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The development of a health education curriculum for primary schools in Solomon Islands

Joan M. Llewellyn

University of Wollongong

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THE DEVELOPMENT OF A HEALTH EDUCATION CURRICULUM
FOR PRIMARY SCHOOLS IN SOLOMON ISLANDS.

A thesis submitted in fulfilment of the requirements for the award of the degree
DOCTOR OF PHILOSOPHY
from
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ABSTRACT.

This study is concerned with the development, trialling and implementation of a comprehensive, sequentially-developed, centrally-based health education curriculum for primary schools in Solomon Islands, a developing South West Pacific Island nation. It also examines the complex role of an external consultant engaged by the World Health Organization to facilitate this task.

Health was designated a curriculum subject in 1973 in the Solomon Islands Education Policy Review. The need for a comprehensive primary school health curriculum received an impetus in 1983, as a consequence of the deliberations of the Health and Physical Education Committee of the Solomon Islands Primary Curriculum Project, because of increasing concern for the health of the nation. However efforts to produce a suitable health curriculum were abandoned because the necessary skills in school health education were not possessed by the curriculum developers.

In 1987, the World Health Organisation became involved, honouring the WHO/UNICEF (1986) resolution to assist member countries of the United Nations Organization to strengthen the health education of school-aged children, and the writer of this dissertation was engaged as a school health education consultant to provide assistance.
The framework for this study is established by examining theoretical concepts, research and current thought relevant to the development of school health education curricula in developing countries.

The nature of health is discussed with a view to defining this quality of life to which all aspire and which health educators hope to develop. Health education is then examined in a broad sense to identify an approach suitable for a school health curriculum in a developing country.

A review of the status of school health education in a number of nations is undertaken in order to determine the deterrents to successful implementation of comprehensive health education programs in the primary schools. A policy to provide direction for the development of the new health curriculum for Solomon Islands schools is then established.

It is shown that neither translation nor adaptation of a Western health education curriculum model is appropriate for a developing country, because the culture, the physical and social environment, the nature of the health problems, and the system of schooling are different from those in the Western world. Of particular importance was the need to understand and be sensitive to the culture, customs and beliefs of the predominantly Melanesian people.

The stage of development of schools in developing countries and factors which may influence educational innovation, especially when the change agent is an educator from a Western nation, are described.
Issues pertinent to international aid projects in general, and to external education consultants in particular, which play a large part in determining the success of their efforts to assist developing countries, are also discussed.

All the above findings are drawn together to establish a model for the development of a school health education curriculum in a developing country, such as Solomon Islands, when curriculum innovation is facilitated by an external consultant.

Thereafter practical aspects of developing, trialling and implementing the health education curriculum for Solomon Islands primary schools are described.

The context for the study is provided by a description and appraisal of Solomon Islands and its people, its schooling system and the school curriculum, especially as these have implications for the new health education curriculum. Of concern was the teachers' lack of training and experience with other than traditional methods of teaching and their limited "modern" knowledge about sickness and health.

The needs assessment provides an overview of the quality of life of the people and investigates the major health and social concerns in villages and towns. The findings confirmed that generally village children need to be taught about primary health care, while for town children urban lifestyle problems must also be addressed.
The rationale and general aim of the new curriculum are established. It was found that the lesson objectives needed to be simply worded, precisely defined and centred on behavioural outcomes.

The procedure for content selection is described. Areas of concern were assembled into a curriculum plan - a scope and sequence chart. The final arbiter of curriculum content was the National Primary Health Education Panel.

The choice of learning experiences was constrained by teachers' poor knowledge of health education methodology, and lack of experience with activity-based lessons. There was a need to cater for the range of ability of children in widely different rural and urban schools, and provide for transference to non-schooled children and others in the community. Examples are given of learning experiences deemed suitable for Solomon Islands primary school children.

Assessment of student performance is discussed. Ideas are presented for informal and formal assessment of changes in student's knowledge and skills, attitudes and behaviour which have occurred as an outcome of health teaching.

Since there was an acute shortage of teaching resources, teachers' manuals were prepared for each grade, containing lesson plans for the entire course and reference material for teachers who in many cases will be learning along with their pupils.
Evaluation occurred in every phase of the curriculum process and was concerned with the accuracy of the health content, cultural appropriateness of lessons, and trialling the teaching program. Feedback from lesson trials illustrates some of the problems faced during this project.

The first stage of the implementation process was a two-week workshop for provincial education officers, after which these officers were expected to introduce the curriculum into the schools. The workshop program and findings of pre- and post-tests are given. Pre-service and in-service courses for teachers are briefly described.

Two controversial issues are discussed. One relates to sex education in the primary health curriculum, and the dilemma faced by the consultant when attempting to honour specific requests of the supporting aid agencies, in the face of much opposition from the national teachers.

The other controversy concerns a philosophical disagreement about the nature and purpose of health education in the secondary schools. A submission in support of a secondary health studies course for Solomon Islands is included.

Findings focus firstly on knowledge gained about health education curriculum development for primary schools in a developing country. This includes criteria for selection of content and learning experiences, assistance for the teachers, the broad areas for evaluation, the procedure for implementing the curriculum, and the need for national support at all levels at all times.
Finally the two key issues which determined the direction and extent of the consultant's facilitating role in the development of the curriculum are discussed.

The first is the importance of inter-personal, inter-cultural and inter-ministerial communication in the process, and, in the latter case, the need for the consultant to act as the bridge between the Ministries of Health and Education.

The second issue is the changing ownership of the curriculum as the project proceeded. It is argued that at the planning stage there was joint ownership between the consultant and the National Primary Health Education Panel. Later, when the teachers' manuals were being compiled, ownership was effectively handed over to the consultant who became the innovator, rather than the facilitator.

When the consultant was withdrawn before completion of the final school trials and final editing of the teachers' manuals, the national curriculum officers and the Primary Health Education Panel resumed ownership of the curriculum, an arrangement which should augur well for its successful implementation into the schools.

The scope and sequence chart, the lists of contents for the six health education teachers' manuals and samples of lesson units taken from the manuals developed for the project are provided in the Appendix.
PART A

INTRODUCTION
1. THE PURPOSE OF THIS STUDY.

The main objective of this study is to present a model for the development, trialling and implementation of a comprehensive health education curriculum for the national primary schools in Solomon Islands.

The central proposition is that the development and implementation of a health education curriculum for primary schools in a developing South West Pacific Island Nation was an urgent priority because of the pressing health problems afflicting the people. However it was a problematic strategy for educational innovation because of the inter-disciplinary nature of school health education and the lack of appropriate expertise amongst national professionals.

For the external consultant from Australia, further difficulties arose because of the unfamiliar environment, health problems and schooling system, and, most importantly, the culture, customs and beliefs of the Solomon Islands people. Hence the complex role of the external school health education consultant involved in this task will also be considered.

The study is based on a project supported by the Western Pacific Regional Office of the World Health Organization for the development of a health curriculum and teachers' guides to support it for Solomon Islands primary schools.
1.1 STUDY DESIGN.

This dissertation is an educational case study (Stenhouse, 1988). It provides an historical account of the inductive development of a model for a health education curriculum for primary schools in a developing country. The study is limited geographically to Solomon Islands and in time to three years part-time involvement as a WHO consultant.

Fieldwork was conducted continuously during consultancy periods in Solomon Islands and encompassed the following:

(1) Collection of medical and sociological data in documents from WHO sources in Manila and the Solomon Islands Ministry of Health and Medical Services, and verbally in discussions with local and expatriate medical and nursing personnel, community health educators, college lecturers and the general public.

(2) Observation of health practices and local customs in villages and towns and of children in and out of school.

(3) Observation of teaching practices in primary classrooms in towns, fringe settlements and remote areas.

(4) Interviews with teachers, education officers and curriculum developers, both formally and informally.

(5) Development of an archive of health teaching materials for developing countries in draft and the final form.

(6) School trials of sample health lessons, both observed and unobserved, in the latter case the teachers being requested to complete feedback sheets.

(7) Participation in and observation of health education workshops at the Division of Health Education, Honiara.
Informal observation and discussion at a two week workshop in Honiara for provincial education officers at which the new health curriculum was introduced.

Pre- and post-tests given to the delegates at this workshop to determine their health knowledge and health practices, and their understanding of and their attitude towards the new health curriculum.

Collation and analysis of the data was progressive, occurring both in the field and upon returning to Australia when a more thorough comparative analysis was possible.

Organization of the Dissertation.

Because of the diverse nature of the project discussed, this dissertation has been organized as follows:

PART A: The purpose of and the national and international context for the study.

PART B: Discussion and literature review to establish the framework for the study, leading towards a model of health education curriculum development for a developing country.

PART C: A study of Solomon Islands and its people, their culture and the education system to provide the context for the curriculum development initiative.

PART D: An assessment of the health and social problems of concern and the way educational intervention might be implemented.

PART E: Report and critical analysis of the processes involved in this curriculum development project.

PART F: Summary and discussion of important findings.
2. THE CONTEXT OF THIS STUDY.

2.1 INTERNATIONAL POLICIES FOR SCHOOL HEALTH PROGRAMS.

In 1977, the Thirtieth World Health Assembly decided that the main social targets of governments and the World Health Organization in the coming years should be the attainment of "Health for All by the year 2000", meaning the attainment by all citizens of the world of a level of health that will permit them to lead socially and economically productive lives. (WHO, 1979)

In 1978, WHO and UNICEF co-sponsored a meeting of delegates from 134 nations in Alma-Ata, USSR, to define the principles of Primary Health Care, and the role of governments, national and international organizations in supporting its development.

The Declaration of Alma-Ata (WHO, 1978) delineated that primary health care includes:

- education concerning prevailing health problems and methods of preventing and controlling them,
- promotion of food supply and adequate nutrition,
- adequate supply of safe water and basic sanitation,
- maternal and child care including family planning,
- immunization against the major infectious diseases,
- prevention and control of local endemic diseases,
- appropriate treatment of diseases and injuries.

The delegates to the conference affirmed that the education sector has an important part to play in primary health care.
Indeed it was believed that schools could provide an efficient means to attain all the components listed above and could assure that young people are educated to have "...understanding of what health means, how to achieve it, and how it contributes to social and economic development." (Kolbe, 1987, p.8)

WHO and UNICEF (1986) jointly invited participants from 21 countries to an International Consultation on Health Education for School-Age Children. In its report entitled, "Helping a Billion Children learn about Health", the consultation developed an overall goal for health education for school children, and broad strategies for addressing this goal, as follows:

The goal:

The health learning of the school-age child should be enhanced in every possible way so as to promote the exercise of self-reliance and social responsibility and a better quality of life for today's children and tomorrow's adults.

The strategies:

(A) Define and develop health education for school-age children in ways which recognize and seek to integrate all the different avenues through which children learn about health.

(B) Develop functional collaboration among the national institutions and resources that might affect children's learning about health.

(C) Develop a political will to deal effectively with the health learning of school-age children.

The recommendation:

WHO, UNICEF and UNESCO...(should) examine the ways in which they could best help member countries in their efforts to strengthen the health education of the school-age child.

Adapted from Kolbe, L (1987, p.8-10)
2.2 IMPLEMENTING THIS POLICY IN SOLOMON ISLANDS.

It was in this context that WHO became involved in assisting the Solomon Islands Government to develop a school health education curriculum for the primary schools.

Health education had been designated as a subject in the primary school curriculum in the Solomon Islands Education Policy 1975-1979. (M.E.T., 1974) Ten years later however the national curriculum officers were still struggling to produce a health curriculum and materials to support it. (This will be discussed in chapter 14.2)

In the meantime, the need had become more urgent, because of the toll being taken in the nation by health and social problems, spanning the full spectrum of problems occurring in both tropical developing countries and the Western world, many of which were exacerbated by Cyclone Namu which devastated the islands in June 1986.

The WHO Country Liaison Officer in Honiara was aware of and concerned about this situation, and after consultation with WHO officials in the Western Pacific Regional Office in Manila, an invitation was extended to me to visit Solomon Islands in 1987 to assist in the development of health lessons and report on the situation.

As an outcome of this report, WHO agreed to provide further support to the Solomon Islands Government for the development, trialling and implementation of a health education curriculum for the national primary schools.
2.3 ROLE OF WORLD HEALTH ORGANIZATION IN SOLOMON ISLANDS.

The World Health Organization is represented in Solomon Islands by the Country Liaison Officer (CLO), who is appointed by the WHO Western Pacific Regional Office (WPRO) in Manila, Philippines. This person is responsible for the oversight of all WHO activities within the country.

Recent projects in Solomon Islands supported by WHO include malaria prophylaxis and vector research, compilation of epidemiological statistics, improvement of drainage and sewerage, mother and child health, the expanded program of immunization and community health education.

The Country Liaison Officer is regularly briefed by national and ex-patriate medical and nursing officers, consultants and workers with aid organizations about the health problems and needs in the country. When funds are requested for specific projects, submissions are made to WPRO through the CLO, and the need and available funds are assessed.

Short term consultants may then be appointed to investigate the problem areas and write reports. (This was the purpose of my first visit to Honiara.) Further financial and technical support for a project depends in part on the assessment of the consultant's report by the appropriate department at WPRO in Manila. In addition, department heads or their representatives may visit the country to assess the situation for themselves.
The terms of reference for the first assignment related to this project were in line with the Primary Health Care strategy, as follows:

In collaboration with the National Health Authorities and with the Ministry of Education to develop, adapt and pre-test the appropriate health education training curricula and materials for primary and secondary schools on:

(a) health care during pregnancy and child birth,
(b) birth spacing,
(c) nutrition during pregnancy and childbirth with emphasis on iron, vitamin A and breast feeding,
(d) oral rehydration therapy,
(e) immunization,
(f) personal hygiene,
(g) first aid for minor cuts, burns and other injuries.

and write a report.


At the briefing in Manila prior to my first visit to Honiara, information was provided about Solomon Islands and its people, the range of medical problems occurring within the country and WHO concern for the health of the people, especially mothers, babies and children.

No briefing however was provided about health education in the schools in Solomon Islands, nor attempts in South-West Pacific or other developing countries to introduce health lessons into the school curriculum.
2.4 LIAISON WITH SOLOMON ISLANDS MINISTRY OF EDUCATION.

On arrival in Honiara, preliminary reading of a WHO consultancy report (Lee, 1984) and informal discussions seemed to suggest that over the last several years, possibly since the Solomon Islands became an Independent nation, there had not been a clearly defined health education curriculum in the Solomon Islands schools, nor a health education course in the Teacher Training College.

It was necessary to confirm this by contacting officials in the Ministry of Education. It was then discovered that the Ministry of Education was not a party to the invitation extended by WHO, nor had there been any briefing about this project. In fact education officers appeared to view the whole assignment with great suspicion and at first it was impossible to communicate, let alone work productively with them.

In due course it was discovered that the reasons for this reticence were two-fold. Firstly in the eyes of the nationals a WHO consultant belongs to the Ministry of Health and Medical Services, and therefore is not an education consultant, and thus has no authority to work within the Education Ministry.

Secondly, there had recently been an unfortunate experience when the person chosen to write the health education manuals under the Solomon Islands World Bank Primary Education Project (1985) had been discontinued because her work was unacceptable.
Since this writer was an Australian, the sudden unexpected arrival of another Australian lady to write health lessons was treated with disbelief and suspicion.

It soon became clear that to fulfil the terms of reference, it was necessary to win the confidence of the officers in the Ministry of Education, especially the curriculum coordinators at the Curriculum Development Unit. This process was slow and tedious, and fraught with difficulties. (This will be explained later, especially in chapters 8.1 and 14.2)

In the short term, when the lines of communication became established, it was discovered that there was indeed no existing formal health curriculum in either the primary or secondary schools.

In the secondary schools, the structure of the body was allegedly taught at an elementary level in Science, and some health topics, such as hygiene, nutrition and mothercraft, were included in Home Economics.

The extent to which health lessons were given in primary schools was impossible to ascertain, since most village schools were in isolated, remote and inaccessible parts of the provinces. Discussions with teachers in schools visited, and with past and present students suggested that the only lessons given were in the areas of "Hygiene" and the "Three Food Groups", and many primary students received no formal health lessons at all. (Refer to chapter 6.2)
The lack of health education in the primary schools was viewed with great concern by the Ministry of Education which had designated Health Education as a curriculum subject in the 1975-1979 Education Policy, especially as attempts to develop a curriculum as part of the World Bank Project were unsuccessful, (to be explained in chapters 14.2 and 20.5).

Therefore, in consultation with the WHO Country Liaison Officer and officers of the Ministries of Health and Education in Honiara, it was agreed that the terms of reference should be amended as follows:

(a) Priority should be given to the development of a health education curriculum for the Solomon Islands primary schools, as this is the most urgent need.

(b) The specific areas mentioned in the original terms of reference would be included and given emphasis in the curriculum.

(c) Development of a secondary school health education curriculum might be considered at a later date when the primary school project has been successfully completed.


Towards the end of this first consultancy, a submission from the Solomon Islands Government was presented to the WHO Western Pacific Regional Office through the Country Liaison officer in Honiara, requesting that the project be continued to allow for the further development of the curriculum, including the preparation of Health Education Teachers' Manuals for Grades 1 to 6, and also to provide assistance with trialling and implementing the program.
2.5 PERSONAL PROFILE.

It is now appropriate to provide a personal profile, with special emphasis on the qualifications and experience which provided the knowledge and skills necessary to develop a school health education curriculum in a developing country.

My undergraduate studies at the University of Adelaide were in the field of Medical Science, majoring in Bacteriology. This was followed by employment as a tutor, demonstrator, lecturer and research fellow in the Department of Bacteriology within the Medical School at this University. This period provided the opportunity to read extensively and develop some knowledge of medical matters, an interest which became all-absorbing and continues to the present day. In 1951 I was awarded the degree of Master of Science by examination and research into "The Adaptation of Bacteria to Anti-bacterial Substances".

This was followed by marriage and the birth of three children which put professional pursuits into abeyance for several years.

The opportunity to return to the workforce came during a sojourn in Malaya (later Malaysia) during 1957-1959. This was also the first contact with a developing country. As an appointment in the specialist field of bacteriology was not possible in Malaya at this time, a post as a science and health teacher at a large girls' secondary school in Taiping, Perak, was accepted.
With no formal teaching qualifications at this stage, the basics of how to teach and the unique problems of teaching children from different races and cultures were learnt, mostly by trial and error. From the Malay, Chinese and Indian girls at the school, a great deal was also learnt about social issues, health problems and life in general in a country which had just obtained its Independence from Great Britain. In addition, experience was gained teaching health to the nationals in a developing country.

On returning to Australia, employment as a casual untrained science teacher was accepted, while studies were undertaken for the Diploma of Education through the University of New England. In 1966, I was seconded to Balmain Teachers' College (later Kuring-gai College of Advanced Education) in Sydney as a science and biology lecturer.

Given the freedom to design my own courses, no opportunity was missed to apply what was taught in Science to Health. This became known to the College Principal, with the result that in 1973 when the teacher training course was upgraded to a diploma course and a Department of Health Education was established, I was offered a position as one of two foundation lecturers to develop this new field of study.

The field of health education was entered with a great deal of zeal, some knowledge of medical matters and scientific facts pertaining to health, and a simple philosophy - a desire to provide knowledge about health and illness so people would be better able to care for their bodies.
The award of the Imperial Relations Trust fellowship to study in the field of Health Education at the University of London in 1975 provided the opportunity to become acquainted with current thought and gain a professional qualification in this discipline. The Associateship of the Institute of Education was awarded for a dissertation, "Examination of Differing Concepts of Health Education in Great Britain, with Implications for Health Education in Australia." (1976)

This period of study in London also provided the opportunity to increase and update my knowledge about children's health problems by attendance at lectures at the Institute of Child Health, University of London. On returning to Australia, this was put to use when writing my first book, "A Teacher's Guide to Children's Illnesses" (1983).

Another important experience in London was the insight provided by the health education lecturer, formerly a social anthropologist, into the health and social problems of developing countries and the role of educators, especially health educators, who seek to become involved. This was later to provide invaluable background, as I sought to understand and develop empathy with the Solomon Island culture.

Entree into the field of health education in the developing world came in 1983 when I met Professor David Morley, Professor of Tropical Paediatrics, University of London.
Professor Morley encouraged me to adapt my first book as a village handbook for developing countries. Dr. G. J. Ebrahim, reader in this department, gave guidance and wrote the preface for "Children's Illnesses in Warm Climates: A Guide for Teachers, Parents and Health Workers" (1986).

My third book, "Springboards: Ideas for Health Education" (1987), is of a different nature, a compendium of content material and lesson strategies for health lessons written for primary and secondary schools in Australia.

These two last mentioned books came to the notice of Dr. David Parkinson, WHO Country Liaison Officer in Solomon Islands, who later contacted me and, after explaining the problems in Solomon Islands, enquired whether I would be willing to apply my skills to assist in the development of a health curriculum for the primary schools in this country. As explained previously, a preliminary visit was made in 1987 to assess the situation, following which I was engaged by WHO for a further period to develop the curriculum and write teachers' handbooks to support it.

Anticipating the innovative nature of this task, I enquired from the University of Wollongong in 1987 whether this project would be suitable for a Doctoral Degree. My proposal was accepted and I enrolled in the Doctoral Program in 1988. Henceforth my consultancy work, writing and research for this thesis proceeded simultaneously, each supporting the other.
3. THE TASK:

HEALTH EDUCATION CURRICULUM DEVELOPMENT.

Initially the task of developing the new curriculum and providing the teachers with manuals to enable them to teach it appeared simple and straight-forward. This new challenge was accepted with enthusiasm in the belief that previous experience had provided adequate preparation for this undertaking.

However it soon became obvious that the task would not be easy. Neither a direct transfer nor an adaptation of an Australian primary school health curriculum was appropriate, because the health problems, the culture and the education system were so completely different. Likewise teaching ideas developed for Australian schools (Llewellyn, 1987) were rarely suitable without considerable modification.

Moreover, although curricula and materials produced for school health education in other developing countries were investigated, no model suitable for the development of the health curriculum for the Solomon Islands schools, when curriculum innovation was facilitated and impelled by an external consultant, was identified.

Many different variables had to be considered. On the positive side, the economic and political considerations determined that this project received official support from the Solomon Islands Government.
What the Solomon Islands will do in the next ten years will depend to a large extent on the health of the nation - the physical, mental and social health of its people.

If the health of Solomon Islanders is to be improved at all in the next decade, the country's school system has to play a major role in bringing this about.


On the other hand, there was conflict at times between officers within WHO and the Ministry of Health and expatriates working in Solomon Islands about the content of the curriculum and intervention strategies to be used.

In addition, difficulties arose when attempting to blend the requests of WHO and UNFPA with cultural attitudes, values and beliefs of the Solomon Islands people, and the realities of the Solomon Islands classroom. (This will be expanded in the body of this thesis, especially in chapters 7, 13, 20 and 23.)

Problems were also encountered within the Ministry of Education. The education system in Solomon Islands was in a state of rapid change. Innovation however was impeded by lack of finance, large numbers of untrained teachers, and a dearth of resource material, including text books, teachers' reference books and teaching aids, in the schools, these deficiencies being especially acute in the area of health education. (These matters are discussed more fully in chapters 13 and 14.)
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Education policy decreed that this new health curriculum had of necessity to be nationally based. It had to be designed to be used in schools at different stages of development, from rural schools in isolated villages to the more sophisticated urban schools. (See chapter 8.) Furthermore it had to address the different health and social problems in urban and rural environments, (which are explained in Part D: Needs Assessment.)

The teachers' manuals had to be written to provide for the needs of teachers most of whom, whether in isolated village schools or urban schools, whether trained or untrained, had little or no knowledge of the cause of many common illnesses and modern approaches to prevention, nor the philosophy and methodology of health education. (Refer to findings in chapters 21 and 22.)

Language was another dilemma. While English is the official medium of instruction from grade 4 upwards, lower classes are taught in the local vernacular or Melanesian Pidgin. The curriculum documents and teachers' manuals were written in English by request, but there was a need to use simple English words to facilitate understanding and to provide glossaries for the teachers' manuals. (Refer to quotations from feedback in chapter 21.)

Underlying the entire project was the need for cross-cultural communication which was dependent on an understanding of and sensitivity to the traditional culture, customs and beliefs of the Solomon Islands people.
Furthermore, this complex socio-cultural system within the country had a direct bearing on almost every health and social problem, and contemporary educational issue in the land. (This is explained in chapter 7.)

A cautious anthropological approach has been suggested by many observers of international innovation projects, such as Paul (1955), Schumacher (1973), Axinn and Kieffer (1974) Firth (1977) and Havelock and Huberman (1977). These writers deplored the fact that innovators have frequently proceeded as if a rich socio-cultural context did not exist.

The fabric of a society is intricately complex, has been built up over many generations, and most of its features came there for a reason. Would-be innovators need to know what these features, customs, habits, and values are, how they came into being, and how they might be affected by any proposed innovation.

Havelock, R.G. and Huberman A.M. (1977) p. 23

The preparation of this dissertation therefore entailed research across several areas, including health, health education, sociology, anthropology and education, in order to establish a model for health education curriculum development for the Solomon Islands primary schools. (This is the purpose of Part B of this dissertation.)

The process of developing, trialling and implementing the new curriculum, using the model thus established, is described and discussed (in Parts C, D and E.)
PART B

THE STRUCTURAL, THEORETICAL AND PROBLEM FRAMEWORK
THE STRUCTURAL, THEORETICAL AND PROBLEM FRAMEWORK.

INTRODUCTION.

The purpose of this part of the dissertation is to examine theoretical concepts, research and current thought relevant to the development of school health education curricula in developing countries.

In chapter 4, the nature of health and the dimensions of health are discussed to establish the quality of life which health educators hope to develop. In chapter 5, health education is examined in its broadest sense to identify an approach suitable for a school health education program in a developing country.

In chapter 6, school health education is reflected upon to determine criteria to enhance successful implementation of a school health curriculum in a developing country, while chapter 7 examines the culture, customs and beliefs in traditional societies, which may impinge upon a health education program.

Chapter 8 is concerned with schooling in developing countries and chapter 9 examines educational aid to developing countries, with emphasis on the factors which both enhance and inhibit innovation, especially when the change agent is an external consultant.

Finally in chapter 10, an attempt is made to draw together the findings of the previous chapters and to establish a model for health education curriculum development which is appropriate in the present context.
A person's health has been defined as the ability to achieve vital goals. (Nordenfelt, 1987) Thereafter, a study of the nature of health occupies a whole volume of philosophical discussion by this same author which is beyond the scope of this dissertation.

It is however necessary to define this concept clearly, since health educators who elect to help others achieve this state require a clear concept of this quality of life that they hope to develop. (Greene, 1971)

Moreover the concept of health education is dependent on the definition of health. For example, if health is defined as the absence of disease, then a health education program would centre on disease prevention, or if health is considered in statistical terms, such as the number of people suffering or dying from certain illnesses, then health education would focus on these problems in an attempt to improve these statistics.

The above examples however imply that as long as people are not sick or disabled, they are thought to be healthy. I believe that health is much more than this, that health is not a single entity, but consists of physical, mental, social and spiritual dimensions which exist together, intermingle and respond to societal and environmental circumstances in everyday living in order to result in a state of health, as the following discussion will explain.
4.1 THE DIMENSIONS OF HEALTH.

Within and amongst different societies and in different historical periods, quite different definitions of health have developed. The Romans had two words for health - "sanitas" which meant good health, and "salus" which had a marginally different meaning in the sense of something being saved or preserved. The ancient Greek word, "hygieia", implied the sound unbroken body which for the owner was the domicile of health. Thus "hygieia" came to mean health, the constitution without disease or impediment to work. (Charles, 1959)

Claudius Galen in his "Hygieia" written in the second century A.D. described health as:

the condition in which we do not suffer pain and are not impeded in the activities of life... Health is a sort of harmony, but the range of health is very wide, and does not exist with equal absoluteness in all of us.

Charles, J (1959, p. 8)

Prior to World War II in Western countries, and more recently in developing countries, health was associated with good hygiene, with emphasis on personal and community cleanliness.

Attention devoted to apparently trifling ailments in young children not only prevents serious illness in later life, but also enables the children to obtain the maximum benefit from their education.

In this connection teachers equipped with a sound knowledge of hygiene... can assist to raise the national standard of health and physical fitness.

Gamlin R, "Modern School Hygiene" (1935, p.iv)
The Forward to "A First Book of Hygiene" which was used as a teacher's reference book in Solomon Islands schools many years ago, stated:

This book... will help the boys and girls of our Islands and Areas to know the best way to keep healthy and happy... All our people will now have the basic principles of hygiene so simply set out.

Jamieson, S (circa 1950s)

In the post World War II era, new concepts of health began to emerge. Bibby (1951) described health as being good if it enriches personality and opens up opportunities for better works.

Health must include mental health as well as physical, as the good life is not that of a sanitary moron.

Bibby, C (1951, p.5)

A British Educational Pamphlet put it this way:

In attempting to define health it is necessary to take into account the extraordinary flexibility of the human organism as shown, for example, in its remarkable powers of rising above physical handicap and disease and in the determination many show to live a full and rich life in spite of infirmities.

Department of Education and Science (1966, p.1)

It was becoming apparent that it is indeed difficult to define health in terms of objective standards or to grade it according to an arbitrary scale.

The nature of health is in fact extremely complex and varies according to sex, race and local standards. It also varies for the same individual in childhood, adulthood and old-age.
Health embraces both a negative quality, freedom from disease, and a positive quality, a state of well-being and vigour, and the ability to make adjustments to the changing circumstances of life. Personal health depends partly on ensuring a healthy environment and partly on the way people conduct themselves in daily life.

The World Health Organisation defined health as:

Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity.

Chronicle of WHO, (1947, p.3)

A considerable divergence of opinion exists in the specific way the WHO definition of health is interpreted. It is in fact considered by many to be an idealistic state, a slogan for marching under rather than a practical reality.

However, the WHO definition laid to rest the old narrow concept of hygiene, and the "health of the whole person" approach was finally secured. When the shackles of hygiene were broken, the concept of health included everything that contributes to physical, mental and social well-being.

A three dimensional concept however did not satisfy all.

What is health? How far is it bodily? How far is health a mental or even a spiritual quality? Life must have regard for all the qualities which go beyond the mere physical. Our roots lie in the deep Christian background of our civilisation and the things of the spirit cannot be passed over.

D.E.S. (1957, p.vii)
One's real needs or goals usually centre around a particular combination of social, vocational, recreational and religious pursuits - a family or other social group to provide affection, a job to provide a sense of accomplishment, a vocation that provides enriching and satisfying experiences and a set of religious or philosophical beliefs to provide meaning to one's existence.

The individual who has come to satisfactory terms with these aspects of living generally qualifies as a healthy person.


Thus spiritual health, for some people, has become a fourth dimension of the holistic notion of health.

Recently yet another health dimension, societal health, has emerged. Proponents would claim that some responsibility for an individual's health rests on society, as "good" health is not possible in a "sick" society. (Ewles, 1985)

One's state of health is also conditioned by the lifestyle one has chosen. Rene Dubos, a noted exponent of health philosophy, put it this way:

Health and disease are concepts too complex and too subtle to be defined merely in gross physical terms. The meaning of these concepts is conditioned by the goals that the individual formulates for himself. Optimum performance imposes different health requirements on a plowman, jet pilot and philosopher.

Dubos, R (1961, p.94)

It is therefore necessary to consider in more detail the different dimensions of health, all of which have implications for health education.
4.1.1 PHYSICAL HEALTH.

When seeking physical health and well-being, one is likely to adopt behaviour patterns designed to prevent disease and forestall the inevitability of death. With the emphasis on disease prevention and healthy lifestyle in vogue today, this might motivate a person to obtain immunizations, eat a balanced diet, control weight, exercise regularly, get enough sleep, visit the dentist, check vision, have chest X-rays and cancer screening tests, avoid substance abuse, and minimize exposure to various infections. These are but a few of the procedures that might prevent disease and disability.

Physical well-being however is more than absence of physical disease or infirmity. It also refers to physical fitness, that attribute which provides a person with sufficient strength and endurance to handle the normal daily work responsibilities and still complete the day with sufficient energy in reserve for appropriate recreational pursuits and occasional emergencies. Physical fitness is also revealed by appearance of skin, hair and teeth, by weight and height, by muscle tone and posture.

Reductions in physical efficiency occur due to aging, regardless of seemingly proper health behaviour. So is physical health status defined in absolute terms or is it specific to age? How much physical impairment can a person tolerate and still describe his/her physical status as excellent?
There is also a relationship between physical health and other factors, including poor personal and community hygiene and inadequate nutrition, which are important considerations since this study focuses on Solomon Islands. (Such factors will be considered in the " Needs Assessment" in Part D).

Here it is sufficient to say that in a country such as Solomon Islands which is beset with many infectious and other diseases, the emphasis must lie initially on the first statement in the WHO definition of health, viz. "the absence of disease and infirmity". Until this status has been attained, a striving for a complete state of physical well-being is not possible.

4.1.2 MENTAL HEALTH.

Mental health is sometimes used synonymously with emotional health, but there is some confusion about these terms.

Ewles and Simnett (1985) differentiated these two concepts, defining mental health as the ability to think clearly and coherently, and emotional health as the ability to recognise emotions and express them appropriately, and cope with stress, tension, depression and anxiety.

Others prefer to use the term, mental health, to embrace intellectual health on the one hand and emotional health on the other, the intellectual component relating to rational thoughts and actions, the emotional relating to our irrational thoughts, actions and feelings.
The reality is the interaction of these two components which will determine the mental health or mental illness status of an individual.

Mental health, as it is perceived in Western societies, can be described as follows (Llewellyn, 1977):

- Mentally healthy persons will have self-respect, will recognise their own abilities, accept their limitations and be able to exercise reasonable control over their emotions.

- In their relationships with others, they will be able to give and receive love, form relationships that are satisfying and lasting, respect individual differences and consider the interests and needs of others.

- In their dealings with life, they will accept responsibilities, set realistic goals, shape their environment if possible, otherwise adjust to it, welcome new ideas, not fear the future, and most of all perceive reality accurately and cope with problems as they arise.

The importance given to "coping" is implicit in this last statement. Inability to cope with the stresses which modern life imposes is responsible for much mental distress.

Paul (1955) however made it clear that not all cultures perceive mental health and mental illness in the same way and thus standards set for Western cultures need not, and probably do not apply in other cultures.
It is notable that mentally illness is rare in medical statistics in Solomon Islands, but it is not known whether this is because the condition does not exist, or because village communities have their own ways of defining this condition and dealing with deviants.

Mental illness as known in the West however may become more of a concern in the near future amongst Solomon Islanders who are between two cultures, especially those who are educated and living in the towns, trying to copy the Western way of life, but yet have not broken the bonds with their own village and its customs and culture, and are thus subject to emotional and lifestyle conflicts. Inability to cope with these stresses may produce more mental breakdown amongst these people.

The importance of the mental health of school children has long been accepted in Western society, and was in line with Dewey's whole child concept. Its importance is also acknowledged in Solomon Islands. It was requested that mental health topics be included in the health curriculum. (See chapter 20.)

4.1.3 SOCIAL HEALTH.

Social health concerns the inter-relationships between one person and others in the community to which they belong. This could mean that individuals simply satisfy their own social needs. It could also mean that individuals conduct their behaviour within the established social norms and contribute in some useful way to the common good.
In Solomon Islands villages, individuals internalise their own social goals which usually revolve around their family, their village, their work and their recreation. Achieving satisfaction in these areas brings happiness and a positive enjoyment of life.

In the towns however Westernisation makes this increasingly difficult to accomplish. Lack of job satisfaction or, worse, unemployment, isolation from family and wantoks (members of the clan or language group), loneliness, family discord, are all preventing many from achieving social health. It should be noted that such persons are also unlikely to achieve mental and physical health, since the dimensions are health are not independent, but continually interact in everyday living.

At the other extreme, some set their personal goals too high. Expecting too much of one's self, never being satisfied with one's achievements, can also preclude social health.

Social health does not mean merely that individuals must satisfy their own social goals. It looks also to the social group. The acceptance of social behaviour is very much involved with cultural expectations.

If behaviour does not fit existing values and customary behaviour patterns, various social controls will be met, which provide a stressful situation requiring some form of adaptation.
Today many people in the West have escaped this stress by adopting a divergent lifestyle. In Solomon Islands similar stresses are beginning to emerge, as young people who are educated find the customs of the village too restrictive and move to the towns.

Society occasionally nourishes well-adjusted criminals who have not internalised any need to conform with certain of society's laws. Furthermore, they might love their families, support their church and generally enjoy the good life. But they are not socially healthy.

Social illness is manifested in society in many forms, such as delinquency, vandalism, crime, violence, suicide, drop-outs, family breakdown, promiscuity, drug abuse, smoking, alcoholism and social malaise. The extent of such problems is a measure of the social health of a community. Unfortunately all these signs of social illness are present in Solomon Islands and the incidence increases each year.

This is a matter of great concern to the Solomon Islands government, and many specific requests were received to include lessons to alleviate social health problems in the health curriculum. (This is dealt with more fully in chapters 16, 17 and 20.)

4.1.4 SPIRITUAL HEALTH.

Spiritual health is based upon people's need for a faith or a philosophy to give meaning to their lives. This may not necessarily be religious as opposed to secular.
For many it would be worship and prayer, according to their beliefs. For some it might be communing with nature. For others it could evolve around their own personal philosophy of the meaning of life and the purpose for which they were born. Whatever their faith or philosophy, people who have found this for themselves are healthy in this dimension.

Christian beliefs and worship services, as well as the vestiges of the traditional animistic religion, are very important in Solomon Islands culture. This is reflected in a Christian Education curriculum in the schools. (See chapter 12.4) If this national trait is also reflected in the personal lives of Solomon Islanders, they are indeed healthy in the spiritual dimension.

4.1.5 SOCIETAL HEALTH.

Ewles and Simnett (1985) would claim that arguments offered in the above discussion about the various dimensions of health consider health, and place the responsibility for health, at the level of the individual. They argue that a person's health is inextricably related to everything surrounding that person, so that it is impossible to be healthy in a society which does not provide the resources for basic physical and emotional needs.

These authors quote the difficulty of maintaining health in famine areas or countries of extreme political oppression, that women cannot be healthy when their contribution to society is under-valued, and the unemployed cannot be healthy in a society which only values people who work.
Also they believe that it is unethical to blame individuals for adopting unhealthy habits when society itself engenders and sustains such lifestyles. For example, the notion of "victim blaming" for an unhealthy diet was rejected because the major force responsible for an unhealthy diet is the drive of the food industry to accumulate profits.

Furthermore, it is also impossible for people to be healthy when they live in areas lacking basic services, such as a safe water supply, sanitation and health care facilities, as occurs in many developing countries.

Thus it follows that health must be considered within the framework of all the external forces that affect people and their way of life.

However, while society determines some of the requirements for health and is, so to speak, the background for the action, it does not constitute a dimension of the notion of health which should be kept at the level of the individual. (Nordenfelt, 1987)

There must however be room in any health education program, including the Solomon Islands school health curriculum, to raise awareness of contemporary societal and environmental issues, with a view to improvement through community action and political pressure.

(These issues, as they relate specifically to Solomon Islands, are discussed in Part D.)
4.2 HEALTH - A QUALITY OF LIFE.

While the dimensions of health have been listed and described separately, in reality they exist together and intermingle in order to result in a state of health. The physical, mental, social and spiritual dimensions of health interact with each other and respond to societal and environmental circumstances in everyday living. If one dimension is affected, others are involved to a greater or lesser degree. For example:

- physical symptoms are often caused by the inability to cope with the stresses of life,
- too much concern with physical health can disturb mental and social well-being,
- when spiritual health becomes religious fanaticism, physical, mental and social health are all affected,
- an unhealthy physical and social environment precludes physical, mental and social health to some degree.

As noted by Claudius Galen in the second century (in Charles, 1959), "...the range of health is very wide, and does not exist with equal absoluteness in all of us".

Complete physical, mental, social and spiritual health is impossible for any individual to attain, but to achieve a healthy balance is possible. Likewise a healthy physical environment and a just society providing for all the needs of the community are impossible to attain, but improvement is possible. This is the quality of life to which all would aspire and which health educators strive to develop.
5. HEALTH EDUCATION.

The term, "health education", has a number of meanings... In its broadest interpretation, health education concerns all those experiences of an individual, group or community that influence beliefs, attitudes and behaviour with respect to health, as well as the processes and efforts of producing change when this is necessary for optimum health.

This all inclusive concept of health education recognises that many experiences, both positive and negative, have an impact on what an individual, group or community thinks, feels and does about health, and it does not restrict health education to those situations in which health activities are planned or formal.

In the more limited meaning, health education usually means the planned or formal efforts to stimulate and provide experiences at times and in ways and through situations leading to the development of the health knowledge, attitudes and behaviour that are most conducive to the attainment of individual, group and community health.

W.H.O. (1969, p.5)

Health education occurs both formally and informally. Informal health education is part of the evolutionary process transmitting survival skills from one generation to the next, and adding quality to life.

Formal health education is the planned efforts to improve health. At community level, its practice depends on the practitioners, as health educators tend each to have their own philosophies about the meaning of health and the goals they believe to be worthwhile.

School health education can be informal, as part of the socialisation of the child. It can also be a formalised instruction program, a subject in the curriculum.
5.1 INFORMAL HEALTH EDUCATION.

Most health education occurs informally, at least this was so until recently. The present generation of adults received little, if any, formal instruction in matters related to health. Much of their informal or incidental learning occurred when they were young just by living, reinforced in the home, at school, at church, in club and sporting activities, and later through the print and electronic media and in the workplace.

Parents are the first health educators of their children, operating mostly by precept and example. It is during the pre-school years, the period of primary socialisation, that many of the children's attitudes, values and routines are established. These are important years for healthy development, physically, intellectually, emotionally, socially and spiritually.

In traditional Solomon Islands culture, the immediate and extended families, the village chief and the village elders all contribute to the socialisation of the young into the mores of the village, including the imparting of attitudes and behaviour relating to health. (See chapter 13.1)

The importance of these early childhood experiences in all societies cannot be over-rated, since many of the health-related habits children adopt are influenced more by family attitudes and behaviour than anything else, at least this was so until recently.
In Western societies, parents continue to play an important role when the school takes over some of the responsibility. At this stage their competence varies widely according to their own upbringing, education, natural endowments, pressure of economic or other difficulties, and in the areas of sexuality and personal development according to their religious and moral code, and their ability to communicate with their children.

