

# **Curriculum Reforms in Secondary Schools:**

A Commonwealth Survey



Commonwealth Secretariat

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## PREFACE

Educational planners have long recognized that the curriculum is one of the key factors in the educational process and that changes in the curriculum constitute an essential step in the achievement of educational objectives. Periodic changes in such objectives have therefore emphasized the demand for curriculum renewal. In this context the current pressure on governments to make education relevant to national development represents such a change in education policy and has generated a new urgency in curriculum development. It is therefore not surprising that in an era characterized by rapid change in all sectors of national life, many member countries are obliged to devote more and more attention to new initiatives and innovations in their secondary school curriculum.

At the Seventh Commonwealth Educational Conference in Accra in 1977, although the need for curriculum reform was recognized, it was suggested that the curriculum situation had not basically altered in many member countries. In order to obtain an accurate picture, a recommendation was therefore adopted that a survey should be undertaken on recent curriculum reforms in secondary level institutions in Commonwealth member countries, and that the results of such a survey should be circulated to the Ministries of Education prior to the next Commonwealth Education Conference. The wealth of information that the Secretariat has received on current innovations and projects in curriculum development has, in the event, fully justified the survey presented in this publication.

For practical reasons the scope of the survey has been limited strictly to the general secondary level as defined by UNESCO. The survey was based on a detailed questionnaire circulated to all Commonwealth Ministries of Education, and has been presented as a factual overview of the information received and except where member countries have offered their own insights, no attempt has been made to assess or evaluate the projects and innovations described. We have however endeavoured to identify trends in curriculum development where these appear to be significant for the future.

The report is broadly in three sections. The first attempts to identify and describe the trends and changes which have emerged in the last decade or so in curriculum control, planning, design and content. The second section highlights particular initiatives, programmes and projects which member countries have reported and the many problems and issues which have emerged in their development. The projects which are not specifically cited in the text are shown in the appendix at the end of the report. The third section records specific areas in which co-operation between Commonwealth countries exists and potential areas for future co-operation. The survey has revealed two such areas. These are training and the exchange of information. Many member countries have requested assistance to enable their Senior Planners and Curriculum Developers either to go abroad for training in other Commonwealth countries or for visits to observe innovations and projects at the grass roots level. The area of information exchange envisages the exchange of curriculum materials between member countries and the provision of opportunities for Curriculum Planners to meet and discuss common problems.

This publication seeks to promote co-operation. We have therefore included in the appendix the names and addresses of Ministries of Education for purposes of contact if further information on the projects cited is required. We have also included the names and addresses of Commonwealth Desks in member countries where they have been designated, with special responsibilities for Commonwealth educational matters. We at the Secretariat will of course, continue to serve as a channel of communication on specific inquiries concerning projects and innovations in curriculum renewal.

Our thanks are due to Professor P R C Williams, Head of the Department of Education in Developing Countries at the Institute of Education of London University for his advice and assistance in launching the survey and for enabling members of his staff to undertake it. Our special appreciation is due to Dr Linda Ankrah-Dove who, as consultant, was responsible for the survey and the report, and to Mr Hugh Hawes of the same Department as well as Mrs Yin Ching Leong from Malaysia who also assisted her.

This survey would not have been possible without the excellent responses which we received from Ministries of Education. Our thanks are due to the many officers who devoted time and effort to completing the detailed questionnaire and providing us with official documents describing educational developments and curriculum renewal programmes.

This report is presented to Ministers and their officials at the Eighth Commonwealth Education Conference as mandated by the Seventh Education Conference in order to assist their discussions on curriculum developments and also to member countries of the Commonwealth in the hope that it will be a valuable link in the chain of Commonwealth educational efforts.

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## INTRODUCTION

1980 opens the door to a new decade. It is, therefore, a suitable time to pause and ponder over the trends and patterns of educational development of the 1970's.

The pages that follow set out the policies, plans and programmes for curriculum development in secondary schools which member countries of the Commonwealth have initiated over the last ten years. The range and scope of reforms are a testament to the fact that there is no one best way to the realization of particular educational aims. There will be trials and errors and degrees of success and failure. Moreover, every reform effort is unique in its context. Sharing of experience from country to country gives insights and provokes the imagination but unthinking and wholesale adoption of what works in one country often proves that it does not work in another. This, if nothing else, is a lesson which has been learned and accepted in the recent history of curriculum reform.

