malaysia

1. Introduction
This paper provides a brief report on curriculum analysis of programmes that related to
education for sustainable development, offered by our Centre, namely, South East Asia
Ministry of Education Organisation (SEAMEO), Regional Centre for Educational in
Science And Mathematics. This report is organized into eight sections: (1) Introduction,
(2) Background Information, (3) Aims and Objectives, (4) Approach, (5) Content, (6)
Pedagogy and Assessment, (7) Resources, and (8) Outcomes.

2. Background Information

2.1 Name of researchers: (1) Lee Shok Mee (2) Wahyudi

2.2 We view ESD as:
Any form of education, formal or non formal that promotes socio-economic and
environmental development which can meet the needs of present without compromising
the well being of future generation and environment.

2.3 Name of Country: Malaysia
2.4 Name of institution: SEAMEO Regional Centre for Education in Science and Mathematics
Education (RECSAM)
2.5 Languages used in medium of instruction: English
2.6 Is there a national curriculum on teacher training in your country? NA
2.7 Level of education that your institution trains teachers for? In-Service Course
2.8 How many teachers training institutes does your country have? NA
2.9 Does your country have a national policy on sustainable development? NA
2.10 Does your country have a national policy on education for sustainable development? NA
2.11 Does your country have programs on education for sustainable development in its teacher
education institution? NA
2.12 Does your country have programs on education for sustainable development in its
schools? NA
2.13 Is ESD featured in your institute? Describe how your institute gives attention to ESD:
Yes. Most of our courses contain and promote elements of ESD, but not consciously
promoting.

2.13 Has your institute attempted to consciously build in ESD (either in terms of its content,
approach and pedagogy, or any one of them) in its curriculum? What are the difficulties and
barriers encountered if there is such an attempt?
Yes. In our 8th Five Years Programme Plan the Centre spells out the course that we offer included for example, the Science Technology Education and Society (STES) focusing on ESD. The difficulty: lack of teaching materials such as modules, curriculum on ESD. The barriers that we faced: communication gap among participants and with the facilitators. Many participants are not proficient in English.

3. AIMS & OBJECTIVES

3.1 What is the overall mission of your institution’s training curriculum?

To promote and enhance science and mathematics education in the SEAMEO member countries

3.2 What are its official explicit aims and objectives?

- Conduct research and development activities to inform pedagogy and policy.
- Design and implement effective professional development programmes.
- Ensure strong and active networking among experts and institutions.
- Increase engagement in consultancy services.
- Convene international conferences, seminars and workshops to pool expertise in science and mathematics education.
- Serve as an effective clearing house for information.
- Enhance continuous professional staff development.
- Strengthen quality assurance in provision of services and management of resources.

3.3 Do any of these objectives cover the concerns of SD/ESD?

Yes.

If yes, explain/clarify how these aims/objectives deal with SD/ESD Are the ESD/SD related objectives implemented?

The Centre offers and conducts courses or workshops that related to the issues of sustainable development, human values, and environment education.

3.4 Describe how these objectives are implemented? (E.g. as topics within existing courses, specific courses, separate training workshops etc).

- Topic offered in regular course such as STES, PBL, Cooperative Learning, and Communication.
- Separate training workshop: E.g. Human Value on Water Sanitation and Hygiene Education (HVWSHE)
- Conference (CoSMEd) and SSYS programmes

3.5 Asses the achievement of the SD/ESD related aims/objectives.

- Relatively successful, received positive comments from the participants.
4. APPROACH

4.1 How would you describe your institution’s approach to including ESD in its curriculum?
   Contextual and integrated approach

4.2 Is the ‘Whole School/Institution’ approach adopted?
   To certain extend yes.

4.3 If yes, describe how your institution implements the ‘Whole School/Institution’ approach.
   In the workshops related to ESD, they comprise cognitive, affective, and spiritual aspects (e.g. HWVSHE workshop).

4.4 Which are the various groups involved?
   Academician, Social Workers, Religious groups, our staff, teachers, and community.

4.5 How are they involved?
   Directly involved

4.6 Describe the work, roles and relationships of these various groups (school principal, teachers, students, parent-teacher association, community- e.g. immediate milieu, alumni)
   As resource person to disseminate their skills, knowledge and expertise

4.7 What are some of the insight and lessons arising from the implementation of this approach?
   Can be implement and very useful to lead our participant toward mutual understandings

4.8 How far does the community, parents, religious and other social groups get involved in the work of your training institute vis-a-vis ESD? Elaborate briefly and comment on the relevance and effectiveness of such liaisons?
   They are invited as recourse persons; it has found that their inputs are relevant and effective towards the course.

4.9 How does your institution involve/use the resources of related organizations (eg. environmental, consumer, human rights, women’s organizations in your educational/training activities?
   Working in collaboration and also invited as consultant.

2.10 Are there opportunities for staff and students to engage in research during training?
   Yes.
   If so elaborate? E.g. kind of inquiry, focus and problem areas selected for research.
   School try-out

2.11 Does your institution continue to provide follow-up support or/and continuing professional development to teachers after graduation?
   Yes.
   If yes, elaborate on this programs/support.
   Through Impact study, collaboration alumni and e-learning support
5. CONTENT

5.1 Does your institute’s training curriculum give any attention to ESD (directly or indirectly)? Elaborate on the ESD coverage and scope in the whole curriculum. (Please refer to Appendix I for the different perspectives of ESD).
Yes. But not consciously highlighted when the curriculum was developed.