In contemporary societies much parental influence is being supplanted by the media, especially television. In one respect the problem of the media is greater in Western countries where the mass media is more powerful, but in another respect greater in developing countries like Solomon Islands where "...the community is more gullible". (Pulsford and Cawte, 1972, p. 109)

With their increased affluence, Western young people are also prey to drug pushers, quacks, food faddists, the pop culture, to the permissiveness of society and the dictates of their peer group. This is also occurring to a lesser extent in developing countries. Many caring parents and others, in both developed and developing countries, fear the influence of many of these factors on young people.

It can thus be seen that when all influences are taken into account the positive impact of informal health education could easily be counteracted by negative influences and this points very strongly to the need for more effective formal health education and instruction.
5.2 THE "OLD" HEALTH EDUCATION.

From the beginnings of recorded history there have been many instances where instruction to promote good health has been given. The ancient Greek system of education played a part in the dissemination of knowledge about ways of healthy living, while in Rome, one of the great masterpieces of the second century A.D. was the Hygieia of Claudius Galen, which considered ways by which health could be preserved. (Charles, 1959)

Less than 150 years ago, cholera epidemics were raging in Great Britain. During the 1848-1849 epidemic John Snow was able to show that cholera was spread via the water supply. This pointed to the need for a pure water supply and better sewerage disposal, so sewer construction began in London in 1859. This however was not enough. The people had to be instructed in personal hygiene before the epidemic waned. (Howat and Howat, 1967)

In Great Britain at the beginning of the century, the Infant Mortality rate was causing concern. As a consequence, the first Infant Welfare Clinic was opened in 1905.

At about the same time, the first health visitors were appointed to instruct mothers in the rearing of their children, and the Education Act of 1907 recommended that girls should be given instruction in nutrition and the domestic sciences. (Brockington, 1965)
These early attempts at formal health education and instruction, focusing on hygiene, mothercraft and nutrition, brought about significant improvement in the home and community environment, reduced the infant mortality rate, improved the general health of the people, and reduced the incidence of infectious and communicable diseases.

This was followed by rapid advancement in medical science in the period between the two world wars, when the discovery of potent immunological agents and therapeutic drugs brought about a further reduction in the incidence of infectious diseases, the main scourge at the time.

Finally the discovery of penicillin during World War II and subsequent development of a wide range of antibiotics, active against most of the bacterial infections, brought about significant reduction in the morbidity and mortality rates from infectious diseases.

During the immediate post-war period in Western countries, health education activities reached an all-time low. Since most of the prevalent infectious diseases could be prevented by immunization and/or cured by antibiotics, there was less need for other preventive measures, including formal health education.

But in the 1950s, the hospitals in the Western countries were as full as ever. "Self-induced" diseases brought about by faulty personal and community habits had supplanted the infectious diseases of the past.
The first of the "new" health problems to come to light was the association between smoking and lung cancer. Starting about 1950 there were several retrospective enquiries into this problem and also into other diseases thought to be related to smoking. In 1954 the first Anti-Smoking Campaign was begun in Great Britain but it had no obvious effect. (Brockington, 1965)

At about the same time, concerned people thought that the schools should try to stop the children from starting to smoke. But the teachers were not trained for this and where attempted it was mostly unsuccessful. Nor were the teachers trained to deal with some of the other issues which were causing increased concern in the schools at this time, such as drug taking and sexual permissiveness. The time was ripe for an examination of school health education. (Ministry of Education, 1958)

The British Ministry of Education's Conference on Health Education, held in Cambridge in 1958 found a need for:

a. research or enquiry into attitudes of teachers to health matters;

b. an understanding of children at different ages so that health education may be put into the right context.

c. co-operation and teamwork amongst all concerned with health education;

d. a healthy mental attitude between heads of staff, staff and children in schools to foster the right environment for health education;
e. a deeper knowledge of teachers and their emotional problems and attitudes, particularly at the student stage, in an attempt to obviate instability amongst teachers, for difficult and unstable teachers can create an unhealthy mental atmosphere for children.

The Report of the Cohen Committee (1964) in Scotland, which had been appointed to look into health education in Great Britain, had recommendations for health education at community level. Much more was needed, it needed to be much better done, more resources were necessary, trained people were required and the whole area needed to be more scientific and to have the capacity to carry out research. It also commented upon the almost complete lack of organised and methodical health education in the schools.

The following decade saw the establishment of Health Education Councils in England and Scotland, and corresponding organizations in many other countries, and the establishment of courses in health education at some colleges, polytechnics and universities, but little change in the status of health education as a practical field of study or an academic discipline.

There was no consensus of opinion about what health education was, or was trying to do, let alone the best way to go about the task. This was confused further by the variety of people working in the field. The only point of agreement was that health education was important. (Llewellyn, 1976)
5.3 CONTEMPORARY HEALTH EDUCATION.

The last 15 years have brought many changes to the practice of health education and have established this discipline as an academic field of study. However there is no established philosophy to which all subscribe and conflicting ideologies at times inspire heated argument, but it is beyond the scope of this dissertation to delve into this debate.

It is however necessary to discuss current thought and approaches to health education which are relevant in the present context, with a view to identifying a rationale to guide the construction of the school health education curriculum for Solomon Islands.

5.3.1 THE MEDICAL APPROACH.

The aim of this approach is freedom from medically defined disease and disability, such as infectious diseases, cancer and heart disease. It involves promotion of medical intervention to prevent or ameliorate illhealth, generally using a persuasive or authoritarian method. (Ewles and Simmett, 1990).

Examples of this approach which it is suggested are applicable in Solomon Islands would include instructing children in cleanliness and personal hygiene, persuading mothers to bring their children for immunization, encouraging women to use family planning clinics and villagers to cooperate with the spraymen and other measures to eradicate the anopheles mosquito, the vector of malaria.
5.3.2 THE BEHAVIOUR CHANGE APPROACH.

The aim of this approach is to change people's attitudes and behaviour so they will adopt a healthy lifestyle. The challenge for health educators is to devise ways and means to modify attitudes and behaviour relating to habits which have a detrimental effect on health, such as smoking tobacco, excessive alcohol consumption, drug taking, promiscuity, poor nutrition, stress and lack of exercise.

Health education is the application of behavioural science to health problems with a view to modifying behaviour which militates against the achievement of physical, mental and social well-being.

Tones B.K. (1974, p.1)

Behaviour modification however is challenged by many, firstly on ethical grounds. Is it morally right to devise ways to change people's behaviour, regardless of whether or not this change will be good for their health? Does removing one bad habit only leave a void into which another will go?

Secondly, it was regarded by many, especially members of the medical fraternity, as being completely invalid anyway.

Behaviour alteration is a fad. Even if it succeeds, it only postpones the ultimate medical problem of senility for a few years.

Smith A. (1976, unpublished lecture)

The medical and behaviour change approaches are often collectively referred to as the "prevention model", and they often overlap.
5.3.3 THE EDUCATIONAL APPROACH.
The aim of this approach is to give knowledge and ensure understanding based on the notion that this will enable well-informed decisions to be made and acted upon.

Information about health is given in as value-free way as possible and people are helped to explore their values and attitudes and make their own decisions about their health behaviour.

Ewles, L & Simmett, I (1990, p.31)

An example of the educational approach would be instruction in good nutrition, the choice being left to the clients whether or not to alter their diet.

Since no educational process can be totally value free, the initial choice of health information and health education materials and methods is itself based on the professional value judgement of the health educator, and these values are likely to become apparent in many subtle and not so subtle ways. (Ewles and Simmett, 1990)

5.3.4 THE SOCIAL CHANGE APPROACH.
The aim of this approach is to change the environment to facilitate the choice of healthy lifestyles. This involves action through arousal of awareness.

Citizens of affluent nations might then lobby the government to improve the physical or social environment, e.g. no smoking in public places, but in villages in developing countries it is likely that the change must be implemented by the people themselves, e.g. draining swamps, building latrines and providing a safe water supply.
5.3.5 HEALTH EDUCATION AND HEALTH PROMOTION.

The last decade has seen the emergence of the health promotion movement (Anderson, 1984; Baric, 1985; Tones, 1985). For some people, health promotion is an activity synonymous with health education, but for others it is a related but substantially different process having different goals and values. (Tones, 1990). Proponents of the health promotion movement frequently use this term to distinguish attempts to foster positive health from those designed to prevent disease. (Tones, 1985)

Health promotion is usually associated with various undertakings to persuade people to adopt healthy lifestyles. It is the label attached by some to the marketing of health by means of persuasive use of the media and associated promotional tactics, borrowed directly from commercial advertising practice. Others have adopted a semantically more logical course and use the term to refer to any measure designed to promote health, claiming that provision of health information forms an integral part. (Tones, 1990)

Ewles and Semnett (1985) believe that health knowledge and understanding is the basis for health promotion.

Knowledge is power, and without health knowledge people are powerless to change their health themselves because they do not have the knowledge of alternatives and therefore cannot make informed choices.

Ewles, L & Semnett, I (1985, p. 11)

The main point of contention however would appear to be the degree of choice given to people to change or not to change their health related behaviour.
Tones's writings suggest that health promotion activities are deliberately biased towards producing the desired behaviour change, so that the clients are, in effect, not given a free choice. Health promoters would argue that simply providing information will not necessarily change people's behaviour and when faced with an epidemic as serious, say, as the AIDS epidemic, there is a need for stronger methods.

CONCLUSION.
There is no right or wrong approach to health education. It may well be appropriate to use a mix of approaches to tackle any given issue. Health education (or education for health, the term recently adopted by WHO) thus includes all activities which promote the acquisition of knowledge, attitudes and behaviour conducive to health.

Health education (is) any activity which promotes health-related learning, i.e. some relatively permanent change in an individual's competence or disposition.

Effective health education may thus produce changes in understanding or ways of thinking: it may bring about some shift in belief or attitude; it may influence or clarify values; it may facilitate the acquisition of skills; it may even effect changes in behaviour or lifestyle.

Tones, K, Tilford, S & Robinson, Y (1990, p.6)

A mix of approaches is considered appropriate for a developing country, as the examples quoted above have shown. Thus a mix of approaches was used when developing the health education curriculum for the Solomon Islands primary schools.
5.4 HEALTH EDUCATION IN DEVELOPING COUNTRIES.

In many developing countries there are at least two, maybe three different living environments. Village people live a simple traditional lifestyle where faulty personal and community hygiene are major problems and responsible for a multitude of communicable diseases, rare today in the West. By contrast the town people are more Westernised in their lifestyle and health habits, and many are afflicted with so-called Western lifestyle diseases. On the outskirts of towns and elsewhere, there may be shanty towns, where the people are beset by poverty, hunger and distress, and as a result social illness is a problem, as well as malnutrition and the infectious diseases common in the villages.

The techniques used in community health education programs in urban areas in a country such as Solomon Islands have many similarities to methods used in the Western world. However there are also many differences. Pulsford and Cawte (1972) became aware of differences between health education in Australia and Papua New Guinea, commenting that as difficult as health education appears to be in the West, it is far more difficult in developing countries.

Affluent countries need constant Health Education programmes to ensure maximum co-operation from the public in Public Health activities. All media are used: newspapers, posters, radio, lectures to adults and in schools.

It is a more difficult problem in a developing country. Firstly the media are less powerful. Secondly more belief has to be influenced or altered and more behaviour has to be changed.

Health education in the villages presents further problems. Apart from the remoteness of many villages and a shortage of manpower, it has been found that frequently health education initiatives amongst village people fail. This is a common experience in Solomon Islands. (Tulavaka, 1989)

Hans (1989), who was concerned about control of malaria in Solomon Islands, sought to discover reasons for this failure. He blamed non-cooperation of village people, but conceded that there were many reasons for this. Some which are relevant to this study are discussed below.

5.4.1 BARRIERS TO HEALTH EDUCATION IN TRADITIONAL SOCIETIES.
1) Many rural and "shanty town" populations suffer from many scourges such as poverty and hunger, as well as malaria and other infectious diseases. The multiplicity of these afflictions takes away a good part of the motivation the people might have had for cooperating in specific health education programs, e.g. improving personal hygiene, cleaning up the environment, improving nutrition or sleeping under mosquito nets.

2) These same populations generally have a low educational standard, poor housing and an unhygienic living environment. Thus a health education approach encouraging the people to improve their living environment, e.g. to eradicate the mosquito vector, build toilets or provide safe water, is unlikely to succeed because of isolation and/or apathy, and insufficient physical, mental and social resources.
3) Many traditional people believe that sickness is a punishment from the evil spirits (see chapter 7). Any knowledge of germs is at a simple level of understanding, and often there is no easy-to-understand cause and effect relationship to explain the epidemiology of a disease.

For example, in such circumstances, how do you explain why:

- many mosquito bites at one time may not result in malaria, but a few bites at another time may produce severe malaria, or

- one man may make the effort to eliminate mosquito larvae from ponds surrounding his house, but his neighbour may not - yet the first catches malaria, not the second?

4) The methods of health education employed are not always well-adapted to local situations, nor is adequate attention paid to learning processes appropriate for the target populations.

For example:

a. Themes are often of a very general nature, such as:

- "Drain the water around your house".
- "Let the sprayman spray your house".
- "Eat foods from the three food groups".
- "AIDS is like a loaded gun".

(from Solomon Islands Health Education Unit.)

b. Illustrations, films, slides are often misunderstood. If villagers cannot see their own village in pictures or if mosquitoes are depicted larger than real size, they often fail to identify the message with their own problems.

c. Verbal messages, if not followed by a demonstration, are often difficult for the listeners to understand.
5) More than attempts to promote knowledge, attitude and behaviour change is needed. Village people also need help to organise themselves. Then they would be able to work together to improve their living environment and put other preventive measures into practice. (Hans, 1989)

5.4.2 COLLABORATION BETWEEN COMMUNITY AND SCHOOL.
Overcoming all the above problems is a daunting task for community health educators and health workers in developing countries. In fact it is nigh impossible in a country such as Solomon Islands because of lack of staff and the remoteness and inaccessibility of many villages.

However most villages have a school. Many authorities (as cited in next chapter) believe that if health education in developing countries is to be successful, it has to be taught in the schools and then reach beyond the schools.

Primary schools are widespread. A great number of pupils, families and community members can be reached; more remote and rural villages can be covered and more teachers may be drawn into working for health.

Primary school children have the great potential for carrying messages home.

Primary schools can be used as spearheads for community health projects.

Adapted from WHO-EMRO (1987, Part II, p.2)

In return, health workers, community leaders and social services must support the schools.

It is only when such links are forged and health messages learnt by the children in school are reinforced in the wider community that real improvements in people's health can be expected.

Young, B and Durston, S (1989, p.xi)
6. SCHOOL HEALTH EDUCATION.

Since the mid-1960s, many authors have paid lip-service to the need for health education in schools, national education authorities have established guidelines and many projects have been devoted to the development of ideas and materials suitable for school health education. Yet there is little evidence that many well-planned, sequentially developed health education curricula have been implemented in primary schools in either developed or developing countries. (This is explained in section 6.2)

An informal enquiry by the World Health Organization in 1982/83 (reported in Hassoun and Ling, 1987) in fact showed that, internationally, little attention had been paid to the health education of primary school age children.

The school age child in most countries is taught little about health in a meaningful way. Most schools have some health services, but educational effort is usually done in a didactic way with little thought given to learning and establishing healthy behaviour.

In the meantime, other societal influences, such as peer groups, media, etc., are shaping health habits.

Hassoun, I & Ling, J (1987, p.11)

The need for school health education in developing countries has been alluded to on the previous page. Since the development of such a curriculum is the focus of this dissertation, this chapter will reflect further on this need, on the status of health education in schools throughout the world and ways to promote and successfully implement school health education curricula.
6.1 THE NEED FOR SCHOOL HEALTH EDUCATION.

In the youth of every nation we have an irreplaceable resource which must be developed to its full potential. The decisions which people learn to make, and the behaviours they adopt during childhood and youth have a profound effect on their health as adults and have a cumulative impact on the length and quality of life of the individual.

Thus it is essential that if we are to move towards the World Health Organization goal of "Health for All by the Year 2000", for the world's adults of tomorrow, then a well-planned, sequentially developed health education curriculum for the 6-14 year old children in classrooms and outside classrooms throughout the world must be provided.

Yarham, C (1987, p.3)

The International Union for Health Education policy on health education for the school-aged child states:

The Union believes that there is an urgent need to implement quality health education programs which will contribute to the optimum global development of the child and to the promotion of his/her physical, mental and social health.

Comprehensive health education programs which are fundamental to education for life, (should) be recognised as part of the core curriculum for all schools.

Health education should be:
- a basic right of all school children,
- a comprehensive and integral part of the school,
- taught as a separate subject as well as included where appropriate in all subject areas.

International Union of Health Educators (1987, p.5)

Sigaudes (1987) suggests that children should be the priority target population in health education for two important reasons. Firstly, adopting certain behaviour is an integral aspect of their education and, broadly speaking, their socialization.
Secondly, there is a cost effective advantage, as it is practically and technically more difficult to transmit educational messages to an adult society than to children in school. It is generally easier to introduce positive behaviour to young children than to modify negative behaviour in the older-age group. This applies to both developed and developing countries. (Sigaudes, 1987)

As previously explained (in chapter 2.1), health education for the school age child, as a means of promoting the health of children throughout the world, has recently received an impetus from the UNO Declaration of the Rights of the Child, and the WHO/UNICEF (1986) report, "Helping a Billion Children learn about Health".

The children should and can play a decisive role in the "Health for All" movement. And reaching them now should be given its rightful place and significance in the overall HFA strategy in every country, in every region and in the global plan of action.

Ling, J.C.S. (1987, p.23)

Words of encouragement however are not enough. The means must be discovered to ensure the successful implementation of health education curricula into the schools.

An examination of the international status of school health education will now be made, as it is believed that this provides a valuable insight into ways to promote health education in schools. Such a study also warns of obstacles which need to be avoided if health education is to be successfully implemented into a school curriculum.
6.2 THE INTERNATIONAL STATUS OF SCHOOL HEALTH EDUCATION.

It is not possible to provide a precise resume of the status of school health education at a global level, firstly because no comprehensive research reports have been identified and secondly because within most countries the situation tends to vary considerably from school to school, even between schools within close proximity.

It is therefore possible only to analyse findings from specific school health education projects in a few representative countries. Obviously reports from developing countries have the most relevance to this study, such as those published in two special editions of Hygie (the Journal of the International Union of Health Educators) which were devoted to school health education. However these reports are few in number, so they will be supplemented with reports from a sampling of developed nations to help to paint a global picture and provide useful guidelines for school health education.

6.2.1 UNITED STATES.

In a country so large and so diverse, it is only possible to consider some elementary school health education projects of note, and two projects stand out in literature.

The Schools Health Education Study (SHES), initiated in the early 1960s, was a monumental undertaking, developed as a national project and intended as a guide to be adapted at local levels.
The favoured approach to the SHES program was for health to be a subject in its own right taught by the class teacher. Ideally there would be on the staff a health coordinator who has received special training in this subject and who would be responsible for the total school health program and provide guidance for classroom teachers.

The SHES curriculum was a very complex and detailed document, based around basic general concepts rather than on specific topics and problems. (Spiecevich, 1964). Unfortunately it did not live up to its expectations. Many teachers found the curriculum too difficult to understand and apply in the classroom, with or without assistance from a health coordinator. Thus its conceptual strength in fact proved to be its major weakness. (Russell, 1975)

The School Health Curriculum Project (1977) was concerned with the biological, cultural and social factors that affect the body, with a specific focus on health concepts and behaviours as they relate to a given body system. This was an approach substantially different from SHES.

Reflecting on these two projects, and other imaginative curricula developed in U.S.A. around the same time, Kunstel (1978) found that the benefits, beyond short term knowledge and attitude change, were minimal. Kunstel suggested that one of the missing links in the curriculum development process which diminished the chances for positive educational outcomes was the failure to make the curriculum relevant to local community needs.
6.2.2 UNITED KINGDOM.

Philosophically, the U.K. approach tended to follow the line that "health is everybody's business". (DHSS, 1976) Health education was not usually a subject in its own right, but issues were taken up in other subjects when opportunities present themselves. (Cowley et al, 1981)

Discussions relating to the development of health knowledge centred around pupil interests, using project and other activity-based methods. Teachers were also likely to adopt preventive approaches in response to particular school and community pressures. (Tones, 1990)

Health education in U.K. has also had a history of involvement with outsiders, such as health visitors and more recently community health educators. It was claimed that, as health professionals, these persons had more knowledge and expertise about health and social issues and were better equipped than teachers to deal with such matters, especially "crisis" and controversial issues.

Since the 1970s, the health education lobby has been active in seeking schools to include this subject in the curriculum, supporting their argument by the D.E.S document, "Health Education from 5-16" (1986). Despite this support, health education has not been listed as core subject within the new national curriculum, is in danger of losing status and being incorporated into biology.

Biology can contribute to learning about health education and the health theme will give an added dimension to teaching about biology. (D.E.S., 1986)
6.2.3 AUSTRALIA.

Over the last two decades there has been an increasing interest in school health education. In all states, much effort has been put into the development of national, state and regional guidelines, across the full spectrum of health, safety and social issues.

At the same time, teachers guides, (e.g. Creighton, 1972-74), have been developed by the various state government and non-government education and health authorities, and methods and materials have been produced in abundance by commercial interests (e.g. Llewellyn, 1983, 1987, 1990).

It would seem that at the present time health education in the secondary schools, in theory, is relatively secure, either within Physical Education and Personal Development programs, or, in some states, as a core curriculum subject.

The situation in primary schools however is very different. A survey conducted in a sampling of government and non-government primary schools in N.S.W. showed that while most schools encourage children to adopt healthy habits, very few have a comprehensive sequentially-developed health education curriculum. (Llewellyn, 1986, unpublished.)

Today many schools in N.S.W., and other states as well, support the privately sponsored, "Education for Life", program for a session or two each year, and believe this fulfils their responsibilities to health education.
Burns (1991) claims that "health" has been on the agenda of primary schools in Victoria for a long time, with the basics of hygiene, dental health and food being taught and reinforced by posters in most classrooms, but this is not a comprehensive health education curriculum.

The "Health in Primary Schools" (HIPS) project, focussing on nutrition and physical activity, was recently trialled in 14 schools in Victoria. Implementation was hampered because the teachers had no formal training in health education, few had participated in relevant in-service workshops, they had no knowledge about public health and changes in health education. The project director had to provide assistance with content, curriculum development, methods and materials, school level in-service training, and school policy. (Burns, 1991)

Coonan, Owen and Mendoza (1990) surveyed a one in five sample of schools in South Australia and found that staffing problems, time tabling, competition with other curriculum areas, lack of teacher skills and a dearth of resources all acted as barriers to health education. Self esteem, nutrition and environmental issues were most commonly taught, but drug education and education for sexuality were avoided because of the unwillingness of teachers to become involved in controversial issues.

Thus there are many obstacles to the acceptance and implementation of health education as a curriculum subject in its own right in Australian primary schools.
6.2.4 ISRAEL.

Tamir, Cohen, et al (1987) report that 150 Jewish and Arab elementary schools in Jerusalem have been involved in a comprehensive health education program which is adapted from the American Health Foundation "Know Your Body" program.

The SEGEV program (Keep your body healthy - in Hebrew) is based on the principles that health education programs should be "started at as early an age as possible and reinforced repeatedly", "as comprehensive as possible", "based on behaviour change theories". (p.16) Parental involvement is also essential.

The teachers of SEGEV undergo group training in one half day session supported by individual meetings. A master teacher who has taught the program demonstrates how to teach it unit by unit. Subject matter specialists give presentations on their subject (e.g. nutrition) and make suggestions how to teach the curriculum materials related to their fields. Finally the teachers are provided with folders of materials including teachers' guide, examples of student work-books and supplementary materials for duplication and distribution.

Initial feedback was encouraging. Principals, teachers, students and parents were all very positive and indicated interest in the program. It was too soon however to assess changes in knowledge, attitudes and practices in students.
6.2.5 THE MIDDLE EAST.

A survey mission conducted by the World Health Organization Eastern Mediterranean Regional Office (EMRO) in late 1985 resulted in the launching of the WHO-sponsored "Action-Oriented Integrated School Health Education Development in Primary Schools Program". (EMRO, 1987)

This project is important to the present study, firstly because of WHO involvement and secondly because it was an attempt to provide a health education curriculum for primary schools, addressing the problems in developing countries.

This was a massive undertaking, especially in view of the number of countries encompassed in the region. The prototype was therefore designed to be modified and tailored to specific situations.

In a preliminary situational analysis, (Hassom & Ling, 1987) it was found that throughout the Eastern Mediterranean countries health was not taught as a separate subject. If it was taught at all, the lessons were presented in a didactic manner, no attempt was made to influence concepts, attitudes and behaviour, and no serious attempts were made to involve or encourage student participation in community health activities.

Hassoum, I & Ling, J (1987, p.11)

Teachers received no special training in health education and few felt obliged to include health in their teaching.
There was lack of inter-sectorial cooperation, little systematic support from the mass media, poor school health environments and inadequate school health services.

Preparation of the prototype curriculum (consisting of national guidelines, teachers' guides and resource books) began in 1986. The guides incorporate the principles and methodologies for teaching health and include sample lesson plans.

In preparing these guidelines, the writers were guided by a number of considerations, including:
- the diverse countries represented in the region,
- teacher education and training,
- the conditions in the schools,
- the controversial nature of many health topics, depending on the age of the students, and existing socio-cultural norms.

They supported the desirability of teaching health as a separate subject, but accepted the practicality of incorporating the material into existing subjects if the school curriculum is already overloaded. The emphasis was placed on action, involving the children whenever possible in practical activities. (EMRO, 1987)

The national implementation was hopefully to begin in 1988. No reports of its success have yet become available, although Gold (1990) found a "favourable climate" in countries in the region for supporting effective school health education programs.
6.2.6 INDIA.

Vir (1987) reports that the government of India, in 1975, initiated a major school health project, the Nutrition, Health Education, Environmental Sanitation (NHEES) project. An appropriate package of instructional materials for primary school children was developed to include reading materials, teachers' guides and teaching aids. Efforts were made to integrate Health Education into the overall primary curriculum. However health field workers were not involved in the program, so there was inadequate coordination between school teachers, children and health workers, and this was blamed for the gradual reduction in the momentum of the program.

It is however believed that there is tremendous scope for using the primary school infrastructure to promote child survival and development, and efforts are being made to strengthen the role of school teachers as health workers. Evaluation of pilot programs has proved that school children can be a great assistance to the health system in extending the outreach of primary health care, since:

schools are the most widespread organization with the widest outreach through the pupils, and can be used to educate, motivate and mobilize the community.

Vir, S (1987, p.15)

It is however believed that it is necessary to sustain enthusiasm by devising interesting programs, and involvement of the children must begin before they become socialised into a passive health consumer role.
6.2.7 PAPUA NEW GUINEA.

This country was well to the fore in the development of a comprehensive primary school health education program in a developing country in the South West Pacific Region.

Working within and for the Ministry of Education, Biddulph (1981-1985) developed a health curriculum for the primary schools and wrote teachers' manuals to support it. The teachers' manuals were very detailed and described every step of every health lesson to be given in each grade of the primary school throughout the whole school year.

More recently, readers on health topics have been published for some grades. As well as health messages in the text, there are exercises and activities to involve the children. It is anticipated that these readers will be used for child-to-child education, i.e. the children who go to school will be able to teach those who stay at home.

This curriculum and the manuals to support it were of special interest to the Ministry of Education in Solomon Islands, another predominantly Melanesian country. Biddulph in fact was invited, but declined to develop the Solomon Islands health education curriculum under the auspices of the World Bank Primary Education Project. (See chapter 14.) Later the health curriculum coordinator in Solomon Islands attempted to adapt the PNG manuals for Solomon Islands schools, but found this task too difficult.

Unfortunately no research findings could be located to indicate the progress of this health education program.
6.2.8 SOLOMON ISLANDS.
Health education was designated as a subject in its own right in the primary school curriculum in the Education Policy Review, "Education for What", in 1973. Previously, under the colonial regime, it appears that health was taught both informally and formally in the classroom. Health readers had been written for each grade in the primary school to promote cleanliness, hygiene, nutrition, safety and prevention of disease. Some teachers used reference books produced in Vanuatu and Fiji. However it appears that eventually these books were mislaid or disintegrated, at which point health lessons were likely to have been dropped from the teaching program.

In the early 1980s, students at the Solomon Islands Teachers' College developed a teachers' manual for grade 1, largely based on stories, but there was no evidence that this was distributed to village schools. Efforts to develop a health curriculum as part of the World Bank Project were abandoned in 1985, as will be explained in chapter 14. Thus in 1987 when this project commenced, formal health education had largely been dropped from the curriculum.

SUMMARY.
It has thus been shown that there have been attempts made by concerned professionals in many countries throughout the world to develop and implement school health education programs, but there have been many obstacles to the regular implementation of health lessons in primary classrooms. These obstacles will now be discussed.
6.3 BARRIERS TO SCHOOL HEALTH EDUCATION.

The World Health Organization is supportive, official international policy is in place, and there is interest and concern for school health education throughout the world. However:

we do continue to wonder why there are so few national health education programs in schools if children represent such an important, even preferential target.

Sigaudes, D (1987, p.3)

Since evidence suggests that there are few national comprehensive health education programs in primary schools throughout the world, it is necessary to discover why this is so, in order to plan for the successful implementation of the Solomon Islands primary school health curriculum. An attempt will therefore be made to use the findings presented in the previous section, along with other relevant information, to provide some of the answers.

6.3.1 THE NATURE OF THE SUBJECT.

Sigaudes (1987) suggests that the primary reason that health education curricula have not been implemented into primary schools is the nature of the subject itself.

National education directors and teachers unions all too often consider health to be out of their field:

that anything concerning health is under the domain of the medical and para-medical professionals.

Sigaudes, D (1987, p.3)

As a result, formal health education is either neglected, or given over to visiting health experts.
As described in the last section, the latter has been the case in many English schools where the local education authority frequently invited a health professional to be responsible for school health "talks", and in Australia where primary schools frequently invite the "Education for Living" team to present their program to the children.

If schools in these advanced nations consider health education to be out of their field, how much more would this be so in traditional societies? It was found that schools in Solomon Islands sometimes invite a nursing sister or itinerant health worker to speak to the pupils, but only if a serious health issue has arisen.

It is my opinion, gained from personal experience, that no matter how professional the presentation, the use of outside speakers to provide health education in schools is less than satisfactory because it places health education in a "special" category. Topics are frequently "crisis" issues, (such as drugs, sex or AIDS in the West or malaria in Solomon Islands). Often children do not approach these lessons in a receptive frame of mind, and the follow-up which is necessary when topics of a personal and sensitive nature are introduced may not be provided.

Moreover health education dependent upon irregular visits from outside speakers does not provide a balanced approach to health. This can only be achieved by providing a comprehensive health curriculum and giving the teachers the skills to teach it.
6.3.2 TEACHER COMPETENCIES.

Teachers' lack of knowledge and skills in the content and methodology of health education follows from the above discussion and was cited in the previous section as a main deterrent to school health education in several countries.

Teachers in schools in Western countries have usually learnt much about health matters informally, if not formally, and would be prepared to teach at least some topics in the health curriculum. (Coonan et al, 1990)

By contrast, in developing countries it is unlikely that the present-day teachers were taught health as a subject when at school themselves, beyond perhaps didactic exhortations related to hygiene and nutrition. Furthermore many do not have the opportunity for self-education through reference books, magazines and the electronic media.

Therefore they have little or no "modern" knowledge about health and no experience of health as a curriculum subject on which to build their health lessons. Since many of these teachers have received no teacher education and therefore teach as they were taught, few feel obliged to include formal health education in their teaching program. (Obstacles to educational innovation in developing countries will be discussed in chapter 8.)

Some means must therefore be found to provide untrained teachers, who may make up the bulk of the teaching service in developing countries such as Solomon Islands, with the knowledge and skills to become health educators in schools.
6.3.3 THE TRAINING OF TEACHERS.

This issue is related to lack of teacher competencies. Until very recently, with few exceptions, teachers throughout the world have received no specific training in health education, either in pre-service or in-service courses. Specific examples cited in this thesis span Victoria, (Burns, 1991), the Middle East (Hassoum and Ling, 1987), India (Vir, 1987), Papua New Guinea (Biddulph, 1981) and Solomon Islands (Llewellyn, 1987).

A WHO report from India, (Krishnamurthy and Samuel, 1987), indicated that health education is infrequently recognised as a discipline and given its rightful place in the program of teacher training institutions. Programs which do exist are neither practical nor comprehensive. The teachers are not given sufficient knowledge about health problems. The amount of time assigned to these courses is too brief, and lectures are often given to large classes. There is also a lack of trainers, proper text books and educational materials.

Therefore if health education is to become an established curriculum subject in primary schools in developing countries in the future, teacher education programs must include courses in the content and methodology of this subject. The design of these courses will be critical, as they must specifically address national health and social issues, as well as contemporary school health education methodology.
6.3.4 THE DESIGN OF THE CURRICULUM.

The nature of the curriculum itself also needs to be examined. The ambitious School Health Education Study (SHES, 1967) program in the USA defeated its own purpose because the conceptual approach was not acceptable to teachers. (Russell, 1975) This curriculum provided national guidelines to be adapted at the local level. Perhaps modifying this curriculum was too difficult and onerous a task for busy classroom teachers, even those who were well educated and trained in health education.

The EMRO-sponsored curriculum project in the Middle East was also designed as national guidelines to be modified to suit specific situations, but to date there has been no detailed feedback as to its acceptability.

By contrast, the Papua New Guinea curriculum and the manuals to support it provided maximum assistance for the teachers to give health lessons. While there are no research findings to cite, it appears that this program is acceptable to the village teachers in this country.

6.3.5 LINKS WITH THE LOCAL COMMUNITY.

Kunstel (1978), when reflecting on the disappointing results of health education projects in U.S.A., suggested that the missing link was the failure to identify the needs of the local community served by the school. He maintained that a health curriculum must be locally based and must target the health and social problems of the community.
This is most important in a developing country. Unless the health curriculum appears relevant to the local community, health is likely to become just another subject in the curriculum to be studied and learnt in order to pass examinations. (Beeby, 1966) The chance then of developing positive health-related behaviour is greatly reduced.

There is also a need in developing countries, as found by Indian researchers (Vir, 1987), for local health field workers to supply information about health problems to the schools, to maintain continual contact with the teachers and provide support to maintain the momentum of the school health program.

6.3.6 A PLACE IN THE TIME TABLE.

Finding a place in the busy school schedule for another subject is yet another barrier to school health education. Health education usually scores very badly in competition with other curriculum subjects. The solution is often to integrate health education with other subjects. However:

there is a mistaken assumption that health education can be taught adequately and entirely through such courses as physical education and biology.

Krishnamurthy, P & Samuel, M (1987, p.19)

Health education as a subject in its own right in the school curriculum is supported by the International Union of Health Educators (IUHE, 1987). Fortunately this was not a problem in Solomon Islands. A place for Health Education in the primary school was recommended in the Education Policy Review. ("Education for What", 1973)
SUMMARY.

It has been shown that there are many obstacles to the implementation of health education as a curriculum subject in its own right in primary schools throughout the world.

Most of the reasons cited stem from the reality that health education is a new subject for most primary schools, and that most of the practising teachers were not taught this subject formally when at school themselves nor in their teacher education course, if they were indeed fortunate enough to receive pre-service training, this being the exception rather than the rule in developing countries. They thus feel insecure in the role of health teacher.

Consequently, the best that can be hoped for in many schools, especially those in developing countries, is that good health habits may be taught informally with questionable accuracy, with other urgent issues being taken up by irregular visits from outside speakers.

This however does not provide a balanced approach to health which can only be achieved by designating health education as a curriculum subject, providing a comprehensive and relevant curriculum and giving the teachers the skills to teach it.

One approach to achieving this goal, as attempted in Solomon Islands primary schools, is the main theme of the remaining chapters of this dissertation.
6.4 CURRICULUM POLICY.

A framework for the development of a health education curriculum is now required. A policy to provide direction was drafted by the International Union of Health Education (1987), as a contribution to health education of the school aged child and includes the following:

**General Aim:**

A (school) health education program should have clear goals in enhancing:

- the development of self-reliance and responsibility in each child for their own health and that of their families and community,

- the recognition of health as an essential life asset and a primary concern for an optimal quality of life,

- the development of value systems rooted in social justice and committed to health for all.

The program...should provide relevant knowledge as a background to the development of positive attitudes and values regarding personal and community health.

Yarham, C (1987, p.3)

However, in its effort to provide a global policy, i.e. one which would apply equally to school health education in all nations, the IUHE group made generalizations which, I believe, do not allow for the differences between the health and social problems, the physical and social environments, and the customs and beliefs existing in developing countries and the Western world.

(The implications of traditional customs and beliefs in Solomon Islands will be discussed in the next chapter.)
In its draft policy statement, IUHE (1987) recommended:

the nature and quality of school health programs should be determined by the extent to which they achieve the following criteria:

1. Instruction intended to motivate health maintenance and promote wellness and not merely the prevention of disease and disability.

2. Activities designed to develop decision-making competencies related to health and health behaviour.

3. A planned, sequential pre-kindergarten to end-of-school curriculum based on students' needs and current and emerging health concepts and societal issues.

4. Opportunities for all students to develop and undertake in real-life situations, health-related knowledge, attitudes and practices.

5. Integration of the physical, mental, emotional and social dimensions of health in a balanced way to include the following topic areas:
   - Mental and emotional health
   - Community health
   - Environmental health
   - Social health including relationships, family health and reproductive health
   - Growth and development
   - Nutritional health
   - Personal health, exercise and rest and physical education related to health
   - Prevention and control of diseases and disorders,
   - Safety and accident prevention
   - Substance use and abuse.

Extracted from IUHE (1987, p.5-6)
Such exhortations are valid and appropriate for an advanced country, where the major problems are related to lifestyle. They would also apply, with reservations, for urban areas in the developing world, where the people are emulating a Western way of life.

However, I would take issue with some of the statements above which, as I interpret them, do not show sufficient understanding of the grass-roots situation in developing countries, where health status is often extremely poor. Here major problems are infectious and communicable diseases (many of which are rare today in developed countries), malnutrition and lack of medical care. Many villages lack a safe water supply and any form of sanitation. Many women and babies die in childbirth.

Furthermore, the poorest countries are bringing babies into the world at a rate that defies the ability of society to make life worth living. McNamara (1991), the former president of the World Bank, estimates that a billion people are living in absolute poverty, their lives so characterized by malnutrition, illiteracy and disease as to be beneath any reasonable definition of human dignity.

Gold (1990) found that the "Child Survival Revolution" in recent years in many developing nations had produced some reduction in infant mortality, through the combined impact of expanded programs on immunization, increases in breast feeding, improved weaning practices and oral rehydration therapy. These practices need to be promoted further.
Of equal importance, the situation in which children survive early childhood only to have them stop developing mentally, emotionally and socially because of health problems must be addressed. Gold believes that the "Child Survival Revolution" needs to be expanded into the "Child Development Revolution" by moving into the classrooms to improve the potential of children today.

Such a program must address factors which determine the health status of children in developing countries. Most of these children are chronically sick, afflicted by a multitude of health problems, often concurrently. Many are chronically hungry, and even short term hunger affects attention span and learning ability. Gold found that in some African countries 90% of children are affected by hookworm infestation and 75% with malaria, in the Philippines 25% of children have moderate to severe malnutrition, and in Indonesia 35% are anaemic. These problems affect physical and intellectual development.

Such are the overwhelming problems which beset people in developing countries. It is a matter of survival, not of achieving optimum health. In such a context, I would suggest that "promotion of wellness" and "integration of the physical, mental, emotional and social dimensions of health in a balanced way", in the IUHE (1987) policy statement, are most inappropriate objectives, and perhaps should be changed, respectively, to "promotion of child survival" and "enhancement of the physical, emotional, social and intellectual development of children".
6.5 CURRICULUM CONTENT FOR DEVELOPING COUNTRIES.

In view of the above, some topics suggested by IUHE (1987) are inappropriate. Areas of immediate and urgent concern in developing countries must take precedence. I would argue that in a developing country priority must be given to prevention and/or control of the health problems which are taking such a toll in the community. This includes a return to the "old" health education with emphasis on cleanliness, hygiene and wise use of available foodstuffs.

Population education is urgent, including teaching about contraception. These people also need to be taught about the sexually transmitted diseases and AIDS which threatens to decimate the population of many third world countries. Village children must also be given skills to care for themselves and each other when sick or injured in accidents, as they may be far from an aid post or clinic.

This means that the children should be taught about primary health care which includes:

- methods of preventing and controlling prevailing health problems, including:
  . immunization against major infectious diseases,
  . prevention and control of local endemic diseases,
  . treatment of common diseases and injuries,
- promotion of food supply and adequate nutrition,
- an adequate supply of safe water,
- basic sanitation,
- maternal and child care,
- family planning.

Extracted from Ling, J (1987, p. 23)
These are the topics which must receive priority in health education programs to be implemented in village schools throughout the developing world.

In many of these countries however the people living in urban areas are adopting a Western way of life and thus are susceptible to the health and social problems which afflict people in Western industrialised nations because of their lifestyle.

In addition there are people betwixt two cultures, the village people who have moved into shanty towns on the outskirts of urban or industrial areas who are afflicted with diseases and other problems associated with both village and western lifestyles.

It will be shown later that "Western lifestyle" problems, especially in the areas of nutrition, alcohol, smoking and sexually transmitted diseases, are taking an alarming toll of the community in Solomon Islands, and therefore are problems the school health curriculum must address.

There is thus a very strong case for needs assessment prior to the development of a school health curriculum which must specifically address the health and social problems of the community.
6.6 IMPLICATIONS FOR THE SOLOMON ISLANDS HEALTH CURRICULUM.