If, by the time this is read, the facts and issues described here have already been overtaken by events, it is partly because the pace of change in secondary curriculum reform has gathered momentum in almost all Commonwealth countries over the last ten years and is likely to continue to do so.

Why have governments paid so much attention to reform of the curriculum at the secondary level? The reasons lie in the expectations countries had, and still have, that education systems can play a large part in national development programmes.

### Primary and Secondary School Expansion

The 1950's and 1960's were times of massive achievements in the expansion of education throughout the world. In the years after the Second World War Commonwealth countries put their energies into the provision of secondary schools in an attempt to build up their middle and higher level manpower. The human capital concept of educational development justified the higher proportion of education budgets devoted to secondary and higher education on the grounds that there would be a high social return on the investment.

After the UNESCO regional conferences of the early 1960's governments added to their commitments a vow to extend primary level education to all. Primary education thus became competitive for public resources with secondary and higher education. Meanwhile, the rate of growth of secondary education in many countries actually increased. This growth rate accelerated as a new generation of primary school leavers filled the classrooms of the lower secondary schools. Today most countries are committed in the interests of social justice to working towards a nine or ten year minimum basic education for all, if they have not already achieved this.

If the 1960's and early 1970's were years of massive educational expansion, they were also years of heavily rising costs. Between 1965 and 1972 alone the percentage increase in public financing of education world-wide was

11.6 per cent. Most countries were affected by rising school-age populations and a slowing down of economic growth. Capital expenditures in the early days of the expansion of schooling are high. Recurrent expenditures impose a continual burden on the public purse. Secondary education costs per pupil are much higher than primary.

### Schools and National Development

But rising costs were not the only reason why governments took a long, hard look at secondary education. It was becoming apparent that many of the products of the traditional academic secondary schools were ill-suited and unwilling to meet the needs for scientific and technological manpower and for developmental leadership. Schools were adapted to preparing students for entry to higher education and not to preparing the majority of students for the world of work which they would enter after leaving school. Moreover, at the lower secondary level the backwash effect of selective entrance examinations to upper secondary education led to a neglect of the sort of curriculum which would prepare students to become well educated and productive citizens. Students were schooled but often not educated.

The difficulties faced by secondary schools in providing a curriculum which was relevant both to the needs of individuals and to wider social and economic goals was partly the reason for high rates of wastage - drop-outs, repeaters, examination failures, unemployable school leavers - from the lower secondary schools. Wastage is costly. The 1970's has seen much debate about the efficiency of schools - the quality of their work in relation to the cost of providing them. This is why there has been so much effort of late to improve the quality of secondary education through reform of the curriculum.

The question which governments, planners, teachers, parents and employers have been asking is: What should our young people learn? This central question involves a number of others:

What knowledge, skills, values and attitudes should the schools attempt to teach in order to equip the school leaver with all he or she needs to fulfil his or her potential as an individual and to lead a productive life in the community?

How far should basic education prepare the school leaver for a vocation in the context of his immediate environment and how far should it prepare him to meet the challenges of a changing world in a flexible and adaptable way?

These questions mainly focus on the majority of young people who will end their formal schooling at the lower secondary level. The following questions mainly concern the students who will continue their schooling at the upper secondary level and perhaps beyond:

What basic learning does the student of high potential need in the early years of secondary schooling in order to prepare him or her to meet the challenge of advanced study?

What measures need to be taken in order to identify and encourage the ablest students?

How can the able students receive a well-rounded education at the same time as fulfilling the demands of specialized study at an advanced level?

The larger questions follow on from these and have been fundamental to debate on curricular issues. They are these:

How can schools ensure that what their students learn is relevant to their lives as individuals and as social beings?

How can schools ensure that the curriculum pays due attention to the needs and interests of all students, regardless of ability, socio-economic status, race, religion and sex?

How can schools organize the curriculum to enable all students to learn to their full potential, at least cost to the taxpayer?

These issues of relevance, equality of opportunity and efficiency underlie most of the programmes and projects described in the following pages.

### National Development Planning

Many of the countries of the New Commonwealth have produced national plans for development which see education as an integral tool of development. Though the Old Commonwealth countries have not produced comprehensive national development plans, they have paid attention to educational development. Common to all Commonwealth countries has been a tendency to concentrate first on the quantitative expansion of secondary school places in order to enrol all children in school for nine or ten years. Targets set for education in earlier development plans reflected this concern with the expansion of educational opportunity. More recently goals for education have also been framed in qualitative terms, reflecting national priorities for manpower development, national integration and social justice.

