

## **Environmental Education in Kiribati : Constraints and Future Prospects**

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### **Abstract**

*Despite the need for effective environmental education in Kiribati, attempts in the mid 1970s to introduce an Environmental Studies programme at the primary level met with only limited success. This paper examines the problems associated with the original programme and reports on a new initiative which may help establish Environmental Studies as a credible subject in the primary curriculum.*

### **Introduction**

Kiribati, formerly the Gilbert Islands, is an independent republic made up of 33 islands, of which 21 are inhabited. Most of these islands are coral atolls and with their extensive associated reef systems, they represent some of the most unique and fragile environments in the world.

However, with an average population growth rate of 2.8% reaching almost 5.0% in some localities (CDU 1987), the delicate ecological balance of these islands is under threat. Of particular concern is the over exploitation of marine resources and the problems of domestic waste disposal. These were highlighted in a policy statement delivered to the Kiribati parliament in December, 1991 by the President, Teatao Teannaki.

Much of the environmental degradation in Kiribati is caused unwittingly by the general population. Those involved are often unaware of the long-term consequences of their actions. If sustainable development is to be achieved, it is of paramount importance to provide the people of Kiribati with appropriate environmental education to help them understand the major problems and encourage them to take preventative action.

Environmental education can be delivered to the general population through the formal education system which is directed at students in the classroom and through non-formal education which is directed at the community as a whole.

This report concentrates on the efforts to introduce formal environmental education at the primary level in Kiribati and in particular the problems associated with delivering this effectively to the student population.

### **The History and Current Status of the Environmental Education Programme**

Primary education in Kiribati is compulsory and free. Children receive 7 years of primary schooling before sitting the Common Entrance Examination, the selective mechanism for high school entry. Of the original cohort only some 20% can enter high school due to the limited availability of places. The remainder receive two further years of primary education culminating in a second attempt at Common Entrance. Successful candidates can enter high school at the Form 2 level, while the vast majority who are unsuccessful return to village life. However, there is a marked drop out after class 7, and many pupils fail to complete years 8 and 9. Given the highly selective nature of secondary education in Kiribati, it was important that the main thrust of formal environmental education came at the primary level.

To this end, in the mid 1970s, the Ministry of Education with assistance from the Australian International Development Assistance Bureau (AIDAB), embarked on the development of an Environmental Studies syllabus for classes 1-9. This was first published in 1976 and is still in use. The document is presented as a list of topics with suggested references and also in the form of a topic web (Figure 1).