This chapter has provided an indication of the many difficulties which had to be overcome in order to develop and successfully implement a new school health education curriculum into Solomon Islands primary schools.

The curriculum had to be designed to address health and social issues occurring in two very different living environments, isolated villages and urban communities. This involved a careful needs assessment, a summary of which appears in Part D of this dissertation.

The curriculum had to be presented in a manner which was acceptable to the teachers with little, if any, knowledge of the content and methodology of health education. How this was achieved is described in chapters 20 and 21.

A plan had to be devised to win national support for the new curriculum, and thus increase the chances for its successful implementation into the schools. This is discussed in chapter 22.1.

Courses had to be developed for pre-service and in-service training of teachers (as described in chapter 22.2).

Finally, and most importantly, methods had to be devised to assist the bulk of the teaching service, i.e. the untrained teachers in isolated village schools, to become health educators. This fundamental problem permeates the whole of Part E of this dissertation.
7. CULTURE IN TRADITIONAL SOCIETIES.

It was argued in the previous chapter that "Western" guidelines for school health education are inappropriate for developing countries because of the pressing health problems, the physical and social context, and, most importantly, the contrasting culture of traditional societies.

Beliefs about causes of illhealth and what traditional people do when they are sick have very important implications for health education in developing countries and need to be understood.

Furthermore, it will be shown that conflicting value systems may create barriers to communication and thus may be responsible for the failure of many health education programs initiated by ex-patriates.

Havelock and Huberman offer a timely warning:

Innovators be humble!

The wisest experts on change warn us to respect the existing scheme of things, especially if it works and seems to be serving the psychological, social and material needs of its members at some level of satisfaction.

There are at least two reasons for such caution:

(a) The system may not need you as much as you thought.

(b) You may do more harm than good by weakening or destroying delicate social institutions which were functional in ways you never guessed.

7.1 TRADITIONAL HEALTH PRACTICES AND BELIEFS.

An important feature of rural life in most developing countries is physical and social isolation. Many people live in small inaccessible villages with little contact with the outside world. This has resulted in the persistence of traditional customs and beliefs. For example, in many isolated communities the germ theory of disease has not penetrated, so traditional views about illhealth are still held. (Ebrahim, 1984)

In such communities, health beliefs and practices often penetrate deeply into the domains of politics, philosophy, etiquette, cosmology and kinship. This is apparent in the way in which these communities segment the gradient of health and illness and the kind of phenomena to which these states of health are assumed to be connected. Furthermore, the dividing line between health and illness is not static, but shifts from one point to another in a manner which may be incomprehensible to foreign health workers. (Paul, 1955)

Chen (1984) explains that many people assume that what they themselves do is a total expression of human nature. They fail to realise that other people have found quite different patterns of dealing with the same problem. As each society develops its own unique culture through the ages, it rejects and selects cultural patterns and finally develops a culture that is a harmonious working whole. This means that no one cultural trait exists in isolation, but plays its part in contributing to a total way of life.
What traditional people think and do about health and sickness is also part of their culture, an integral part of the customs and beliefs they hold and habits they follow. Hence a strange "health" custom, which may appear incomprehensible to an ex-patriate health worker at first, should be examined within the total cultural setting, as interference with this custom may upset the total harmony of the village culture. Chen asks the question, "Is more harm than good achieved by allowing this to happen?"

Views of health and ill-health in traditional societies throughout the world have many features in common. Although each culture conceives the cause of ill-health somewhat differently, there seems to be a commonly occurring theme in most traditional societies that the causes of ill-health have both natural and supernatural components. This is in contra-distinction to the Western view that the cause of ill-health belongs in the realm of the natural. (Chen, 1984)

For example, the Western view of the cause of tuberculosis is that tubercle bacilli have formed foci in lung tissue. The traditional view also asks why the person has become ill and this often stems from the supernatural.

Supernatural and natural factors can be linked to form a hierarchy of etiological factors, as is shown in the diagram which follows.
It can be seen that:

a) Natural factors may act on their own.
   e.g. eating a wrong or taboo food gives colic.

b) Illness can be precipitated by supernatural forces.
   e.g. an evil spirit makes food harmful, or
      a spirit causes a tree to fall, killing a man.

c) A spirit acts on its own by possessing a man's body.
   e.g. illnesses of obscure aetiology.

There is thus a belief in many traditional societies, including Melanesian and Polynesian societies which are the dominant races in Solomon Islands, that ill-health results when malevolent spirits will it to be so. (Fugui, 1989)
There are also factors which increase a person's susceptibility to evil spirits, such as breaking taboos, losing soul substance, unacceptable social behaviour and offence to the gods.

Possession of soul substance, called "mana" by Polynesian and Melanesian people, is a measure of approval by the spirits. An individual who has lost soul substance is not thought to be ill per se, but to be susceptible to both supernatural and natural causes of disease. (Fugui, 1989)

Another pre-disposing factor is socially disapproved behaviour. According to Chen, in many cultures health is inextricably connected with socially approved behaviour and moral conduct, while illness may be attributed to failure to fulfil some religious ritual or custom ceremony.

When attitudes to health and disease border on the supernatural, it is not surprising that, for protection of health or in times of illness, recourse is taken to wearing amulets, propitiation of ancestral spirits, incantations of a priest or the help of the witch doctor. (Ebrahim, 1984)

There was not the opportunity to research the extent of supernaturalism in Solomon Islands, but there is no doubt that it is still an important cultural force. For example, Tukuvaka (1989) found that many teachers and school children believed that malaria was caused by evil spirits and the spraymen spray houses with DDT to drive evil spirits away. A further discussion of traditional culture in Solomon Islands is given in chapter 12.
7.2 TRADITIONAL MEDICINE.

The realisation that other cultures besides those originating in Europe have much to offer in the medical field has led to a great deal of interest in this subject worldwide, largely inspired by the success of the Chinese in integrating western and traditional medicine.

An understanding of the traditional approach to medicine stems from the dualistic supernatural-natural concept of disease causation common in traditional societies. According to Chen (1984), this dualism is often reflected by the recognition of two types of medicine men, the herbalist and the diviner. The herbalist is acknowledged to be the expert on natural remedies, while the diviner is held in much higher esteem and is the expert in diseases of supernatural origin.

Chen explains further that in traditional medical practice, determining the nature of the illness is not nearly as important as finding the cause, as cure is directed at counteracting the cause rather than at symptom relief. Each cause warrants a different mode of treatment. For example:

1) If a taboo is broken, a purification ritual is needed.
2) If soul substance is lost, it has to be traced, recovered and returned. The medicine man may go into a trance and sends his own soul in search. Alternatively it maybe possible to attract the wandering soul with substances such as saffron rice or incense.
3) If the sick person is possessed by an evil spirit, exorcism may be attempted by way of magic spells.

4) If a spirit or god has been angered, it must be appeased, often by the offering of sacrifices.

Chen contends that it is often difficult for a health professional to understand why, when scientific medicine is available, "...traditional people still patronise ignorant medicine men" (p.26). He believes the answer is that medicine men often bring good results and there is no doubt that the main benefits are psychological. Undoubtedly in many instances harm results not so much from what is done as by what is left undone, but the medicine men are rarely blamed.

Failure is explained away in terms of negligence of the sick and his family in not adhering to tribal taboos, incomplete and misleading information given by the sick and his family, and the extraordinary power of the offending spirit or sorcerer. (p.26)

Chen explains further that when there is a belief in supernaturalism, western medicine is often viewed as a system which provides symptomatic relief or supportive therapy. To the minds of villagers, the underlying supernatural cause remains, ready to precipitate a relapse. Illnesses perceived to be due to natural agents, and with no physical impairment, are readily presented to practitioners of western medicine whereas illnesses thought to be due to supernatural causes, including those with severe physical impairment, are largely handled by traditional medicine men.
7.2.1 TRADITIONAL REMEDIES IN SOLOMON ISLANDS.

Baker (1982), (then) chief medical officer in Solomon Islands, made a study of the use of custom medicine in this country with a view to incorporating some aspects into the health services. He found that custom medicine can be broadly divided into two areas, although there is considerable overlap:

1. Common simple herbal treatment for common ailments known to many people.

2. Remedies which are more powerful and traditionally associated with supernatural powers and are known only by a few people, the custom doctors.

Baker considered that remedies from the first group would be most easy to assimilate, and in some areas the village health aids were being encouraged to use or advise the use of some such remedies. Preliminary observation of these remedies did not seem to indicate any "new" therapeutic agents and many of them appeared to be similar to herbal remedies now available in Western countries.

It was in fact hoped that increased use of these traditional remedies would have important benefits, especially in reducing the dependence of the village people on western medicine, especially antibiotics, the supply of which presents many problems in the villages. Hopefully it would also forestall the development of resistance of many pathogenic bacteria to antibiotics which it is believed has occurred because village people have not used this medication correctly.
Baker found that the study of the second group was much more difficult because of the fear felt by traditional medical practitioners, stemming both from the antipathy held against them in the past by the establishment and also the worry that their more powerful herbal remedies would be analysed and made into pills.

He believed however that many of the powers of custom doctors are undoubtedly psychotherapeutic, but there are manipulators and bone-setters of rare skill and other phenomena which defy scientific explanation.

Some custom remedies have undesirable effects, as western medicines often do, and it is by no means uncommon for patients presenting at Solomon Islands clinics and hospitals to be suffering side effects of these treatments, although often they will not admit that this is the case.

While it is government policy to incorporate some aspects of custom medicine into the health services, this matter remains very controversial. If the process is to succeed, it must be a long term project with increasing community awareness of the benefits of integration of custom and western medicine through health education.

To assist this initiative, the use of simple custom remedies was researched and information supplied by village people was checked with a national nursing officer and custom treatment was introduced into the primary health education curriculum on a few occasions when considered appropriate.
7.3 CULTURAL CONFLICT AND HEALTH EDUCATION.

Whenever external advisers, consultants, volunteer aid workers, missionaries or any other well-meaning people visit developing countries with the desire to assist in the implementation of aid programs, they are faced with a conflict of differing value systems.

The problem of reconciling divergent systems of perception arise whenever those who confront each other belong to separate nations, different social sectors of the same country, separate institutions in the same country or different disciplines in the same team.....

More than divergencies of perception are involved. Differences of aims or interests may also be present.

Paul, B. (1955, p.470)

Perhaps nowhere is this more obvious than in the area of health education. Nor is this problem confined to developing countries. A comparable problem occurred in Melbourne during the trialling of the Primary School Community Health and Fitness (Health in primary Schools: HIPS) Project. The stated aim of HIPS was to identify how school communities develop sustainable practices in young children with a focus on physical activity and nutrition. (Monash University, 1989) Most obvious were cultural differences of ethnic groups. "Health - our way - was very apparent, with little questioning of understandings, objectives or approaches." (Burns, 1991, p.175) Neither the health status of the members of different ethnic groups nor the health objectives of ethnic communities were considered. (Ethnic Communities Council of Victoria, 1990)
Turkish and Vietnamese parents were approached to provide more suitable clothes for P.E., but the cost of the clothes and the attitudes of parents to vigorous physical activity were ignored. Non-English speaking mothers were invited to learn to prepare healthy Australian school lunches. The closest any school came to recognizing a positive role for culture was in the inclusion of a range of foods in cooking lessons and nutrition lessons, and some new games and dances in the physical activity programs. (Burns, 1991)

Speaking generally about health education in developing countries, Paul (1955) stated that programs seeking to alter health practices and attitudes constitute efforts to change the culture. He maintains that health innovations are just as subject to selective acceptance as are many other innovations. Their acceptance will depend on how the idea is perceived, how it accords with the values and assumptions of the target groups and whether it is consistent with their system of social relationships.

To work effectively with people, we must not only be able to see the world as they see it, but must understand the psychological and social functions performed by their practices and beliefs.

Paul B, (1955, p. 476)

Firth (1976) contended that the inability of ex-patriate workers to understand and empathize with village people, and to take into account how individuals and the community perceive health and illness, is responsible for the failure of many health education programs.
Richards (1976) considered that it is necessary for all engaged in health education activities to try to understand the behavioural responses of the target group as part of the group's culture and not merely in terms of their own assumptions which are frequently taken as being infallibly correct. He argued that people will not necessarily change their customary behaviour unless they feel some need which existing behaviour does not satisfy.

Health Education is not forcing people to act positively in regard to (their) health....but rather it attempts to persuade them to do what they want to do for themselves by providing them with vital information and a motivation to act in accordance with their surrounding psycho-social environment.

Richards N.D. (1976, p. 136)

Chen (1984) contended that the bulk of health work in developing countries presents cross-cultural problems to various extents, and nowhere is this more evident than in the field of health education where Western trained workers who work among traditional societies often complain about the resistance or lack of response to their programs.

Chen believes that this resistance is related to the fact that attempts to alter people's ways of life, beliefs and customary behaviour are never made in vacuo, but usually in competition with and against the resistance of deep-rooted and time-hallowed traditional beliefs and customs.

Thus health education that aims to modify harmful practices is most likely to be successful if it is based on knowledge of the local culture pattern, i.e. people's customs, beliefs and practices.
Chen provided some useful guidelines concerning the management of cultural variation. He maintained that the health worker needs to be able to sort out the useful from the useless and manage systematically any cross-cultural problems that arise.

For this purpose it is necessary to find out as much as possible about the problem at hand and then divide various beliefs and practices into four categories:

1) The beneficial:
   Any practices which are psychologically and physiologically sound should be encouraged.
   e.g. breast feeding, sexual taboos after childbirth.

2) The harmless:
   These should not be interfered with.
   e.g. wearing talismans as prophylactics, magic spells of medicine-men, ceremonial rituals for warding off evil spirits.

3) The uncertain:
   These should not be interfered with without further study.
   e.g. herbs and drugs advocated by medicine men.

4) The harmful:
   Harmful practices will require modification by health education.
   e.g. use of dilute rice gruel instead of breast milk, interference in course of normal labour by pushers.

Chen, P.C.Y. in Ebrahim, G.J. (1984, p. 28)
Chen believes that this can be achieved by encouraging related beneficial practices while at the same time attempting to change the harmful practice.

A program for the prevention and control of disease in a developing country however cannot be approached in the same way as such a program in an advanced country, because of lack of knowledge and differing beliefs about the causes and effects of illness, as the following examples show.

In communities where basic knowledge about sickness and health is universally available, Becker (1974) found that individuals will not take action to prevent health problems unless they believe they are personally susceptible, that the occurrence of the disease would have relatively serious consequences for them, and, that by behaving in a particular way, personal benefit would result.

An example of this would be immunization against infectious diseases. When the germ theory of disease is understood, individuals assess their risk of exposure to the infection and the seriousness of the symptoms, before subjecting themselves to an injection which they possibly fear.

However, in a developing country, health information, such as the germ theory of disease, or the association between nutrition and health, may not have reached the village people, as has previously been discussed.

Traditional and cultural beliefs concerning illnesses may be very different (from modern knowledge) and locked, as they often are, in magico-religious beliefs.

Ebrahim, G.J. (1984, p.v)
In a developing country, there is thus frequently a variance of knowledge and beliefs about the cause and effect of sickness between the health educator and the traditional people. How then can a health educator teach that clean toilet habits will prevent intestinal diseases, if the target group believe that such diseases are punishment from the evil spirits? Or will mothers make the effort to give their children more nutritious foods, when they believe that food is for sharing and hospitality?

Okafor (1987) maintains that for health education to be effective and relevant to the needs of a target audience, especially in a developing country, the prior conceptions and misconceptions of the population must be determined and used in planning health education activities.

7.3.1 IMPLICATIONS FOR SCHOOL HEALTH EDUCATION.
Thus before embarking on the development of a school health education program in a developing country, a thorough and comprehensive situational analysis and needs assessment is required.

This concerns not only the health and social problems in the community and the physical and social environment in which these problems have arisen, but also the socio-cultural beliefs, attitudes and behaviour of the people which will determine to a large extent their receptiveness to attempts to prevent these problems through education.
Such a study was a necessary preliminary activity in the present context, before attempts were made to develop the new health education curriculum. (See Part C, Situational Analysis, and Part D, Needs Assessment.)

Moreover, I was constantly aware of the need to make the health lessons suitable in the cultural context and of my own limited ability to do this because I belonged to a foreign and very different culture.

While every effort was made to learn about the culture, customs and beliefs of the village people, especially as these apply to home and family, time and resources were not available to research this complex area thoroughly throughout the many provinces.

For this reason, a collaborative effort was necessary, making use of local knowledge. Nationals in the Ministries of Health and Education, including the community health educators, were delegated the responsibility for ensuring that the information provided in the teachers' manuals and the activities suggested for the lessons were appropriate in the cultural context for the village primary schools.

Some of the problems arising will be described and discussed further in Part E.
This final section in this chapter discusses cultural variation with the focus on the external consultant, the foreigner who visits a developing country by invitation to provide assistance, with special reference to the present project.

In order to carry out the assigned task, lines of communication had to be quickly established with the local professionals, but this was not as easy as expected. It was not long after arrival in Honiara that a conflict between Western and Melanesian cultures became apparent.

Whiteman (1984) explained that conflict for Westerners working in Melanesia results from the cultural conditioning they receive in their own environment. When placed in a cross-cultural situation, they suddenly find that the people think and act very differently from the way people think and act in their own culture. This can lead to tremendous internal and psychological conflict resulting in culture shock.

Chen (1984) also attempted to help ex-patriate workers understand traditional culture patterns. He explained that there is no one right way of doing things. The manner in which people greet one another, eat, love, worship, dress, sit, work, and rear their children is the product of being raised in a tradition in which these customs and ways are accepted as the only correct ones.
Melanesians placed in a Western culture experience similar, if not greater culture shock, and such were the experiences related by Solomon Islands colleagues about time spent studying and working in Australia.

Thus all people, living and working in a foreign land, experience culture shock with varying degrees of intensity. When we enter a new culture we anticipate having to make adjustments to a new physical environment, climate, different foods and so forth, and these adjustments usually come fairly easily. But it is in the area of unconscious behaviour that we find the most difficulty adjusting. "The largest and most difficult source of culture shock comes from elements in the local value system." (Whiteman, p.18)

For example, adjustments to local hygiene, to forms of etiquette and politeness, to ways in which friendliness is shown, the value attached to time, the value attached to territorial and other rights, what constitutes infringement, cultural incongruities such as male and female behaviour in certain places at certain times.

Cultural shock is manifested in depression and fatigue, due to psychological stress when one is no longer surrounded by familiar cultural cues that provide a sense of security.

Thus, Whiteman maintains, when Westerners and Melanesians need to communicate in order to work productively together, the success of this enterprise will depend largely on the degree to which this socio-cultural conflict can be resolved.
Fundamental to resolving cultural conflict is establishing effective communication. It is suggested that cross-cultural communication is one of the biggest problems faced by ex-patriate workers in Melanesia.

Whiteman contends that effective communication between two people from different cultures is difficult because so often what is intended by the communicator and what is understood by the receptor are not identical. This is because of the different ways people perceive reality, which is determined partly by what is there and partly by who they are. This of course can occur between people in the same culture, but it is accentuated when different cultures are involved.

Whiteman also explains that effective communication can be hampered by "paramessages" which may be the tone of voice, form of address or any other conscious or subconscious act which accompanies or is independent of the verbal message. Thus a cultural formality which seems correct in a Western culture may engender offence in Melanesia, and many commonly accepted Australian habits fit into this category.

Whiteman deplores the fact that so often ex-patriates working in Melanesian countries have had no exposure to or training in anthropological perspectives of cross-cultural relationships and thus have no conception of or sensitivity to the cultural mores of these people. Observations of ex-patriates working in various projects in Solomon Islands would confirm that this is frequently the case.
Moreover, the insensitive behaviour of many Australians towards this country, both those living and working there and visitors on holidays, is such that it frequently engenders offense.

It has also been an unfortunate reality that during the last decade there have been a number of foreigners who, in pretence of helping the Solomon Islands people, have defrauded them, even in the area of educational innovation. This has generated suspicion and created barriers to further educational innovation by external consultants, including the present project to develop a primary school health education curriculum.

It was therefore difficult to win the trust of the national education officers and establish effective lines of communication. At first, important information and documents relating to previous attempts to develop a new health curriculum were withheld. When these were made available, one by one, it was taken as a positive sign of developing rapport.

Rapport continued to improve as the project progressed, but there remained a reserve, a barrier which could not be penetrated. Some further reasons for this will be discussed in chapter 9.

This issue, and how it effected the development and trialling of the new primary school health education curriculum, will receive further mention in Part E.
Perhaps no greater culture shock was received during the sojourn in Solomon Islands than that experienced when the first visits were made to village primary schools. It was reminiscent of the experience described by Beeby (1966) when he was responsible for educational policies in New Zealand and Western Samoa, two countries which he described as being 2,000 miles apart in space, but more than 50 years apart in time. Beeby found himself encouraging in Western Samoa the development of educational practices he tried to discourage in New Zealand.

Village primary schools in Solomon Islands have few, if any textbooks, let alone other teaching aids, and most of the teachers are untrained and teach as they were taught, i.e. by rote. Thus expecting these teachers to give health lessons and to behave in the classroom like Australian teachers was unrealistic. The task needed re-examination, prefaced by an understanding of problems and difficulties pertaining to schooling in developing countries.

This chapter therefore will describe the stages of development of schools in developing countries and the factors which inhibit innovation. The need for and support for educational innovation will also be considered, along with arguments for and against the adoption of "Western" education. Finally the manner in which these findings were applied in the development of the Solomon Islands health curriculum will be discussed.
8.1 EDUCATIONAL STAGES.

In 1966, Beeby published his ideas about the stages of development of primary schools, with specific application to developing countries. While some aspects have been challenged by other writers in the intervening 25 years, especially by Guthrie (1980), it forms a convenient framework on which to structure this chapter.

Beeby conceived the notion of four stages in the development of a primary school system which characterize primary schools in Solomon Islands in an approximate way.

8.1.1 THE DAME SCHOOL STAGE.

Beeby described the bulk of teachers staffing these schools as ill-educated and either untrained or having had only the sketchiest teacher training. He described the syllabus as vague, so that the teachers tended to fall back on the very narrow subject content they remembered from their own school days. As a result, teaching consisted of little but completely mechanical drill on the 3Rs and memorizing relatively meaningless symbols.

Up till the time of the Education Policy Review (1973), it is possible that some isolated village schools in remote Solomon Islands provinces would still have been at the Dame School stage. Even today, after completing only one or two years at secondary school, young teachers are often appointed to a school in their own or an adjacent village, where they teach the lower grades in the local vernacular and in a manner which could emulate a Dame School.
8.1.2 THE STAGE OF FORMALISM.

According to Beeby, the classrooms in these schools were highly organised at a routine level, there was a detailed and rigid official syllabus, a restricted number of narrow textbooks, tight external examinations and a rigorous system of inspection of the work of both pupils and teachers. Teaching methods tended to be reduced to rules and symbols were taught without reference to their meaning. There might even be insistence on the one best way to teach, defined by teachers' manuals for each subject.

Beeby believed that this kind of formalism provided security for teachers who have received a minimum of formal schooling. Although these teachers may have been provided with basic teacher training, they were always teaching to the limits of their knowledge. Such teachers would likely be afraid of any other questions in the classroom but those they themselves ask, for these may be the only questions to which they know the answers.

If the students cannot be encouraged to ask their own awkward questions, most of the techniques of the good modern classroom become impossible. Activity methods and childish research are shunned because they lead too easily to the brink of the unknown. Group methods can only be tolerated if a group leader is satisfied to ask the stock questions and to receive the stock replies.

The essential condition of good, active, pupil-orientated teaching is that the teacher must have a sense of inner security. This sense comes only when the gap in general education between teacher and class is wide enough.

Beeby, C (1966, p. 60)
It became obvious when examining the health education teachers' manuals prepared for the primary schools in Papua New Guinea (Biddulph, 1981-1985) that the majority of the village schools in PNG are considered to be at the stage of formalism. The manuals described in detail every step of every lesson which teachers were expected to give, including questions to ask and answers to accept. Group activities were included, but only to the extent that the group leader was to ask a prescribed list of questions and accept only "correct" answers. (Another study in PNG discussed in section 8.3 confirms these findings.)

Such rigidity does not allow for occasional contradiction between the book knowledge of the classroom and the realism of the child's personal life and the outside world which is critical for the success of a health education program.

Musgrave (1974) found that generally the primary schools in Solomon Islands belonged to Stage Two. Observations and interaction with the teachers and pupils in primary schools in Guadalcanal and Malaita Provinces over the period 1987 to 1989, confirmed that this description still applies to many village primary schools in Solomon Islands. (This will be explained further in chapter 13.)

This meant that note should be taken of the approach used in the PNG health teachers' manuals, an approach which was acceptable to national education officers in Solomon Islands and had been used in the preparation of teachers' manuals for other primary subjects. (See chapter 14.)
8.1.3 THE STAGE OF TRANSITION.
Beeby described the teachers at these schools as better educated and formally trained as teachers. Thus the gap between what the teachers knew and what the pupils knew was greater. The official syllabus remained, but was more permissive. Teachers' manuals still defined the curriculum, but there might also be sets of supplementary readers and reference books. Emotional and aesthetic values however still rated low in the classroom.

It was probably left to the principal to promote children through the grades, but the final certificate, marking the satisfactory completion of the primary school course, might continue to be given on the results of an examination set by an educational authority. As the time for this approaches, non-examinable activities tended to be dropped from the day's work.

Some schools in Honiara and in the larger towns in the provinces would have reached Beeby's stage of transition, and it is anticipated that more schools will achieve this stage in the near future when teacher education courses at the College of Higher Education are further developed.

8.1.4 THE STAGE OF MEANING.
At this stage, Beeby postulated, the teachers were well educated and well trained, and attempted to give pupils a deeper and wider understanding of the symbols with which they work.
The children were encouraged to think and increased mental activity and interest in the outside world led almost inevitably to more physical activity and exploration.

The emotional and aesthetic life of the children was developed and discipline was more relaxed and positive, because the teachers' higher level of training and education gave them the security that such a change demands. External examinations disappeared or shrunk in importance and inspection became professional cooperation.

The most important difference however was that children were encouraged to think for themselves, and this eventually led to their making judgements of values. But, according to Beeby, "...this is a goal that not all societies, especially in developing countries, regard as desirable for all children." (p. 66)

At the present time, two or three non-government elementary schools in Honiara, with a predominantly ex-patriate staff, are approaching Beeby's stage 4.

**SUMMARY.**

Thus it is seen that the primary schools in Solomon Islands straddle Beeby's four stages of development. However the stages of formalism and transition predominate. It was necessary to take this into account when developing the new health education curriculum.
8.2 FACTORS INHIBITING EDUCATIONAL INNOVATION.

There are many factors with the potential to inhibit educational innovation in developing countries which have implications for the development and implementation of the new health education curriculum. These include:

8.2.1 PARENTAL AND SOCIETAL ATTITUDES AND EXPECTATIONS.

According to Beeby (1966), societies have been suspicious of experiments with their children's education and few more so than those in ex-colonial countries. He found that parents in these countries often had a clear, if erroneous, idea of what constituted an appropriate education. It was the kind of academic schooling their European rulers had which had been handed on to them through the schools of the missions or of the state. However unfitted it might have been to life in the traditional village, this was the type of schooling that offered the local boy a hope of release from (seeming) poverty and tedium of life in the village.

Furthermore Beeby maintained that education, often closely associated with religion, had tended rather to hallow antiquity than to promote innovation. Any change to a more realistic and practical form of education was liable to be regarded as inferior.

The Solomon Islands Government took the initiative to institute changes and to prepare a new school curriculum more suited to the needs of Solomon Islanders which will be discussed in chapter 14. However, in spite of this, much of the old parental attitude remains.
Parents still look to the school to provide the type of education which will take their children away from the village and into "better" urban employment.

Therefore it is likely that the new health education curriculum, designed to promote physical and emotional health and well-being, may be seen as an intrusion, taking time in the school day which could be spent on more academic pursuits, especially preparation for the Hicks test, the examination to select students for secondary school education. (See chapter 13.4)

8.2.2 PROFESSIONAL CONSERVATISM.

Beeby contended that in developing countries the main stumbling block to educational innovation was the inability of the teachers to bring about the changes. When emergent countries had to rely on the services of a high proportion of lowly paid, poorly educated and unqualified teachers, their failure to use new techniques or new materials was likely to be because they did not know how to use them, not that they did not want to use them.

In view of this, Beeby delineated five factors which exert strong restraining influences upon innovation in schools:

1) Lack of clear goals.

Beeby believed that "...unsureness lay at the root of much of the teachers' conservatism". (p. 35) Innovation without clear direction left the teachers confused. When in doubt they tended to regress to the content and teaching methods that were practised on them as a children.
Applying this to the new health education curriculum, it is inevitable that tensions will result if someone in authority, especially an overseas consultant, tries to persuade teachers to broaden their objectives, to have some regard for individual differences, and the health and emotional life of their pupils, and to teach the children to think, not merely to memorize. The teachers need clear direction to implement such radical innovations.

2) Understanding and acceptance.

Beeby believed that few reforms in content and method of teaching are of any value until they are understood and willingly accepted by the teachers who are to apply them.

Great dedication, energy, enthusiasm, competence of the teacher who champions a reform are liable to have more effect on his pupils' achievements than have the actual pedagogic methods under review.


Sometimes these reforms challenge the strongly-held values of the community, and then it is the teachers who experience stress.

For example, tensions will appear if the teachers are expected to teach children to question authority in a society based on acceptance or to encourage competition or pre-eminence in a community where these were not traditionally regarded as marks of virtue in a child (Mead, 1939), or to give lessons on sexuality in a culture in which this subject is taboo in formal settings. (This latter issue is discussed in chapter 23.1)
3) Teachers the product of the system. Beeby (1966) found that most teachers spend their lives from age five or six years within the educational system and "...tend to embody in themselves the virtues and defects of the system". (p. 38)

In Solomon Islands, many teachers have had little more than primary schooling themselves and frequently no period of teacher training. As a result, their own education may not have reached the stage at which it is self-supporting in the sense that, by reading and enquiring, they are inclined or able to fill the gaps in and extend the boundaries of their knowledge and understanding. Furthermore there may be no library, no newspapers and no one in the village to provide intellectual stimulation.

It is not surprising therefore that they teach only what they have been taught. "(Teachers) are the prisoners of their own narrow experience and the longer they are left within its confines the harder it becomes to set them free." (p. 44)

4) Isolation of the teachers. Isolation makes for slow spreading of new ideas for teachers who spend their day shut up with 30-60 children, unaided and unseen, except for brief encounters with an inspector or principal.

One too easily imagines that new methods, launched from the centre with enthusiasm have been universally adopted at the periphery, whereas in many classrooms they may have been partly or wholly ignored, misunderstood or recast in the mould of stale practice. (p. 39)
Also innovation and experiment in education generally flourish best when teachers can gain both stimulation and courage from discussion with fellow teachers, and this is unlikely to occur in isolated rural schools.

5) **Range of ability of teachers.**

Individual differences in ability of teachers are inevitable in any teaching service. However the problems created by these differences are magnified in developing countries because of the isolation of many of the teachers. This meant that the new health curriculum and the teachers' manuals to support it should be graded to meet the needs of the less able and/or geographically isolated teachers, while at the same time providing for the greater adaptability of the more able teachers.

In addition, Beeby believed that:

> more serious than the range of ability within any one teaching service is the gap between teachers in an emergent country who are being urged to adopt new teaching ideas and teachers in an advanced system where the ideas were developed. (p. 45)

The reference was not to differences in innate ability, but to differences in general education and teacher training.

> The transplanting of educational practices from one of these levels to the other is a delicate process that can easily go wrong.

> (This issue) merits more attention than anyone has yet given it, particularly as it lies at the base of all technical-assistance projects in education. (p. 46)

This issue will receive further mention when the adoption of "Western" education by developing countries is discussed in section 8.5.
8.3 EDUCATIONAL INNOVATION IN PAPUA NEW GUINEA.

The findings of an exploratory study conducted to assess how effectively community school teachers in Papua New Guinea were using a new Community Life syllabus for primary schools (Watson, 1979) supported Beeby's findings (above) and forewarned of some problems likely to be encountered when attempting to introduce a new health education curriculum into Solomon Islands primary schools.

The Community Life syllabus had at its main assumption:

...that most students, even those who go on to high school, will probably return to live in the rural community...

The main aim of this syllabus therefore is to help prepare the community school leavers for life in a rural community.

Watson, P (1979, p. 155)

The teachers were expected to display certain qualities which were necessary for the success of the syllabus, qualities expected of teachers in Western countries. They needed to be self-reliant, make use of improvised materials rather than bought resources, involve the school in community activities, be flexible in approach and be able to integrate community life with other subjects.

This new subject was introduced without teachers' guides or support materials, apart from the syllabus itself. It was not given a trial run, but was introduced into the schools and teachers were expected to start using it. In-service courses were conducted in some schools by the headmaster, but in other schools the teachers received no help at all.
1. Acceptance by teachers.

Watson found that many teachers had difficulties with the syllabus, that they did not fully understand the procedures involved and the aims of the syllabus were too difficult to achieve. Teachers cited the following areas of difficulty:

1. Obtaining materials to use in their lessons.
2. Getting the community to co-operate.
3. Understanding the content and vocabulary used.
4. Sub-dividing the topics properly.
5. Dealing with the continuous topics.
6. Motivating children who only want to learn English.
7. Preparing a program without a teachers' guide to help.

Watson reported that many teachers complained about the inadequacy of teaching resources. The Government maintained that teachers would have to be more self-reliant and should use improvised materials. But Watson found this meant teachers had to use all their spare time making their own, the outcome being that few teaching aids were produced.

All teachers said they had sought help from people in the community, but in general, this support was not forthcoming. It was claimed that this was because many parents and children valued formal more than informal education since it opened the door to paid employment.

Most teachers identified programming as one of their major areas of weakness. Watson believed that this was because they had not been weaned from the Tarai Series Social Studies which set out lessons in detail. Highland teachers especially relied very heavily on the Tarai material.
It was found that most teachers were willing to make use of unexpected or unplanned events in their teaching, but not willing to take the class on excursions. Although enjoyed by the children, especially urban children, excursions were a very worrying experience for some teachers as the children were often uncontrollable. Excursions also involved some danger, so many were wary of organizing them. The need to obtain permission from parents, headmasters, and maybe inspectors was also regarded as a deterrent. Others cited lack of cooperation from the community.

The syllabus encouraged teachers to plan activities which were child centred and enjoyable. Watson reported that the activities used and enjoyed by the children were in the following rank order: legends, songs, teacher talk, picture displays, making models, and dramatisation. However these were not enjoyed equally by urban and rural children.

Watson found that urban children enjoyed lessons in which they were actively involved, such as making models, singing songs or doing drama, but the children in remote rural schools did not enjoy these activities. She suggested that this may be because rural children tend to be a little shy, less fluent in English and less confident in expressing themselves and that rural teachers will have to motivate the children to express themselves more freely and thus learn to like the lessons in which they are taking part.
8.3.1 RELEVANCE FOR SOLOMON ISLANDS.

Some of the conclusions drawn from Watson's study about the readiness of teachers in a developing country to implement a new curriculum using a child-centred approach and the willingness of the students to participate in the lessons have relevance for the Solomon Islands health curriculum:

1) Teachers should be helped to understand the changes and the reasons for them, and clearly informed of their role in the new system. To this end, in-service training is useful.

2) The teachers should at least be given a teachers' guide to help them understand the new syllabus.

3) Many Solomon Islands teachers, like their Papua New Guinea counterparts, may not be ready for the freedom to use imagination and inventiveness in the classroom. PNG teachers wanted guides and sample programs, or better still manuals consisting of lessons already worked out for them.

4) Self reliance was required of PNG teachers, but they claimed they did not have enough materials to work with and could not afford the time to make what was needed. They believed the new syllabus made too many demands on them.

5) There was a wide difference in the readiness of students to participate in child-centred lessons between in rural and urban schools.

The manner in which these findings were applied in the development of the new Solomon Islands health education curriculum will be described in chapter 20.
8.4 SUPPORT FOR EDUCATIONAL INNOVATION.

While there are many factors inhibiting educational innovation in developing countries, as the forgoing discussion has shown, support for innovation in Solomon Islands was strong in the period leading up to and in the ten years following the attainment of Independence from Great Britain in 1978.

8.4.1 NATIONAL SUPPORT.

There was an awareness that if an underdeveloped country is to develop successfully it must raise the general standard of education, as this is a significant way to make a rapid and lasting contribution to the development of the economy. There was also an awareness that the value of education cannot be measured solely in economic terms, but is concerned with the development of the whole person. There was thus dissatisfaction with the pre-Independence system of education which was largely imposed by foreigners and did not meet the needs of contemporary Solomon Islanders. ("Education for What?", 1973)

Furthermore, concerned professionals at all levels within the Ministry of Education, led by the primary and secondary directors of education and curriculum coordinators, were well motivated to bring about these changes. A strong participatory ethos existed and committees were formed to investigate the problems and make decisions about the best ways to proceed. (This has importance for the health curriculum and will be discussed in chapters 13 and 14.)
8.4.2 OVERSEAS SUPPORT.

Overseas aid to developing countries for the development of education has also been generous in recent years. During the last decade, Solomon Islands has received educational aid from many countries, but especially from Australia and New Zealand for the development of a new secondary school curriculum and the Diploma of Teaching (secondary) program at the Solomon Islands College of Higher Education. (For further details see chapter 14.1)

A loan from the World Bank was granted for the development of a new primary curriculum (to be discussed in chapter 14.2), and the World Health Organization provided financial support for the development of the primary school health education curriculum.

Overseas aid is usually financial and technical. The provision of funds and the appointment of education consultants to work with the nationals in the country receiving aid usually go hand-in-hand. In addition, national educationists of high standing are given assistance to study in universities and colleges overseas.

SUMMARY.

Thus there is a willingness, if not an urgency, in developing countries (if Solomon Islands is an example), as well as from the nations providing aid, to bring about educational innovation to raise the standard of education in developing countries, so they can take their rightful place in international affairs in the 21st. century.
8.5 ADOPTION OF "WESTERN" EDUCATION.

A number of authors have argued against the adoption of western education systems in developing countries or against thoughtless borrowing from overseas (Kandel, 1961; Coombes, 1969; Carnoy, 1974; Naik, 1974; Hanf et al, 1975). In particular, Stewart (1975) pointed to the increasing irrelevancy of Australian and New Zealand models to the island nations in the South Pacific. Beeby (1966, 1980) was also cautious about overseas borrowing.

In terms of classroom practices, the argument against mere repetition of western patterns is essentially that western models of thinking and learning may be inappropriate in non-western cultures. According to Kennedy (1969), in most Pacific societies, discussing, relating, sifting, appraising and hypothesizing are not inherent in traditional cultures and may even be strongly discouraged. Kennedy further pointed out that the modern westernized classroom with its emphasis on discussing, questioning and deciding may conflict with the authoritarian environment. Larkins (1975) made the same point in Papua New Guinea.

Guthrie (1980) argued that while traditional cultural values may be obstacles to change, the issue goes deeper than this, that Beeby's unsympathetic view of formalistic teachers as unskilled who teach by symbols without reference to their meaning may ignore the possibility that such ritual is meaningful in itself and in accordance with traditional values which emphasize the authority of elders.
Stressing methods designed to improve ways of thinking and to develop new attitudinal and motivation lures...may be accentuating intellectual and emotional problems, as well as hastening cultural change.

Kennedy, T.F. (1969, p. 45)

On the other hand, Guthrie argues, if people in developing countries want a cash economy and the material benefits of modern technology, then they are going to have to know and understand at least something of the concomitant intellectual methods and attitudes. Likewise population pressure and the multitude of health problems which are causes for concern in Solomon Islands as well as many other developing countries, has made the ethical debate about modernization somewhat redundant.

Modern technology requires use of the western modes of thinking. It may be that teaching for meaning is inevitable (which is not to say desirable) because many people in developing countries have opted for it. Adoption of western modes of thinking and teaching for meaning however does not mean borrowing western school systems unthinkingly.

In the pluralistic world we live in, there will have to be not one but several alternate models. In fact each country will have to discover its own unique alternative system which suits its own peculiar needs and aspirations; and what is equally important it will have to keep on changing this system to match the rapid social changes which arise in a world increasingly based on science and technology.

Naik, J.P. (1974, p. 64)

The argument therefore centres on the mechanism by which educators from Western nations can best help developing nations to upgrade their schooling systems, so they can compete more equally in the modern world.
The theory of direct transfer is attractive. If it is correct, the main task of those who are advising educators in emergent countries is to provide poorly educated and unqualified teachers with techniques that will markedly improve their skills.

The opposing theory is that some factors resistant to change operate with special intensity in traditional societies and this restricts the kinds of skills that can be transmitted from one school system to another at a different level of development. However neither theory has been proven at this stage.

It has already been argued that direct transfer of an Australian health education curriculum was deemed to be completely unsuitable for Solomon Islands schools. The curriculum to be developed and the skills to be transmitted to the teachers had to be unique for Solomon Islands. Even so, resistance to change, especially to the activity-based, child-centred lessons which were considered appropriate and included in the curriculum, remained a possibility.

Hence every effort was made, through discussion with teachers and curriculum officers, and through trialling the lessons in the classroom, to ascertain whether or not the techniques suggested were acceptable in the cultural context. (How this was achieved is described in Part E.)
8.6 IMPLICATIONS FOR THE SOLOMON ISLANDS HEALTH CURRICULUM.

Bruner (1961, p.33) believed that "any subject can be taught effectively in some intellectually honest form to any child". If this be true, it should be possible to teach health effectively to children in Solomon Islands primary schools, given a priority in time and resources.

The foregoing discussion however warns about the many factors which inhibit innovation, especially when change is facilitated by educators from a system at a different stage of development.

Using Beeby's (1966) analysis of educational stages as the framework, it is usual for a national education system in a developing country to straddle two or even three educational stages. When the achievements of individual pupils, teachers and grades were taken into consideration, as explained in the foregoing discussion, this appears to be the situation in Solomon Islands.

In such a centralised system, a wide range of ability and adaptability in the teaching service creates problems for any reformer, including myself, as the person responsible for guiding the development of the Solomon Islands primary health education curriculum.