Many countries have re-structured or adapted their school systems to cope with increased enrolments and the needs of special groups of students. In their attempts to meet the challenges of all the goals set for them in national plans, schools have had to set priorities, seek compromises where goals appear to conflict, and search for strategies which would translate plans into reality.

Here we are not so much concerned with the structure of school systems except in so far as they influence what students learn. The focus of attention is the intention and ability of curriculum planners to translate national goals for education into concrete plans for the curriculum of schools. However rigorously set out, the goals cannot contain within them fool-proof strategies for their attainment. However elegant they are on paper, curriculum plans have to be translated into the reality of syllabuses for school subjects, learning materials, timetables, examinations and training for teachers.

### Terminology

This report covers both lower and upper secondary levels of schooling, with the emphasis on the former. However, it would be counter-productive to put forward a definition of these two categories. No single definition would entirely fit all the variety of ways in which the concepts are translated into practice in Commonwealth countries. It may be helpful, though, to dwell briefly on some of the main criteria by which lower and upper secondary levels of schooling are distinguished in practice. This will enable the reader to interpret more easily particular cases as they occur in the text. Though they are listed separately here some categories overlap in practice.

Years of Schooling: Lower secondary as the extension of schooling from perhaps five or six years (now primary) to perhaps eight, nine, ten, even eleven years.

Age-Group: Provision for schooling which is intended to be appropriate to older children and young adolescents; say ages nine to thirteen or eleven to fifteen.

Basic Education: An extension of basic education which is terminal for the majority of students. This is conceived as providing a "survival" curriculum with a large element of pre-vocational preparation. This concept often goes with the two above and becomes explicit in educational planning as schooling is universalized.

A Preparation for Upper Secondary Schooling: The lower secondary school acts as a bridge between primary and upper secondary schooling for those who can cross it and as a ladder from whose rungs those who cannot climb it progressively fall off. As we shall see lower secondary schooling in this sense often exists alongside the other types.

Upper secondary schooling tends to begin at whatever point along the ladder the greatest number of students leave school once a minimum of say eight or nine years schooling has been achieved. This often occurs after a major public examination such as the Lower Certificate of Education in Malaysia, in year nine, after Form Three or after the General Certificate of Education or the Certificate of Secondary Education in year eleven, at the end of Form Five in England and Wales. Upper secondary level schooling tends to be characterized as the text shows, by increased specialization in the curriculum in preparation for higher education though there is some signs of a trend towards extending general education into this level as well, for countries which have achieved universal lower secondary schooling.

## THE NATIONAL CONTEXT FOR CURRICULUM REFORM

### Control, Organization and Planning at the National Level

In the vast majority of Commonwealth countries, overall control of the curriculum of the schools is centralized within the Ministry or Department of Education. In the federal states of Australia and Nigeria responsibility is shared between federal and state ministries. In Canada each province within the federation controls its own schools. England, Wales and Northern Ireland are exceptions to the general pattern in that control is very largely delegated to local education authorities by the Department of Education and Science.

However, beyond the general picture of centralized control there has been, throughout the last decade or so, much change and diversification. Many countries have undertaken reviews of the institutions involved in curriculum control and development. In the Seychelles, the Ministry of Education and Information is currently undergoing wholesale re-structuring in order, in part:

To co-ordinate the activities and general direction of schools (primary and secondary) and further education institutions, and the development of integrated and inter-related curriculum appropriate to the country's needs and the administrative efficiency of the system. Of particular relevance is the establishment of a Division of Research and Pedagogy, headed by a Senior Education Officer, and containing staff dealing with the subjects, examinations, evaluation of programmes, careers counselling, Teachers' Centres, schools broadcasting and teacher training.

In other countries re-organization though usually less radical has reflected the same sensitivity to the importance of curriculum development.

### Specialist Units for Curriculum

Throughout the New Commonwealth the late 1960's and 1970's have seen the establishment of specialist units, divisions, committees and panels within Ministries of Education. Such a departure has often followed fast on the localization of control of public examinations for this has given countries much greater freedom than formerly to determine curricular aims and content.