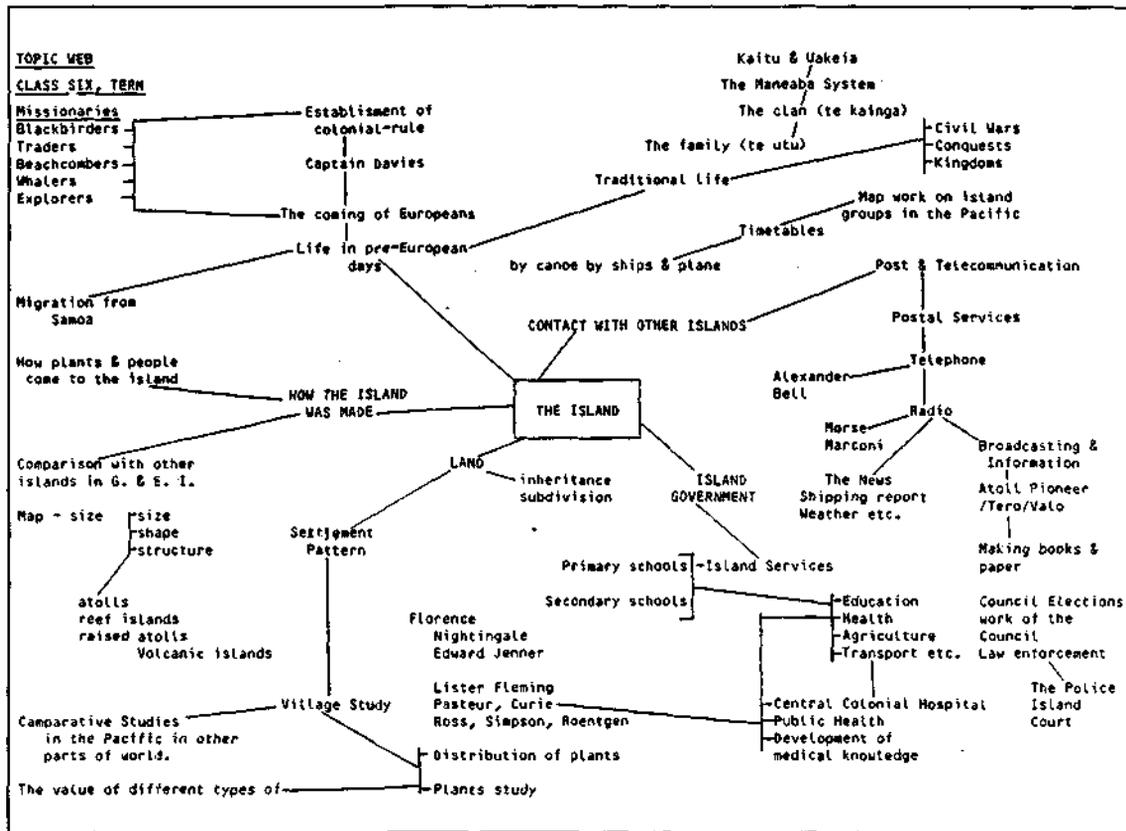


Figure 1. An example of a topic web from the syllabus

CLASS 6 TERM 3

TOPIC WEB - THE ISLAND

Recommended time:- 3hrs. per week.

Subjects	Weeks	References
*How the island was made - atolls; reef islands; raised atolls; volcanic islands.	1-2	<u>Coppack - Env. Sc.</u> P.15 (coral atolls) <u>Pac. Is Neighbours</u> P.5-8 (low and volcanic islands) <u>Atoll Agricl.</u> P. 5-9
*Mapwork -size, shape structure of the island.	1	<u>Notes on Mapwork - TTC</u>
*How plants and people came to the island; migration from Samoa; life in Pre-European days; traditional life.	1-3	<u>Pac. Is. Neighbours</u> P. 13-15 (Pacific migrations) <u>Story of Pac. Peoples</u> Chap. 1 (First Pacific people) Chap. 2 (settlement of Rarotonga) Chap. 3 (Tonga to Fiji) Chap. 9 (old way life). <u>Coppack - Source Mat.</u> P.29-32 (Traditional history of Butaritari) <u>Atoll Agricl.</u> P.34-37 (Plants and Animals on the Atoll)
*The coming of the Europeans - explorers; whalers, beachcombers; traders; blackbirders; missionaries.	2	<u>Notes on Discoveries - TTC.</u> P. 7-15 (arrival of first Europeans) 20-22 (fur trade and whalers) appendix <u>Notes on Beachcombers - TTC</u> <u>Stories of Pac. People</u> Chap. 13 (Will Mariner) Chap. 14 (traders in sandalwood, beche-de-mer, copra, whaling) Chap. 15 (sandalwood) Chap. 16 (Missionaries) Chap. 18 (blackbirding and indenture) Chap. 22 (Stevenson) <u>Fiji</u> P.37-40 (whaling, blackbirding etc.)
*The establishment of colonial rule - Capt. Davis - early administration.	1	
*Island Government - Council elections; work of council; law enforcement; the island court.	1-2	Information from the Island Executive Officer.

The introduction to the syllabus gives instructions to teachers on how to conduct classes in Environmental Studies and specifically highlights the importance of involving students in actively learning about the environment.

“Environmental Studies concerns our local environment and it is very important that we make use of this in our teaching,; in other words, going out on VISITS and if necessary making COLLECTIONS and RECORDING INFORMATION.....” (CDU 1988).

However, as a vehicle for delivering environmental education effectively, this syllabus has proved unsuccessful. A joint study carried out by the University of the South Pacific and Tarawa Teachers’ College (Dunne & Itaia, 1988) discovered that students arriving at the government high school (King George V) had a very poor background in local environmental issues and concerns.

A number of key constraining factors were identified. The topic titles given in the syllabus were found to be too vague while the topic webs caused confusion. A time frame and depth of coverage were not clearly detailed. When confronted with a topic title such as ‘Commercial Fishing’, teachers were often unsure what content to include. Some of the suggested reference texts were too advanced and therefore inappropriate for teachers whose background in environmental education was not strong. Perhaps the most extreme example of this was reference to ‘Atoll Agriculture’ by C.A. Small written for tertiary level agricultural training, and including scientific terminology such as ‘anaerobic bacteria’, ‘symbiotic relationships’, ‘chelates’ etc. In most cases, however, schools were inadequately resourced and the reference texts were simply not available.