The obvious thing to do in such a situation was to give the maximum amount of freedom to all the teachers to teach in the way best suited to their abilities.
However in an emergent country with no money to spare for expensive variants, this was by no means as simple in practice as it might appear in theory. Official attention had to be centered on someone vaguely called an average teacher. Heed was taken of the findings from the PNG study previously discussed, which agreed substantially with the expressed requirements of the Solomon Islands Ministry of Education.

Therefore the Solomon Islands health education teachers' manuals were developed to cater for the so-called average teachers who make up the bulk of the teaching service. Additional activities were suggested when appropriate to cater for the more able teachers and students, who could be described as operating at Beeby's Stage 3 or 4.

It is likely that breakthrough to less formalistic methods will occur most readily in grades 1 and 2 where even poorly educated teachers find themselves more secure with the subject matter than they do in the upper school.

However a teacher with 30, 40 or more children to teach and no equipment to speak of can scarcely be expected to encourage the unfolding of personalities and the emergence of creative minds.

This task is made no easier if the children leave home without adequate food, are required to walk several kilometres to school over rough terrain, and are possibly debilitated with tropical diseases. Such conditions make teaching at Beeby's stage 4 level virtually impossible.
9. EDUCATIONAL AID TO DEVELOPING COUNTRIES.

It is now appropriate to examine some of the issues pertinent to international aid in general, and to external advisers in particular, which may either hinder or facilitate the progress of a project. The underlying premise is that involvement in international aid projects is both a privilege and a responsibility for which consultants may not be adequately prepared. This was in fact my own experience.

This chapter therefore will consider firstly inadequacies which tend to reduce the overall effectiveness of international aid. It will be shown that many of the problems which I experienced in Solomon Islands were common to many other aid projects, including lack of professional expertise within the country and under-estimation of the time required to complete the project. Furthermore, in these and some other areas, this project scored badly by comparison with other education development projects.

Secondly the focus will fall on external consultants. It will consider the expectations of and the constraints experienced by external consultants, which had specific relevance to this project.

Findings include experiences and observations in the field, and occasional references to views expressed by Solomon Islanders concerning international aid and their attitude to and expectations of ex-patriate workers who come as guests to their country.
9.1 THE EFFECTIVENESS OF INTERNATIONAL AID.

According to Johnson (1992), disappointment with the overall effectiveness of international aid to developing countries has recently prompted an examination of reasons why this is so, and has lead project planners and implementers to re-examine the process of technological transfer between countries.

Johnson believes that successful technical assistance involves one culture imposing change upon another in such a way that the recipient culture not only accepts the change, but also adopts it as its own and expands upon it. She suggests that the major factors which determine the success of international development projects are:

1. agreement on project objectives among the donor agency, national government and project participants;

2. "ownership" of the project by participants; and

3. willingness of participants to change and flexibility of cultural systems to permit such change.

There are however many obstacles to the achievement of success according to these criteria.

Hallak (1990) reported that the Organization for Economic Cooperation and Development (OECD) had isolated many areas in which inadequacies of preparation and implementation tend to reduce the overall effectiveness of external aid in developing countries. Problems of major concern are as follows:
9.1.1 UNDERSTANDING OF LOCAL CONTEXTS BY CONSULTANTS.

UNDP (1989) found that a lack of understanding by external consultants of the local environment and traditional culture of the host country constitutes a major problem in externally funded aid projects to developing countries.

McCaffery and Edwards (1981), when reporting on the cross-cultural training of Peace Corp workers, stressed the importance of providing the skills to make the transition from one culture to another. Austin and Titus (1984), McDowell (1984), Duncan (1985), Chen (1984) and Whiteman (1984), all supported this notion.

It is suggested that the fact that this problem still exists and constitutes a major barrier to the effectiveness of international aid signifies either ignorance on the part of the consultants that such knowledge and understanding is needed and/or deficiencies in the briefing procedures before consultants are despatched to foreign lands.

As has already been discussed, I was acutely aware of the need to make every effort to understand the local culture, the physical and social environment and the health problems of the traditional people before attempting to develop a health curriculum for the schools. Hence a large portion of this dissertation (especially Chapters 7 and 9, as well as Parts C and D) is devoted to an understanding of the context in which I was to work.
9.1.2 NATIONAL COUNTERPARTS FOR FOREIGN APPOINTEES.

Fulltime involvement of national counterparts for external consultants is today a UNDP requirement for international aid projects. (Hallak, 1990) However, Hallak found that the country may not have the professionals a project requires and/or adequately trained local personnel may not always be available when needed.

A senior national education officer, the primary physical education/health education curriculum coordinator, was appointed as the consultant's national counterpart and co-writer in this project. While skilled in P.E., he had no professional qualifications or practical experience in health education. He was thus somewhat insecure in the counterpart's role and able only to provide minimal input. (Other problems associated with this appointment will be mentioned in section 9.3)

9.1.3 LOCAL INVOLVEMENT IN THE PROJECT.

Hallak (1990) argued that, to have a lasting outcome, a development project must be rooted in local traditions and expectations, and that local communities must be involved in preparing, monitoring and evaluating externally assisted projects.

The International Union of Health Educators (WHO, 1992), expressed the same sentiment, namely that participation assures that there is respect for people and a basis for mutual efforts and partnerships. In such a context, the educational exchange may be characterized as doing something "with", rather than "to" others.
In the Solomon Islands context, while agreeing with the above sentiments in principle, there were difficulties in putting the same into practice. The Primary Health Education Panel, comprising national education officers and health educators, some of whom were domiciled in the provinces, was appointed by the Ministry of Education to be responsible for this new curriculum. While informal discussions were held with individual members of this panel whenever possible, direction from and interaction with this panel at a formal level was unfortunately less than expected, mainly because of logistic and financial difficulties associated with gathering the panel together for meetings. This will be explained in Part E.

Further involvement at a provincial level was not possible because the new curriculum was centrally based. As the new curriculum, if it is to fulfil its objectives, must reach beyond the classroom, how this issue will effect the long-term acceptance of the innovations remains to be seen.

9.1.4 INADEQUATE PLANNING AND COORDINATION.

Hallak found that when planning is inadequate, management of programs supported by external aid is difficult and results are often compromised, liquidity problems of funding agencies often being cited as a cause. There was no long term planning for this project. Instead extensions were periodically reviewed and at times funds had to be "borrowed" from other projects. This caused uncertainty for both the consultant and the nationals.
Lack of coordination can also mean costly time loss for both the consultant and country. (UNDP, 1989) This was a constant problem for this project, as there was often lack of coordination between WHO and the Ministry of Education. There were delays in confirming dates of visits to Honiara which caused costly waste of time, particularly at the stage of pre-testing the teachers' manuals, as will be described in chapter 21.

9.1.5 THE TIME SPAN FOR PROJECTS.
The time required for education projects is invariably under-estimated. The World Bank (1980) found that a normal 4-year project often over-runs to 7 years, and that badly timed training of local personnel, logistic problems, opposition to innovations in curricula and many other unforeseen difficulties make project extensions imperative.

It is unrealistic to expect a new strategy for sustained improvement to be developed and consolidated within the 4 to 5 year period generally assigned.

Hallak, J (1990, p. 282)

Against these standards, the Solomon Islands health education curriculum project scored very poorly, since less than three years part-time involvement by the consultant was allowed. This problem possibly arose because of lack of understanding of the complexities of curriculum development amongst decision makers in the WHO Regional Office.
9.1.6 EXPENSE INCURRED BY RECEIVING COUNTRIES.

Even though the salaries of consultants are covered by donor agencies, financial input is often required by the receiving country. This can cause major problems and is not taken sufficiently into account. (Orivel et al, 1988)

In this project, WHO provided assistance beyond the consultant's salary, e.g. a subsidy for the regional educational officers workshop (discussed in chapter 22). However there was also additional expense for Solomon Islands, especially for the printing of the teachers manuals which was a matter of concern for the Ministry of Education. It is not known how this matter was resolved.

9.1.7 CONTINUED SUPPORT AFTER COMPLETION OF PROJECT.

Hallak (1990) maintained that the need to leave expertise behind on completion of a project is often not taken sufficiently into account.

This was a matter of some concern in the present project, and again points to lack of understanding by officers in the WHO Regional Office, who refused to provide funding after the Regional Education Officers Workshop by which time the project was assumed to be complete. There remained much to do, including assessment of final school trials and editing of the manuals and preparation for printing of the same. It was argued by WHO that the nationals should carry through the final stages of the project themselves. This issue will be discussed again in chapter 21.
SUMMARY.

It can thus be seen that the effectiveness of overseas aid projects in developing countries is dependent on many factors involved in the preparation and implementation of aid packages.

This health education curriculum project in Solomon Islands was hampered in many ways, especially by:

- deficiencies in the briefing process which meant that much time and effort had to be devoted to the development of understanding of the local context,

- an inadequate time span for curriculum development which was accentuated by the uncertainty of funding and lack of coordination between the Ministries of Education and Health and WHO which meant that the processes had to be compromised,

- the national counterpart's lack of professional expertise in health education, and the difficulty of gathering together members the Primary Health Education Panel, which meant that the consultant did not receive the expected local direction and support from the formally constituted group within the Education Ministry.

These issues had a profound effect on the development of the Solomon Islands primary health education curriculum which will be discussed further in succeeding chapters.
9.2 EXPECTATIONS OF EXTERNAL CONSULTANTS.

Havelock and Huberman (1977) stated that it is the expectation that the skill of external consultants lies in their ability "...to propose solutions to national needs which appear to be appropriate and are unlikely to be politically problematic to implement". (p. 126)

These authors suggested a profile for the more successful outside experts, as follows:

1) They must be able to bring to the situation skills and knowledge which are both relevant and unique.

2) They must adapt whatever knowledge and skills they have to the particular situation.

3) They must work hard to transfer skills to the national counterparts.

4) They must be able to work cooperatively with national counterparts, since much of the outsider's success rests on good inter-personal relationships and on skills in relating to people on a one-to-one and one-to-small-group basis.

Adapted from Havelock & Huberman, (p.185-186)

Perhaps dependence upon these criteria for the selection of external consultants has been one of the reasons for disappointing results in the overall effectiveness of many international aid projects in recent years.
Johnson (1991) provides an amended profile for the external consultant, viz. the consultant, acting as the change agent, should become the facilitator of the cross-cultural change process by acting as a bridge between the differing realities of participants and others. She suggested that a good facilitator can empathize with others intellectually and emotionally, shift between paradigms easily, and perceive inter-relationships in new ways. Furthermore the facilitator can assist small cooperative groups of participants to identify needs and problems, to integrate solutions into the development project and to achieve good two-way communication with project staff.

It would thus seem desirable that one of the criteria for selection of consultants would be experience and/or understanding of problems in developing countries. However it has already been shown that lack of understanding of local contexts by the external consultants constitutes a major problem. (UNDP, 1989)

Havelock and Huberman, in 1977, found that frequently the consultant was a professional or artisan who had achieved academic or technical standing in a developed country, but had had little or no contact with a developing nation. There was therefore an expectation that the expert had the ability to adapt quickly to the needs of the developing country, since direct transfer of Western solutions to problems was rarely what was needed. Such findings support the argument that Western guidelines for a school health education curriculum were not appropriate.
Yarham (1992) suggested that the task of a consultant in a school health education project circumstance should be to act as a facilitator, manager and organizer, working in that capacity with a group of indigenous teachers and health workers of varying levels to complete "their" curriculum. It must be a curriculum in which they have a personal investment, in which they have ownership and for which they will have good reason to act as committed facilitators for implementation.

The importance of inter-personal relationships cannot be under-rated if the consultant is to be an effective facilitator of a project. Respondents in a survey, conducted by Havelock and Huberman, (p. 240), cited social interaction between national and international personnel as one factor which determines the relative success of a project. It was found in fact that the expertise of external advisers may not be exploited or may even be neglected if they are not on good social terms with project members, ministry personnel, village leaders or institutional directors.

The ability to develop a productive working relationship with national counterparts and others involved in a project is obviously critical to the success of any enterprise and has already been discussed in chapter 7.4.

It is however important to add that in this health education curriculum project, this was made the more difficult for three reasons:
1) A lack of co-operation between the Health and Education Ministries which resulted in the slow acceptance by the Ministry of Education of a WHO consultant working in the area of school health education.

2) Bad feelings and suspicion engendered by a previous health writer who was engaged as part of the World Bank Project (to be explained in chapter 14), but failed to provide the kind of assistance needed.

3) The unusual circumstance of a white Australian woman operating alone in the field of educational innovation at national level in a strongly patriarchal Melanesian culture.

There was therefore a pressing need to win the trust of and establish rapport with the national education officers. Rosenweig et al (1988) also stressed the importance of establishing credibility and overcoming gender barriers.

It was soon discovered that taking meals with the nationals, joining in social events in the community and relaxing with the delegates during workshops assisted communication by breaking down the reserve.

Thus it is seen that the expectations of the external adviser were many and far more complex than initially envisaged, far more than writing some simple health lessons for teachers to give to the children in village schools.
9.3 CONSTRAINTS ON EXTERNAL CONSULTANTS.

If the expectations of external advisers are high, the demands on them are made even more onerous by unexpected difficulties which may arise in the host country.

In an analysis of the feedback supplied in a questionnaire given to UNESCO-UNDP project directors and chief technical advisers, Havelock and Huberman (1977) found that all international aid projects are plagued with problems and happenings which may act as constraints to innovation, and how the advisers are able to handle these will go a long way to determining their success in this important role.

These authors cited barriers operating to a greater or lesser extent in most projects which markedly effect the success or otherwise of the adviser's labours. Although the following list was drawn up nearly 15 years ago, it was still relevant in the context of this project.

9.3.1 GEOGRAPHIC BARRIERS.

Geographic difficulties include long distances, slow transport, isolation and poor climatic conditions. Of frequent concern is the difficulty of locating persons who should be involved in a project. (p. 222)

In Solomon Islands members of the Health Education Panel were often in distant parts of the country, so regular meetings of the panel were impossible to organise. Likewise visits to village schools, to react with teachers and children, were difficult and expensive to organise, so it was necessary to make do with occasional visits.
9.3.2 HISTORICAL BARRIERS.

These relate to the legacy left by colonial rule and the struggle for independence. In many developing countries, some of vestiges of the former colonial education system which remain are appropriate or even essential in the present day, but there are also traditions which are now unsuitable and may oppose innovation. "Nationals seeking to reform and rebuild their (education) systems to fit the present times and a new conception of nationhood may need help to decide which is which." (p. 224)

In Solomon Islands, it was found that some material produced for health lessons during the colonial era, was still being used in some classrooms. Some but not all of this material was still relevant, and it was incorporated into the new curriculum. This was considered desirable as a buffer to lessen the impact of the new material.

9.3.3 ECONOMIC BARRIERS.

The need for adequate planning and financing of overseas aid projects and the fact that technical assistance may incur unexpected expense for receiving countries has already been discussed. Further to this, Havelock and Huberman were concerned about "inadequacy of financial support contributed by the receiving country in contrast to the amount contributed from outside sources." (p. 224)

Local financial involvement not only lessens the burden on the aid organisation and provides continuity when/if aid is withdrawn, but also, and perhaps more importantly, gives the nationals a sense of ownership of the project.
Insufficient rewards for national counterparts who carry much of the workload and who will be the implementers of the innovation also create bad feelings between such people and the project in general. The nationals are well aware of the difference in salary status between themselves and the overseas consultants.

A request to WHO from the health education curriculum officer for a gratuity to top up his salary because of the added responsibility he had to shoulder as national counterpart/co-writer was refused. In fact this single act may have been responsible for many of the problems of non-cooperation which beset the project.

Clearly more attention needs to be given to providing the proper incentives to nationals with the right skills to stay with the project for a meaningful period, devoting to it their full energies and enthusiasm.

9.3.4 PROCEDURAL BARRIERS.

Another source of frustration stems from procedural difficulties, such as obtaining materials in sufficient quantity and on time, lack of skilled manpower to implement the project, coordination of people in key roles and lack of agreement on procedural objectives. (p. 225)

The inadequacy of support facilities, such as reliable secretarial assistance, the availability of computers, photo-copiers and supplies and service for the same, hampered progress on this project while in Honiara, and was an argument to allow lessons to be drafted in Australia.
Another procedural problem concerned the arrangement made with the national counterpart to check that lessons did not contravene cultural mores and taboos and were suitable for village schools. This did not proceed as planned. (This will be explained further in chapters 22 and 23.1)

9.3.5 PHILOSOPHICAL BARRIERS.
Philosophical barriers included conflict about ideologies for change, poor climate for sharing ideas openly, inadequate social harmony among team members and significant differences in cultural values. (p. 225)

An ideological conflict between myself and another Australian consultant regarding the content and philosophy for a new secondary health education curriculum will be discussed in chapter 23.2. The lesson learnt from this experience is that differences of opinion should be settled in the home country.

9.3.6 POLITICAL BARRIERS.
Awareness of and satisfaction with a project by Government is often needed to maintain support, to ensure continuation and finally to implement the innovations. If problems within a project occur, the external consultant "...must know how to communicate with political leaders and enlist their support". (p. 226)

Problems were forestalled by regularly informing the permanent secretaries in both the Ministries of Health and Education about the progress of this project and their support was forthcoming at all times.
9.4 WITHDRAWAL FROM THE PROJECT.

The final dilemma facing external consultants, a dilemma which was very real in the present context, is what will happen to the project when they withdraw. Very often there remains much to do, but there is no clear conception of how the roles might be filled after the outsiders leave.

Havelock and Huberman argued that decline in a project after termination of external aid is usually attributed to a lack of preparation for that moment. They believed that often the responsibility for successful continuance of the project rests with the external adviser, and this implies that there should be gradual preparation for the taking over of responsibility, as is evident from the following statements:

He had the ability to translate a lot of theory into a practical solution.

He didn't talk about it; he helped people develop talents that made them find the solutions.

He could get people to participate in this process completely.

He got people to realise they had strengths.

A Latin American official in Havelock and Huberman, (1977, p.283)

When communities, institutions or ministries, either at their own initiative or under the guidance of the consultant, have made provision for the period when external support will be absent or drastically reduced, there is evidence of successful implementation of the innovation.
In this present project, as already mentioned, the consultant was abruptly withdrawn before completion because of financial stringencies, WHO arguing that the nationals should carry through the final stages of the project themselves. (This matter will be developed further in chapter 21.)

In common with other consultants withdrawing from innovative projects however, I spent many anxious weeks worrying about all that remained to be done.

Some comfort was taken from the responsibility accepted by the health education curriculum coordinator, the national counterpart, during the regional education officers' workshop, and the authority of the Health Education Panel. Furthermore the Curriculum Development Unit was experienced in publication of teachers' manuals and implementation of new curricula, having been through this procedure many times during the last few years.

Nevertheless it was a relief when a report was received some months later that the health education panel had met to review and edit these manuals, and secretarial assistance from Vanuatu was to be provided to assist with the preparation of the manuscript for publication.

Thus while at times I felt that I was carrying the burden of this project on my own, I trust that the successful completion of the final stages of this project by the nationals themselves will ensure the successful implementation of the health curriculum into the schools.
This chapter attempts to draw together the findings of the previous chapters and to develop a model which conceptualises the development, trialling and implementation of a health education curriculum for the primary schools in Solomon Islands, when the facilitator was an external consultant. To this end, it includes a discussion on general curriculum models and health education theory.

The platform criteria on which this model is based include:
- the need for an understanding of the country, its people, their culture, their customs and their beliefs,
- identification of the health and social problems causing concern in the nation,
- analysis of these problems to determine how a health education program can be used to intervene and thus improve the health of the community,
- an understanding of the schooling system, the schools, teachers and pupils, as well as the school curriculum of which the health education program will form a part.

Further process issues to be considered are:
- assistance necessary for the teachers to enable them to teach the new curriculum,
- strategies for implementing the curriculum into the schools, and
- evaluation procedures at each stage of the curriculum development and implementation processes.
10.1 GENERAL MODELS OF CURRICULUM DEVELOPMENT.

The development of the health education curriculum for Solomon Islands primary schools demanded the planning of opportunities for learning which required making choices. The choices to be made were identified in Kliebard's questions:

1) Why should we teach this rather than that?
2) Who should have access to what knowledge?
3) What rules should govern the teaching of what has been selected?
4) How should the various parts of a curriculum be interrelated in order to create a coherent whole?

Kliebard H.M. (1977, p.262)

The need for a plan or design to give structure to this new curriculum became obvious. When selecting a curriculum plan which would be suitable for the current task, two important criteria needed to be considered. Firstly the curriculum had to be developed to cater for teachers in Solomon Islands village schools, most of whom will be operating approximately at the level of Beeby's stages of formalism and transition, (as discussed in chapter 8). Secondly the previous experience of the external consultant guiding the development of the new curriculum was chiefly within education systems in developed nations, operating at a different stage of development.

It was therefore considered useful to study briefly the development of curriculum models from an historical perspective in order to provide a context for an appropriate curriculum model for the current project.
10.1.1 HISTORICAL PERSPECTIVE.

Bobbit (1918) applied the ideas of scientific management to curriculum planning. He determined that curriculum objectives should be based on skills and knowledge needed by adults, defining curriculum as:

that series of things which children and youth must do and experience by way of developing ability to do things well that make up the affairs of adult life.

Bobbit, F (1918, p. 42)

This analytical approach continued to influence curriculum development until the 1930s, when three major influences brought about significant changes.

The first of these influences was a philosophical position that rejected a scientific approach. The second was the Gestalt theory in psychology which led to an organismic view of learning and development. The third was the great depression, as a result of which schools were asked to lead in social reconstruction with a curriculum related to students' identifiable and obvious needs. Thus curriculum developers' interests moved to centre on students. (Caswell, 1978)

At about the same time, the definition of curriculum began to stretch to fit the growing distance between the planned curriculum and experiences actually encountered. Caswell and Campbell (1935) acknowledged the socialising function of schooling and embraced the experiences concept. "...The curriculum is composed of all the experiences children have under the guidance of teachers." (p. 69)
The 1940s and 1950s saw a return to a more systematised approach to curriculum. Tyler (1949) contributed a four-step curriculum model:

1. Stating objectives,
2. Selecting learning experiences,
3. Organising learning experiences,
4. Evaluation.

Tyler thus rekindled the effort to develop manageable behavioural objectives in education and introduced an evaluation step for the first time.

Taba (1962) extended Tyler's model to a seven-step model:

1. Diagnosis of needs.
2. Formulation of objectives.
3. Selection of content.
4. Organisation of content.
5. Selection of learning experiences.
6. Organisation of learning experiences.
7. Determination of what to evaluate and of ways and means of doing it.

In Taba's model, "diagnosis of needs" as a presage step, followed by selection and organisation of content, appeared in a curriculum development model for the first time.

Resurgence in the 1960s and 1970s of efficiency drives in government and industry in Western nations, and demand for performance goals and accountability, led to the emergence of a competency-based approach to education. Then by the middle of the 1970s and into the early 1980s, a high level of security and relative abundant resources resulted in a social philosophy, which included concerns for justice and equity in schools and classrooms. (Skilbeck, 1984)

In 1977, Tyler moderated his earlier views. Affirming that his basic steps were still valid, he continued:
I would give much greater emphasis now to careful consideration of the implications for curriculum development of the active role of the student in the learning process. I would also give much greater emphasis to a comprehensive examination of the non-school areas of student learning in developing a curriculum.

Tyler, R (1977, p. 37)

Accompanying these changes, parents and students were encouraged to participate in the development of the curriculum. There was concern for the education of the total person, and development of individuals to their full potential. This resulted in de-centralization of curriculum decision-making power and emphasis on the school-based curriculum during the 1980s.

The dramatic changes in educational ideology which have occurred since the late 1980s have been driven by changes in world economic circumstances. There is now less support for interesting and alternative developments in education. Advancement of the individual has replaced equality of opportunity. (Smith and Lovat, 1990)

Thus in many education systems, including Australia, curriculum development has turned a full circle with a return to a centralised curriculum. The opportunity to develop courses alternative to those prescribed by the central authority has been revoked, and school-based and community-based curriculum decision making has gone.

There was therefore a range of curriculum models from which to draw perspective to assist the formulation of a model for primary school health education in Solomon Islands.
10.1.2 A CURRICULUM MODEL FOR SOLOMON ISLANDS.

In Solomon Islands the curriculum has always been structured, centrally based and controlled by examinations. There is little place for subjects of an "...essentially qualitative, interpersonal, aesthetic and subjective nature" (Smith and Lovat, p. 187) in the formal primary school curriculum. Programs are based on need, and also on the resources available. The dominant philosophy is advancement of the individual in order to achieve what many perceive to be a better lifestyle in an urban occupation. (This will be discussed more fully in chapters 13 and 14.)

Health education in Solomon Islands schools would be regarded as "...economistic and utilitarian" (Smith and Lovat, p. 187), since the future economy of the nation is dependent to some extent on overcoming the many health problems presently besetting the community. Hence health education has a place in the structured primary school curriculum.

In such a structured and formalistic education system, a systematised model for curriculum development appeared appropriate, as it fitted the local tradition. Therefore elements of Taba's (1962) seven step model were chosen, as this model provided for needs assessment as a presage step and was sufficiently flexible to allow for the active role of the students in the learning process (Tyler, 1977). Aspects of this model were also adaptable to a more specific model of health education curriculum development to be discussed in the following section.
10.2 APPROACHES TO HEALTH EDUCATION CURRICULUM DEVELOPMENT.

There are many models for the development of health education programs in schools, but a search through the literature failed to find an immediately transferable model suitable for the development of a health education curriculum for primary schools in a developing country.

Sociological models, (Kirscht, 1988), (Bandura, 1977, 1982), (Ajzen and Fiscbein, 1980), considered suitable for Australian school fitness programs (Burns, 1991), and models advocated by other researchers, (Van der Heide, 1987, 1988), (Tones et al, 1990) which tend to be concerned with "crisis education" in schools in Western countries have little relevance to the health problems and the schooling system in a developing country.

The above models were unsuitable because they do not allow for the variables which are specific for primary school health education in Solomon Islands, especially:

- the range and cause of health problems, and the physical and social environment in this tropical developing country in the South West Pacific,
- the stage of development of the schooling system,
- the present task which was to develop a sequential health education curriculum for the 6-14 year aged children to be delivered by the classroom teachers.

However the two models to be described below provided useful guidelines for the development of a model for the Solomon Islands school health education curriculum.
10.2.1 THE PRECEDE MODEL.

(According to the PRECEDE model), organized health education activity is based on the desire to intervene in the process of development and change in such a way as to maintain positive health behaviour or to interrupt a behavioural pattern that is linked to increase risks for illness, injury, disability or death.

Green, L et al (1980, p.10)

This model consists of seven phases: (Green et al, 1980)

Phase 1 considers the quality of life of the target community, by assessing the problems of concern to the people in the population.

Phase 2 identifies specific health problems that appear to be contributing to the problems noted in phase 1.

Phase 3 identifies specific behaviours linked to the health problems above. Non-behavioural factors are included here, including economic and environmental factors which indirectly affect health.

Phase 4 notes factors which may affect health behaviour:
- attitudes, beliefs, values and perceptions which facilitate or hinder personal motivation for change.
- barriers created mainly by societal forces or systems.
- reinforcement from others which may encourage or discourage behavioural change.

Phase 5 decides on the causes, i.e. which of the three factors above are to be the focus of the intervention.
Phase 6 is development and implementation of the health education program.

Phase 7 is evaluation.

Green noted that school health educators will usually develop a program after "someone else" has already gone through phases 1 and 2 and concluded that educational intervention is needed, but cautioned that there is a need to decide whether these first two parts were satisfactorily accomplished. It was found in this present project that dependence could not be placed on "someone else". Thus while ideas from others were welcome, there was a need to check their findings and suggestions very carefully.

Phases 3, 4 and 5 are concerned with identifying the cause of the problems and deciding upon appropriate educational intervention.

Thus it is seen that phases 1 to 5 of the PRECEDE model correspond to step 1 (Diagnosis of Needs) of Taba's model.

There remain six more steps, concerned with formulation of objectives, content selection and organization, selection and organization of learning experiences and evaluation.

Hence while the PRECEDE model caters adequately for the educational intervention process, it does not provide guidance for the development of a school health education curriculum. A further "end-on" model was required. This was found in the Education Model, put forward by the Society for Public Health Education of America (1976)
10.2.2 THE EDUCATION MODEL.

If there is such a thing as an official line on health education, then the Education Model would receive such an accolade.

Tones et al, (1990, p. 10)

The philosophy of the Society for Public Health Education of America (1976) which proposed this model reflects informed choice. (Tones et al, 1990) Hence in its simplest form, the intent of such a model would be solely to provide information about ways to keep healthy. Success of such a health program would be easy to define and easy to achieve.

This was the type of health education frequently delivered to children in Solomon Islands schools in the past, as gauged from teachers' reference books and pupils' readers found in the Solomon Islands Archives (frequently falling apart and in unidentifiable form). It is likely that simple health facts were learnt by rote and regurgitated to pass exams, as this was the normal method of teaching.

The weakness of this model rests on the assumption that knowledge alone is sufficient to facilitate informed decision making and attitude and behaviour change. However it is the reality that while the barriers of ignorance may be readily overcome, other barriers are less amenable to change. In other words, knowing is not necessarily a precursor to action.
It is therefore argued that traditional teaching should be supplemented by non-traditional methods which would assist values clarification and allow the opportunity to practice good health habits and decision-making in real life and hypothetical situations. The evaluator would now expect to find evidence that, as well as gaining new knowledge, the students have clarified their values, acquired new skills in decision making and changed their health-related habits.

**FIGURE 10.1 AN EDUCATIONAL MODEL**

Provision of information → Beliefs and values clarification → Practise decision-making → Choice of health action

Traditional teaching techniques → Small group discussion → Simulation gaming and role play

Tones, K, Tilford, S & Robinson, Y (1990, p. 12)

Such a result is difficult to achieve, but I believe that success is more likely to occur with children during the period of primary socialisation than with adolescents and adults. Similar views relating to health education in developing countries have been expressed by Biddulph (1981) and Young and Durston (1987), and supported by Vir (1987), who, when writing about school health education in India, expressed the view that involvement of children in health activities must begin before they become socialised into a passive health consumer role. These are strong arguments for health education in the primary schools in Solomon Islands.
10.3 A HEALTH CURRICULUM MODEL FOR SOLOMON ISLANDS.

Neither the PRECEDE not Education Models were in themselves satisfactory, but they provided ideas for a new model for the Solomon Islands school health curriculum which allowed for input from and guided the endeavours of the external consultant. (See Figure 10.2) Such a model may also be applicable for other developing countries.

10.3.1 THE PRESAGE STEPS.

1. SITUATIONAL ANALYSIS.

An appraisal of the context within which the curriculum is to be developed is included, because an ex-patriate consultant is unlikely to be sufficiently familiar with the country and its people, as discussed in chapter 9.

In the Solomon Islands context this involved a careful study of the country, its people and the many factors, both internal and external to the schooling system, which affect the "learning situation" and have implications for planning the curriculum. (These findings are summarised in Part C.)

2. NEEDS ASSESSMENT.

Assessment of the living environment and health concerns of a developing country, in order to determine appropriate education intervention, are essential presage activities for a health curriculum, as previous discussion has shown.

Hence, following a cursory overview of the quality of life of the Solomon Islands' people, a more detailed study of health and social problems in the country was undertaken by the consultant.
FIG. 10.2 THE MODEL FOR THE DEVELOPMENT OF THE SOLOMON ISLANDS PRIMARY SCHOOL HEALTH EDUCATION CURRICULUM FACILITATED BY AN EXTERNAL CONSULTANT.

SOLOMON ISLANDS

The country and its people

Quality of life

Physical environment

Health concerns

Social concerns

Schooling

Traditional culture

Health beliefs, attitudes and behaviour

SITUATIONAL ANALYSIS

NEEDS ASSESSMENT

Educational Intervention

RATIONALE, AIMS, OBJECTIVES

LEARNING EXPERIENCES

CONTENT SELECTION

SCOPE AND SEQUENCE CHART

TEACHERS' MANUALS

IMPLEMENTATION

EVALUATION

Accuracy of medical content

Cultural acceptibility

School trials

Inspectors' workshop

In-service courses

Pre-service courses

HEALTH EDUCATION CURRICULUM
Some of the information sought was available from printed and published reports in Solomon Islands and the WHO Regional Office in Manila, but much was researched in the field as part of this project. Thus cross-cultural communication (as discussed in chapter 7.4) was vital, especially as many ills which afflict the Solomon Islands people are closely bound to their physical and socio-cultural environment. (Findings are summarised in Part D.)

10.3.2 THE CURRICULUM PROCESS.

1. DEVELOPING THE HEALTH EDUCATION CURRICULUM.

a) Formulation of objectives and content selection evolved chiefly from the needs assessment.

b) Learning experiences employed were dependent upon the information gleaned in the situation analysis, including the stage of development of the schools, the status of the teachers and available teaching resources. Traditional teaching techniques and non-traditional methods were utilised as appropriate.

c) Organization of the curriculum was achieved through the sequencing of the content and the related learning activities. The development of a Scope and Sequence Chart was an important part of the curriculum process. (see Appendix A)

2. EVALUATION.

With any new curriculum initiative, Taba (1962) saw a need to determine what to evaluate and ways of doing it.
In this context, it was necessary to make decisions regarding the development of the curriculum continually. Evaluation occurred in every stage of the process and was effected in three broad areas:

a) The accuracy of the medical content.
b) The cultural appropriateness of the lessons.
c) Evaluation of the teaching program.

3. IMPLEMENTATION.

Implementation of a new curriculum is the final step. In the Solomon Islands context this was achieved as follows:

a) In short term by the provision of teachers' manuals.
b) In medium term, by in-service workshops for teachers.
c) In long term, by pre-service teachers education courses.

SUMMARY.

A model for the development, implementation and evaluation of the health education curriculum for the Solomon Islands primary schools has thus been developed and is illustrated in figure 10.1

This model indicates the importance of situational analysis and needs assessment as presage steps, and formulation of objectives, selection and organisation of content, selection and organisation of learning experiences, evaluation and implementation as essential components of the curriculum process.

All of the above steps which were part of the inductive process will be described and discussed in detail in the remaining chapters of this dissertation.
SITUATIONAL ANALYSIS.

INTRODUCTION

This section describes Solomon Islands, its people and its education system to provide the context for this study.

It describes the country, its geography, climate and natural resources. It describes and explains the impact of foreign exploration and settlement, including the infamous labour trade, colonial rule under Great Britain, the effects of occupation by Japan during World War II and finally the move towards Independence from Great Britain which was achieved on July 7, 1978.

It describes the traditional people of Solomon Islands - their ethnic origins and language, their traditional culture and religion, and the importance of the land to the traditional way of life. It discusses the important influence of Christianity, and recent population and social change, which has had an effect on the health of the people.

The Solomon Islands schooling system is also discussed, including the events preceding and succeeding the Education Policy Review in 1973.

Finally curriculum change since Independence is described, with emphasis on events which have implications for the new primary school health education curriculum.
11. THE SETTING - SOLOMON ISLANDS

11.1 GEOGRAPHY.

Solomon Islands (WHO, 1985) extends over some 600,000 square kilometres of sea, lying as a scattered archipelago in a south-easterly direction from off Bougainville to Santa Cruz Islands, between east longitudes 155°30 and 170°30 and between south latitudes 5°10 and 12°45, and stretched over 1400 kilometres from one extremity to the other. Papua New Guinea lies to the west, Australia to the south-west and the islands of Vanuatu to the south-east.

The archipelago consists of hundreds of islands and atolls. The major islands of Choiseul, Santa Isabel, New Georgia, Guadalcanal, Malaita and Makira vary between 150 and 200 kilometres in length and 30 and 50 kilometres wide and make up most of the total land mass of about 28,000 sq. kms.

The larger islands are extremely rugged, with mountainous spines dropping steeply on one side to sea level and on the other through a series of foothills to the coast. Thick tropical rain forest vegetation and fast flowing rivers and creeks determine that only the coastal fringe is habitable. In parts, the coastlines of the larger islands are deeply indented, providing a number of sheltered anchorages.

There is an abundance of rivers on all the larger islands from which the water is normally potable. The rivers have steep courses for most of their length. Some are tidal near the coast but only a few are navigable.
Some larger islands have active volcanoes. Savo volcano, 30 kms. north-east of Honiara, has been identified as potentially dangerous with possible future eruptions of the "glowing cloud" type. Hot springs and thermal areas are also found in some areas.

There are extensive coral reefs and lagoons around many of the islands and these form attractive and fascinating stretches of scenery. The islands of Ontong Java and Sikaiana to the north-east, Rennell and Bellona to the south and Tikopia and Anuta to the east are all atolls.

Guadalcanal is the largest island and is unique with its extensive grassy plains on its northern coast. It is here that the nation's capital, Honiara, is located.

11.1.1 THE CLIMATE.

The climate (WHO, 1985) is equatorial but is tempered by the surrounding ocean. For most of the year it is warm and pleasant with a few extremes of temperature. The major islands are high enough to produce a cool night breeze. The mean annual temperature of Honiara is 27 C.

There are no clearly defined seasons, but from the end of April until November the south-east trade winds blow almost continuously with varying intensity. Between November and April the weather is more uncertain. There are long periods of calm punctuated by squalls and at times by the build-up of cyclones. Many of the islands were devastated by Cyclone Namu during 18-19 May, 1986.
Rainfall is often heavy. Honiara is in the rainshadow cast by the mountains to the south and has an annual rainfall of about 2250mm. Elsewhere the total may be as much as 8000mm. With extensive catchment areas in the mountains, rivers can flow swiftly and flood rapidly.

11.1.2 NATURAL RESOURCES.

Extensive areas of the islands are forested and much of this forest is commercially valuable and constitutes the country's major export. Bauxite and gold deposits have been mined, and some believe that the country's potential mineral wealth has yet to be tapped. (Carter, 1981)

The seas around the islands abound in fish. Coastal fishing has long been traditional and more recently international firms have developed commercial operations.

The country's tropical soil can produce a variety of agricultural products. Copra, cocoa, palm oil and spices constitute important exports. The topsoil however is fragile and subject to erosion and fertility loss when the plant cover is removed. Recent attempts to produce rice commercially were aborted because disease affected crops.

There are no large endemic land animals and no venomous snakes, but spiders, scorpions and small lizards, including the ubiquitous gecko, are present. The islands abound in a wide array of butterflies and birds. Coral reefs harbour brightly coloured reef fish. These assets, as well as the country's natural beauty and pleasant climate suggest a high potential for tourism.
11.2 FOREIGN EXPLORATION.

The discovery of these islands is accredited to the Spanish navigator, Alvaro de Mendana, the first European to make contact with the Solomon Islanders. Documents held by the Government Archivist in Honiara provide an interesting description of these events. (Waleanisia, 1989)

When New Guinea and the Spice Islands were discovered by Europeans in the 1550s, it was believed by the explorers that further to the west there were some very rich islands. So in 1567 the King of Spain ordered two suitable ships for an expedition of discovery which set out from the Spanish colony of Peru in South America.

Alvaro de Mendana was appointed as General and Captain of the fleet. With 150 men, 70 soldiers, 4 Franciscan priests and some black slaves on board, Mendana left the port of Calloa in Peru on 19 November 1567.

The first sighting of one of the Solomon Islands which was named Santa Ysabel, was described by Hermando Gallego, the chief pilot of the expedition:

And it was saturday [in] the said month of February 7th, 1568 in the morning. I ordered a sailor to climb to the top, and look towards the South for Land.....And the sailor reported Land.....and everyone received the news with great joy and gratitude.....and we all prayed, singing the 'Te Deum Laudamus'.

Extract from a report written four centuries ago in Waleanisia, J. (1989, p.31)
Gallego also described the islanders:

The people are mulattoes, and their hair is crisp. They go naked, their private parts being covered with prepared palm leaves. They use for food a kind of maize or root which they call benaus [or pana] and coconuts and plenty of fish.

Waleanisia, J. (1989, p. 31)

For the next six months the Spaniards saw or visited various other islands in the group - Guadalcanal, Malaita, Ulawa, Makira - giving to many places the names they still bear today. While the ships were at Point Cruz, Mendana ordered the men to explore the islands and look for signs of minerals in the rivers and in the deep gorges. Deposits of alluvial gold were found on Guadalcanal. Observations were made of irrigated gardens on the slopes of hills and large canoes, possibly used for trading with other islands.

On Ulawa the people were very healthy and friendly and better featured than natives from other islands. Some of the women were wearing short skirts made of tree bark. Subsequently however it was found that the natives were not always friendly and on many occasions the sailors were attacked by natives armed with clubs and sticks, bows and arrows, darts and flint-headed lances for hand-to-hand fighting.

After Mendana's voyage, rumours began circulating in Spain, identifying the islands he had visited with the biblical land of Ophir where King Solomon was said to have obtained the gold for his great temple in Jerusalem. Hence the name, Islas de Salomon, or Solomon Islands.
Mendana made a second trip to the Solomons in 1595 with four ships and 450 people with the intention of colonizing the islands. He reached the eastern islands where two of his ships with 182 people on board disappeared in the eruption of Tinakula volcano. The other ships reached Graciosa Bay on Santa Cruz on 29 September 1595, but Mendana died on 18 October. Others began to dispute and so those who were still alive left on 18 November to sail to the Philippines.

Over 200 years were to pass before the islands were visited again. Indeed, map-makers and geographers were starting to wonder if the group really existed, when another series of visits - by Carteret (1767), and by Bougainville (1768) and by Surville (1769) - laid such doubts to rest.

Louis Bougainville discovered the three northern islands, Buka, Bougainville (no longer a part of the Solomon Islands) and Choisel. Thereafter various European explorers surveyed the coastline, but the hostility of the natives was a deterrent to lengthy stays ashore.

Following the explorers, whalers and traders came to the Solomons. By the 1860s, every good anchorage in the group was probably known to them, but contact between the natives and Europeans continued to be far from harmonious, in fact it has been described as turbulent.
11.3 THE LABOUR TRADE.

In the latter half of the 19th Century the "blackbirding" trade was rife. (Alasia, 1989a) Between 1870 and 1911, 27,000 Solomon Islanders were recruited for work on European plantations, mostly in Queensland and Fiji, but also in Samoa and New Caledonia.