In Barbados, the National Curriculum Development Council was set up in 1974. (See also Appendix I). Its duties focused on the development of subjects within the curriculum of the primary and secondary schools. It was to:

1. Review the existing curricula in the various schools.
2. Advise the Minister on the subjects to be taught at each level in the primary and secondary schools and the time to be allotted to the various subjects.

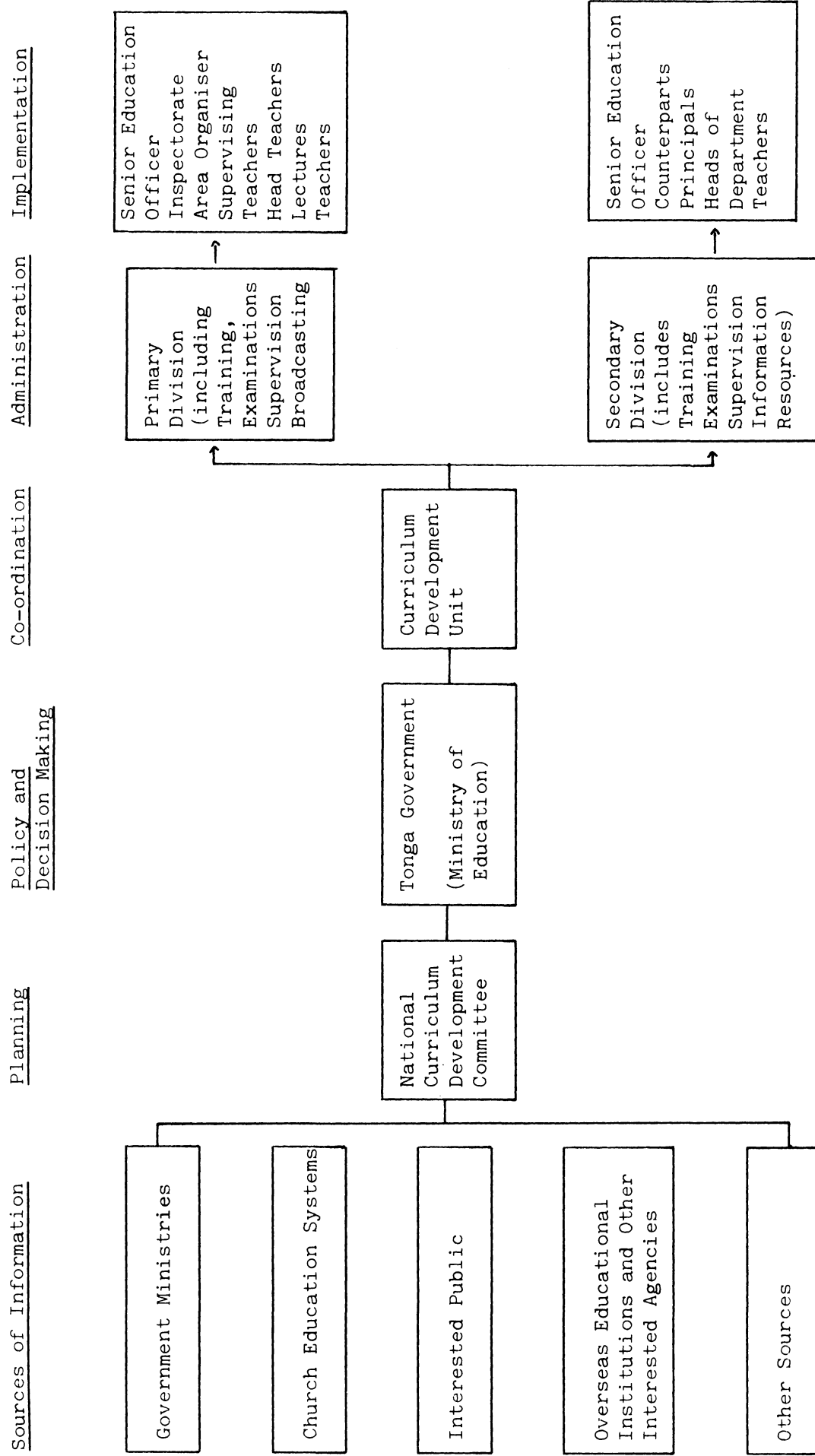


FIGURE 1 : THE PROCESS OF CURRICULUM DEVELOPMENT IN TONGA

3. Set up committees for the production of syllabuses, guidelines, lists of appropriate textbooks and teaching material and to make recommendations thereon to the Minister.