5.2 Is your training curriculum-subject centred, or are there opportunities for cross disciplinarity?
Yes. There is very little opportunity for cross disciplinary curriculum.

5.3 Describe what is covered in the cross-disciplinary areas and its mode/mechanisms of delivery.
NA

5.4 Do these cross-disciplinary opportunities include coverage of ESD? If so, elaborate on the rationale for its inclusion. List the main content/topics covered and skills taught in these ESD related areas. Describe in detail what students learn (do not limit this to content knowledge only if other aspects are achieved) from this part of the curriculum?
NA

5.5 Name the disciplines and their respective subjects where concerns of ESD are addressed. What are the related topics/themes covered? Describe how ESD is addressed in these subjects, including the ways in which the related ESD content is being taught. (Can be different in each subject/discipline – describe as many as you can).
Science: Environmental topics such as Global warming, Pollution, Green house effect, Conservation of nature, Preservation of National Heritage, and Protection of biodiversity. Integrated approach via discussion, field trip and experiment.

5.6 Is ESD offered as a separate specialization? If so, explain why and how did this come about?
No.

5.7 Does your institute’s curriculum address wider global issues e.g. international understanding, climatic changes, pollution, sustainability/sustainable development, peace, poverty, human rights, gender equality etc? Comment on the extent of its coverage and how these topics are being taught? What do students learn from this part (ESD related) of the curriculum?
Embedded in the curriculum, not as focal points.

5.8 Are local issues and concerns reflected in the teaching and learning? If so, what are the main local issues covered and elaborate where possible their relevance to pupils and teachers? Comment on the extent of its coverage and how these topics are being taught? What do students learn from this part (ESD related) of the curriculum?
Yes, depending on the facilitators
[E.g. NIE-newspaper in education]
6. PEDAGOGY & ASSESSMENT

6.1 List and elaborate on the main types of teaching methodologies that your institute employs in presenting the curriculum to students.
Discussion, hand on activities, project works, field trip, research study and experiment

6.2 To what extent do you employ mixed modes of delivery, and in what contexts and why? Describe the mixed modes of delivery adopted.
In most cases

6.3 If ESD is included in the curriculum, what teaching and learning styles are being employed? Why are these styles of learning adopted? Describe each of them, emphasizing on the learning process and pedagogical principles. Are there some more effective than others and why? Which of these are more effective?
Active learning.

6.4 Elaborate on how teacher trainees are assessed and monitored during training both inside and outside the institution (i.e. during the practicum)?
Project work; Pre test and post test.

6.5 To what extent is student self assessment practiced, specify where possible. Describe the self-assessment methods used.
Feedback and also Self-reflective journal

7. RESOURCES

7.1 List the resources/material that you/your institute have used and found useful in teaching ESD. Are there some more effective than others and why?
Local organizations, parks, natural environment, utility supplies, commercial entities (e.g. factory)
Materials: very few
No study has been done yet

7.2 Has your institute/staff developed any material/resources that are useful/effective in the teaching and learning of ESD areas? Describe them. Appendage these material to your report.
Yes. [E.g. testing of quality of river water]

8. OUTCOMES

8.1 What outcome/s does your institute expect from the ESD related parts of the curriculum? Discuss to what extent these expected outcomes are or are not achieved
- Skillful teachers who become agent of change in their respective country to promote education for sustainable. In short term goal, namely training goal, we believed that we have achieved our goals. However, to what extent the teachers implemented the skills they have acquired from the course is untested yet.
8.2 From your observation/assessment what capabilities and skills are fostered in the ESD part of the curriculum?
   o **Knowledge** – globalization, indigenous knowledge, environmental concerns, socially sustainable development, issues of gender equity, human rights.
   o **Skills** – critical thinking, analytical thinking, creative thinking, strategic thinking, problem solving, negotiation skills, conflict management, consensus building, communication skills, leadership skills, stress management.
   o **Values** – compassion, empathy, collective spirit, enthusiasm, and social responsibility.

8.3 What are/would be the main barriers in developing ESD as (a) a separate discipline (b) as part of an interdisciplinary curriculum in your institute?
   o ESD is not as standard/examination in school, teacher would not be interested to attend this such course
   o The curriculum already set up in the five year plan. Little opportunity to modify or change the curriculum.

8.4 Describe the kind of sustainability literacy you think your institute is addressing in the current curriculum.
   Components of sustainability relating to socio economic and environment development are embedded in the curriculum

8.5 Would your institute be interested to incorporate ESD (more if there is already) into its present curriculum. What are some of the existing efforts/initiatives? How can these efforts be further consolidated/expanded?
   o Yes [we wish]. We have partner school to work with.

8.6 What programs/action can be initiated to foster further interest in ESD in your institute?
   SEAMEO RECSAM is a collaborative partner of REC (Regional Expert Center, Education for Sustainable Development based in Universiti Sains Malaysia (USM), Penang, Malaysia.