In the early years of the trade, recruiters often resorted to violence and deceit in order to get labourers aboard their ships, practices which earned the trade the name "blackbirding". In retaliation, many Europeans were killed in Solomon Islands.

By the 1880s the indentured trade had settled down to being more properly a commercial affair based on mutual consent, rather than on force and dishonesty. Government regulations from Britain, Fiji and Queensland, together with a growing understanding among the Solomon Islanders of what recruitment involved, helped rid the trade of its main abuses, although it never became entirely free of harshness and dishonesty.

There were various reasons why recruits signed up for three-year spells as labourers, including:
- the chance of adventure offered,
- prestige gained by returning home with newly obtained goods such as axes, calicos and maybe guns,
- the opportunity to obtain goods which could be exchanged for a wife when they returned home,
- to escape punishment for offences they had committed,
- to receive instruction in Christianity,
- to obtain better medical care.

Adapted from Alasia, S (1989, p. 115)

In introducing large numbers of Solomon Islanders to the world and way of life and ideas and goods of the white man, the labour trade probably exerted a more profound influence on Solomon Islands' life and society than any other single episode in their history.

Not only did the people acquire a more intense desire for new things, but they became familiar with alternative ways of thinking and acting, ways that were sometimes at variance with traditional culture and authority. Many recruits became Christians and when they returned planted the new religion in their area.

The labour trade also had many unfortunate repercussions. 30% of the recruits (8,000 out of 27,000) failed to return from their employment abroad, many of these dying from diseases of "white man". In other cases, the labourers who returned brought diseases such as tuberculosis and other respiratory infections back to the village and thus introduced scourges which had devastating results at the time and still cause serious problems today.

Finally the indentured labour trade indirectly brought Solomon Islands to the attention of the rest of the world.
11.4 COLONIAL RULE.

Foreign political interest in Solomon Islands grew out of increasing foreign contact with the people of the South West Pacific. (Alasia, 1989b) By the 1870s Britain was concerned about the conflicts that were occurring there between the islanders and certain of her subjects, particularly those engaged in recruiting labour for Fiji and Queensland. In 1877 therefore the Governor of Fiji became the High Commissioner for the Western Pacific.

International politics soon brought further developments. In 1885 German interest in the northern Solomons as a source of labour, and a British willingness to protect Australia from foreign neighbours led to the Solomons being divided into German and British spheres of influence. Then, in 1893, when France showed interest in the group, Britain moved to strengthen her position by annexing the southern Solomons as a protectorate. Germany later ceded most of the northern islands to the United Kingdom between 1898 and 1900. Solomon Islands was declared a British Protectorate in 1893.

This however did not immediately entail the establishment of an effective and active colonial administration. (Ipo, 1989) Britain was reluctant to set up an administration which would be dependent on it for funds. So the establishment of foreign-owned plantations was encouraged, in the hope that they would provide sufficient revenue to subsidize the administration of the protectorate.
The whole territory, known as the British Solomon Islands Protectorate, was placed under the jurisdiction of the Western Pacific High Commission with headquarters in Fiji. A resident commissioner was appointed in 1896 with headquarters in Tulagi. (Alasia, 1989a)

For the next 45 years, nothing was done to enable the Solomon Islanders to participate in the exercise of political power. (Alasia, 1989b) Their opinions were not sought; their wishes were ignored; they were subject to a foreign government. The colonial regime challenged the traditional system of leadership by appointing as "headmen" people sympathetic to white man's ways, rather those who were esteemed by the villagers.

11.4.1 WORLD WAR II.

Solomon Islands were the farthest southerly region in the South West Pacific reached by the Japanese during their forward thrust in 1942. The Japanese constructed a strategically valuable airfield on Guadalcanal which was attacked by American marines in August 1942. After much bitter fighting and loss of life, during which the capital Tulagi was destroyed, the Japanese withdrew early in 1943.

The fact that their country was a battle-ground during this period had profound effects on the Solomon Islands people. Many were forced to flee from their villages and hide in the jungle. Their villages and their gardens were destroyed. Many died of starvation.
11.4.2 POST WORLD WAR II.

After the war, the new capital, Honiara, developed from the United States base, ten kilometres from the former Japanese airfield, which is now the Henderson International Airport. The administrative centre of the colony moved to Honiara, but the islands were governed from Fiji until 1952. In 1953 the headquarters of the Western Pacific High Commission was moved from Suva to Honiara, so the Resident Commissioner was succeeded by the High Commissioner.

On October 18, 1960, a constitution came into operation, creating Executive and Legislative Councils, but since members were nominated by the High Commissioner, his powers were little diminished. There were however eight Solomon Islanders out of 29 council members.

During the following years, the Solomon Islanders moved closer to managing their own affairs. In August 1974, the High Commissioner became Governor, the Chief Secretary became the Deputy Governor and elected members chose one of their number, Solomon Mamaloni, as Chief Minister. In May 1975, Mamaloni visited London for talks with the British Government about a timetable for Independence.

Independence.

Solomon Islands gained its independence from Great Britain on July 7, 1978. The government is now a constitutional monarchy and the British monarch is head of state. She is represented in Solomon Islands by a Governor General appointed by and from the Legislature every five years.
11.5 THE LAND AND THE ECONOMY.

Many present day problems associated with the land and with the economy stem from the alienation of the land in the 19th. Century.

Ipo (1989) explains that traditionally, in spite of minor variations between different islands, there was general agreement concerning the way land was regarded, including community ownership, the religious importance of the land, the use of the geographical features to identify boundaries, inheritance as the main method of land transfer, methods of allocating house and garden sites, tools and techniques used to cultivate the land and the means of settling land disputes.

The land was held by clans, a clan consisting of a number of families which claim descent from the first settler of the land. A person had land rights because of his/her descent from a clan. Houses were usually located on land to which the families had usufruct rights. Generally settlements were small, rarely exceeding 100 people. Larger villages were along the coast.

Ipo explains that the land was crucial to the traditional way of life, and the household, made up of the nuclear family plus other relatives, was the production unit. Households consumed what they produced, and surpluses were shared with relatives or used for socio-political activities.
Land alienation first occurred in the 19th. century, when some Islanders exchanged some of their land for things such as beads, steel axes and knives, tobacco and firearms, clothes and other manufactured items. Small lots were sold to missions for mission stations, to traders to establish trading posts and to planters for small coconut plantations. By the end of the century large areas of land had been lost to foreigners for coconut plantations, supported and regulated by the colonial administration to subsidize administration.

Generally land alienation was a great loss to the islanders, as the land which was taken was the most suitable land for the local system of swidden cultivation and other traditional occupations such as hunting and gathering.

Land acquisition accelerated again in the 1950s when the administration took large areas of land on the Guadalcanal plains to establish an oil palm estate and in the New Georgia group for logging operations.

As in the colonial economy, land is also central to the post-colonial economy. The trend has been to involve more and more people in export-oriented production. They have been encouraged to plant plantations or to invite logging operations onto their customary lands.

Subsistence farming has undergone changes with the introduction of new tools, new crops and the use of land and labour for cash cropping.
Foreigners have exploited local labour and land. When plantations are established locally, the men are employed as labourers with poor pay. The labourers find it difficult to support their families on these wages, so the women must work in the gardens.

The increase in coconut plantations especially in the coastal regions often meant an inland shift of subsistence farming. Yet to all villagers, gardening remains the crucial means of survival upon which cash-oriented activities, such as logging and commercial fishing, are grafted.

But land for subsistence farming is getting scarce in many areas because of population growth, expansion of cash cropping and leasing of land to foreign owned commercial enterprises. The growth of urban centres has encouraged people to grow crops such as taro, kumara, vegetables and coconut for urban consumption.

Since the 1950s, prompted by government encouragement and good prices, indigenous owned plantations have sprung up in many parts of the country. The colonial administration fostered indigenous planting by the provision of extension services and planting subsidies to get more islanders involved in the export economy. Cocoa was introduced in 1958 but early crops failed. In 1960s and 1970s, logging, fishing and new plantation ventures such as oil palm emerged.
Large plantations and logging operations are undertaken by foreign companies that extract the raw materials for export with little or no processing. It is only since the 1970s that the government has been able to buy shares in foreign companies operating in the Solomons.

Such operations are always justified as being of national benefit. But they are part of a system which undermines the subsistence system upon which the majority of Solomon Islanders depend.

The exploitation of fish on a large scale for external markets began in 1973 following the establishment of Solomon Taiyo, a joint venture between the government and Taiyo, a Japanese transnational company. This venture has been responsible for the extraction of skip-jack tuna from Solomon Island waters for international markets. Only an insignificant amount is locally consumed.

The emphasis on the export-oriented economy has meant the importation of both capital and consumer goods. It is only in the 1980s that a few local-oriented industries have been established, but even then often with foreign-owned capital.

Foreign companies dominate banking, travel, insurance services, communication and transport. It is only since Independence in 1978 that the government has tried seriously to encourage Solomon Islanders to participate in the commercial sector.
Today there are many problems associated with the land. There are frequent disputes over titles and boundaries, and about how to exploit their customary land and its resources, which arise because there are now two modes of production existing within the same national economy. Some people want to keep their land for small-scale subsistence cropping, but others who want quick cash collaborate with foreigners in exploiting the country's resources.

However, even the politicians admit that, despite the assaults on it, the subsistence system remains the mainstay of the nation and acts as a cushion against harsh economic times with which the Solomon Islanders are very familiar.

SUMMARY.

Solomon Islands, the country in which the present study is located, is an archipelago of scattered islands close to the equator in the South West Pacific Ocean. It has valuable natural resources, especially timber and fish, but these are being exploited by foreign commercial interests which are also making inroads into the customary lands for oil palm and coconut plantations. In spite of this, subsistence farming remains the mainstay of the nation.

The country has had a troubled history since discovery by the Spaniards in 1567, the two events standing out being the indentured labour trade and occupation by the Japanese during World War II. Since gaining Independence in 1978, Solomon Islands has been attempting to manage its own economy and take its place in international affairs.
12. THE PEOPLE OF SOLOMON ISLANDS.

12.1 ETHNIC ORIGINS.

The original inhabitants of Solomon Islands belonged to two distinct racial groups, Melanesians and Polynesians. Melanesians are by far the larger group, outnumbering the Polynesians by about 24 to 1 (from 1986 Solomon Islands census). The Melanesians inhabit the larger islands, while the Polynesian people live mainly on some of the outlying small islands and atolls, in particular the extensive band of coral islands to the North of the main island chain, although some intermingling has occurred.

Archeological and linguistic research suggests that the islands have been inhabited for between 3,000 and 6,000 years. Melanesians came from South Asia, bringing with them the ancient Indian custom of chewing betel nut. They not only brought betel nut, but the vine leaf to chew with it and the custom of chewing it with lime. (Rukia, 1989)

In former times, settlement was not uniform throughout the country. The people were divided between bush and coastal dwellers, there were sharp distinctions between the two types of settlement and there was little interaction between the two groups. The bush people had an understanding of crops and soils, knew when and where to gather edible nuts and roots in the forest, they could catch birds and opossums, and could trace pigs by smell or by following their tracks. The coastal people developed skills in fishing. (Foanaota, 1989)
There was restricted interaction between the people of the interior and those on the coast, apart from the formal trading of inland crops for sea foods to bring variety into the diet, occasional marriage ceremonies and sporadic fighting between the two groups. The bush people tended to be very reserved, their settlements were located in places with strong defences and not easily accessible to outsiders. The coastal villages on the other hand were more open to visitors and also more vulnerable to attack.

Bush houses were, and still are, not built in straight lines and do not have internal partitions or a floor raised above the ground. Food is prepared and meals taken inside the house. There is a separate sleeping house for men.

Coastal villages are more usually laid out in two straight lines with an open space in the middle which can be used for gatherings or sporting or cultural activities. Outside each house there is a shelter for cooking while within there are partitions that separate sleeping and eating quarters. Everyone sleeps under the same roof, but in different rooms. (Foanaota, 1989)

Today Solomon Islands has become a multi-cultural country with the comparatively recent immigration of people belonging to other races, especially Chinese and Gilbertese. This has had minimal impact on remote villages, but substantial effect on some coastal villages, plantation settlements and larger towns. (This will be discussed more fully in sections 12.5, "Population Change" and 12.6, "Social Change".)
12.2 LANGUAGE.

At least 87 vernacular languages are spoken on the various islands and on one island there may be a number of different tongues. People living in villages only a few kilometers apart frequently are unable to understand completely each other's vernacular tongue. Although one language may be dominant in a certain area, there is no vernacular language common to the whole country.

A small group of Melanesians living in the Western Solomons speak non-Austronesian (Papuan) languages. However the vernaculars spoken on most of the Melanesian and all of the Polynesian islands were derived from the great Austronesian (or Malayo-Polynesian) language. The modern view traces the origins of the Austronesian language to Taiwan about 6000 years ago. Colonists moved first to the Philippines and Indonesia, thence to New Guinea and Solomon Islands. (Rukia, 1989)

The official language is English which is widely spoken and is the medium of instruction in upper primary grades and all secondary schools. The most effective lingua franca however is Melanesian Pidgin, an oral language with a vocabulary derived from English but with typically Melanesian syntax. It is universally spoken between people of different language groups. Pidgin is only now acquiring an orthography, which is itself the object of academic controversy. (WHO, 1985)
12.3 TRADITIONAL CULTURE AND CUSTOMS.

Before the arrival of the Europeans, there were broad similarities in social organisation throughout the islands, although social structure was not uniform. Both between and within islands, and between Melanesian and Polynesian communities, there were often marked differences in the ways people related to each other and conducted their affairs.

Some societies, including the Shortlands, Isabel and Ontong Java, were subject to hereditary rule. More common however was the "big man" system. By this, individuals became leaders as a result of their ability to influence people in the society, and to command the support of many people for a considerable period of time. The principles by which leaders are chosen today, be it at national, provincial or village level remains the same. The system requires, as it has always done, intending leaders to work hard and to perform well. (Alasia, 1989b).

The extended family was in former times and still remains the principal social building block, leading on the larger clan and the language unit, members of which are affectionately described in Pidgin as "wantoks".

The essence of social identity is still the relationship with one's relatives and wantoks, and bonding with the land is very strong. Kengalu (1986) notes that many nationals who die in Honiara are taken home to their villages and buried amongst their ancestors.
Discounting the strong presence of migrants in some areas, each district still consists of many different clan groups, members of which distinguish themselves from each other by using clan names, or within a particular clan by using the name of an ancestor or parent, although each individual will also probably have a foreign (Christian) personal name. Blood relationship is regarded as an unbreakable tie. People trace their descent through both the male and female line, for it is according to descent that rights to property, particularly land, are derived.

On Malaita more emphasis is put on the male line, but on Guadalcanal, Santa Isabel, Nggela and Vella Lavella the female line is more important. Although the men usually remain on the family's land while the women move away to settle with their husband's kin after marriage, women still retain and may pass on the right to work on their own hereditary land.

However inter-district marriage and recent migration means that not everyone who resides in an area can lay claim to land and this often leads to disputes between local people and migrants. (Foanaota, 1989)

Traditional dances and songs are still performed, and feasts enjoyed. In some places, sacrifices are still offered. At Laulasi on Malaita the senior custom priest still feeds the sharks, representing the ancestors, with parts of a pig that has been sacrificed. (Foanaota, 1989)
12.3.1 TRADITIONAL FOODS.
Food habits in the traditional villages have been slow to change. The men harvest fish, shellfish and turtles from the sea and hunt opossums, wild pigs and birds in the bush.

The women cultivate food crops in garden areas, often on steep hillsides. The staple foods, sweet potatoes, yams and taro, and many tropical fruits and vegetables are grown for family consumption and as cash crops for the local market. (Gina, 1986)

This makes it difficult to understand why malnutrition occurs in rural areas. (This will be discussed further in section 12.6 on "Social Change" and in section 16.1 on "Lifestyle problems: Nutrition")

12.3.2 TRADITIONAL CULTURE AND WOMEN.
Many women, especially unschooled women, still maintain a traditional role in the family. Village customs relating to the behaviour of women are still very strict. The women who leave the village are still few in number.

In many villages the practice is still followed requiring menstruating women and those engaged in childbirth to distance themselves from the village for a while. Many women give birth unattended in the bush.

The latter is of great concern to the health authorities, as many women and babies die because of this practice. (Royston and Armstrong, 1989)
12.3.3 MARRIAGE AND BRIDEPRICE.

A customary practice that has endured in many places is the paying of brideprice in order for a man to obtain a wife.

It is still the custom for a man and woman who want to marry to consult their parents and their desire will be made known to their respective people. When the go-ahead has been given, the full ceremonies pertaining to brideprice, feasting and traditional dancing will be arranged and attended to, before formal marriage in a Christian church takes place.

Fugui (1989) explains that this does not involve the purchase or sale of a person, but serves important cultural purposes, indicating the esteem in which the bride is held in the community and compensating her relatives for loss of her labour, especially in the garden. It is also a means of strengthening the link between the families involved.

Alasia (1987), in presenting the case for brideprice, explains that value is the essential criterion for brideprice, and value is based on such things as the girl's social standing, virginity, good character, personal qualities and the strength and status of her clan or tribe.

The traditional items used in the transaction such as shell money have retained their value within the culture. The people of South Malaita kill porpoises for their teeth which they use for custom money, while North Malaitans use shell money for custom payments for land and bride prices.
The following is an interesting offshoot of World War II:

On 7 August 1942, the Americans bombed Laulasi, near Auki, in mistake for the Japanese camp at Afufu in North Malaita. This bombing had immense and enduring local significance. It killed 24 people and it destroyed the local shell money industry and nearly half a century after the event it remains the subject of unresolved compensation claims.

Preface to "Ples Blong Iumi" (1989, p.xii)

Other societies use different forms of traditional currency. Feather money is used in Santa Cruz and some parts of Makira. During the 1950s and 1960s, modern goods and European currency also became common items of brideprice. (Alasia, 1987)

This custom of bride price is now quite independent of any religious significance it once may have had. Today some Christians regard the practice as necessary and proper, and support this with biblical authority, while others, just as firmly Christian, regard it as a corrupt practice.

SUMMARY.

Foanaota (1989) maintains that despite the changes that have occurred in Solomon Islands over the past 150 years, there is still much that an ancestor returning from the remote past would find familiar. About 90% of the population still live in rural areas and follow the self-supportive lifestyle of their ancestors described above.

This traditional village lifestyle has many implications for the health of the people and, as a consequence, for the health education curriculum, which will be dealt with in future chapters, as appropriate.
12.4 RELIGION.

12.4.1 TRADITIONAL RELIGION.
Many Solomon Island customs and traditions still in existence are closely tied to the old traditional animistic religion, even though today the country claims to be Christian. This is not surprising, as the traditional religion also had an important social function. Many myths acknowledging a high god have survived because the retelling of them is an established accompaniment to social festivities and because they reinforce local tradition and custom by providing a final authority for belief and practice. (Fugui, 1989) The following description of the traditional religion is also attributed to Fugui.

According to the myths, the high god was responsible for the work of creation but, having grown old, retired from the active life of being a working god. People in the past were instructed in the ways of right living by the great creator who only dealt with them through the intercessions of the ancestor ghosts. Spirits were generally believed to be in close attendance on human beings. Hence there was a strong belief in magic, sorcery, witchcraft, shamanism and other expressions of spirit power. The means by which the spirits might communicate with the living were through dreams, mediums and signs which might be discerned in many different actions and rituals. The role of the priest was important. He was a representative of the people; he offered sacrifices on their behalf and directed them in their spiritual enquiries and needs.
People generally believed that each person had a soul, sometimes more than one. When the soul left the body the person became sick. It finally departed at death to inhabit some other body, usually that of a relation of the deceased. Before that however the soul, or ghost, of a dead person usually departed from the skull (where it resided) to rest for a while at a special place, such as Malapa off the coast of Guadalcanal, which is still a sacred place. However occasionally the soul might stay in the skull of a dead person. This is why skull houses were built, well cared for and still remain in some places today.

The Solomon Island people were extremely aware of and recognised a need for mana. Mana was thought of as a spiritual power that assisted people to achieve success in their aims and activities. Possession of mana was a measure of approval by the spirits with whom the people believed they shared the world.

They also believed that spirits could interfere with their daily lives, sometimes for good and sometimes for bad purposes. People believed the spirits were responsible for any sudden misfortune, including sickness, or for success, although often as a result of human prompting. Magic and sorcery were used constantly in order to tap and control the supernatural resources of the universe. Belief in an afterlife ensured that the dead retained, and for many people still retain, a place in the affairs of the living.
12.4.2 CHRISTIANITY.

Christian missionaries have had a great influence over the Solomon Island people. In being converted from their traditional religion to Christianity, the people were required to adopt a new set of beliefs about the nature and purpose of life and how it is to be lived. Fugui (1989), himself a Malaitan priest of the Church of Melanesia, believes that this change was rarely, if ever, a purely intellectual or spiritual one. Rather it was closely bound with social changes and alternative possibilities of belief and behaviour introduced by the missionaries.

Fugui maintains that some people who became Christians had a clear perception of Christian doctrine, maybe through Gospel preaching or education in the mission schools. However many were persuaded by the outcome of what was seen as a power encounter between rival spiritual forces. For example, a sick person who had not responded to custom treatment was healed by western medicine, or an evil spirit was destroyed by a missionary who chopped down a tree in which it resided.

Many people who became Christians were therefore poorly instructed in Christianity and adopted the new religion on the same terms as the old one had been held. Thus belief in the power of magic and sorcery survived the change to a Christian God. Traditional religious beliefs often became mixed up with Christian beliefs which was probably unavoidable, since the animistic religion is as ancient as the Solomon Islands people.
Furthermore, some Christian rituals and ceremonies are very similar to traditional rituals. For example, the old custom of initiating a baby at a spirit shrine is similar to Christian baptism, while the Christian communion possibly reminds people of the sacrifices in primal religious rituals when the living were in communion with spiritual beings and the ghosts of those who had performed well in life were honoured.

In some denominations ministers have blessed bush medicines by pouring Holy Water over them, so that custom doctors can treat sick people with them. In other cases the crucifix has been used to drive evil demons from Christian homes.

Not surprisingly such a mingling of beliefs and practices has led many people to struggle with the problem of where to place Jesus in relation to their ancestors. Others have responded by trying to integrate the beliefs, values and practices of the old religion with Gospel teaching. That is, to discard what is deemed to be bad and to Christianise what is in accordance with the Gospel. Fugui believes that this is a worthy task and one that is conducive to the emergence of an authentic Solomon Islands Christianity.

**Christian Influence.**

The most productive Christian influence has occurred this century, especially the last fifty years. Today Solomon Islands is a Christian country, at least in the sense that Christianity is the predominant form of religious belief among its people.
The church leaders of today, many of whom are Solomon Islanders, are continuing the work of their missionary predecessors and striving to refine and strengthen the people's commitment to Christ, based firmly on feelings, faith and intellect. (Fugui, 1989)

Almost all the major Christian denominations and sects are represented on the islands. Services of worship are well attended. Many leaders of Government and the Administration are active members and leaders of their churches.

It is government policy that all secular schools should offer a measure of Christian instruction - to the extent of 30 minutes a day. An "agreed syllabus" has been drawn up by the Solomon Islands Christian Association (SICA) for this instruction which embraces the fundamental beliefs of Christianity.

The most important social effect of Christianity in the Solomon Islands however is that it has provided a basis for national peace and unity. It has brought its adherents into a fellowship where they are expected to "love one another".

Christian influence, combined with the colonial government's policy of pacification, eliminated the endemic violence which formally played a major part in regulating social relations in the Solomon Islands.

And, in the constitution of 1978 it was recognised as being integral to our independent nation: "We, the people of Solomon Islands....do now, under the hand of God, establish the sovereign democratic state of Solomon Islands."

Fugui, L (1989, p. 83)
12.5 POPULATION CHANGE.

Population movement was not a common feature of Solomon Islands culture in the past, as is exemplified by the number of vernacular languages in the country. Traditionally it was dangerous for people to move beyond their own boundaries on account of enemies, although Alasia (1989a) states that courage and determination allied to proximity and the desire for trade and conquest were sufficient to bring about some population shifts.

12.5.1 EARLY IMMIGRATION.

The most momentous population movement since settlement was externally induced by the indentured labour trade which has already been discussed in chapter 11.3. Since then, population movement has occurred mostly by immigration. The labour traffic occasioned numerous acts of violence between islanders and traders and these in turn led to an influx of administrators in the late 19th. century, as the British Government attempted to suppress such incidents and prepared the way for colonial rule. Planters and traders were encouraged to settle and start plantations. Missionaries were also attracted to the Solomons as a result of contacts made with the labourers. (Alasia, 1989a)

The next significant immigrant group were the Chinese, the first of whom arrived in 1910. Most were traders, based in Tulagi. After World War II, most of the Chinese settled in Honiara, where Chinatown became and still remains one of the main shopping centres.
12.5.2 POST WORLD WAR II.
During the 1950s and 1960s, the British administration resettled people from the overcrowded Gilbert Islands to the islands of Wagina and Titiana in the Western Solomons. By the 1980s they and their descendents numbered about 3,000. Although a closed community, the Gilbertese have mixed well with the local people and considerable intermarriage has occurred. (Alasia, 1989a)

Some village re-location has occurred since World War II. One form of this is the plantation village, established when ex-patriate firms need labourers to work on their plantations. Another form is the village created by people who have moved down from the bush and gathered at the coast near a mission station. Population pressure has also resulted in some internal population movement since the 1960s. Natural disasters have also forced some re-settlement, such as that following a massive earthquake in 1977 and again after Cyclone Namu in 1986, when many people were re-settled by the government on the outskirts of Honiara.

12.5.3 THE PRESENT SITUATION.
The most significant post-war population movements are now occurring in a most unorganized way, i.e. the movement of young people, especially young men, from Malaita to other islands and especially to Honiara. Attracted to the town to find employment (as well as other real or imagined benefits of town life), most of these people are unemployed and live as squatters, near or with their wantoks.
Charitable organisations and the police in Honiara have reported that domestically this leads to overcrowding and strained household relations and places severe pressure on the finances of the wantoks who are employed. Socially this leads to large numbers of people loitering around the town with time on their hands and little to do. While there is yet no large scale delinquency, petty crime and thefting are becoming more common.

Population movement of another kind is a feature of modern life. Many people who leave their villages to move to Honiara and other towns to find employment eventually return to their villages when they retire, usually early according to Western standards. Such persons are frequently well-educated and are capable of making important contributions to their village life.

Also it frequently happens that such people find it difficult to feed their large families in the towns, so children are sent home to their village to be cared for by grandparents and to make their contribution to the village.

Since Independence there has been a movement of ex-patriate workers out of Solomon Islands. While this is determined by supply and demand, it is Government policy that nationals must be given jobs before foreigners.

The motto, "Solomon Islands for Solomon Islanders", is being put into practice.
12.6 SOCIAL CHANGE.

The stimulus for change in traditional culture, customs and economic activities has of course been European influence. Initially the labour trade which introduced the goods of white man, new knowledge and travel opportunities, had a great influence. This encouraged villagers to leave home and go in search of such things. Thus extensive mingling with other people became common place. As part of this process, people began to move from isolated inland settlements to the coast where large mixed settlements eventually formed. (Foanaota, 1989)

12.6.1 INFLUENCE OF CHRISTIANITY.

As well as bringing a new religion, Christian missionaries brought social changes. They fostered respect for "Western" standards of good behaviour, good manners and good taste in such matters as family care and dress. They established schools and hospitals. They encouraged cleanliness and hygiene at both personal and community levels. Work routines were also modified, the Sabbath now being set aside as a day for worship and rest, a new custom which has been incorporated into the lifestyle of many villages. (Fugui, 1989)

Christianity also improved the lot of women. Formerly only men offered sacrifices and engaged in religious feasting and dancing, but today everyone participates. Women have also found new opportunities for social activity and status advancement in church organisations. (Foanaota, 1989)
12.6.2 "MODERNIZATION".
While about 90% of Solomon Islanders still live in rural areas and follow the self-supporting lifestyle of their ancestors, social change is rapidly accelerating. Change is more pronounced in the towns, but is also now infiltrating many isolated traditional villages. (Foanoata, 1989)

Gina (1986), writing as a Solomon Islander, blames "modernization" (p. 1) for bringing about many changes in the Solomon Islands culture, traditions and lifestyle, and consequently on health. She maintains that many people have moved or are moving away from the traditional lifestyle, adopting modern Western ways of living, and becoming dependent on the cash economy.

Gina deplores the fact that many people now use modern tools and ideas for gardening, fishing and hunting, such as modern nets and other fishing gear, guns to shoot the birds, spades, forks and even tractors to till the land, pesticides to protect the crops and fertilizers and other chemicals to maintain the soil.

In many places, Gina claims, there is now not enough land to plant traditional foods for home consumption, because the land is used for cash crops or other purposes. Many people work for cash on plantations, in factories and offices, and as house servants for ex-patriates and the more affluent nationals. Some sell their traditional foods in the markets to get money and buy imported foods sold in the shops.
In a break with tradition, today many girls leave home to go to boarding school and then seek paid employment. This has enabled these women to experience unprecedented freedom in managing their own affairs. "The practice of arranged marriages has become less common as young people find more opportunities to choose partners without their parents' consent". (Foanaota, p. 70)

For Solomon Islanders who have discarded or are discarding the traditional lifestyle, it is now easier to travel from place by fast transport like canoes with outboard engines, ferries and even aeroplanes. Many of these people now live in homes made of modern materials, where light and water are connected and they depend on modern fuels, such as kerosene, gas and electricity for cooking. (Gina, p.12-13)

These changes are accelerating because young people learn foreign knowledge, skills and practices to meet the requirements of the modern way of living, working and earning, in a formal setting in schools and higher educational institutions.

Gina, E (1986, p. 12)

Gina believes that these factors and many others have "de-skilled" the people and made them "dependent on modern methods and knowledge" so they find it hard to go back to traditional ways. (p.13)

All these changes are having a profound effect on the health of the Solomon Islands people. Health and social problems previously unknown in this country are appearing and this is of great concern to the nation. These issues will be discussed further in Part D.
SUMMARY.
Although Solomon Islands today is a multi-racial country, Melanesians are by far the dominant race, outnumbering Polynesians by 24 to 1. About 90% of these traditional people still maintain a self-supporting lifestyle, either as bush or coastal dwellers, in small, relatively isolated villages throughout the provinces, where they still adhere to traditional customs, beliefs and rituals. Christianity however has had a very strong influence, and has contributed to social change.

Population change occurred with the comparatively recent arrival of Chinese and Gilbertese immigrants, most of whom have become well assimilated in urban areas.

Population movement and social change have accelerated recently. There is concern about the movement of young unemployed youth from provincial villages to Honiara and the resultant health and social problems this brings.

There is also concern about the changes which modernization has brought to urban areas, which is also infiltrating villages. Many villagers are becoming de-skilled and moving away from their traditional subsistence lifestyle, and becoming dependent on the cash economy.

As a result of these many changes, health problems previously unknown in the country are appearing and these are problems which the health curriculum must address.
13. EDUCATION IN SOLOMON ISLANDS.

Education in Solomon Islands cannot be thought of solely in terms of schooling. Wasuka (1989) explains that much still remains of the old traditional society, its culture and its customs, organised on established patterns of behaviour and practice, and handed on from one generation to the next.

Traditional education is non-formal and continuous. It teaches respect for customs, survival skills to ensure the continuity of the group and the extension of satisfying relationships both with living people and spirit ancestors. It enforces conservatism and conformity, and is closely woven into the fabric of life.

Modern formal institutionalized education (i.e. schooling), with its alien practices and philosophies, and its emphasis on progressiveness, change and individualism, is seen as an activity separate from actual living. (Wasuka, 1989)

Traditional and formal education are not independent.

Much of the style and substance of traditional education has been changed through the adaptations brought about by contact with the araikwao (white man) and by the needs of modernization.

Wasuka, M. (1989, p. 94)

On the other hand, there was pressure in the Education Policy Review ("Education for What", 1973) to include "customs" in the school curriculum.

Both non-formal and formal education therefore will now be described to provide the context within which the new curriculum was developed.
13.1 TRADITIONAL EDUCATION.

Wasuka (1989) provides a meaningful insight into traditional education of children which starts early in the home. The mother plays the most important role, but fathers and other members of the immediate and extended family assist. Children are taught to become useful and contributing members of the society, to be familiar with its arts and crafts, its traditional lore, its history and the proper conduct of its rituals and ceremonies. Generosity and respect for persons and property are valued aspects of moral training.

While growing up, the children are incorporated into the work of the family and community. At first they are accompanied to the gardens and plantations, and on fishing and hunting expeditions. Education at this stage is confined mainly to obeying orders and responding appropriately to demands. Work is interspersed with play.

Boys and girls are expected to be different from each other in a number of ways. Boys are encouraged to be alert, aggressive, more knowledgeable in the culture, history and traditions of the society, and to develop leadership skills. Girls, on the other hand, are expected to be hardworking and honest, peace-loving and homebound. Boys go deep-sea fishing and hunting, while girls activities revolve around the home, caring for younger children, carrying water and firewood, cutting leaves for the oven and searching for crabs, shellfish and shrimps.
The environment has a great influence on the kind of knowledge and skills children must master in order to become useful members of the society. For people who live in villages by the sea, mastery of water and canoes is essential. Small children learn to swim by wading at low tide and imitating older brothers and sisters.

There are some specialized skills or knowledge which can only be imparted by appropriately qualified and recognised sages in the community. These include tribal rites, such as ear-piercing and tribal face markings which are still carried on in Makira and Malaita.

Initiation ceremonies, marking the transition from boyhood to manhood, varied from island to island, but are less common today. Previously the initiation probably extended from three months to one year, and during this time various rites, often associated with fish dieties, were performed and the initiates were kept in special houses in total seclusion from females. Male adults had constant contacts with the boys and taught them the customs, traditions, crafts and taboos of their people.

For girls there were no comparable formal and group-organised ceremonies anywhere in the Solomons. Rather they contributed to community ceremonies by preparing the food for feasts, by being tattooed, by making traditional garments, by making fishing lines and ropes, by weaving baskets and mats, by dancing and in preparing the ornaments.
They did, nevertheless, become well acquainted with the customs and traditions of the community, often through the influence of older women who looked after the young children while the parents were working and were important teachers within the community.

A good deal of community history and lore was a carefully guarded secret in many traditional societies. Information on such matters was commonly imparted only to approved members of the group and in conditions which would not permit that knowledge being picked up by people of different groups or eavesdropping strangers. The teaching of older children and adults was done late at night, preceded by light entertainment, story telling and singing.

An article written by a secondary student illustrates the important place of traditional customs:

A GRANDFATHER'S PLEA

My son, now you are working in town, you completely forget me and do not even let me see my grandchildren. You must know that without me you would not even exist, nor your children. It is wise to send your children home to their grandfather so that he may teach them all the custom ways and the background of their homeland.

Living in town is just like a tree without the main root. A tree without the main root can fall at any time. If you keep your children in town, what will they do when they grow up? Where will your children go? Will they go home? Where will their homeland be? Who will they go to? Who at home knows them and who do they know at home? Which background and customs will they follow to show they have a true home? Can town be a true home?

Moffat Kaikai, St. Joseph's, Tenaru, in Solomon Islands School Newspaper, Nov.1989
13.2 SCHOOLING.

Schooling is often talked about as being the key to well being and prosperity. It is an irony of modern Solomon Islands history that it has instead become for many people an occasion of failure and disappointment, a sign of their exclusion from the development to which they aspire.


Increasingly in Solomon Islands, the obtaining of material rewards, higher social status and power has come to be dependent on educational achievement. But access to schooling, even in the 1990s, is not available equally to everyone, and of those who do get to school, many will find the instruction they receive is unrelated to their needs.

These quite damning criticisms of education in Solomon Islands were made by a national, Moffat Wasuka, who received his secondary schooling and teacher training in New Zealand, an M.Ed at the University of Leeds, and became Director of the Solomon Islands Centre of the University of the South Pacific.

Wasuka states further that development of education in Solomon Islands has largely been shaped by the purposes of the educators, rather than by the needs of the educated.

Early efforts by the missions were primarily humanitarian and religious. They were aimed at "Christianizing" and "civilizing" the islanders.

In contrast, the initiative taken by the Protectorate Government in the 1950s was politically motivated. The goal was to train an elite to take over the affairs of the country from Britain.

Wasuka, M (1989, p. 100)
13.2.1 SCHOOLING AND THE MISSIONS.

The structure of education in the Solomons up to 1973 was part and parcel with the growth of the main five missionary groups. One of their means of evangelization was by means of educating the children in day schools.

Despite differences and lack of coordination between the denominations, there were marked similarities in the nature of schooling offered. The education provided was of a generally low standard. The children spent more time in the gardens than in the classroom, reading and writing were subsidiary to religious instruction, there was little equipment, pupil progress was not measured, and teachers rarely trained. However the missions did make many people literate, especially in their own language. (Wasuka, 1989)

Prior to World War II, all education in Solomon Islands was undertaken by the missions. The pre-war government took no interest in education and provided no assistance to those who did, apart from a small grant-in-aid to schools which gave some technical training.

All was lost during the war, so after 1945 the missions had to rebuild their educational services. Financial constraints of the various missions limited what they were able to do. At this time, the Government was unable to provide material assistance because of shortage of funds.

Then followed a period marked by a slow but steady increase in government involvement in education.
13.2.2 GOVERNMENT INVOLVEMENT.

In the early 1950s, a scheme was devised to send selected students overseas, to Fiji, Papua New Guinea, New Zealand and Australia for secondary schooling. This practice continued into the 1960s because of the lack of secondary education in the Solomons. Both boys and girls participated, and many future leaders of the Solomon Islands nation after Independence benefited, including two prime ministers, Peter Kenilorea and Solomon Mamaloni.

In 1954 a regulation acceptable to both the missions and the government was adopted. In accordance with the regulation, two types of schools emerged. The principal missions schools, which were boarding schools providing junior secondary, senior primary and sometimes junior primary education, received government aid. The village primary schools however did not receive aid and provided an inferior quality of education. (Wasuka, 1989)

In addition, the first government secondary school, King George VI, was opened, and the British Solomon Islands Training College, offering two year primary teacher training, was established in Honiara.

The overall objective of the education program as gauged from the 1962 White Paper, (Russell, 1973, in Booth, 1979) was to provide every child with a full primary education. Ten years later, only 65% of the country's 7-13 year olds attended primary school. 1986 census figures indicate that this figure is even less. (to be discussed later)
Furthermore the dropout rates were so high that fewer than 5% of the 12-19 age group were enrolled in any form of secondary schooling. (Palmer, 1978) Due to repeating and the fact that many children did not enter school at the appropriate age, many children were not classified in the appropriate grade for their age. Throughout the schools boys predominated.

By the 1970s there was considerable disquiet in the community at large about the aims and effects of educational policy, that this pattern of development had brought with it acute problems of disparity between standards in different schools and the conditions under which teachers served in the schools.

It was said that the present system was regarded by many Solomon Islanders as an alien system which had been imposed upon the people and was unsuited to the needs of the people of the islands. It was also felt that "too much emphasis was being put on academic training and that this was alienating the young people from their indigenous culture". (Wasuka, 1989, p. 106) There was concern about the number dropping out from junior primary and senior primary schools who were not only educationally unqualified, but were unable to fit back again into village life.

In response, the Solomon Islands Governing Council established the Education Policy Review Committee to look into all aspects of education. The committee's report, "Education for What", was published in 1973.
13.3 EDUCATIONAL POLICY REVIEW.

THE FINDINGS.

1) The aims of education.

It was reported that during the previous decade there had been much talk by educationists and economists of education as an investment, that if an underdeveloped country is to develop successfully, it must invest in education to produce educated and trained manpower, that to raise the general standard of education could make a more rapid and lasting contribution to the development of the economy.

But it was argued that the value of education cannot be measured purely in economic terms.

(Education) is concerned with the development of the whole man, with his ability and efficiency most certainly, but also with his awareness of the needs of others, his values, his happiness and his fullness of life. In other words, education is concerned with living rather than the narrower concept of making a living.

"Education for What?" (1973, p.30)

Many people from all walks of life gave evidence to the committee of review. The following illustrate their views:

Education should aim to make children good men and women in the village.

The people expect the school leaver to come back and help to improve the village.

The present system of education is a foreign one which does not meet the needs of Solomon Islanders.

Education must make the Solomon Islanders aware of their environment and help them to be better able to understand and overcome the problems which they face in life.

"Education for What?" (1973, p. 31)
After considering all the evidence the committee summarised the aims of education in the Protectorate as follows:

a) To enable each Solomon Islander to understand his environment and the place of the Solomon Islands in the rest of the world.

b) To enable the Solomon Islander to think and develop his reasoning power so that he may face up to and overcome the every day problems with which he is faced.

c) To enable Solomon Islanders to become sound citizens of the Protectorate with an understanding and sympathy for the needs of others.

d) To enable each Solomon Islander to understand his own customs and the customs of others.

e) To promote racial harmony and unity in the country.

f) To improve the quality of life in the Solomons.

g) To offer skills which will enable each Solomon Islander to play his part in the development of his community and country according to his ability and aptitudes.

"Education for What?" (p. 31)

2) The structure of the education system.
Views were expressed that four years primary education (often in a boarding school way from home) in the present system probably did more harm to village children than no education at all. One of the main concerns was the alienation of children from parents, villages, and village ways and customs by foreign systems of education.

It was believed that schooling should be offered as close as possible to the pupils' home, i.e. that primary schools should be in the village and children should attend as day pupils.
Furthermore, the content of the primary school course should be geared towards the majority who are going to remain in the village and not towards the few who will continue their education at academic secondary schools.

It was agreed that entry at seven years was acceptable if the primary school was in the village. Many supported pre-school education in the village from the age of five years. It was felt that there was greater need for these in a developing country than a developed country, since many village mothers were themselves uneducated and unable to help their children prepare for school.

The six year primary course should be of general nature, broadened from the present course with its academic emphasis to meet the need of the majority of pupils. The village school could also become a centre of economic and social development in the village. It could be a youth centre and an adult education centre with the teacher providing liaison between the villagers and visiting specialists, instructors and extension workers.