The overall aim was to improve the quality of curricular offerings in the ..... schools .....

In Papua New Guinea and Botswana the co-ordination of the curriculum between primary and secondary schools was a major priority in the setting up of curriculum units. In Papua New Guinea the Curriculum Unit was set up in 1975 within the Provincial Standards Division of the Ministry of Education in order to:

1. Co-ordinate development of primary and secondary curricula, previously controlled by separate divisions.
2. Have HQ officers working full-time to develop curricula specifically for this country.
3. Provide teachers with support materials in addition to the bare outline syllabus.

In Botswana the creation, in 1977, of the Department of Curriculum Development and Evaluation looked towards the day when Botswana is able to offer all children a basic education from primary through secondary school. The long term aims of the secondary curriculum unit in Swaziland, exemplify the great responsibility for developmental change with which many Ministries of Education are charged. The Swaziland unit is responsible for the establishment of:

1. Procedures through which the educational system can serve the changing socio-economic needs of the country.
2. Consultative and approval systems for curriculum development.
3. Evaluation techniques.
4. Methods of providing linked teacher education and curriculum development.
5. Procedures for the staged implementation of changed curricula.

Tonga has recently re-organized its controlling structures in order to run the process of curriculum development more efficiently. (Figure I p 6 )

The machinery ..... is still in the experimental stage. The changes came about as a result of a desire to re-orientate (the) education system to reflect more truly the needs of the country ..... at the same time there is concern too that school programmes are commensurate with world trends in education.

The National Curriculum Committee is composed of permanent members (Minister of Education, principals of schools and directors of non-government institutions) and co-opted members (other ministries) and interested members of the public. It is responsible for elaborating national educational aims and specifies the content of the curriculum in co-operation with subject curricula committees, composed of Curriculum Development Unit personnel, a consultant and co-opted members of the teacher training colleges and

practising subject teachers. The Curriculum Development Unit produces and distributes curricula material.

### Curriculum Units and Shared Responsibility

Variations are many but the theme is constant, a trend towards specialist units within ministries, of greater or lesser degrees of organizational complexity. In some countries a curriculum development unit is responsible for the whole range of curricula concerns as is Singapore's Curriculum Development Committee. In others responsibility is shared. In Guyana, for instance, the Curriculum Development Centre specifies national educational aims but shares the responsibility for drawing up curriculum plans with specialist education officers, the Faculty of Education of the University of Guyana and the Caribbean Examinations Council. For the distribution of instructional materials the Centre works with the Broadcasts to Schools Unit and the Book Distribution Unit. In Tanzania, the Institute of Education founded in 1975 has power to make and develop the curriculum under the advisory and co-ordinating umbrella of the Ministry of National Education. In Nigeria shared responsibility is far-ranging. The Federal and State Ministries of Education share responsibility for the content, production and distribution of instructional materials with the Nigerian Technology Centre and the Schools Unit of the Nigerian Television and Broadcasting Authorities. Curriculum plans are worked out between Ministries, the autonomous Nigerian Education Research Council (1972), the Comparative Education Study and Adaptation Centre of the University of Lagos (1968) and the West African Examinations Council.

### Control of Distance Teaching

So far the focus has been on the control of the general secondary school curriculum. Some countries also have provision for secondary education by means of distance teaching. Normally control is in the hands of the Ministry of Education as, for example, in Botswana. Tanzania has its Institute of Adult Education under the Ministry with special responsibility for distance education. In a few cases like this a specialist institution shares responsibility with the Ministry, for example, the Mauritius College of the Air. Papua New Guinea's College of External Studies is another example; this operates through the Secretary for Education and on the advice of the College's Board of Studies, the Chairman of which is the Principal Curriculum Officer of the Ministry of Education.

### Control of Teacher Education

The control of teacher education at the lower secondary level is the responsibility of Ministries of Education through the teachers' colleges. Sri Lanka is one of a very few countries which records specific co-ordinating machinery for schools and teacher education through its Curriculum Development and Teacher Education Division. An interesting innovation is the setting up of the Board of Higher Education in Swaziland. This controls teacher education through Ministry representatives, the University, the teacher training colleges and the Swaziland National Association of Teachers.

The control of teacher education at the upper secondary level tends to be with the universities. Some smaller countries rely wholly on regional facilities and overseas training.