Thus the syllabus provided insufficient guidance and background information for teachers with limited environmental knowledge themselves. The result was that all too often the subject was omitted from the curriculum.

There was a clear need for the production of relevant curriculum materials in the form of Pupil’s books and Teacher’s guides on Environmental Studies. Thus in 1988, the South Pacific Regional Environment Programme in conjunction with the Institute of Education initiated a project to produce these materials. Through a series of curriculum writing workshops involving local

primary teachers and curriculum staff, a complete set of environmental studies books was produced for Class 7. These consisted of units with the following structural characteristics:

- (i) objectives
- (ii) background
- (iii) lesson topics
- (iv) time frame
- (v) elements of student assessment
- (vi) extension activities and
- (vii) visual presentation (Figure 2).

Figure 2. An example of a lesson plan from the Class 7 Teacher's Guide (1989).

### WATER CONTENT OF SOILS

Time: 45 minutes

#### Objectives:

By the end of this lesson, pupils should be able to understand

- 1) that soil contains water.
- 2) the water in the soil is important for growing plants.

#### What is needed

Soil samples  
container  
glass

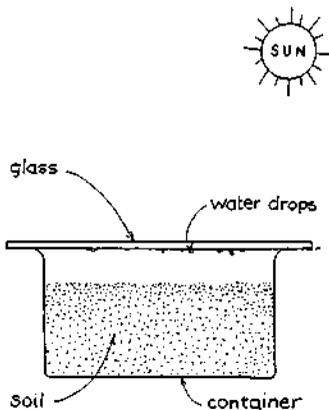
#### Teaching Steps

1. Start with a question and answer session.  
Ask the pupils
  - a. what they noticed about the wetness of the soils they have been studying.
  - b. why water is needed in the soil.
  - c. why fresh water and not sea water is important.
2. Read through the paragraph in the pupils book and let them complete Activity 1.
3. Using fresh soil samples there are some experiments that you and/or the class can do to compare water in the soil. Perhaps the pupils can suggest some ways of doing experiments to test the soil water.

Here is one suggestion:

**Experiment 1:** Does the soil contain water?

- Put a soil sample in a container.
- Cover the container with a piece of glass or clear plastic.
- Leave it in the sun by the window.



After a few hours you would expect to find water droplets on the glass. This water has evaporated from the soil. You could ask the class where they think the water has come from. This experiment could be used to compare soils from different places or water content in the A, B, and C horizons of a soil from one place (e.g. bwabwai pit).

The class could be split into small groups. Each group could be given a soil sample to experiment with. After getting some results you could compare each groups sample.

4. After the experiment pupils can do Activities 2-5.

5. **Extra Activities**

This work could be used to sponsor some creative writing. A suggestion for story writing - 'A day without water' appears in the pupils book.

combining this with in-service training, primary teachers would become sufficiently confident and stimulated to deliver environmental studies effectively. The ensuing trial and evaluation indicated that the books were popular with both teachers and students and had indeed acted as a catalyst in stimulating improved teaching of the subject. To date sufficient books have been printed for every Class 7 teacher and student in Kiribati. Work has also begun on Class 6 materials.

However, the Common Entrance Examination itself, remains a major obstacle to the establishment of Environmental Studies as a credible subject in the primary curriculum. At present of the 8 subjects in the primary curriculum only 3, Mathematics, English and Vernacular Ability (Kiribati Language), are examined. Given the highly competitive nature of this examination, teachers understandably concentrate on these 3 subjects to the detriment and even exclusion of the others.

## **Conclusions**

It is an unfortunate fact of educational life in many countries of the South Pacific that the curriculum is examination driven, and Kiribati is no exception. It would have been unrealistic for the Ministry of Education, Science and Technology to examine Environmental Studies while only an outline syllabus existed. But with suitable resource materials in place at the Class 7 level, the way is now clear for its inclusion as a component subject of the Common Entrance Examination. Ministry officials have suggested that this is now a priority, which is an encouraging sign, although as yet there is no firm date. The hope is that this decision will not be delayed, for while Environmental Studies remains outside the Common Entrance Examination, it is unlikely to be given the status it deserves. This may result in a missed opportunity, as at the primary level children are curious about the people, places, animals, plants and materials around them. Good environmental education at this stage can foster a reasoned and sensitive concern for the quality of the environment and lead to behavioural practices which enhance rather than degrade it.

## References

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