3) Language in the schools.

Strong feelings were expressed against the use of the English language as the medium of instruction from Standard One, as this results in confusion and non-learning. The people who voiced dissatisfaction preferred to see local vernaculars being used in standards 1-3 in the villages. This would mean that local teachers would return to teach in their own language areas.
Pidgin should be permitted where necessary, especially as the medium of instruction in town schools where it has become creolised. The English language would be taught as a subject until standard 4, then gradually introduced as the language of instruction.

4) Teacher supply and teacher education.
It was recommended that in planning the future educational system, priority should be given to the improvement of the supply of trained teachers to teach in primary schools and area schools. To this end, a College of Education would be established in 1975.

5) Buildings and equipment.
No further prestige buildings would be erected at educational institutions. Classrooms should be of low cost construction and made of local materials, e.g. leaf classrooms. Rural schools and teacher houses should be erected by the villagers themselves. Very few Solomon Islands primary schools had adequate latrines or water supply. Since these constituted a health hazard, school boards were encouraged to carry out improvements.

Villages initiating such development would be given trained teachers and grants of equipment.

6) The new structure for education.
13.4 PROGRESS SINCE INDEPENDENCE.

The years since Independence in 1978 have been a time of great change and great challenge for the Solomon Islands people. With the departure of the British expatriates from the key posts in Government and Administration, many school teachers, being amongst the best educated in the land, were appointed to responsible positions managing the affairs of state. This left a void in the teaching service from which the country is still recovering.

The 1975-1979 education policy, with some minor amendments, forms the basis of education today. The basic Government philosophy is to make education available to as many children as possible and at the same time to meet the country's high level manpower needs.

The basic structure of the present day education system comprises a six year primary course, two distinctive secondary school systems (one practical and vocational, the other academic) and a limited number of places in tertiary and vocational institutions.

At the time of Independence, the churches still operated many primary and all but one of the secondary schools. In a move to nationalize education, all the primary schools were taken over by the government, a move now regretted because of financial stringencies, (according to a private source).

The six national secondary schools offer a five year academic course. Entry to these schools is by selective examination at the end of standard six.
Graduates of these schools usually move on to tertiary studies or to employment in business or administration. King George VI school in Honiara offers courses to Form VI standard, these students being prepared for universities abroad. The provincial secondary schools offer three year courses of a practical nature with a bias to agriculture.

Administration of the schools is regionalized, each province looking after its own affairs. Provincial education officers (also called school inspectors or multi-level trainers) have administrative and supervisory roles in the primary schools. They are responsible for the introduction of new curricula, trialling new teaching ideas, organizing and conducting of in-service training courses. These officers are periodically summoned to Honiara to attend in-service courses themselves, usually in school vacation time.

Supervision of the untrained teachers is the responsibility of the headmaster of the school. These teachers need maximum help, and often the headmaster provides this by writing notes in an exercise book about the lessons to be given each day.

The reality of primary education for all children has however fallen far short of the promise. In the 1986 census, of a total of 84,590 primary school age children between 5 and 14 years old, only 47% were enrolled in primary schools. This is less than the percentage of school age children in primary schools in 1972, quoted previously.
In 1984 the World Bank funded a $10,000,000 primary education project, which together with Australian Aid, was to provide many additional primary school places by building additional schools and training additional teachers. However due to a combination of unfortunate circumstances (to be explained more fully in chapter 14.2), very few additional school places have been provided.

This project which became known as the "World Bank Project" was also earmarked to develop a new primary school curriculum and provide resource material to support it. (This also will be discussed in the next chapter.)

Teacher education opportunities vary considerably. Some teachers attend overseas universities and colleges, in Fiji, Papua New Guinea, New Zealand and Australia, while others are trained in the School of Education at the Solomon Islands College of Higher Education.

However many primary school teachers, especially of the lower grades, receive no pre-service training at all. These young people leave school after Form I, II or III and immediately take up an appointment as a teacher in a village school, usually close to their home, where they speak the vernacular of the young pupils. Perhaps after several years teaching, they may be given the opportunity to take a one-year training course at the School of Education in Honiara.
Children commence primary school at age seven. The privileged few in the towns attend pre-school from age five. The request for village kindergartens, expressed in the education policy review has not been fulfilled.

Village primary schools, on the whole, could be characterised as belonging to Beeby's stage of formalism. They have few teaching aids and reference books, and the children no text books. There is no school or class library. Teachers' guides have been prepared for each subject to prescribe the lessons to be given according to a structured syllabus. Instruction, from necessity, is mainly "chalk and talk".

Attendance at village schools is often irregular. Many children have long distances to walk to get to school and climatic conditions often make the route impassable. Children are often kept home from school to mind younger children while parents work, go to the market or to the clinic. The day the health worker comes to school to give the children malaria drugs is often a day to truant.

Government primary schools in Honiara and some larger towns are more privileged, with a wider range of aids, supplementary readers and reference books and staffed by experienced and/or trained teachers. Such schools would be approaching Beeby's stage of transition. They are however still expected to adhere to the set syllabus and prepare the students for examinations, the most important being the Hick's test at the end of grade six.
The Hick's test is a nationally standardised selective examination, comprising attainment tests in English and Mathematics, and a General Reasoning Test to measure problem solving skills. Students are selected for both provincial and national secondary schools on the basis of these tests, together with reports and recommendations from their head teachers.

Expansion of primary school education, while satisfying some needs, would probably create others. Unless accompanied by a similar expansion in secondary school places, it would accentuate the pressures on students sitting for the Hicks test. The front page article in the "Solomon Star", the weekly newspaper published in Honiara, on 1 December 1989, read:

ONLY 30% PASS TO ATTEND SECONDARY SCHOOLS

About 30% of all primary school students who sat for the exams have been accepted to the secondary schools. No one was available from the Ministry of Education and Human Resources Development to comment on what would happen to the other 70% of the students who failed to make the grade....

The total number who sat for the exams was 6191. The number who passed was 1855. Out of this, 570 were selected to the national secondary and 1285 to the provincial secondary schools.

During the following week, a number of students who failed to make the grade went on a rampage through the streets of Honiara and burnt down their classroom. Such are the pressures on the children to gain a secondary place.
The other problem plaguing the country at the present time is lack of employment opportunities for early leavers from the secondary schools, especially those from the three-year provincial secondary schools. Many young men and women do not wish to return to their villages, but prefer to seek work in towns. But opportunities commensurate with their skills and aspirations are not easy to find.

To help solve these problems and with the idea of relevance and self-reliance currently ruling official thinking, there is encouragement from the government for the establishment of rural training centres. One successful enterprise is St. Martin's Rural Training Centre east of Honiara which offers training in skills useful for rural development.

Thus it is seen that there are many problems associated with schooling in Solomon Islands. There remains much to be done and many problems to be solved.

(These are) not the kind of problems that our ancestors had to contend with, but they lived at a time when education was not, as it has since come to be, equated with schooling.

Whether this change has been advantageous or not is a matter for debate, although undoubtedly much has been lost in the course of it. What is even more certain is that it is irreversible.

Wasuka, M (1989, p. 111)
13.5 IMPLICATIONS FOR THE HEALTH EDUCATION CURRICULUM.

Because primary schools are village based, while secondary schools are boarding schools (and the majority of pupils do not proceed to secondary school anyway), health must be taught in the primary schools if it is to achieve its chief objective, viz. to reach as many people in the community as possible, especially the village people, in an effort to improve the health of the nation.

Theoretically, the new course has approval from both the Ministry of Education and the community, as it is "concerned with living rather than the narrower concept of making a living". (Education for What, p. 30) It forms part of the six year primary course which is intended to be of a general nature to meet the need of the majority of pupils.

However in practice there may well be some opposition to the allocation of time to this subject, especially in grade 6, because of the importance placed on success in the Hick's test in order to achieve a place in a secondary school. The way in which this problem may be overcome in the future is to include "health" questions in the general knowledge paper, a possibility I resisted, believing that this detracts from the purpose of this subject. (This will be discussed further in chapter 20.6)

It is unfortunate that throughout the schooling system boys still predominate, as there is possibly some truth in the adage, "If you educate a woman (about health), you educate a family (about health)".
Although the basic government philosophy is to make education available to as many children as possible, parents are likely to continue to give preference to their sons if they are financially unable to educate all their children. For this reason, child-to-child strategies (to be explained in chapter 20.5) are used in the health curriculum with a view to transference of health information and good health habits to unschooled children, especially girls who stay at home to mind younger siblings.

The fact that the majority of teachers are untrained, and furthermore have little knowledge of modern ideas about health and sickness indicated that they needed maximum assistance to implement this curriculum. To this end, reference notes are provided in the teachers' manuals for every topic, as well as detailed steps of each lesson. (The manner in which the teachers' manuals were presented will be described in more detail in chapter 20.7)

The teachers' manuals were written in English. The curriculum officers refused an offer by WHO to have these translated into Melanesian Pidgin, maintaining that the teachers could easily translate the English text and give their lessons in their vernacular or Pidgin.

The inequality of village and town schools, which applied to the training and experience of teachers, availability of teaching aids, teaching methods used and general educational standard attained, were problems to be solved. (How this was attempted is described in chapter 20.)
Inequality often applied as well to the school environment.

Very few....primary schools have either adequate latrines or water supply, and the Medical Department have often commented that many of them constitute a serious health hazard.

Education for What? (1973, p. 109)

Personal observations during 1987 -1989 indicated that many schools still lack sanitation, and a safe water supply and a safe and clean environment, all of which have important implications for a health course.

It was necessary to win the support of the provincial education officers (school inspectors), as it is their responsibility to implement the health curriculum into the schools in their provinces. The usual procedure was followed, viz. a workshop for these officers in Honiara at which the new curriculum is introduced. (An account of this workshop is given in chapter 22.) Thereafter the inspectors are expected to introduce the course to the headmasters in their provinces who in turn have responsibility for the teachers in the schools.

When the new curriculum has been implemented into the schools, which may not happen for several years, the expectation is that it will contribute to the national aims of education, viz.

enable each Solomon Islander to understand his environment,

improve the quality of life in the Solomons, and

offer skills which will enable each Solomon Islander to play a part in the development of the community and nation.

"Education for What?" (p. 31)
The Solomon Islands School Curriculum.

As previously discussed, the original objectives of the mission primary schools were to teach the basic skills and Christian values. However by the early 1970s there was a clear indication of a narrowing of these objectives to the preparation for the secondary entrance examination to allow a small minority to proceed to further academic study. The content was more than usually based outside the environment of the pupils and taught in a didactic manner by teachers, most of whom were untrained. In the senior primary classes 60% of class time was devoted to mathematics and English. Academic success and a place in a secondary school was all that mattered as this was seen as the escape from the village work cycle. (Booth, 1979)

Booth also found a similar pattern of traditional academic subjects was continued into the secondary curriculum, in preparation for the terminal examination, the Cambridge Overseas School Certificate. Success in this examination guaranteed further educational opportunities overseas, or a secure job in government or in a commercial firm. The curriculum was thus geared to man-power needs.

However the "Education for What?" (1973) report indicates that, by 1972, there was considerable dissatisfaction with the curriculum. It was seen as an alien curriculum imposed on Solomon Islanders and unsuited to their needs. There was consistent demand for a general type of primary education.
As one villager stated:

What one (a person) requires in a Solomon Island village is to house and feed himself. A Solomon Island child who does not attend school and remains in the village is able to look after himself at adolescence, but the child who goes through primary school now cannot.

"Education for What?" (p. 52)

The needs of different areas were considered. Many people suggested that the curriculum for rural areas should have a different bias from that of urban areas. Others believed that the primary school curriculum should be broadened to meet the needs of the majority of the students.

This presented a very difficult problem which still remains unsolved. To provide an opportunity for all to gain admission to a secondary school meant that the curriculum of necessity maintained its academic bias, a curriculum which remains unsuitable for many of the students in the village schools. This issue will be brought up again when the problems surrounding in the development of the primary school health education curriculum are discussed.

However the need for the development of relevant curricula at both primary and secondary levels was obvious and there were strong feelings that this re-orientation be carried out by people from within the country. It therefore recommended that vigorous attempts be made at both primary and secondary levels to produce suitable material as soon as possible.
It was emphasised that what is taught and learned in school must first of all be meaningful in the context of Solomon Islands and at the same time be able to meet the demands of a 20th Century society.

The emphasis should shift to include a concern for the needs of the people to develop as persons who can make sense of life and cope with the rapidly changing conditions in the Solomons.

This means in educational terms a system whose objectives make adequate provision for the development of appropriate attitudes and intellectual skills including decision making, rather than mere amassing of knowledge.

"Education for What?" (p. 58)

One of the recommendations was that curriculum officers should be appointed and curriculum committees should be set up to promote curriculum reform in the different areas of education and to advise the Director on such matters.

It was suggested that the secondary curriculum officer, preferably a Solomon Islander, be appointed early in 1975, to coordinate work in the secondary and area high schools. This post however was held by an ex-patriate until 1989, there being no national educator with adequate qualifications and experience.

Curriculum development in the secondary schools has proceeded effectively, albeit slowly, mostly through Secondary School Curriculum Workshops. These have been held annually since 1976, during the mid-year break in June/July, at the Curriculum Development Centre in Honiara.
The primary school curriculum committee was given power to co-opt members or to appoint sub-committees or working parties as required. As a result, subject panels were appointed, one of these being the Health Education Panel.

Another recommendation was that the post of primary schools' curriculum officer was to be filled by a Solomon Islander as soon as possible. This officer was to seek the cooperation of district departmental officers and teachers in the field in order to review continually the primary school needs and to write relevant material as required.

Recommended future allocation of time in the primary school was as follows:

- Assembly and Singing 2%
- Health 3%
- Physical education 7%
- Agriculture and environment studies 10%
- Religious instruction 10%
- Customs & Arts & Crafts 10%
- Customs & Social Studies 10%
- Mathematics 23%
- English 25%

"Education for What?" (p.53)

How ideas were put into action just prior to and following Independence in 1978 now follows. Development of a new curriculum for the national secondary schools was seen as the most urgent need and was the first initiative to be embarked upon. When the provincial secondary schools were established, their needs were melded with the needs of the national schools. Development of the new primary curriculum did not commence until 1983 and proceeded independently.
14.1 THE SECONDARY CURRICULUM.

The national secondary schools continued to prepare students for the Cambridge Overseas School Certificate examinations using the overseas syllabi while work commenced on developing a new secondary curriculum.

A Solomon Islands School Certificate examination was envisaged and established before this initiative was taken by other Pacific Island States, such as Fiji, Samoa and Tonga. The Year of Independence, 1978, was established as the year for the first group of students to sit for the Solomon Islands School Certificate. (M.E.T. 1975).

Discussions commenced on the curriculum development project in June 1975 with a week-long workshop for over 60 teachers, ministry staff and consultants from a UNDP/UNESCO project in Fiji. Since that meeting, a highly participatory model of curriculum development has emerged.

By having a large proportion of the teachers involved in curriculum development through workshops, two benefits will accrue. One, a more acceptable and relevant program should develop, and secondly the problems of implementation should be reduced....We're not only permitting, but demanding that teachers get involved in curriculum decision making.

Paia, H (1976, p. 10)

In the space of four years (1975-1978), small groups of six to ten teachers, with the assistance of an adviser for each subject panel, prepared a new syllabus document for the core subjects in accordance with the new education policy, developed the syllabus and quantities of resource materials for Forms 1 to V.
In addition they constructed a trial Solomon Islands School Certificate paper and two formal papers (each year required three comparable papers of which one was chosen) and marked, ranked and evaluated the first National School Certificate examination. These duties were undertaken in addition to full-time teaching and boarding school duties.

The original 1975 panel of four subjects was expanded to eight in 1976 and ten in 1978. This trend reflected the expanded subject choice available beyond the academic core of English, Maths, Science, Social Studies and Religious Knowledge. By 1979 all schools were able to offer at least four elective subjects from: Agriculture, Business Studies, Arts/Crafts, Home Economics and Manual Arts. By 1979, the national secondary system had ventured well beyond the constraints of the externally formulated curriculum of the Cambridge Overseas School Certificate.

While the major task of transforming the national secondary school curricula and its assessment at the Solomon Islands School Certificate was initially undertaken by groups of degree-trained, predominantly ex-patriate teachers, progressively, as more trained national teachers entered the service, the input of the ex-patriates was withdrawn, and they now act more in an advisory role.

The first four provincial secondary schools (P.S.S.) were established in 1976, with a curriculum aimed to help the students acquire skills likely to be useful when they returned to the village.
At first this was only a two-year post-primary course, but in 1978 the curriculum was extended to three years, with the introduction of a Form III examination in English and Mathematics to allow the students with academic potential to transfer to a national secondary school.

Teachers from these newly established provincial secondary schools with their rural/technical orientation were anxious to participate in the development of curricula, but their input has been minimal for many reasons. Booth (1983) observed that logistic, financial and difficult political conditions constrained their regular attendance at the curriculum workshops in Honiara. When present, their lack of confidence in expressing themselves in the oral and written word reduced their contribution.

Provincial meetings however were held in various areas and teacher confidence was increased and program problems resolved in a pleasing manner, especially in Mathematics and English. Booth explained that while this "personalised approach" may seem expensive for a small school system like Solomon Islands, it fulfils a very important Melanesian tradition of discussion until consensus is reached.

Secondary curriculum workshops have continued in June/July each year up till the present time. Small dedicated groups of secondary teachers meet together at the Curriculum Development Centre in the campus of the Solomon Islands College of Higher Education in Honiara.
Each group is guided by a consultant from Australia or New Zealand. The major task remaining is the development of teaching materials (units of work) for each subject.

The curriculum for each subject is also continually under review. During 1990, the Physical Education curriculum came up for major review. This review had important implications for health education in the secondary school which will be discussed further in chapter 23.2.

In 1979, Booth succinctly summarised the progress of secondary curriculum development. What he observed then still applies today.

The secondary curriculum in the Solomon Islands schools has changed significantly in the seven years around Independence. The forces of social and philosophical change which captured the spirit of the people has caused the schools to be venturesome on the one hand, but overtaxed on the other...

A significant innovation in relevant, progressive education has commenced.

Innovation and diffusion has been effectively implemented in the national secondary schools using a highly personalised model of curriculum change.

Teachers have been totally involved in all aspects of design, implementation and evaluation. A pattern of change (has been established) which incorporates the traditional Melanesian way of problem solving.

Booth, T (1979, p.38)
14.2 THE PRIMARY CURRICULUM.

The way in which the new curriculum for the primary schools was developed was completely different from the approach adopted for the secondary curriculum just described. In view of the problems which beset the development of the primary curriculum, it remains a vexed question whether or not the best procedure was adopted.

Involvement of teachers in curriculum decision making and preparation of support materials would undoubtedly have been the best procedure to follow. That this approach was not adopted was possibly due mainly to two factors.

Firstly there were very few ex-patriate teachers in the primary system and the majority of the Solomon Islands teachers were untrained and lacked the necessary knowledge and skills to make any useful contribution to the new curriculum. Furthermore many of the trained and experienced teachers who provided educational leadership before 1978, being amongst the few highly educated persons in the land, had been translated to government posts when expatriate officials and administrators left the country after Independence.

However it is likely that there were sufficient trained and experienced Solomon Islands primary teachers remaining in the education system to undertake this task for most primary subjects, (but not for health education, as was proven at a later date, and was the reason that the World Health Organization became involved.)
Secondly there were possibly other pressures on the Solomon Islands Government relating to the way overseas aid for the primary project was packaged and delivered. However, accurate information relating to this was not available.

The outcome was that curriculum materials were developed overseas, as part of the World Bank Project. This was contrary to expressed feelings in the "Education for What?" (1973) report, viz. that this re-orientation be carried out by people from within the country.

It is necessary now to digress in order to explain how the World Bank Project came into being and how initial optimism that this was the solution to the many problems concerning primary education ended in bitter disappointment.

14.2.1 THE WORLD BANK PROJECT.

In the early 1980s, the Solomon Islands Government applied to the World Bank for a substantial loan to upgrade primary education. This money was to be earmarked to fulfil the aims of primary education as detailed in the 1975-1979 Education Policy, (M.E.T., 1974) viz. to make basic education relevant to the needs of the Solomon Islands people and available to as many children as possible.

More specifically, it was designated for three purposes:

1) To increase and upgrade school accommodation by building new village schools, additional classrooms and replacing school buildings in disrepair.
2) To increase the number of primary teachers and upgrade the qualifications of the many untrained teachers in the service through in-service workshops and by providing more places in the certificate course at the Teachers' College (later the School of Education, S.I.C.H.E.)

3) To develop the new primary curriculum and supply the teachers with manuals, reference books and other resources to enable them to teach it.

Tenders were called for management of the whole project and a consortium, headed by an Australian academic, won the contract. The curriculum project was initiated with the First National Primary Curriculum Workshop, when the modus operandi was agreed upon. Materials were to be developed overseas (mostly in Australia) for trial in the Solomons.

No doubt some of the Solomon Islands educators were aware that this arrangement could be fraught with problems - that curricula and supporting materials developed in Australia would still be "imposed". (This was the main reason for the rejection of the old curriculum and what they were trying to avoid by writing a new curriculum, as has already been discussed.)

There was provision to trial the materials in Solomon Islands schools, but this was an unsatisfactory substitute for a Solomon Islands curriculum developed in Solomon Islands by Solomon Islanders, as later events proved.
A report of the first curriculum workshop was presented to the Minister of Education in July 1984. Subsequently, in the Solomons, national curriculum development officers for English, Mathematics, Community Studies, Science and Agriculture, Health and Physical Education were appointed, along with subject panels, each with a panel chairman. At the same time, in Australia, consultant/writers for the various subjects were appointed.

The Second National Primary Curriculum conference was held in February, 1985. Most of the development assistance associates from Australia were present as consultants.

The ex-patriate writers presented materials produced to date, including rationale, draft syllabi, and scope and sequence charts, to the various subject committees for approval. Amendments and suggestions were made before a report was presented to the conference.

The report of the Health and Physical Education committee is especially relevant to this present study and will receive further attention in chapter 20.

Recommendations arising from this meeting included:

SYLLABI

- That the following syllabi be approved:

  Mathematics
  English Language
  Community Studies
  Science/Agriculture
  Health/Physical Education

- That the revised Scope and Sequence Charts for all programs and a Weekly Work Program for each standard be printed on laminated wall charts.
- That a Teachers' Manual be produced for each subject in each standard.

- That supplementary textbooks be written in the following areas:

  Language - standards 1 and 2
  Science/Agriculture - standards 5 and 6
  Community Studies - all standards
  Physical Education - to cover all standards
  Health - all standards.

**ASSESSMENT**

- That progressive assessment be included in all programs and included in the teachers' manuals for all subjects.

- That at the beginning of standards 3, 4, 5, and 6, a national diagnostic test be given to all students.

- That the Hick's test be reviewed once the revised curriculum is introduced.

M.E.T., (1985, no page number)

The project director indicated that he would arrange for the required materials to be drafted by the selected expatriate writers and then printed in Australia. At this stage it appears from the report of the proceedings of the workshop that all the nationals involved in the project were very optimistic about a satisfactory outcome.

A hint of concern however was apparent in a paper written by the ex-patriate secondary curriculum development officer (Treadaway, 1986) and circulated to all involved in secondary curriculum development. He reported that during the years, 1983-1985, the World Bank Project had led to considerable changes in the primary school curriculum and in individual subject syllabi. There had been changes in content, method and materials used by teachers and students.
There had also been a change in the process of development, with emphasis on development of material overseas for trial in the Solomons, rather than local development of materials.

He was concerned about links between the primary and secondary curricula and the fact that much of the work was being done overseas, thus making co-ordination more difficult. He was especially concerned about the link between Standard 6 and Form 1, i.e. the inter-face between the primary and secondary curricula.

With a view to alleviating this serious problem, Treadaway proposed meetings in Honiara to encourage communication between teachers, curriculum development officers, subject panels and consultants at primary and secondary levels. He also suggested that contact should be made between the overseas primary consultants and the secondary consultants from Australia to discuss the implications of the new primary syllabi for secondary teaching.

In 1987, when seeking to become acquainted with the overall educational situation in the country by speaking with both primary and secondary curriculum officers, there was no evidence that such dialogue had taken place. There appeared to be very little communication between primary and secondary staff of the Curriculum Development Unit and lecturers at S.I. College of Higher Education, responsible for teacher education. Likewise, overseas consultants conducting the secondary curriculum workshops had little knowledge of the primary curriculum for their subjects.
Booth (in a personal communication in 1992) maintained that dialogue did take place. However the processes of primary and secondary curriculum development had been separated too long to see changes occur as a consequence of two or three discussions. The situation was further aggravated by different funding arrangements and different lines of accountability.

Whatever the reasons, an offshoot of this lack of communication and coordination between primary and secondary curriculum writers had serious repercussions for health education which will be discussed in detail in chapter 23.2.

Returning to the World Bank Project, the course of events which followed the Second Primary Curriculum Workshop in 1985 is not clear. Sometime during the next two years serious problems arose, culminating in a Royal Commission in Honiara.

The following article written by Murray Hogarth, appeared in The Sydney Morning Herald on 18 February, 1989.

**Solomons Inquiry criticises Academic.**

A Solomon Islands commission of enquiry had found "real danger" in a N.S.W. college principal who had used his control over a $10,000,000 World Bank education aid project to further his own business interests.

He had drafted his own contract to become Solomons project director in 1982 and later became the primary businessman involved in supplying curriculum materials.

This led to breaches of Solomon Islands Government procedures, contravention of World Bank guidelines and costly problems with curriculum development.
The commission's concern over the shortcomings in curriculum materials prompted it to recommend a full reassessment because of the "profound effect" it was likely to have on future generations.

"There is a real danger that the educational objectives of the curriculum development project have been distorted... with a view to enhancing the image and profits of private commercial interests," the report says.


Any further comment about this enquiry is beyond the scope of this dissertation.

It is sufficient to say that the supply of new classrooms did not reach the target, (and the problem of accommodation was exacerbated by damage caused by Cyclone Namu in July 1986), the supply of trained teachers has not significantly improved, and the development of the curriculum and production of teaching materials fell into disarray.

When the present project began in 1987, the input of the overseas consultants had been discontinued and primary curriculum development officers were attempting to pick up the pieces. Eventually teachers' manuals were completed by the national curriculum officers and printed in Solomon Islands for most subjects.

The project was wound up at the end of 1989 and the primary curriculum development officers, apart from the health education curriculum officer who continued to work on this project for a further 12 months, returned to the teaching service, mostly as school inspectors.
14.3 IMPLICATIONS FOR THE HEALTH EDUCATION CURRICULUM.

It was in this context of educational frustration and disillusionment, as well as distrust of overseas consultants, that I attempted to guide the development of a new health education curriculum. Difficulties of cooperation and communication experienced in the early stages of the project have already been mentioned. This more detailed description provides the context and a possible explanation for this reticence.

Problems which surrounded the World Bank Project pointed very strongly to the need to collaborate with the national health curriculum coordinator and the primary health education panel in the development of the new curriculum, but this was not as easy to achieve in practice as it appears in theory. (This issue will be explained and discussed in chapters 20 and 21 to follow.)

Although these national teachers were able to contribute to the rationale, aims and objectives, and suggest the topics to be included in the health curriculum, they were not acquainted with the specific content nor the teaching strategies which were appropriate. These key persons however were always consulted when decisions had to be made and the Primary Health Panel was also the final arbiter of the suitability of the curriculum plan and the teachers' manuals written to support it.

Practical aspects of developing and implementing the curriculum will be described in Part E.
PART D

NEEDS ASSESSMENT
NEEDS ASSESSMENT.

INTRODUCTION.

Information concerning the state of health of the Solomon Islands people in both rural and urban areas was gleaned by observation, inter-reaction with the local people and discussions with officers of the World Health Organization and the Solomon Islands Ministry of Health, including staff at the Honiara General Hospital and regional base hospitals, nurse educators, village health workers and clinic sisters, health educators in Honiara and the provinces, as well as volunteers from various aid organizations engaged in specific projects.

The greatest deterrents to health and physical well-being appeared to be lack of knowledge about health and disease, poor personal and environmental hygiene, lack of sanitation and a safe water supply, flies and mosquitoes, the unwise use of available foodstuffs, the increasing consumption of Western foods and alcoholic drinks, smoking, accidents and violence. These problems were accentuated by the low status of women, high birth rate, inadequate health care services and slow response to measures aimed to prevent or at least reduce many illnesses taking such a toll in this country.

The needs assessment which follows attempts to provide an overall picture of the health status of the Solomon Islands people, how educational intervention may operate and how school health education may help to improve the health of the community.
15. INFECTIOUS AND CONTAGIOUS DISEASES.

15.1 INSECT-BORNE DISEASES.

The hot moist tropical climate, lack of drainage and swampy terrain is an ideal environment for the breeding of mosquitoes, including Anopheles farauti and A. punctulatis, vectors of malaria, and Aedes aegypti, the vector of dengue fever.

So far epidemics of dengue fever have been restricted to Honiara, as Aedes aegypti is a house mosquito and breeds in urban areas. Malaria however is the country's most serious health problem. The incidence of malaria in Solomon Islands is amongst the highest in the world.

15.1.1 MALARIA.

The malaria parasite, Plasmodium, attack the red blood cells and, because recurrent attacks frequently occur, this disease has a debilitating effect on victims, who become steadily more anaemic and vulnerable to other serious infections. Recurrent attacks eventually result in the development of some immunity to malaria, but this often produces carriers, who become sources of infection.

Babies and children have no immunity and therefore are very susceptible to malaria. Pregnant women also are susceptible because they lose their immunity. Malaria during pregnancy could put a woman's life in danger and also leads to abortions, stillbirths, or low birth weight and weak babies. (Nukuru, 1989)
Because malaria takes such a great toll of the Solomon Islands people, much money and manpower is being expended in attempts to control this disease. However co-operation of the village people is necessary if these programs are to succeed and in many cases this is not forthcoming. (Tulavaka, 1989)

CONTROL OF MALARIA.

Methods to control malaria attack this problem from two angles, control of the vector and control of the parasite.

1) Use of anti-malarial drugs.

The prophylactic and therapeutic use of these drugs is very controversial. (Parkinson & Kere, 1989) If only used by medical personnel for treatment of the disease, people with no access to medical care may die. Alternatively, if the drugs are made available to village people for self-medication, this may lead to under-treatment and development of drug resistant strains of the parasite, or to overdose either accidentally or in suicide attempts.

Mass drug administration (MDA) is practised to control focal outbreaks. (Parkinson & Kere, 1989) Children often stay away from school on MDA days to avoid taking the nasty tasting medicine.

2) Methods currently employed against the vector.

Covering up and use of insect repellents, to avoid being bitten, are rarely practised by Solomon Islanders. Screening houses and sleeping under nets are methods too costly and bothersome for most village people.
Destroying mosquitoes' breeding places by draining swamps and landfilling is difficult to carry out in towns, let alone in isolated villages with difficult access for equipment and limited finance.

Attacking immature stages of the mosquitoes by addition of chemicals to large masses of water has adverse effects on non-target organisms. (Okazawa, 1989) Environmental spraying with insecticides is not popular as many people claim to be allergic to the chemicals in the spray.

Residual spraying of the inside of homes and buildings in villages with DDT, over the years, has been the most successful method of control, but is unpopular, as the spray leaves a white residual deposit on walls and often indirectly causes the death of cats and other family pets. Many villagers lock their houses and flee to the bush when they hear the sprayman is approaching. There is also concern about the continued use of DDT as an insecticide, because of the development of DDT-resistant mosquitoes and the environmental effect of continual spraying.

Health education in malaria control.

It can be seen that attempts to control this very serious disease have been unsatisfactory, largely due to non-cooperation of the villagers. The Ministry of Health is therefore looking to the school health curriculum to win community support for their programs, by developing an understanding of the life cycle of mosquitoes and involving children in malaria prevention activities. (Hans, 1989)
15.2 INTRODUCED "EUROPEAN" DISEASES.

The infamous labour trade and the arrival of explorers, traders, planters and missionaries in Solomon Islands during the last century introduced diseases of the Western world, many of which decimated village communities and still present a very serious problem. Their prevalence is largely due to poor personal and community hygiene, malnutrition, the debilitating effect of malaria, and possibly genetic susceptibility to diseases of "white man".

15.2.1 RESPIRATORY TRACT INFECTIONS.

These are endemic. It is a common sight to see children and adults with discharging nostrils and racking coughs. Spitting is commonplace. Hence these problems are rife in the villages. More serious are secondary infections, such as bronchitis and pneumonia which frequently ensue, the latter being a frequent cause of death. (Solomon Islands Ministry of Health.)

15.2.2 TUBERCULOSIS.

Tuberculosis is responsible for much chronic morbidity and high mortality in developing countries, and children are particularly susceptible. (Ebrahim, 1984) The incidence in Solomon Islands is high. (Baker, 1982)

The Ministry of Health requested that school lessons be given to encourage cooperation with programs of Mantoux testing and BCG vaccination, and activities designed to improve personal and community hygiene, especially in relation to coughing, spitting and chewing betel nut.
15.2.3 CHILDHOOD INFECTIOUS DISEASES.

Epidemics of measles, mumps, chicken pox, whooping cough, rubella, and scarlet fever, occur in Solomon Islands with varying severity from time to time.

Measles still takes a great toll amongst the children in developing countries, causing high morbidity and mortality and seriously affecting their growth and nutrition. Mortality can be up to 30 times greater than in Western countries. (Ebrahim, 1984)

Epidemics of measles occur in Solomon Islands every two or three years. The disease is in fact so common that the pidgin word, "misla", is used to describe both the specific disease and any rash on the skin. (Baker, 1982)

Severe epidemics of diphtheria and poliomyelitis occurred in the past, and the islands are possibly only spared further epidemics because of the reduction in the incidence of these diseases in Western countries.

15.2.4 IMMUNIZATION.

Immunization provides protection against many infectious diseases, including most of the above diseases of childhood. Mass immunization programs are being conducted in Solomon Islands. This Expanded Program of Immunization (EPI) is supported by Save the Children Fund. However, for this program to be successful, the mothers must bring their children to the health clinics for their injections, but many are not co-operating. Support was therefore sought within the school health education program.
15.3 GASTRO-INTESTINAL INFECTIONS.

Solomon Islanders suffer from a large number of diseases of the gastro-intestinal tract, in common with all other developing countries where sanitation is primitive. Most villages do not have a latrine. The people use the bush, river or sea. In some instances there are makeshift arrangements to provide some degree of privacy, but nothing approaching a safe and hygienic facility. Thus it is obvious that the soil in and around the village, the water supply, the beach and sea are likely to be heavily contaminated with faecal matter. Coupled with poor personal and community hygiene, this results in what could be described as a continuous epidemic of gastro-intestinal infections. (Solomon Islands Ministry of Health.)

15.3.1 DIARRHOEA AND DYSENTERY.

These diseases can be fatal or so debilitating that the body has no resistance to other serious infections. Prevention is almost an impossible task at the present time. The problem must be attacked at three different levels, the first two of which are expensive engineering projects, viz. improvement in sanitation and community hygiene by construction of proper toilets in villages, and provision of a safe water supply for every village and stand-pipes to deliver the water to villages without further contamination.

The third line of attack is improvement in the general standard of personal, home and community hygiene.
More specifically to:

- build pit latrines if possible, otherwise bury excreta in the bush, or remove themselves far from the village if they use the sea,
- boil water for household use and refrain from bathing, washing clothes, swimming, urinating or defaecating in water sources,
- dispose of all household rubbish by burying or burning to discourage flies,
- protect food from contamination and deterioration by good housekeeping methods,
- refrain from fertilizing gardens with human manure,
- pay strict attention to cleanliness and hygiene.

The school health curriculum has an important role in conveying the above messages and motivating the villagers through the children to do something about this problem.

15.3.2 CHILDHOOD DIARRHOEA AND DEHYDRATION.
Diarrhoea is a very common illness of young children, especially those living in a poverty - malnutrition - environmental contamination cycle. It is rare in infants who are entirely breast fed, but very common in those who are artificially fed. Dirty bottles and left-over milk provide excellent media and the tropical climate the right environment for the growth of pathogens. The problem is greatest in urban areas where women are increasingly taking up paid employment for socio-economic reasons and thus weaning their babies early. (Ebrahim, 1984)
Malnutrition is also a cause of diarrhoea in developing countries, as lack of food weakens the gut wall so that food cannot be digested but passes out as loose stools, thus increasing malnutrition. This is a vicious circle and the reason many children in developing countries die.

FIG. 15.1 THE VICIOUS CIRCLE OF DIARRHOEA AND MALNUTRITION


Dehydration is a consequence of this condition. If dehydration becomes very severe, the child becomes very ill and may die. The most urgent aspect of management is the replacement of water and electrolytes as soon as diarrhoea begins by oral rehydration therapy. (Werner, 1978) This treatment is simple enough for older children to administer to their younger siblings whom they frequently care for while the parents are working. Instruction about how to prepare the rehydration drink and what to do is therefore an important part of the school health lessons.

The problem of the cause of this problem however remains and will not go away until hygiene, sanitation and nutrition throughout the country are improved.
15.3.3 WORM PARASITES.

Roundworms.
It is common for persons to harbour large numbers of roundworms. Infected children appear malnourished with swollen abdomens. Their general health improves markedly as soon as they are de-wormed. Eggs, which are passed out with the faeces, can remain alive in the soil for a long time. They re-enter the body through the mouth via dirty hands, eating raw vegetables or being inhaled in the dust.

Hookworms.
Hookworms are responsible for retarded mental and physical development of children. The eggs, present in the stools, hatch in the warm moist soil into minute hookworm larvae which remain alive for long periods. They re-enter the body by burrowing through the skin, feet or elbows. It is very difficult for village people to avoid infection as they often walk barefoot over moist soil where stools have been deposited. Wearing sandals offers some protection.

Tapeworms
Tapeworms are a problem in South-West Pacific countries because of custom feasts, at which a whole animal, usually a pig, is cooked on a spit or in an earth oven. Tapeworm cysts may be present in the muscles of the animal, the intermediate host. Often heat reaching the centre of the beast is not sufficient to kill the cysts.

Improvement in sanitation and hygiene and education about the way these infestations are spread is necessary to reduce the incidence of these debiliating problems.
15.4 SKIN PROBLEMS.

Infections and infestations of the skin and hair are extremely common because these conditions are very contagious and transmission is accelerated by poor personal hygiene, the hot sticky tropical climate and the village custom of many people sleeping together. While not life-threatening, these conditions are debilitating and their total impact lowers general health and morale.

15.4.1 BACTERIAL AND FUNGAL INFECTIONS.

Infected sores and tropical ulcers.

Any scratch or break in the skin is likely to be infected with staphylococcal, streptococcal or mycobacterial bacteria to produce infected sores or tropical ulcers. These conditions are very contagious and normally spread by direct or indirect contact (e.g. from dirty hands) or by insects, especially flies attracted to open wounds.

Bakua and white spot.

These are common fungal infections, causing extensive white patches on the children's dark skin. These conditions are very contagious. Self-infection is common.

Ringworm (tinea).

Ringworm of the skin is frequently of animal origin. The presence of mangy animals and children with ringworm often indicates a poor standard of hygiene in a village. Ringworm of the scalp is usually of human origin, spread by direct contact or via objects such as combs, pillows, towels, clothing, or floor. (Llewellyn, 1986)
15.4.2 INSECT AND ARACHNID PARASITES.

Lice, fleas and bedbugs.
These are so common in Solomon Islands that it is difficult for anyone to avoid them. It appears that many villagers develop some immunity to bites however and are able to tolerate these parasites with little discomfort.

Head lice.
It is a common sight in villages and markets to see one person searching through the hair of another person to catch and destroy head lice. It is extremely difficult to eradicate them from a community, as they are very contagious and easily spread from one person to another, e.g. when playing, working and sleeping together. Clean short hair will not get rid of lice, but it does make it easier to get rid of them by washing the hair with a shampoo containing an appropriate insecticide. (Llewellyn, 1986)

Scabies.
Scabies (usually called "scratch" or "the itch") is a very common problem in places where people live close together and hygiene is poor, use the same bed, the same sleeping mats or wear each other's clothes. Scabies is not dangerous, but causes discomfort and misery. Itching is severe and worse at night. Scratching is inevitable and this usually results in infected sores and ulcers. (Llewellyn, 1986)
15.5 TETANUS.
Tetanus bacilli are normally present in the bowels of domestic animals and humans and are therefore present in manure and human stools. The organisms form spores which can remain dormant in the soil for a considerable time. Hence wounds contaminated with soil are very likely to be infected with tetanus spores. (Llewellyn, 1986)

Tetanus is common in Solomon Islands for the following reasons, which need to be addressed in health lessons.
1) The lack of sanitation in villages and the custom to allow domestic animals to wander freely around the village and into the houses means that the soil is very likely to be contaminated with tetanus spores.
2) The large number of soil-contaminated wounds and inadequate cleansing of the wound to remove soil. Wounds frequently responsible for tetanus infection are deep puncture wounds from thorns, splinters or nails, injuries from barbed wire and gardening implements, knife and gunshot wounds and animal bites, especially dogs and pigs.
3) Puncturing holes in ears and tattooing with dirty needles.
4) The custom for women in labour to remove themselves from the village into the bush for the birth of their babies, especially if the cord is cut with a rusty razorblade.
5) The low uptake of tetanus vaccination. However it is hoped that more and more children will be vaccinated because of the expanded program of immunization currently being implemented.
15.6 SEXUALLY TRANSMITTED DISEASES.

Precise data about the nature and extent of sexually transmitted diseases in Solomon Islands was not available. Whether this information is not collected, or whether it was withheld, is not known. However it was generally acknowledged by health personnel that STDs are becoming an increasingly serious problem in this country.

Although the cultural and religious mores of the village people are reputed to be strict in regard to sexual behaviour, many young people today are leaving the villages to seek employment and a more exciting life in the towns. The cost of this apparent freedom from restriction is an upsurge of sexually transmitted diseases. The frequent arrival of foreign and inter-island ships in Honiara and the trade of prostitutes exacerbates this problem.