## Co-Ordination of the Curriculum

There is a general consensus that co-ordination of the curriculum of the secondary schools of different types is desirable. But again, most countries do not have elaborate machinery for bringing this about. In general ministries accept overall responsibility but actual co-ordination is achieved informally and as the need arises. The Solomon Islands is unusual in boasting a curriculum co-ordinating committee for general, and technical and vocational education at the upper secondary level.

### Primary Education

In most countries machinery for the co-ordination of primary with secondary education is fairly well established. Here again, ministries take overall responsibility. In many there are separate primary and secondary curriculum units or committees. The Solomon Islands institutionalizes co-ordination through its Curriculum Co-ordinating Committees. In the Seychelles the Ministry of Education and Information, Division of Research and Pedagogy, charges its subject advisers with responsibility for primary and lower secondary co-ordination. In some countries the same machinery deals with primary and secondary levels. There is a tendency, reflected in the machinery of co-ordination, for the years of basic or compulsory schooling to be regarded and treated as a single unit. An interesting and important feature of a carefully designed co-ordinating scheme in Fiji is the participation of primary teacher college staff in secondary level work-groups. Nowhere, however, is the participation of secondary level teacher educators in primary level curriculum work explicitly recorded.

### Higher Education

Co-ordination between the curriculum of upper secondary and higher education is important for the minority of students who continue into higher education. But, because of the relatively greater cost of schooling at the tertiary level, it is all the more important that adequate steps are taken to ensure that there is smooth and coherent progression of the curriculum between upper secondary and tertiary institutions. Good quality higher level manpower is dependent upon the quality of education at the tertiary level. Most countries rely to a large extent on the filter-down effect of the examinations for entry to higher education on the curriculum of the upper secondary schools. Another informal but considerable influence is the work of teachers in higher education on subject panels for secondary school syllabuses in the setting and marking of examinations and in the writing of curricular materials. A few countries, however, are developing special machinery in addition. In Papua New Guinea, for instance, co-operation between the Ministry of Education and the Universities is the specific formal responsibility of the Curriculum Unit.

### Non-Formal Education

A few countries are attempting to provide machinery to co-ordinate formal secondary and non-formal provision at the secondary level. Where any type of machinery exists at present it is normally under the umbrella of the ministry of education. In Swaziland it is the special responsibility of the Curriculum Co-ordinating Committee. In Sri Lanka the Ministry has a special non-formal education division. In Malaysia, Fiji and Nigeria the Ministry of Education shares responsibility with other ministries. The Nigerian Youth Council also plays a part.

## Participation at the Local Level

The major priority over the last ten years in the majority of countries of the New Commonwealth has been to devise and set up machinery for the control, unification and development of the curriculum at the national level. Consequently, although a number of countries refer to the importance which they attach to the need for machinery for curriculum development at the local level, there are few examples reported of thorough-going attempts to establish mechanisms for this. One noteworthy example is the establishment of District Curriculum Centres in St Lucia. Another are the local Resource Centres responsible for the production of teaching materials in the Seychelles. Where machinery exists it is usually intended to aid implementation of curricular plans devised at a national level rather than to delegate control of the curriculum to the local level.

Significantly, few countries highlight the participation of professional and administrative staff outside central ministries at the local level. Only one or two countries comment on the valuable work of their subject advisers and curriculum development officers at the local level. But, in general, the impression is of activity and development at the centre and little local involvement of centrally-placed staff or of little attention given to locally-based professional curriculum developers or administrative and supervisory personnel. It may be that the extent of local involvement by central staff is under-emphasized because curriculum development is perceived as a minor task for them. Or again, it may be that activity in curriculum development at the local level is not fully recorded at the national level. However, it is evident that one way or another the tremendous growth of machinery for curriculum development at the centre in so many countries over the last few years has not been mirrored fully by a growth in formal machinery at the local level.

### Teacher Participation

By far the greatest amount of curriculum development work at the local level is undertaken by teachers and teacher trainers. In most New Commonwealth countries represented in the survey teachers at the lower secondary level are non-graduates. Increasingly, the trend is for the numbers of untrained teachers to diminish except where there are extreme shortages in certain specialist subject areas. At the upper secondary level there is a rough balance between countries whose teachers are graduate and those whose teachers are not. In the Old Commonwealth there is a trend towards an all-graduate and trained teaching force. A number of countries are moving towards a unified training for primary and lower secondary level teachers.