Shrestha, when speaking at a WHO workshop in Manila in 1989, expressed alarm that some countries in the region were most reluctant to consider suggestions that education on sexually transmitted diseases should be given in junior schools, in spite of the fact that children are reputed to experiment with sex from the age of 13 years.

This attitude exists in Solomon Islands where there are cultural taboos regarding the mention of anything pertaining to sexuality and strong resistance to the inclusion of sex education in the primary curriculum. (This difficult issue will be discussed further in chapter 23.1)
15.6.1 AIDS.
There had been no official notification of HIV infection or cases of full-blown AIDS in Solomon Islands up till the time of writing this report. However, although the Health Education Unit of the Ministry of Health is attempting to inform the community, one could question the realism of this disease for the nationals at the present time.

At the WHO workshop in Manila in 1989, delegates were informed of the extent of the problem in Fiji and the Philippines and warned that when the HIV infection enters a Western Pacific country, such as Solomon Islands, it will take a great toll. In reports from other countries, a disturbing pattern of ignorance, religious and cultural sensitivities and possible under-reporting of the extent of the infection emerged. The effects of the disease on child-bearing mothers, on women generally and the fact that it is also a heterosexual disease have yet to register. Other writers have expressed alarm at the sexual mores of Western Pacific Island States where covert promiscuous sexual behaviour by the males is common.

That AIDS will eventually come to the Solomons appears almost certain. The World Health Organization and the Solomon Islands Ministry of Health therefore considered it essential that schools become involved in AIDS education, and supported the incorporating this topic into a sex education strand in the primary school health curriculum. (This also is discussed further in chapter 23.1)
16. LIFESTYLE PROBLEMS.

16.1 NUTRITION.

In a country which may be described as a lush tropical island paradise where tropical fruits grow abundantly, where the sea abounds with fish and where native animals and birds are abundant in the jungle, one could expect that there would be plenty of wholesome food for everyone and no nutrition-related problems. Unfortunately this is not the case.

In Solomon Islands there is in fact a broad spectrum of nutritional diseases, ranging from variable degrees of malnutrition, especially in women and children in isolated rural villages, to modern "western lifestyle" diseases which are more likely to affect people living in or on the fringes of the towns.

Many traditional food customs are still practised, but unfortunately these often are causes of malnutrition. Many nutritious fruits and leafy vegetables which grow abundantly are often not consumed in any quantity, either through ignorance or because of custom taboos.

There has been a change in the staple food in many families. A bowl of boiled white rice, purchased at the store, topped with a sprinkling of powdered fish and maybe a very small serve of green cabbage, is the regular meal every day for many people in the villages.
Gina (1986), a national lecturing in Home Science at the S.I. College of Higher Education, blames increasing Western influence for bringing about many changes in traditional ways of growing, obtaining, preparing, cooking and eating food, and believes that, as a result of these changes, many new health and social problems have appeared. Diet-related diseases that were unknown in the traditional culture are now common. These include cardiovascular and coronary disease, cancer, obesity and dental caries.

She contends that poverty now has a different connotation. When local people want to live and eat like Western people, they need access to regular cash income which is difficult to achieve without the ability to sell produce on a regular basis or a good job. Poverty begets malnutrition.

Furthermore, consumer knowledge and budgetting skills are necessary in order to use money wisely by selecting and buying the most nutritious and economical food. Gina maintains that most people do not possess these skills.

Changes in family structure and support when the breadwinner leaves the family in the village and moves to the town to obtain employment is another common happening which often leaves the family in straitened circumstances, and may indirectly cause malnutrition.

There are thus many problems to be solved in the area of food and nutrition in Solomon Islands. Nutrition education in both the community and the schools is needed.
16.1.1 MALNUTRITION.

Malnutrition in some degree is found in most developing countries. In some countries this stems from poverty and the unavailability of foodstuffs. In Solomon Islands, the cause is more likely to be ignorance of the correct foods to eat, customs and taboos relating to food or, on occasions, natural disasters.

The World Health Organization (1986) maintains that in most developing countries the majority of the population, the rural population especially, does not receive any nutritional advice. Furthermore, malnutrition weakens the body's defenses against disease, and people weakened by malnutrition and disease do not have the energy to improve their own situation. Women have a special need for iron which is rarely met, so they become progressively more tired, listless and lethargic. There is also increased danger from haemorrhage and complications in childbirth.

Malnutrition therefore is not merely one of the greatest public health problems in the world today, it is also both a result and a cause of social and economic underdevelopment. The root of the problem is in the home. To solve it, the women must be helped to learn better habits of nutrition.

The World Health organisation (1986) designated certain groups in the population as being specially vulnerable to malnutrition. These are pregnant and lactating women and children between the ages of six months and three years.
1. NUTRITIONAL STATUS OF WOMEN IN SOLOMON ISLANDS VILLAGES.
It is possible that malnutrition stems from childhood. Royston and Armstrong (1989) found that in developing countries boys get more food and richer foods than girls. Lack of protein, calcium and vitamin D causes stunting and malformation of bones in the girls which make them vulnerable to difficulties in labour at a later stage.

The problem is exacerbated later during their child bearing years because of cultural mores, food habits and taboos. It was reported that it is a Solomon Islands custom at mealtime for men to be served food first, children second and women last, so there may at times be little left in the pot for the mother.

Malnutrition can affect not only a woman's own health and capacity to work, but also that of her children. The foetus will not receive sufficient nutrients, nor will there be sufficient breast milk for the newborn baby. Royston and Armstrong claimed that especially at risk during pregnancy are women who have too short an interval between pregnancies, become pregnant before age 15 years, and have had more than five children. Such is the lot of many women in Solomon Islands.

The outcome of this unfortunate and unnecessary state of affairs is that women are old and debilitated before their time, and die a premature death. Expectation of life at birth for a woman was determined as 61.4 from data in the 1986 Solomon Islands census. However at present the average age of death for women is more like 55 years.
2. NUTRITIONAL STATUS OF SOLOMON ISLANDS CHILDREN.  

Children in developing countries at risk from malnutrition, include the following groups:
- not breast-fed for at least the first six months,
- low birth weights, and multiple births,
- fifth, sixth or subsequent children in large families,
- children with illnesses, particularly measles, whooping cough, and repeated diarrhoea,
- children cared for by older children. (Ebrahim, 1984))

In a Solomon Islands nutrition survey, which included remote villages, accessible villages and urban areas, Brewster et al (1986) found that infants were well-nourished on the whole during their first six months, indicating that they were breast-fed during this period. However there was a significant faltering of growth of rural children during the weaning period (9-18 months). Furthermore, wasting and stunting were prevalent amongst these children from the second year onwards, and was most prevalent in villages with a high incidence of malaria.

The results suggested that while the weaning period is the most nutritionally vulnerable time, the high prevalence of sickness from malaria may have more nutritional consequences than is generally appreciated. In addition, the village custom of giving babies and toddlers into the care of older children, often under ten years of age themselves, may mean that the young children are not fed adequately.
Implications for School Health Education.

Improving nutrition is dependent upon influencing the persons who select, prepare and provide food. In Solomon Islands, these persons are the mothers. The problem is to reach the mothers, especially those in remote villages.

Community health educators continually conduct campaigns to teach the village women about the basics of nutrition, how to select foods from the garden and bush which are edible and nutritious, and how to prepare this food without unnecessary loss of nutrients. Many volunteer workers also attempt this task. However because villages are so scattered, it is an impossibility to reach more than a few.

Schools therefore have a responsibility for nutrition education. The secondary Home Economics syllabus contains a strong nutrition strand, but a relatively small number of girls attend secondary school. The primary schools have a wider influence. Hence nutrition education has an important place in the new health education curriculum and whenever possible a teacher-child-parent approach, involving the parents in activities, is adopted.

A further problem in isolated communities in Solomon Islands is to reach the young girls who do not go to school but stay at home to care for the young children. Peer teaching has proved successful in other developing countries. Therefore a child-to-child approach, usually through stories, is incorporated in the new health curriculum.
16.1.2 CONSUMPTION OF PROCESSED FOODS.

In the last 30 to 50 years, the composition of the average diet of Solomon Islanders, especially those who live in towns or accessible villages near stores, has changed dramatically, because of the increasing tendency to buy processed food at the stores, rather than growing or catching food for family consumption.

Carbohydrates, which were once supplied by high fibre, high nutrient root vegetables such as taro, yams and sweet potatoes, now come from white flour, white bread, white rice and white sugar, and cakes, biscuits and confectionary made from these products. Many adults in the towns are now obese, caused by an over-consumption of refined energy foods together with decreased physical exercise.

Consumption of sugar and sugar-containing foods has increased enormously and parallels the increased incidence of dental caries, a condition now very common amongst the children.

The South Pacific Commission (1984) found that the Kiribati people living in Honiara consume more sugar and experience a much higher rate of diabetes than local Melanesians living in the same environment.

Most fat in the traditional diet came from coconuts and nuts. Today there is increasing consumption of margarine and butter, and food, including fast food, is fried in fat. This has possibly doubled the dietary fat of many people.
The emergence of a western-style diet and associated health problems in a Pacific Island community is very unfortunate. These problems would vanish if the people returned to their traditional diet but this is unrealistic. The reasons the people have adopted these food habits are many, including envy of the western life-style, ready availability of these foods and the pressure of advertising. Many believe it would be very difficult to give up these habits which they have acquired, even if they wanted to.

These problems are the more unfortunate because many people in developed countries have recognised the importance of eating nutritious foods and have changed or are changing their food habits.

A further cause of concern is the fact that the Solomon Islands medical services cannot cope with these health problems. Heart surgery and a range of expensive drugs which are available in developed countries are not available in Solomon Islands, nor are they likely to be available in the foreseeable future.

Implications for School Health Education.

There is therefore an added responsibility on the health educators, including the teachers implementing the new health curriculum, to attempt to educate the population about the health risks they are taking by adopting a western diet and to promote a return to a healthy balanced traditional diet.
16.2 DRUG USE AND MISUSE.

Up to the present time, Solomon Islands has been able to escape the epidemic of hard drugs currently causing so many problems and so much distress in the Western world. The reason is simple. The nationals in this country do not have sufficient money to get involved in this scene.

There have however been instances where heroin was trafficked through the international airport in Honiara, and there is concern that visitors to the country may bring drugs with them, although strict customs inspections of people arriving in the country aim to prevent this.

There has recently been reported cases of misuse of medical drugs, which are readily available from the pharmacy, including over-dose of chloroquin in suicide attempts.

The people are not unaccustomed to mild psychoactive substances. Tobacco is commonly smoked in a pipe or chewed by village people, and betel nut is chewed by many in the population, staining their teeth, gums and saliva red. In addition, many of the custom medicines used by custom doctors contain naturopathic drugs.

The most serious problems however are the smoking of cigarettes and the consumption of alcoholic beverages in ever increasing quantities, especially in the urban areas.
16.2.1 BETEL NUT.

Melanesian people have been chewing betel nut for a long time, possibly since their migration from the Malay Archipelago thousands of years ago. The betel nut is the fruit of the Areca palm. It is usually wrapped in leaves of the betel pepper and mixed with lime to provide the bitter taste.

Betel nut contains a drug, variously described as a stimulant, a relaxant and a tonic. Formerly it was considered to be a harmless and enjoyable habit, apart from its aesthetic effects. However it is now known that chewing betel nut is a dangerous and unhealthy habit if chewed regularly, especially if mixed with lime.

The continual presence of the betel nut and lime mixture in the mouth causes painful mouth ulcers and is believed to contribute to the development of mouth cancer. Gingivitis is a certain consequence, the teeth become permanently discoloured, the gums inflamed and eventually the teeth become loose and fall out. The large quantity of saliva produced causes excessive spitting and there is little doubt that this contributes to the transmission of many illnesses, in fact is believed to be the main reason tuberculosis is still common. (Solomon Islands Ministry of Health.)

National policy is therefore to discourage the chewing of betel nut, but not to ban it. It is suggested that it should be chewed less frequently and not mixed with lime which is blamed for most of the problems.
16.2.2 SMOKING TOBACCO.

It is likely that European traders introduced tobacco into Solomon Islands as far back as the 18th century. Village people also smoke the leaves of some native plants, commonly called "backy". So tobacco chewing and smoking are not new habits. It is the current acceleration in smoking cigarettes, especially amongst the young people, that is the major concern.

Tobacco companies are now targeting developing countries as their markets are reducing in the West. Cigarettes are prominently displayed in the stores and super-markets, they are advertised over the national radio network and on billboards, and tobacco companies are willing sponsors of sporting and other events.

It is a common sight to see young Solomon Island girls smoking in the streets of Honiara, in the parks and on the college campus, emulating "sophisticated women" from the West as they are depicted in the advertisements for cigarettes. Unemployed youths loitering in the town are also likely to be smoking. However, as in the West, it appears that young women are smoking more than the young men and older people, although there is no evidence to present to confirm that this is so.

The smoking habit is all the sadder because cigarettes are expensive, the Solomon Islanders work for small wages, so the purchase of cigarettes means that there is less money to spend on good food and other necessities.
The impact of the current increase in smoking is not yet evident in medical statistics, possibly because the effects of cigarette smoke, (i.e.smokers' cough, bronchitis and emphysema), are masked by other respiratory problems. But there is concern that the current increase in heart and circulatory disease is partly due to smoking. (Solomon Islands Ministry of Health.)

The health of women of child-bearing age is also cause for concern, as statistics prove that women who smoke during pregnancy have more miscarriages and low-birth-weight babies with less resistance to infection, and women who smoke while taking the contraceptive pill are prone to life-threatening blood clots. (Werner, 1978)

The Health Education Division of the Ministry of Health has been targeting smoking for years with little success. This parallels the experience in Australia where it was not until political pressure resulted in banning advertising that smoking became less socially acceptable and there was a significant reduction in the number of smokers.

What the future holds for Solomon Islands with regard to this problem is uncertain. The input of capital from tobacco companies at this time of financial stringency almost guarantees that cigarettes will continue to be promoted and available for purchase. For the present it is envisaged that school health education programs and community health education programs will offer mutual support, and hopefully raise up a generation of young people opposed to this habit.
16.2.3 ALCOHOL-RELATED PROBLEMS.

Fia and Kulagoe (1985) reported that Western influence over the past 90 years has successfully entrenched the custom of drinking into Solomon Islands. Like any other commodity introduced by the West, alcoholic drinks offer a challenge to the male population to be "in" with the times and with one's neighbours. As a result liquor consumption is now practised in rural villages as well as the towns.

Liquor consumption is associated mainly with beer, for which the islanders have acquired a taste. For this reason, the alcohol problem is probably not so serious as in other Pacific countries, although this issue has not been fully studied. The extent of beer consumption is very easy to observe. It is not uncommon to see people drinking even out on the road, in public, in cars and pick-up trucks. Parties and feasts, even in rural areas, are rarely held without beer being an attraction.

The effects of drinking.

Fia and Kulagoe reported much concern in both the government and the community about the effects of the consumption of alcoholic beverages.

The degree of influence liquor consumption has on crimes and offences has not been properly researched, but it is found from Police Records (cited in Fia and Kulagoe) that there is a parallel increase in the number of criminal cases, including drink-driving, in relation to increased liquor consumption.
Public unrest and offences causing bodily harm often result from drinking. Though the numbers fluctuate yearly, the percentage of these offences to the whole has been high.

The area of greatest concern is the effect of liquor consumption on the family, because the repercussions are many and wide. Civil cases on legal separation and divorce are increasing dramatically, and this does not include many instances of wife-beatings stemming from liquor consumption which may not be officially recorded.

Reasons for drinking.
Many males in Solomon Islands drink to excess. It appears that they drink to excess because they want to get drunk. There are no statistics to support this claim. However this statement was presented as evidence to the South Pacific Commission (1985) when investigating the extent of liquor consumption in South West Pacific Island States. It is supported by personal observations in the streets, hotels and homes in Honiara, and proudly admitted by males from all strata of society.

Sometimes they drink to excess to celebrate good fortune (e.g. when cash come to hand). Others, usually the younger men, drink for recreation and to occupy their time.

Chauvinism is another reason. It is considered manly to drink, especially to be able to consume more than the other person. The aggressive behaviour resulting from drinking is part of this manly notion. Comical behaviour is considered humorous, not silly or defacing. (Fia & Kulagoe)
Legislation and regulations.
Alcoholic beverages are easy to obtain in Solomon Islands. They are freely available in many stores and supermarkets, and there are no regulations to control sales to minors. There are however regulations to exert some control on sales especially in communities in rural areas which do not have the benefit of immediate police presence. Also at times of national celebration, or civil disturbance and unrest in urban areas, sales may be prohibited to all indigenous people. This happened during the 10th Anniversary of Independence celebrations in July 1988 and during racial riots in Honiara during November 1989.

Moral constraints.
Solomon Islands is a Christian country. All the Christian churches consider alcoholic beverages as damaging to the moral behaviour of their members and adherents. The Seventh Day Adventist and South Seas Evangelical Churches forbid the consumption of alcoholic drinks by their members. Although no figures are available, it is believed that the number of active church members influenced not to drink would be substantial.

Physical restraints.
The scattering of the population over a very large area, the rugged nature of the terrain, combined with a poor transportation network, while presenting major problems for economic development, may have the advantage of slowing down to some extent the distribution of alcoholic drinks to remote villages.
The present situation.

1. Drunkenness and aggressive behaviour in public, domestic violence, drink-driving offences, and alcohol-related criminal offences are all on the increase.

2. More alcohol-related family problems are being reported, such as no money to buy food and other necessities for the family because the pay-packet is spent on beer.

3. Beer companies continue to sponsor sporting and other community events and to advertise freely over the national radio station.

4. A national brewery is soon to be established. One of the justifications for this is so that the alcoholic content of the beer can be controlled.

5. Increased tariffs are being imposed on imports of stronger fermented and distilled beverages in order to price them too high for the average worker to purchase.

6. Requests have been made for aid funds to assist the Health Education Division of the Ministry of Health and Medical Services to produce educational programs and materials aimed at combatting the alcohol problem.

7. A request has also been made for alcohol education to be included in the new health education school curriculum.
16.3 **ACCIDENTS.**

Accidents are a normal part of life in Solomon Islands, as in any other nation. But there appears to be a fatalism about individual attitudes to accidents in this country – that they are a punishment for wrong-doing and therefore nothing can be done about them. The cost to the nation however is great and is causing much concern.

16.3.1 **ROAD ACCIDENTS.**

Most road accidents occur in and around the capital, Honiara, being one of the few localities boasting a road network and more than a few motor vehicles. Many factors are responsible for this road toll:

1) The roads are dangerous when traffic volume is high. Both sealed and unsealed roads are narrow and spattered with potholes, which causes motorists to weave a path to avoid them.

2) Pedestrians stroll along the roadways, as frequently there are no footpaths. Children play on roads and seem to be unaware of danger and ignorant of road rules.

3) Many vehicles are old and irregularly serviced. Seat belts are not compulsory and few vehicles are equipped with them.

4) Many drivers drive casually, seemingly paying scant attention to environmental conditions and pedestrians. Driving under the influence of alcohol is becoming an increasing problem.
5) Passengers ride on the outside, as well as cram inside vehicles. They regularly ride crowded into the back of trucks without any protection whatsoever, both in urban and rural areas. When challenged about the danger of this practice, locals retort, "How else can we get around?"

6) Traffic intensity is increasing. At peak hour when people are travelling to and from work, i.e. in the morning and evening and in the middle of the day, the traffic build-up in the main street in Honiara, which is the only access to the central business district, is comparable with that of any city. This leads to frustration and risk taking.

When accidents happen, the death and injury toll is great which puts great stress on the limited hospital and other facilities. If the road toll is serious now, it will become far more serious in the near future unless many changes are made.

Attempts are being made to repair the roads, but the vagaries of the weather and limited finance make this an almost impossible task. Public transport in Honiara is improving, but does not serve settlements on the outskirts of the town, nor the more distant rural villages.

Driver and pedestrian education is fundamental to improvement of this situation. Traffic and pedestrian safety is an important part of the school health education curriculum.
16.3.2 OTHER ACCIDENTS.

Solomon Islanders have a rapport with water. The majority live near water, so most children learn to swim as naturally as they learn to walk. Furthermore many adults reap their livelihood from the sea. Unfortunately, boating accidents, drownings, shark attacks, stings from sea creatures, lacerations caused by walking on the reefs, etc. occur with regular frequency.

The use of open fires for cooking and kerosene for lighting is responsible for many out-of-control fires and burns. Villagers unaccustomed to electricity are likely to have accidents by misusing appliances when this facility becomes available or when they visit wantoks in the towns.

The use of primitive and modern tools and appliances for woodwork and gardening, two common activities, each carry their own risks. The children like to climb coconut trees to gather coconuts, but far too many fall and suffer serious injuries.

Many of these accidents are likely to occur far from medical aid. There is therefore a need for the villagers to be taught simple first aid procedures, since knowing what to do when an accident happens could save many lives.

More important is prevention of these accidents. The schools therefore have a responsibility to teach the children that most accidents can be prevented and to train them in safe ways to behave.
16.4 VIOLENCE.

As previously mentioned, Christianity and colonial influence together went a long way towards eliminating endemic violence which was inherent in Melanesian culture. Today however aggression and violence are recurring, frequently associated with alcohol consumption. The increasing numbers of unemployed youth loitering on the streets is also cause for concern and could be described as a tinder box waiting for the spark to ignite.

A serious inter-island racial riot in Honiara in November 1989 stemmed from blasphemous messages concerning the women of one island group, written on billboards in the market. It is feared that as more villagers come to towns seeking unavailable employment, such unrest is likely to recur.

16.4.1 DOMESTIC VIOLENCE.

There is no doubt that domestic violence is relatively common. It affects both urban and rural women alike, but because it is the custom for women to submit to their husbands, they usually suffer in silence, and many of these crimes are never reported.

The Solomon Islands National Council of Women (1988) deplored the fact that the police are reluctant to become involved because such cases are considered domestic quarrels and not the responsibility of the law. Women are reluctant to report the abuse for fear of revenge from the husbands and the shame of the social disgrace.
Village women however are beginning to speak out about social injustice and family discord through such organizations. A workshop on domestic violence, (National Council of Women, 1990) found that in the Pacific region the most common causes of wife assault are loss of traditions and customs, introduction of a cash economy, inter-island marriages, jealousy, adultery, young marriages and lack of love between the couples. Types of abuse which have been reported include physical abuse, threats of violence to control the wife's behaviour and constant verbal belittling to reduce the wife's self-esteem.

Husbands are jealous if their wives are better educated. Rows over bride prices are also common. Land disputes often can lead to community violence which then intrudes into the home. Men under pressure often lash out at their wives. Men beat partners who do not meet their sexual demands. (Nichols, 1990) Alcohol is a contributing factor, facilitating wife assaults but not causing them. Nichols believes that in villages where "big men" still hold authority, redress of social inequalities that have allowed domestic violence to occur is unlikely to happen in the short term.

The health education school curriculum can make a small contribution to solving this problem by attempting to raise the self-esteem of the young women while they are at school and also by providing information about the health and social services available from whom they may seek help, if/when necessary.
17. THE HEALTH AND SOCIAL STATUS OF WOMEN.

A woman's status and her health are intricately entwined. Any serious attempt to improve the health of women - if it is to succeed - must deal firstly with those ways in which a woman's health is harmed by social customs and cultural traditions simply because she was born female.

Royston, E & Armstrong, S. (1989, p.45)

Following the discussion concerning domestic violence, it is appropriate to consider more generally the health and social status of women in Solomon Islands.

The United Nations Decade for Women (1976-1985) did much to reveal the effects of sex discrimination on family health, including suffering associated with maternity in developing countries, which has been largely ignored because those who suffer usually live in remote places, are poor, illiterate and politically powerless.

This report, along with specific direction from the World Health Organization to give priority to "Mother and Child Health", alerted me to the plight of women, and the need to investigate this area.

It seems unlikely that there will be any dramatic change in the status of the women in Solomon Islands in the near future, as the following discussion will show. However the most likely avenues for change appear to be through education and political activism, so this is a legitimate area of concern for this study, with a view to appropriate input into the health curriculum.
17.1 MOTHER AND CHILD HEALTH.

17.1.1 CHILD BEARING.

For many women still living a traditional lifestyle in Solomon Islands, as in many other developing countries, marriage and motherhood are likely to be their only destiny. Thus a common sight in towns and villages is a woman with a child at the breast, another in the womb and one or more playing around her skirt. Very probably she will be responsible for growing the family's food as well as preparing it, or working for wages outside the home.

Such women look old beyond their years and are likely to be chronically fatigued from the constant demands of pregnancy, motherhood and domestic work. This situation has far-reaching effects on their health, especially those who are pregnant or breastfeeding, and may even affect the survival chances of mother and infant.

Royston and Armstrong claim that most women in developing countries have too many children, too early, too late and too close together. Over the last 20 years, women in Solomon Islands have born an average of 7.3 live children during their child-bearing years. (S.I. Population Policy, 1988). This figure does not include the number of pregnancies which did not result in the birth of a healthy baby, because miscarriages and stillbirths occurring in villages are rarely recorded. The average has now dropped to 6.4, but is still one of the highest in the world.
Where socio-economic conditions are poor, women are most vulnerable to the health risks associated with bearing children in quick succession. (Royston and Armstrong) In Solomon Islands, it is common to see thin apathetic women with lustreless hair and skin, and sores that are slow to heal. The average lifespan of these women is 55 years. (Solomon Islands Population Policy, 1988.)

Alasia (1987) provides some reasons for the high birth rate in Solomon Islands. He explains that in the villages while women are regarded as "queens" of the house, they are never treated as equals by men. Men have maintained their "big man" role in the family. Thus the only path to social status and personal achievement for women is through motherhood.

Young marriages are more common in rural than urban areas, reflecting stronger adherence to tradition in remote communities. There is a stigma attached to pregnancy outside marriage. Men control the marriage relationship, and a wife who bears many children increases the status of her husband. (Alasia, 1987)

This was confirmed in conversations with male and female teachers from both rural and urban communities during workshops in Honiara, when it was noted that men took pride in their large families and resisted any suggestion that women should be given information about sexuality and how to limit their families.
17.1.2 USE OF HEALTH SERVICES.

It is the practice in many Solomon Islands villages that women go into the bush when about to give birth, attended only by the custom midwife. This has resulted in the deaths of many mothers and babies from complications, haemorrhage and infections, including tetanus caused by the use of a rusty razor blade to cut the cord, as has been discussed previously. Many of these infant deaths apparently are never officially recorded.

There are some obvious reasons why women do not make use of the health services. It may be difficult to visit a health adviser because of the isolation of villages and the distance to the nearest clinic which must be covered either on foot over rough terrain or by canoe. (See chapter 19.) There may also be household chores and children to care for at home and the possibility of wages lost.

Whatever the reasons, the fact remains that in Solomon Islands, many village women do not receive the health information and the health care they need to maintain their own health and indirectly the health of their babies and their children.

To help to overcome this problem, it was specifically requested by the Solomon Islands government that lessons to acquaint the children with the health services available should be included in the health education curriculum.
17.2 WOMEN AND SCHOOLING.

In a schooling system, such as in Solomon Islands, unable to cater for all the children, the girls are disadvantaged. This both reflects and perpetuates the low status of girls. Illiterate women are often found to have little understanding of the physiology of reproduction and to accept pregnancy as divinely ordained. This has a bearing on maternal morbidity too, in that an unschooled woman will be susceptible to irrational explanations and dangerous interference for complications in pregnancy and childbirth. Because high fertility is a feature of lack of choice or self-determination in women's lives, the number of children a woman bears declines as her level of education rises. Schooling exerts its influence indirectly by raising the social status and self-image of women, by increasing their choices in life and their ability to question the status quo. (Royston & Armstrong)

Although schooling of girls is bound to undermine the tradition of teenage marriage, affect the size of families and improve the health of women, it is also true that where custom has deep roots, there is resistance to schooling for girls because independent minds are not an asset. It was found in a Solomon Islands survey that in some districts a senior primary education decreased girls' marriage chances. Educated women were seen as "boss women and bad wives". Thus early marriage and poor educational levels for girls are often found to reinforce each other. (Russell, 1973)
The great opportunity which schooling gives to women to control their destiny and modify their role as wives and mothers will continue to be denied to many girls, especially those in the remote villages, until the government finds the means to build more schools and train more teachers and thus make schooling, at least at primary level, available for all.

In the foreseeable future, most women will continue in their customary role as mothers, with or without the benefit of a few years of primary schooling. Health education, either through the community or via the school, directly or indirectly, will be vital to change their health behaviour, to improve their nutrition, to instruct them in ways to plan their families, to make pregnancy and childbirth safer, and thus provide better care for their families. Some lessons in the primary health education curriculum have been designed on a Teacher-Child-Parent basis with the needs of these women in mind.

The girls denied schooling will continue to help with the household chores and care for the younger children in their families, duties also demanded of girls who attend school. It is common in the villages to see young girls, possibly aged about 7 to 10 years, with babies on their hips. Thus the need to teach girls about child care is obvious and with the special needs of the non-schooled girls in mind, some lessons in the primary health curriculum are designed on the Child-to-Child principle.
Concern about the rate of population growth is a natural corollary of the previous chapter. Demographic data from the 1976 Solomon Islands census of population gave the total population as 196,823. The 1986 census put the population at 285,176, with an annual growth rate of 3.5%. This rate is the highest in the South West Pacific and one of the highest population growth rates in the world today.

The dramatic increase in the total population experienced over the last 20 years is due largely to the extremely high total fertility rate of 7.3. The rate has now dropped to 6.4 children per woman, but is still considered by the government to be far too high.

Many factors have contributed to this population growth, including declining mortality rates and longer life expectancies, improvement in social delivery services, better education, changes in some traditional practices, and early marriage without adequate child spacing.

In 1982, the Governor of the Central Bank warned:

if the annual population growth continued at a rate of 3.4%, the country would be financially worse off in 20 years time than it was then. There would be a decline in education standards, health services and employment opportunities for the children of the next generation.

Cited in Alasia, S, (1989a, p.119)

This was a serious warning and well founded but not allowed to go unchallenged. It was not easily reconciled with traditional Solomon Islands concerns.
Prime Minister Mamaloni urged that "...to discourage population growth would be to weaken the indigenous family system" and he insisted that "...the Solomons needed more rather than less people if it was to develop, what he alleged to be, its vast resources". (Alasia, 1989a, p.119)

The present official government policy however is contrary to this view, and is summed up in the following statement:

The total population growth of any country must be based on maintaining or improving the quality of life while at the same time is economically viable and affordable.

While it is true that the country's population is its most valuable resource, it must be clearly understood that beyond a certain limit, this valuable resource becomes a huge liability."

Solomon Islands National Population Policy (1988, p.2)

Unresolved, the debate continues. The views of an ordinary citizen, that Solomon Islands needs to increase not decrease its birth rate, were expressed in the following feature article on "Solomon Islands Birth Rate" which appeared in the "Solomon Star", a weekly newspaper published in Honiara:

The country is under-populated and needs population. There are large tracts of empty land which unless we use, other nations will eye hungrily. We should not be blind and take no warning from the fate of other countries who have lost areas of their land with numbers of their people because they did not have the population to defend them.

Teke, "Solomon Star", (17 Nov 1989, p.12)

Teke supported his stance with the following arguments:

Some say fewer children more money to spend, but our culture is not so materialistic as to prefer dollars to children.
To say: "Here are the number of hospital beds we have - These are the number of school desks we have - So that is the number of children you are to have..." is to put the cart before the horse.

Our land is the basic unit of our village life, and it can support a far greater population than we have now.

If there are few children, there will be few people to support those who are now old. There are fewer to adopt the children of dead parents, or of a remaining parent who want to marry again.

This is the first time in history that babies are seen as the enemy - and it shows an unnatural attitude of mind.

Unemployment in some underdeveloped countries is a problem because of the unequal distribution of resources....But our custom of land ownership makes land available for all.

This is our country and we are not going to run it by alien standards of other cultures with other customs and attitudes in mind, nor being brainwashed into following such.

The sentiments expressed in the above statements provide some indication of the fervour of the debate.

Unofficially there is general agreement that it is the parent's right, not the governments, to decide how many children a couple might have. At the same time, family planning associations, such as the Solomon Islands Planned Parenthood Association (SIPPA) and O'Clinic run by the Catholic Church, have been attempting to educate and assist those who seek their advice in making decisions.

Officially there is sufficient concern within the Government for a National Population Policy document to have been produced for debate.
18.1 THE NATIONAL POPULATION POLICY.

The policy on which the Government has embarked aims to reduce and maintain the population growth rate at a level that is within the Government's capability to support and at the same time to improve the quality of life of all Solomon Islanders, especially the health of mothers and young children, through appropriate awareness education on population issues and family planning. (Solomon Islands Population Policy, 1988)

It is argued that while it is true that the country's population is its most valuable resource, beyond a certain limit this valuable resource becomes a huge liability.

It is this potential change from a state of being a resource to a state of liability and dependency that makes it necessary to develop a National Population Policy that is balanced and takes into account the basic rights of individuals and couples, especially the right to decide freely but purposefully and responsibly on the number and spacing of their children. (p.2)

Family planning is presented in a very positive light, its main objective being to improve both maternal and child health by proper child spacing to promote healthier and more cohesive family health status.

It is extremely important for each family to consider the number of children they would like to have in the light of how many they could realistically afford to feed, nurse and educate at their present income levels. They must also take into account land availability and employment opportunities. This is Family Planning. (p. 20)
Currently accepted methods of contraception are hormone contraceptives (oral pills and injectable depo-provera), barrier methods (condoms and diaphragms), intra-uterine devices (loops), sterilization (tubal ligation and vasectomy) and the ovulation method.

Major constraints.
The document also identifies major constraints affecting the implementation of the population policy which include:

- the low level of educational attainment within the country resulting in lack of understanding of population issues and lack of awareness of possible problems of large families,

- low level of family planning activities nationally with only SIPPA and the O'Clinic accepting responsibility in this area,

- the geography of the islands resulting in a wide diversity of people's traditions, cultures, customs and beliefs.

- traditional socio-cultural beliefs that large families are a good investment from bride prices and for old age,

- lack of awareness by some religious groups of the implications of a rapid population growth,

- lack of adequate finances to develop and implement appropriate relevant programs.
18.2 THE ROLE OF EDUCATION.

Population awareness education is believed to be central to the implementation of the National Population Policy. It was stressed in the policy document that the community, particularly individual couples, must be made aware of all the reasons cited above for the need for a reduction in population growth rate, that this need is urgent and must be implemented immediately.

Because of the wide diversity in social, cultural, traditional and religious beliefs, it was recommended that population awareness education would have to go through all the existing channels of communication if it is to succeed. The aim would be to get the message across to as much of the population as possible, right down to the rural areas where most of the people live, through existing hierarchies in rural areas such as village chiefs and churches.

The policy also recommended that Health Education as a subject currently being incorporated into the primary and secondary curriculum be expanded with specific emphasis on Family Health and Population Education. (My emphasis.)

With this direction in mind, lessons in the areas of family health, sexuality, birth spacing and family planning were included in the curriculum for grade 6, but some of these lessons were not considered appropriate by the provincial school inspectors. This predicament will be discussed in detail in chapter 23.1.
19. HEALTH CARE.

One of the characteristics of developed nations is the high standard of health services provided. Citizens of these countries take for granted the availability of family doctors, consultant medical generalists and ancillary services, well-equipped hospitals providing the latest developments in medical diagnosis and treatment, and expensive drugs and other medicines to relieve their various complaints. In fact the availability of such services is often counter-productive, as people see no need to care for their health.

The cost of providing these services however is very great. Medicare in Australia and the National Health Scheme in Great Britain take large slices of their respective national budgets. In other countries, such as U.S.A, much of the cost is borne by patients, a proportion of whom choose to protect themselves with medical insurance.

The people who live in developing countries, such as Solomon Islands, have the same need for health services, perhaps even greater need because of the range and severity of the health problems from which they suffer, as described in the foregoing chapters. Yet their government does not have the means, the finance, the personnel or the infra-structure to provide adequate services, as will become apparent from the description which follows.
19.1 HEALTH AND MEDICAL SERVICES.

The present situation is of great concern to the Solomon Islands Government and World Health Organisation and plans for development and improvement in health services were described in the 1985-1989 National Development Plan. (M.R.D, 1985) The problem however is too great to be solved quickly.

The number of villages has been estimated to be about 4,000 (WHO, 1985). Many are very small, having a population of only 30 or 40 people, and many are very remote and inaccessible. Thus there are logistic problems associated with the provision of health services to these villages, even occasional visits from itinerant village aids.

In 1983 there were eight hospitals (located in the larger towns) with a bed capacity of 713, 124 clinics with bed capacity of 685, 34 aid posts and 78 village health workers posts in the country. Hence most villages were without a clinic or aid post. More recent figures are not available, but they are unlikely to have changed to a great extent.

Sometimes a neighbouring village may have a clinic or aid post, but this may necessitate many hours or even days walking through the bush, or a long trip in a canoe across a rough sea, if villagers need medical attention. The outcome is that accidental injuries and diseases, including malaria, are not properly treated, many children are not immunized, infants die from diarrhoea and dehydration, and women have babies unattended in the bush.
As it is unlikely that the distribution of the population will alter greatly in the near future, a high priority of the Ministry of Health and Medical Services is to introduce measures to meet the needs of these people. It is believed that with more widespread use of village health aids and the provision of more aid posts, many of these difficulties could be overcome. Such a plan however is for the future.

The main constraints in the provision of health care services are shortage of manpower, limited finance and a poor transportation and communications network. There is considerable wastage in overseas training of nationals in health fields, especially medicine, pharmacy and dentistry, most of these services presently being provided by expatriates. Graduates from the newly established School of Nursing in Honiara are improving supply, but not satisfying demand, for nurses. There are insufficient funds to establish more than a few new clinics and aid posts, and travel from one village to another is slow and tedious.

The rapidly growing population, as previously discussed, is causing great concern, as this will put even greater demands on already inadequate medical services. This confirms the need to implement family planning strategies.

The need to encourage village people take more responsibility for their own health is obvious. The problem is how to reach people in remote villages. Most villages have a school, so the possibility of outreach through a school health education curriculum was recognised.
19.2 PRIMARY HEALTH CARE.

Primary health care is the term used to describe the grassroots arm of the health services which aims to prevent illness whenever possible and to involve individuals in the improvement of their own health, also the health of their families and the wider community. The many facets of this service operating in Solomon Islands during the last five years have included control of communicable diseases, environmental health and family health. (S.I. National Development Plan, 1985-1989).

Strategies designed to control communicable diseases have been discussed in chapter 16, including the expanded program of immunization (EPI) which aims to immunize all infants against diphtheria, whooping cough, tetanus, poliomyelitis, tuberculosis, measles and rubella. There remains however the problem of persuading the mothers to have their babies immunized.

A major project for the 1985-1989 period was provision of potable water supplies and appropriate sanitation facilities, so that the total population will have access to these basic needs. Attempts to provide sanitation facilities however fell far short of the goal.

The improvement of drainage, especially in coastal villages, to reduce the breeding of anopheles mosquitoes is another urgent need, but again is proving extremely difficult to implement because of lack of finance and expertise, and the inaccessibility of many villages.
In the area of family health, the overall aim is to make available Maternal and Child Health Care Services (MCH), including advice about nutrition, hygiene and child spacing, through the primary health care facilities. These services are provided by trained nurses, nurse aids, volunteer aid workers from overseas and community health educators, who often are itinerant, spending much time travelling through provinces to reach isolated villages.

Instruction in simple home nursing and first aid was initiated in 1989. Nursing officers travelled to selected villages to conduct workshops with village leaders, such as the chief, the constable, the pastor and school teacher. Each was issued with a copy of "Children's Illnesses in Warm Climates" (Llewellyn, 1986) and taught how to use it.

Almost without exception however, health workers involved in primary health care report that the villagers are slow to understand and slower to cooperate with programs designed to improve their health.

The need for health education in the community is obvious and the way this is implemented throughout the country will be explained in the next section. It was also the hope and expectation that if all the above concerns are included in the school health education curriculum, school and community health education efforts will reinforce each other, and ultimately bring about dramatic improvement in the health of the village people in Solomon Islands.
19.3 COMMUNITY HEALTH EDUCATION.

The need for community health education in Solomon Islands was recognised many years ago. The first health education officer was a beloved national doctor, Dr. Gideon Zoloveke, who gave up his medical practice to concentrate on preventive medicine. He resigned in the early 1970s to enter parliament.

The service was re-established in 1984. There is at present a staff of four community health educators, with audio-visual and clerical assistants, in the central Health Education Unit in Honiara.

The major task of the central body is to organise and implement health education programs. The themes of these programs are usually pre-determined by the Ministry of Health, and may be on-going programs, e.g. malaria prevention, or crisis oriented, e.g. "AIDS Awareness Week".

Much community health education occurs through the local press and radio. (There is no television network.) Regular health promotion programs are broadcast on short wave as well as medium wave, and thus have the capacity to reach the remotest villages in the outlying provinces. Malaria prevention is featured almost every day, with a catchy ditty, "Malaria can kill" to introduce the program. Other topics vary from time to time, according to the problems currently causing concern.
Other attempts to get the message across are made through posters and pamphlets, most of which are produced locally by the staff of the Health Education Unit. These are distributed via every possible means. Use is also made of audio and video material, made locally or acquired overseas.

The health education team does not as a rule undertake its own teaching, preferring to concentrate on instructing others how to implement health education programs. To this end, one of their functions has been to provide in-service courses in health education content and methodology and first aid for the provincial education officers and then to maintain contact with these people.

They also have a close liaison with the medical and nursing staff in the general hospital, the lecturers in nursing education and health education at the College of Higher Education and members of voluntary aid organisations with representation in Solomon Islands.

This liaison has a two-fold purpose. The Health Education Unit is a source of information and teaching materials for these other organisations, while the latter provide information about health and other problems occurring in the community for attention by the health education unit.

Perhaps the most important task of the officers in the Health Education Unit in Honiara is the training of the field workers, who form a network in the villages.
The health educators working in the field at grass roots level have an extremely important part to play in a country like Solomon Islands. If possible, they are appointed to work in their own locality, so they speak the same vernacular, have the same customs and understand the problems of their target audience. Their numbers however are far too small to have had, as yet, much impact in a country so impenetrable and diverse as Solomon Islands.

Health education in the villages is also carried out whenever possible by the clinic sisters, usually on a one to one basis, and is especially effective in the area of mother and child health care.

From time to time, ex-patriate volunteer workers also assist in the task of health education, although often such health education is but one component of a larger aid project.

However, on the whole community health education is well-established in Solomon Islands. The task is enormous and the tangible rewards are few, but a diligent band of workers is tackling this task and achieving some success.

It is very important that when the school health education curriculum is implemented, the village health educators support the teachers and the health programs in the school. This liaison should ensure the improvement of the health of the village people.
PART E

DEVELOPMENT, EVALUATION AND IMPLEMENTATION OF THE
HEALTH EDUCATION CURRICULUM
DEVELOPMENT, EVALUATION AND IMPLEMENTATION
OF THE HEALTH EDUCATION CURRICULUM.

INTRODUCTION.

These chapters are concerned with practical aspects of developing, trialling and implementing the health education curriculum for the national primary schools in Solomon Islands.

The work proceeded part-time over a period of nearly three years, 1987-1989, in Solomon Islands and Australia.

Development of the scope and sequence chart, the lessons and the teachers' manuals was interspersed with research to become conversant with the culture, the health and social problems of the people, and the schooling system, especially in the first months of the project.

Initially dependence was placed on lesson ideas previously developed for Solomon Islands schools and for schools in other South Pacific nations, especially Papua New Guinea. Later, when the specific needs became clearer and feedback from early lesson trials became available, greater originality and flexibility became possible.

The following account does not necessarily present a chronological review of events, but attempts to convey an overall summary of the project. It includes preliminary events before I became involved and looks ahead to possible outcomes following my withdrawal from the project.
20. DEVELOPING THE NEW CURRICULUM.

This chapter describes the processes involved in developing the new health education curriculum.

Firstly the "micro" plan, i.e. the approach at classroom level, is described. It is shown that there was a need to conform to the traditional Solomon Islands' way of presenting lessons while at the same time involving the children in interesting, village-based activities to promote good health habits.

Secondly the "macro" plan, i.e. the approach to curriculum development at national level, is explained, including the events and the input from persons in all walks of life which influenced the procedure adopted.

This is followed by a more detailed description and discussion of the processes involved in:
- the development of rationale, aims and objectives,
- selection and organisation of content,
- selection and organisation of learning experiences, and
- assessment of student performance.

The health education context which was determined by official requests and community concern, as well as the foregoing situational analysis and needs assessment, is presented in summary form, and the curriculum plan, in the form of a scope and sequence chart, is included.

Finally, the format of the teachers' manuals which were prepared to support the new curriculum is explained.
To some extent, the approach to the development of the new health education curriculum, especially at classroom level, was dictated by the local situation - the way it is always done, the way the teachers understand and can apply in the classroom - which reflected the stage of development of educational thought and practice in the Solomon Islands education system. (This has been discussed more extensively in chapters 9, 13 and 14.)

Solomon Islands teachers like to have a plan to which they can constantly refer. It was stipulated by the health education panel that detailed lesson notes should be prepared for every lesson, according to a prescribed format. The topic of the lesson, or in some cases a group or unit of lessons, was to be followed by clearly stated behavioural objectives to provide the teachers with direction for the lesson steps which follow.

The lesson notes should incorporate both the lesson content and the method to convey information, concepts and skills. The lesson steps should be clearly defined, as follows:

1) Introduction, referred to as openers or motivation.
2) Lesson development.
3) Summary of concepts learned.

Except for the lower grades in which the children may not be able to speak or write in English, it was requested that lessons conclude with some "notes" for children to copy, to learn and to be tested on from time to time.
Such a formal approach to health education was contrary to my strongly held philosophical stance about the purpose and methodology of health education, viz. that health lessons should be different from other lessons, not just another subject to "learn" to pass exams.

This belief was supported by the argument that health lessons should be enjoyable, should arouse the children's enthusiasm and encourage them to put good health habits into practice. Hopefully, in this way good health habits and attitudes would eventually be carried across into the homes and villages.

In my view, the risk of the alternative approach preferred by the nationals was that school health knowledge would be kept for school and traditional health beliefs, attitudes and practices would prevail at home.

Eventually a compromise was reached:

1) Lesson notes would be structured formally as requested.

2) The main thrust of the health program would involve the children in enjoyable and challenging activities, which would be "village based" and relevant for them.

3) Concluding tasks would provide the substance of some "facts" which could be learnt by the children and form the basis of testing which is held in such high regard.
20.2 THE APPROACH AT NATIONAL LEVEL.

Work on this curriculum began in 1983, when the Health and Physical Education Committee of the Solomon Islands Curriculum Development ("World Bank") Project met at the National Curriculum Workshop in Honiara.

A tentative plan was developed, and rationale, aims and objectives were defined. (These will be discussed in section 20.3) A draft scope and sequence chart (albeit timetable) for health education was drawn up, in which lessons for each grade were grouped into units, and the precise week in the school calendar in which lessons would be given in all schools in the provinces was nominated.

Work then commenced on the preparation of teachers' manuals for health education, but these were not acceptable to the national education authority and therefore further attempts to develop the curriculum and manuals to support it were abandoned. Some of the reasons the manuals were unsuitable will be explained and discussed in the following sections.

When this WHO project was established in 1987 and work recommenced on the health education curriculum, it was necessary to keep within these guidelines established by the education authority, as this conforms to the structure established for all other subjects in the primary curriculum. Initially a problem-solving approach was adopted, in the belief that this was appropriate when there was no store-house of externally produced programs and materials to be tapped. (Saylor et al, 1981)
The curriculum planning process proceeded simultaneously with situational analysis and needs assessment (described in detail in Parts C and D), the balance favouring the latter elements in early stages of the project.

The entire concept of the curriculum was thought about continually. Gradually ideas were assembled and organised into a curriculum plan which evolved into a scope and sequence chart. Thence ideas were developed for the presentation of lessons.

Throughout the entire process, consideration was given to input from other persons, both professional and lay, including:

1) opinions about content selection,
2) the importance of traditional customs, beliefs, attitudes and values pertaining in the villages, and
3) the needs of the teachers, especially in view of their unfamiliarity with this subject and the lack of resources in the schools.

Cognisance was also taken of the work previously undertaken under the World Bank Project.

Eventually, as a result of deliberations and discussion with the national health education curriculum coordinator and the Primary Health Education Panel, ideas about the way to proceed with the development of the curriculum became clear. This will be described and discussed in the remaining sections of this chapter.
However in making decisions during the curriculum development process, educators are planning for something that is unpredictable and uncertain. (Smith and Lovat, 1990) What could possibly be more uncertain than the suitability of this new curriculum for the Solomon Islands schools?

One of the dilemmas was the widely varied needs and experience of the teachers who will be implementing the curriculum. Should the lessons be pitched at the level of the untrained teacher at the risk of offending the more able teachers, or at a higher level which the less able teachers may not be able to implement. An attempt was made to reach a compromise.

However, as Smith and Lovat point out, in making this and other curriculum decisions, certain assumptions had to be made. If the assumptions made were correct, then the curriculum should be implemented fairly easily.

But if assumptions were wrong, there may be a need for drastic changes to be made. This predicament is illustrated and discussed further in chapters 21 and 22 which are concerned with evaluating and implementing the new curriculum, and also in chapter 23.1 which discusses the problems which arose relating to the inclusion of sex education in the primary health curriculum.
20.3 RATIONALE, AIMS AND OBJECTIVES.

It is necessary to make a distinction between three levels of objective statements relating to specific school curricula, as they apply in Solomon Islands and as they will be used in this context.

1. National policy is commonly stated as a "goal" or "rationale".

2. The Ministry of Education statement of intent, as interpreted from the rationale, is commonly stated as the "general aim".

3. Planned learning outcomes of lessons or units of work are commonly stated as "objectives".

The rationale, general aim and objectives for health education in the new Solomon Islands primary school curriculum, as formulated by the Health and Physical Education Committee of the National Primary Curriculum Development (World Bank) Project in 1983 read as follows:

Rationale.

Community health awareness is perhaps the most important task of education in a developing country. If an awareness of the need for good health habits, good nutrition and general physical well-being can be established in primary schools, then citizens will begin to realise the importance of disease eradication, better sanitation, etc. in making life easier and more rewarding.

General Aim.

To produce pupils who will live more healthy lives through practising good personal hygiene, and attaining the correct balance of nutritious food, sufficient sleep and suitable exercise.
Objectives.

KNOWLEDGE

Knowledge of the habits that help maintain personal hygiene at all times.

Knowledge of the need for a balanced diet, physical exercise and common health hazards in order to promote good health.

Knowledge of the factors which promote a healthy human environment including disease prevention, sanitation, safety and an adequate water supply.

Knowledge of how to diagnose and treat common ailments and injuries.

Knowledge of developments in preventive medicine (e.g. immunization)

Knowledge of how the body works.

Knowledge of factors associated with the growing, selection and preparation of nutritious food.

Knowledge of functions of health and welfare services existing in the local environment.

SKILLS

Be able to swim and demonstrate water safety techniques.

Identify symptoms associated with malaria and be able to seek appropriate treatment.

Be able to demonstrate basic first aid techniques.

Demonstrate the skill of recognising dangerous plant and marine life and take appropriate precautions.

Demonstrate basic hygiene skills.

Recognise common illnesses and simple treatments.


It should be noted that at this stage the committee consisted of seven national primary teachers, an ex-patriate medical practitioner and an ex-patriate physical education consultant/ writer.
Although the objectives lacked specificity, they indicated real concern for the health of the nation, especially the health and safety of the traditional people living in the villages.

The committee however soon discovered that the expertise necessary to develop such a curriculum was not readily available. Furthermore there was no suitable text or reference book to provide the content for this new course.

Therefore it was agreed that:

A consultant with experience in tropical health education would be more appropriate to meet the need of Solomon Islands primary children.

Health and Physical Education Committee (1983)

Furthermore, it was originally envisaged that the health lessons would be incorporated into the P.E. curriculum. However:

As the committee's discussions proceeded, it became more and more obvious that the main emphasis should be on health rather than on physical education.

Health and Physical Education Committee (1983)

As an outcome of the committee's deliberations, a consultant with experience in tropical health was engaged, but this person apparently lack skills in education, school health education and curriculum development, with the result that she was eventually discontinued from the "World Bank" Project. (This will be discussed further in section 20.5)
When the Ministry of Health became involved and the present curriculum development project commenced, under the sponsorship of the World Health Organization, "rationale" and "general aim" were re-examined.

The primary health education panel approved the following statements in 1987.

**RATIONALE.**

Community health awareness is perhaps the most important task of education in a developing country. If an awareness of the need for a healthy environment, good health habits, good nutrition and physical, emotional and social well-being can be established in primary schools, then citizens will begin to realise the importance of health in making life easier and more rewarding.

This will then result in improvement of health and increased lifespan of the people, and indirectly reduce the cost of health care and other health-related services.

**GENERAL AIM.**

To provide the children with knowledge about health and disease, to encourage good health-related behaviour and thus develop habits, attitudes and values conducive to physical, emotional and social health which will be carried across into their homes and villages, and ultimately to the Nation.

**SPECIFIC OBJECTIVES.**

A clear statement of the objectives for every lesson was considered of major importance in the development of the teachers' manuals to support the new curriculum. (See section 20.1) The health panel and curriculum coordinator agreed with the consultant that objectives should be specific, precisely defined and centred upon behavioural outcomes.
Objectives for lessons in the lower grades emphasised the development of good health practices. In middle and upper grades, depending on the topic being taught, the lessons were frequently planned to achieve more than one objective, e.g. one providing information about the problem and others relating to the attitude and/or behaviour change it is hoped to achieve. Because of the demands of the Hick's test at the end of grade 6, greater emphasis was given to factual achievements in the higher grades.

Such precisely defined objectives offered guidance in the selection of appropriate content and teaching strategies, and also were the base line for student assessment and evaluation of the curriculum.

Some examples of specific objectives taken from the teachers manuals are quoted below. Further examples may be found in Appendix B.

**GRADE 1: WATER**

By the end of this week the children will know
- water is very important in their lives,
- water has many important uses,
- we must keep our water clean.

**GRADE 2: WE SEE WITH OUR EYES**

By the end of this week the children will:
- be more aware of what their eyes can do,
- understand the importance of sight,
- know how to care for their eyes.
GRADE 3. HEAD LICE

The children will learn
- that lice like long dirty untidy hair,
- that they get lice from other children,
- how to treat hair to get rid of head lice.

GRADE 4: CHANGING RESPONSIBILITIES

The children will learn:
- they are members of the home and school community,
- they must share the tasks of the community,
- they can help by doing more for themselves and others,
- the need to be responsible and do jobs properly and safely.

GRADE 5: DISEASE PREVENTION BY IMMUNIZATION

The students will:
- recall serious diseases which can be prevented by immunization,
- discuss immunization, how it is carried out, how it helps and why many people are not immunized,
- plan ways to encourage immunization in the villages and put this into action.

GRADE 6: BREAST FEEDING AND BOTTLE FEEDING

The students will develop an understanding of
(1) breast feeding
   - the advantages for both mother and baby,
   - how to overcome problems with breast feeding,

(2) bottle feeding
   - the difficulty of preparing milk for baby's bottle to correct strength,
   - how easy it is for germs to get into the bottle and grow in the milk,
   - why babies do not thrive, or may even die, when fed with milk from bottles.
Selecting the content for this new health curriculum involved making decisions, not so much about what to put in, as what could be omitted. There were so many issues which needed to be included in the curriculum.

There was great concern in the Solomon Islands community about health and the inadequacy of health services. This was manifested in the helplessness experienced by villagers far from medical aid and the frustration of health workers in the field unable to provide services to them.

The Ministry of Health and Medical Services was unable to solve these problems because of insufficient personnel and inadequate funding. The World Health Organization had recently reduced aid to developing countries, including Solomon Islands, because many member countries of the United Nations Organization had reduced their contributions.

Other aid organizations, such as UNICEF and Save the Children Fund, reflected the hopelessness of the situation and the difficulty of making inroads into the many debilitating and life-threatening health problems.

There was a commonly held belief that health lessons given at school could well make a difference between life and death to children, as well as adults in a community.

To cite some examples:
1) Many babies die in tropical villages when they become dehydrated from a severe bout of diarrhoea. Yet the treatment is so simple, rehydration drink prepared from salt and sugar, or simply coconut milk, simple enough for children to prepare and administer.

Furthermore diarrhoea can be prevented to a large extent by improving hygiene and sanitation in the villages. Yet the villagers are ignorant of the cause and ways to prevent this problem which causes them so much distress.

2) Malaria takes the greatest health toll in this nation and the people accept that they will "get the fever" again and again, until they become so weak that they die, usually from another cause.

Yet many refuse to cooperate in schemes to eradicate the mosquito vectors and eliminate human carriers either through ignorance or apathy. Children can help to clean up their village, drain standing water, and assist the spraymen, and thus help to eradicate the mosquitoes.

3) Women still remove themselves from the village to give birth alone in the bush. Too often the baby does not survive and the mother's life is also placed at risk.

Unless the danger of this practice is taught in primary school, many girls who do not proceed to secondary school will remain in ignorance and be at risk when they become pregnant.
Therefore interest in the curriculum from health workers and others in the community was great. The expectation was even greater that health lessons in the schools would go a long way to solving many of these problems.

Persons in all walks of life, both nationals and expatriate workers, requested and in some cases demanded that certain topics be included in the curriculum. Some indication of the input received is given below:

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UNOFFICIAL INPUT

Save Children Fund Immunization (E.P.I.)

Medical, nursing and Measles
and dental staff Care of eyes
Honiara General Care of teeth
Hospital Accidents
Alcohol

Community health Personal hygiene
educators Sanitation and drainage
Water supply Nutrition
Sexually transmitted diseases AIDS
Road accidents First aid

Community nurses and First aid
health workers Home nursing Nutrition

Home economics Hygiene in the home
lecturers at SICHE Nutrition

The final arbiter of curriculum content was the Ministry
of Education's Primary School Health Education Panel,
comprised of the following members:

Chairman: Senior provincial primary school teacher.

Members: Primary health curriculum coordinator.

Two national primary school teachers.

Seventh Day Adventist primary school teacher.

United Nations volunteer from Philippines,
trained in school health education, working
as a community health educator in Honiara.

Lecturer in Health Education at the Solomon
Islands College of Higher Education (SICHE).

Ex-Officio when in Honiara: The WHO consultant in charge
of the project. (myself)
20.4.1 THE HEALTH EDUCATION CONTEXT.

Topics from the above list which were approved by the health education panel for inclusion in the curriculum were researched in Solomon Islands, as described previously. The findings were assessed and a body of knowledge was assembled which became the context from which the primary school health lessons and the teachers' reference notes were prepared, and in- and pre-service courses developed.

Broad topics were chosen and, at this stage, to assist in the preparation of the scope and sequence chart, these were broken down into sub-topics, as indicated below:

1. CLEANLINESS AND HYGIENE
   (1) Personal hygiene
   (2) A health home
   (3) Hygiene in the kitchen
   (4) Adolescent hygiene

2. FOOD AND NUTRITION
   (1) Food from plants, animals and the store
   (2) The three food groups and balanced meals
   (3) Preventing childhood malnutrition
   (4) Western junk foods
   (5) Making the right food choices
   (6) Food for mothers and babies

3. GROWTH, DEVELOPMENT AND FAMILY HEALTH
   (1) Growth and development
   (2) Baby and child care
   (3) Puberty and adolescence
   (4) Teaching the facts about sex
   (5) Pregnancy and childbirth
   (6) Population growth and birth spacing

4. A HEALTHY ENVIRONMENT
   (1) Who and what spoils the environment?
   (2) A safe water supply
   (3) Sanitation and toilets
   (4) Disposal of rubbish
   (5) Caring for animals
5. UNDERSTANDING AND CARING FOR THE BODY

(1) Our senses
(2) Skeleton, muscles and feet
(3) Breathing and the airway
(4) The heart and the blood
(5) Digestion of food
(6) Teeth and gums
(7) Brain and nerves
(8) Skin and hair
(9) Eyes, sight and blindness
(10) Ears, hearing, deafness and speech

6. THE CAUSE AND PREVENTION OF DISEASE

(1) Insect enemies - mosquitoes, flies, etc.
(2) Germs - unseen enemies
(3) How to stop germs spreading
(4) Preventing malaria
(5) Diarrhoea and dehydration
(6) Childhood diseases and immunization
(7) Worms which live inside us
(8) STDs and AIDS

7. HEALTH SERVICES

(1) Health workers
(2) Hospitals and clinics
(3) Simple home nursing

8. EMOTIONAL AND SOCIAL HEALTH

(1) Learning about myself
(2) Feelings, moods and manners
(3) Self esteem
(4) Relationships and responsibility

9. DEADLY HABITS (DRUGS)

(1) Drug use and misuse
(2) Betel nut
(3) Smoking tobacco
(4) Alcohol

10. SAFETY AND FIRST AID

(1) Keeping safe - at home, on roads, near water.
(2) A safe school
(3) Things children play and work with
(4) Dangerous behaviour
(5) Fire, burns and scalds
(6) Electricity
(7) Poisons and medicines
(8) Simple first aid
20.4.2 THE CURRICULUM PLAN - SCOPE AND SEQUENCE.

The next step was to make a more specific content selection, as deemed suitable for presentation to the primary school children. It was also necessary to organise this content in a way that would be easy for the children to learn, i.e. by sequencing. Thus a scope and sequence chart was drawn up.

Ideas were gained from the scope and sequence chart previously prepared by the "World Bank" health curriculum committee, previously mentioned in section 20.2. The scope and sequence chart for the Papua New Guinea primary school health education curriculum also provided ideas.

The scope and sequence chart thus developed was modified many times during the period when the lessons were being written and also in discussion with the curriculum coordinator and health panel. Decisions had to be made about what should be taught and the most appropriate time to introduce certain concepts which depends on the children's readiness and the methods of approach to be used. In many instances, matters were debated with the health panel until consensus was reached, which is the Melanesian custom of problem solving.

Sequencing involved more than the sequencing of content. It also involved sequencing of learning experiences which became increasingly complex in higher grades. Learning experiences are discussed in the next section.

The Scope and Sequence Chart can be found in Appendix A.
20.5 SELECTION OF LEARNING EXPERIENCES.

While it is believed that no single curriculum element is more important than any other, it is true that content only acquires significance and objectives can only be reached by the choice of appropriate learning experiences. This choice was therefore a very important component of this project.

The average primary school teacher without any experience of or training in the methodology of health education often finds the task of selecting appropriate learning experiences for health lessons difficult. Lack of teacher competencies was revealed in chapter 6.3 to be one of the reasons why teachers throughout the world avoid giving health lessons.

This was certainly one of the reasons why attempts by the Solomon Islands primary health education panel to develop their own curriculum faltered. Individually and collectively, they did not know how to present health lessons.

Efforts of the former ex-patriate consultant/writer, engaged by the "World Bank" project, were unacceptable for two reasons. Firstly she failed to provide the teachers with specific teaching strategies for health lessons, and secondly she showed ignorance of the level of understanding of children in primary school. This is obvious in the following example, taken from a topic for Grade 3. (Solomon Islands children in grade 3 would be about 10 years of age.)
GOOD FOOD FOR MY VILLAGE

LESSON: Special Food for Mothers and Babies.
(Lesson 16 in series of 20 lessons.)

OBJECTIVES:

To understand that an unborn baby is fed within the mother's body. To know that a mother has to eat the best food for her unborn baby.

That a mother breastfeeding her baby needs more GROW type food (see lesson 8) than the father or the children; that GROW type foods improve the blood of the baby and keeps mother and baby strong.

That a mother must eat BOSS type foods daily for her baby's health.

To identify GROW and BOSS type food for a mother.

To know how a small child can have malnutrition, to know the meaning of this word.

To know the effects of malnutrition upon a child.

To know fresh traditional food is better for a young child than tinned baby foods.

To recognise that salt should not be added to babies' and young children's foods.

To be aware that one BOSS food (vitamin D) comes from sunshine; that babies should be in the sun.

TEACHING POINTS

A flannel board could be used in this lesson.

(See "Helping Health Workers Learn" p 11-15 to show you how to make one.)

Look at the drawing in the same book on p. 25-43. A good flannelboard is on the front cover of the book.

Extract from "World Bank" project Teachers' Manual for Health Education for grade 3.
It can be seen that a number of objectives, in some cases a great number, for each lesson were stated, and some brief "teaching points" to suggest a teaching strategy were given. The teachers were expected to develop their own teaching program.

In fairness, it should be pointed out that several pages of reference notes were provided about "Food and Nutrition", and the teachers were directed to make a choice from the objectives given for each lesson.

The book recommended, viz. "Helping Health Workers Learn" (Werner & Bower, 1983) however, while a useful guide for trainee health workers, was not suitable for teachers with little or no knowledge about health. They needed much more help in ways to present lessons to children in school.

What then are the methods which are appropriate for health education lessons in primary schools?

In lower grades activity based lessons in which good health habits are practised are suitable for schools in both developed and developing countries.

In higher grades, the basic problem is how to relate knowledge to behaviour in the instructional program. While the precise mechanisms for this transfer are not known, it is generally agreed that involving the students in appropriate activities, directed towards clarification of attitudes and values and the development of good health practices is a step in the right direction.
20.5.1 LEARNING EXPERIENCES FOR SOLOMON ISLANDS SCHOOLS

As was discussed in chapters 9 and 13, teaching in Solomon Islands primary schools is mainly teacher centred, the teacher provides the facts in various ways, usually by "chalk and talk", and the pupils are expected to learn them by recitation and basic note taking.

While didactic methods of presentation have a place in health education, it is generally agreed that learning the facts about sickness and health will not necessarily produce an improvement in health, as was discussed in chapters 6 and 10.

To quote an example, children at school in Solomon Islands 20 or more years ago learnt about the three food groups which are remembered verbatim to this day by many prominent citizens in Honiara, but in many cases they claim they have never consciously put this information into practice.

The aim therefore was to select other methods in which the children would be actively involved putting good health habits into practice. I also wanted the children to enjoy their health lessons and to look forward to them, as I believe this is motivation for the development of healthy behaviour.

It was also important to make the lessons enjoyable for the teachers and easy for them to implement by keeping lesson preparation to a minimum, since in many cases teachers will be learning along with the children, especially when the curriculum is first implemented.
The selection of the learning experiences for the health lessons was constrained by many factors, including:

1) The teachers' lack of training and experience in pupil centred learning.

2) A requirement to prepare grade 6 students for knowledge tests, especially "health" questions in the general knowledge paper in the Hick's test.

3) The teachers' lack of knowledge about the content of the health curriculum and the methodology of health education.

4) The lack of source books in the schools to which teachers could refer to enrich their own teaching.

5) The lack of basic equipment in the schools, let alone specific teaching aids for health lessons, many classrooms boasting only a chalkboard.

6) The lack of books for the children to read for assignments, magazines from which to obtain pictures for charts and to illustrate assignments, shops from which to purchase the odd articles with which to enrich lessons, and facilities for duplication of worksheets, pictures, etc.

7) Teachers frequently teaching in isolation, having no one with whom to cooperate in the preparation and use of teaching aids and to discuss difficulties being experienced.

8) An absence of individualised teaching or acknowledgement of individual differences in the average classroom.
9) The wide range of ability and experience of the children, especially those in rural and urban schools.

10) The problem of conflicting ideas, meaning that the good health practices taught at school will often conflict with the traditional view, bearing in mind that village children can be very skilled at keeping "school knowledge" for school and "home knowledge" for home.

11) The need for the school health program to reach outward to the community it serves, including the children who do not go to school, as in many cases this is the only way health knowledge will come to village people.

Ideas were gathered from research and curriculum materials from/for other developing countries, especially Papua New Guinea (Biddulph, 1983), the Eastern Mediterranean Region (WHO, EMRO 1987), and Fiji and Vanuatu (South Pacific Commission, 1983-1986). Publications for the developing world which were particularly helpful were the "Child-to-Child Programme" (Institute of Child Health, University of London, 1986), "Primary Health Education" (Young and Durston, 1987) and "Facts for Life" (UNICEF, 1989). In addition, materials previously prepared for Solomon Islands schools, or ideas from the same, were used when appropriate, since many of these were prepared to meet the specific needs of the Solomon Islands community. A list of the references used when preparing the lessons is given as a supplementary bibliography. (See Appendix D)

The wide variety of learning experiences selected is indicated in figure 20.1 on the following page.
Figure 20.1

LEARNING EXPERIENCES FOR HEALTH EDUCATION
USED IN THE SOLOMON ISLANDS PRIMARY CURRICULUM.

HEALTH EDUCATION LEARNING EXPERIENCES

DIDACTIC PRESENTATION
Explanation

DRAMA
Miming
Role play
Socio-drama
Puppets

NARRATIVE
Stories
Poems
Songs
Action songs

SURVEYS
Questionnaires
Graphs
Records

PHYSICAL ACTIVITIES
Actions
Games
Exercises

DISCUSSIONS
Show & tell
Group reports
Q & A
Forums
Panels
Debates

CREATIVE ACTIVITIES
Posters
Charts
Models
Book work
Writing

PROBLEM SOLVING
Observation
Study
Experiments
Field enquiry

DEMONSTRATION/PRACTICE/DRILL
Real/hypothetical situations

AUDIO-VISUAL
Pictures
Charts

EXCURSIONS
Nature walks
Field trips

COMMUNITY ACTIVITIES
Gardening
Clean-up
Safety
Help aged & disabled
The manner in which the various learning experiences were incorporated in the health lessons can be ascertained by perusing the lesson notes provided in Appendix B. It will be noted that usually more than one strategy was used in any given lesson.

Specific examples.

(Refer to the following lessons in Appendix B, Volume Two.)

1. Narratives.

This method was used extensively, especially in the lower grades, because Solomon Islands children are very attentive listeners to stories and frequently no other teaching resources were available. Most of the stories were written specially for this health program.

For example:

"Careless Colin" and "Safety Sue" (Gr.1) p 474, 475
"Yum Yum" and "The Old Meat Tin" (Gr.2) p 494, 508
"Gerry Germ" and "Billy the Show-off" (Gr.3) p 527, 552
"Ken's Group" and "Millie Mosquito" (Gr.4) p 582, 586
"James and Robert" (Gr.5) p 608
"Cheryl's Baby" and "Last Day at School" (Gr.6) p 649, 665

2. Other methods.

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<tr>
<th>Demonstrations</th>
<th>&quot;Washing hands&quot; (Gr.1) p 454</th>
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<tr>
<td>Practice/ drill</td>
<td>&quot;Crossing the road&quot; (Gr.1) p 466</td>
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<td>&quot;Sharp objects&quot; (Gr.3) p 550</td>
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<td>Picture study</td>
<td>&quot;Food from animals&quot; (Gr.2) p 496</td>
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<td>&quot;Safe drinking water&quot; (Gr.5) p 622</td>
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- "Small children's toys" (Gr.3) p 543
- "Why do I have a skeleton?" (Gr.4) p 559

Visits
- "To a market garden" (Gr.2) p 492
- "To a clinic" (Gr.2) p 516

Group discussion
- "Caring for feet" (Gr.4) p 570
- "Helping the sprayman" (Gr.4) p 594
- "Differences between boys and girls" (Gr.5) p 615

Problem solving
- "Safe and unsafe ways to play" (Gr.3) p 552
- "Do what is right" (Gr.4) p 583

3. Lesson Consolidation.
Class games
- "Our village store" (Gr.2) p 501
- "Sally goes to hospital" (Gr.2) p 518

Songs, poems
- "This is the way...." (Gr.1) p 455
- "Take away the fever" (Gr.1) p 482
- "Boil your water" (Gr.3) p 534
- "Good food for teeth" (Gr.3) p 539
- "The three food groups" (Gr.5) p 600

Role play
- "How to care for a cold" (Gr.1) p 480
- "Do the right thing" (Gr.2) p 514
- "Children copy their elders" (Gr.3) p 554
- "Our faces tell stories" (Gr.4) p 573
- "How to have friends" (Gr.4) p 580
- "Wearing other hats" (Gr.5) p 613

Art work
- "Families who do/don't care" (Gr.2) p 511
- "Gerry Germ" (Gr.3) p 528
- "My feelings" (Gr.4) p 574

Craft work
- "Making a clothes hanger" (Gr.1) p 463
- "Good/Bad food for teeth" (Gr.3) p 541
- "Stages of family Life" (Gr.5) p 613

4. Strategies for higher grades.
Explanation
- "Germs in body waste" (Gr.5) p 625
- "How teeth decay" (Gr.6) p 640
- "Changes at puberty" (Gr.5) p 616
- "How a baby is made" (Gr.6) p 644

Discussion
- "Malnutrition" (Gr.5) p 608
- "Birth spacing" (Gr.6) p 654
- "Betel nut" (Gr.6) p 659
- "Bad effects of alcohol" (Gr.6) p 667

Experimentation
- "The smoking machine" (Gr.6) p 662
- "Tooth decay" (Gr.6) p 641
In many lessons in higher grades, consolidation was extended to include exercises, with a view to knowledge testing, a Ministry of Education requirement.

5. Additional activities for quick workers.

"How to stop Walter Germ" (Gr. 3) p 534
"How my skeleton helps me" (Gr. 4) p 561
"The Good Food Game" (Gr. 5) p 610

6. Home and community outreach.

a) Improvement in personal hygiene.

Topic 2: "Keeping clean" (Gr. 1) p 452

b) Involvement in environmental improvement campaigns.

"Who makes the rubbish" (Gr. 2) p 512
"Getting rid of mosquitoes" (Gr. 4) p 588
"Be a rubbish detective" (Gr. 5) p 630
"Caring for animals" (Gr. 5) p 633

c) Village instruction/entertainment.

"Teaching others about Dental Health" (Gr. 6) p.641

Two approaches which were favoured, but difficult to include in the manner discussed in chapter 6 because of lack of finance and support facilities in schools, were:
1) Child-to-Child.
Since the purchase of health readers was not possible, other strategies, such as stories, health songs, poems, demonstrations and role playing, were designed with transference to non-schooled children in mind. For example:

"A simple cure for belerun" (Gr. 1) p 486
"Safe and unsafe ways to play" (Gr. 3) p 548
"Junk Food" (Gr. 5) p 602

2) Teacher-Child-Parent.
The recommended approach involves the students' families in health lessons by the use of worksheets to be completed at home, but lack of duplicating facilities in the schools restricted what could be achieved in this regard. The following lessons are examples of ways parents were involved:

"Things we handle" (Gr. 3) p 551
"Malnutrition in children" (Gr. 5) p 610
"Family planning" (Gr. 6) p 655

CONCLUSION.
With the teachers' needs in mind, full lesson notes detailing all the lesson steps, from introduction and motivation to consolidation were written for every lesson across the six years of the primary school course. This involved designing over 500 lessons! These were assembled into the teachers' manuals. (see section 20.7)
20.6 THE ASSESSMENT OF STUDENT PERFORMANCE.

As in any other school subject, it is necessary for teachers to assess their pupils continually. Much of this is informal assessment within a lesson. Questioning is used at the beginning of a lesson for recall, during a lesson to check understanding and at the end of a lesson for consolidation. Such questions (and the answers to them) were built into the lesson notes in the teachers' manuals at the request of the health education curriculum coordinator, representing the Ministry of Education, to conform with traditional ways of primary school teaching.

Further questions included in the manuals provided the opportunity for teachers to assess students' understanding by way of class or homework exercises at the end of lessons or lesson units. Again the "correct" response was provided, since it was anticipated that some teachers would not have sufficient knowledge of health issues to judge whether or not the response was appropriate.

The request for a bank of test questions which could be used in the term and yearly examinations, however, was not complied with, in the belief that this promotes the wrong approach to health education. Evaluation of school health education goes beyond factual tests. It is necessary to provide some means whereby assessment may be made of students' knowledge and skills, attitudes and behaviour, especially as these relate to changes which have taken place in the students as an outcome of the health teaching.
Therefore it was recommended that when the teaching program has been implemented, the Ministry of Education, perhaps in collaboration with the Health Education Division of the Ministry of Health, will consider conducting workshops to instruct the regional education officers, who in turn will instruct the teachers, in both the need for and the means of achieving evaluation of health teaching.

Thus some of the assessment procedures described below would be too difficult for village teachers to implement at the present time, since they depend on competencies not yet developed. However teachers in schools at a higher stage of development should find these question types useful.

20.6.1 INFORMAL ASSESSMENT.
The following are some methods of informal assessment of the health status of children recommended in the manuals which had immediate application in most schools:

- Routine inspections of (e.g.) hands, nails and clothing for cleanliness, hair for head lice, and the skin for bakua, scabies and other infections, to be conducted regularly in village schools, either by the class teachers, headmaster or the community/school nurse.
- Records to be kept of the children's height and weight.
- Observations to be made and records kept of:
  . the food the children bring to school,
  . health behaviour in the classroom and playground.
  . students' attitudes to mosquito eradication programs and mass drug administration programs for the eradication of malaria carriers.
20.6.2 FORMAL ASSESSMENT.

1. Assessment of health knowledge.

1) Simple oral questioning was used in lower grades. e.g.
   - Do flies carry germs?
   - Is river water safe to drink?

2) Oral questioning requiring critical thinking and judgement was used in higher grades. e.g.
   - What are three reasons why it is necessary to cook pig meat?
   - How can we be sure that water is safe to drink?

3) Pupil demonstrations:
   These were designed to test the children's knowledge in real-life situations, and include dramatization of situations taught in a health unit (e.g. brushing teeth or crossing the street) and original plays, skits and socio-dramas. These methods were used extensively in all grades.

4) Written essays and problem solving situations.
   These were used in the higher grades. The following types of questions were adapted from Remmers, Gage and Rummel (1965).

   Selective recall
   e.g. What is immunization and why is it important?

   Evaluative recall
   e.g. What do you consider are four important ways to prevent malaria?

   Comparison
   e.g. Explain differences between chronic and acute illnesses.
Decision
e.g. Should Solomon Islands have its own brewery?

Causes and effects
e.g. What is the cause of dehydration in babies? When is a baby's life in danger from dehydration?

Explanation
e.g. Explain how digestion takes place.

Analysis
e.g. Why do young people begin to smoke cigarettes?

Statement of relationships
e.g. Why is burying rubbish important to health?

Illustration of principles
e.g. Illustrate the correct procedure for mouth-to-mouth resuscitation.

Classification
e.g. Classify the following foods into their correct food groups.

Application of rules
e.g. How would you help a small child to cross a busy road safely?

Discussion
e.g. Discuss the function of the skeletal system.

Criticism
e.g. What is wrong with the following meal and what would you add or delete to improve it?

2. Appraisal of health attitudes.

Attitudes towards health matters are difficult to measure because they are concerned with feelings and emotions. Procedures for appraisal of attitudes were therefore carefully selected and questions carefully worded.

1) Oral or written answers: e.g.

What do you think about, or what should we do about:

- rubbish in the playground,
- smelliness of the toilet block,
- mosquitoes, flies, and bedbugs,
- fast foods,
- smoking and alcohol and betel nut, etc.?
However, pupils may not give their true feelings if they believe that they are to be assessed on their responses. Therefore it was suggested that when written answers were expected, pupils do not write their names on their papers.

2) Teacher observation.
It was suggested that teachers are usually able to evaluate their pupils' attitudes to many matters, including health, in other ways, such as individual and class discussions.

3. Assessing health practices.
The most important factor to assess when evaluating the impact of health lessons on pupil behaviour is the extent to which good health habits are put into practice. An effective way of determining pupils' health practices which was suggested in all grades is through alert observation of pupils in and out of school.

Questions were provided to obtain information about health practices from students in the higher grades, but the teachers were made aware that there is always the possibility that the students may not actually be putting into practice what they indicate on paper.

Parents too may sometimes report changes in their children's health behaviour, such as brushing teeth and washing regularly, eating more fruit and vegetables, and adopting safer behaviour near busy roads. These are the methods suggested for teachers in the lower grades.
Self-evaluation

Self-evaluation by the students can be a very effective instrument for detecting behaviour change. Sorochon and Bender (1975) claim that when students are allowed to be part of the evaluation process, they cannot help but be motivated to get involved.

Simple check lists and rating scales were therefore suggested to teachers in the non-government schools in Honiara (where the students are well-motivated and many of the teachers are ex-patriates) to assist self-evaluation. It was pointed out that the children must know that the entire experience is designed for them to self-assess their health practices and benefit from recognition of their levels of well-being.

CONCLUSION.

There are thus many different ways by which health teaching may be assessed which were included in the teachers' manuals.

The final appraisal however is whether or not this curriculum will achieve its ultimate purpose, viz. to foster positive health habits which last for a lifetime and result in improvement in the health and well-being of the community.

This cannot be assessed in the short term. It may be necessary to wait many years for this final answer.
20.7 PREPARATION OF THE TEACHERS' MANUALS.

As requested by the Ministry of Education, manuals for the teachers for all primary grades from Grade 1 to Grade 6 were prepared. These manuals were designed to facilitate the implementation of the new curriculum. They were required to be reference books for the teachers, as well as to provide full instructions for the lessons the teachers will be required to give to their pupils.

1. Organization of the manuals.

The format of the manuals was prescribed by the Ministry of Education to conform to the pattern already established for other primary subjects. It is anticipated that all the national primary schools throughout the nation will give the same lessons in the same week.

a) The time allocation for grades 1 and 2 is three 20-minute lessons per week, and for grades 3, 4, 5 and 6 two 30-minute lessons per week.

b) Each manual contains a Foreward, introducing the teachers to the health education and providing the rationale and describing the structure of the course.

c) Lesson units usually covering three, four or five weeks work, were developed from the Scope and Sequence chart. Lessons for each week form sub-units. Each sub-title on the Scope and Sequence chart is the topic of one week's lessons.

d) The list of contents for each manual, giving the title for each individual lesson, can be found in Appendix C.
2. **Lesson Units.**

a) **Introductory statement.**

This appears at the beginning of each unit, and provides an overview of the lessons for the next few weeks. When appropriate, it informs the teachers about lessons on this topic which the children should have received in lower grades, as well as justifying the inclusion of this topic in the course. Other information is supplied as necessary.

b) **Lesson notes.**

Lessons for one week are grouped together.

- **Specific objectives** are stated in behavioural terms.
- **Materials** required for the lessons are listed.
- **Procedure** gives the detailed steps for each lesson.

In general this includes:

1. introduction and motivation, including questioning and links with previous lesson/s, as appropriate,
2. the body of the lesson, including ideas for student assessment as appropriate,
3. consolidation and extension activities.

c) **Illustrations.**

Pictures by local artists illustrate some units. These were designed firstly as teaching aids, secondly to make the teachers' manuals more attractive. Some line drawings are included to simplify copying on the chalkboard.

It is envisaged that some of the pictures at least will be reproduced in chart form to facilitate their use in the classroom, when finance becomes available.
3. The manuals as reference books.

This need arose because of the difficulty of finding another reference book which would provide for the needs of the teachers who required not only assistance to give health lessons, but also background information concerning the problems about which they are required to teach. The information provided was brief and simply expressed, and is found in the introduction to each topic and the "Teachers' Notes" which form part of the lesson notes for each week.

References to books and other resources to which some teachers may have access are also given, including:

Werner, D (1978) "Where There is no Doctor".
Llewellyn, J (1986) "Children's Illnesses in Warm Climates: A Guide for Teachers, Parents and Health Workers"
Young, B and Durston, S (1987) "Primary Health Education".
ICM (1975), "Your Body" charts (with reference notes).
Posters, leaflets, pamphlets etc from the Solomon Islands Health Education Division and South Pacific Commission.

Each manual was also provided with a glossary to explain in simple terms the meaning of uncommon terms in the next.

The drafts of the manuals were checked by the health education curriculum officer, scrutinized by the school inspectors, assessed carefully by the health education panel, and trialled in some schools before being approved for implementation. (Trialling and implementation of the curriculum are discussed in detail in chapters 21 and 22.) Three topics from each primary grade, taken directly from the manuals, are provided for perusal in Appendix B.
PART E

is continued in

VOLUME TWO