It is widely recognized throughout the Commonwealth that teacher involvement in curriculum development is important. If indeed, as it appears, there is a steady improvement in the levels of education and training of teachers, they should be able to make a significant contribution to curriculum development through every phase, from planning and implementation to evaluation. While many countries, if not most, make provision for consultation with teachers in the planning stages of curriculum development, it is in the devising of syllabus content and instructional aids that teachers play a more dominant role. Only a few countries emphasize the role of teachers in curriculum evaluation.

Good quality teachers are likely to produce good quality curricula. The main ways in which teachers become involved in curriculum development at present is through subject panels and subject associations. St Lucia records the positive effects on curriculum development in English, mathematics, integrated science and social science following the regionalization of

examinations through the Caribbean Examinations Council. Teachers at secondary level appear to participate most readily in institutions for curriculum development which are subject-based. A number of countries, it is true, have developed or are in the process of setting up, teachers centres and local curriculum resource units, some of which aim to involve teachers with general pedagogical and curriculum issues, but these do not yet appear to be a vital force.

Teacher training institutions are the other major source of teacher participation. Teacher trainers contribute directly to the development of school subjects as, for example, the Goroka Teachers College, University of Papua New Guinea. Tanzania, Swaziland, Singapore and Barbados also emphasize this valuable contribution. Guyana, Grenada and Tonga teacher college staff are examples of teacher trainers active in curriculum evaluation. In Tonga, college staff are members of the Curriculum Development Unit on a part-time basis. In Guyana, Malaysia and Fiji particular efforts are being made to involve teachers in training in the development of curriculum materials at the pre-service or in-service levels. Awareness of the need to keep training institutions and their products abreast of new features in the school curriculum is high but means to do this are somewhat lacking. India's National Council for Teacher Education, charged in 1978 with devising a new framework for teacher education, is in a very good position for taking a bird's eye view of how teacher training and curriculum development might proceed hand in hand.

#### Community Participation

Significantly, most countries understand locally-based curriculum development to imply teacher-based development. And indeed, professional educators take the major responsibility for the curriculum process at school level. The extent of lay participation is rather limited. Despite current discussion about community involvement in education, there is a lack of information on ways in which members of the community participate in schools. Parent-teacher associations are the most commonly reported modes of involvement and, of course, their vitality varies from place to place. In a very few instances members of the community with special skills are involved in teaching. But the general picture is of rather low-key involvement. This may be for a variety of reasons. It may be that the idea of lay participation in curricular matters is not universally endorsed as a good thing by the professionals. It may be that members of the community themselves prefer to stand aside. The prevailing culture and history of participation in any context is an important factor here. Additionally, it may be that national level personnel lack detailed knowledge of community involvement and, therefore, underestimate it or under-play its significance.

#### Old Commonwealth

Machinery for the control and co-ordination of the curriculum in the Old Commonwealth has been singled out for comment because it has been in operation for a longer time in these countries. The general pattern is not of major structural change and innovation but of specific modifications and adjustments. This does not mean, however, that innovations are non-existent. As recently as 1976 Alberta, Canada, established its Curriculum Policies Board in order to deal with broad policies relating to the whole curriculum from Grades 1 to 12. Manitoba, Canada, has also experimented with curriculum development machinery, setting up its Programme Review Structure in 1976 and revising it two years later.

## Central Control

In all these countries, except for England and Wales, the tradition has been for a large measure of central control of the curriculum (See Appendix I). Interestingly, however, it is the issue of whether and how far to devolve more responsibility to local levels which is under review. No clear trend towards devolution or further centralization is apparent. Indeed, a number of different approaches and experiments are underway. Within Canada there are some signs of a trend towards tighter provincial (central) control. Nova Scotia, for example, is attempting to control the number and types of innovations in the curriculum at local school levels by sponsoring pilot projects which must be evaluated before becoming institutionalized. Saskatchewan has been developing a core programme for all students, the guidelines for which are more detailed and prescriptive than formerly.

In contrast, there are indications in some Australian states of devolution of responsibility from state to local school level. In Western Australia, school-based curriculum development is actively encouraged and regional directors are now responsible for the selection, co-ordination and direction of advisory and specialist personnel. The head office continues to co-ordinate curricular services and materials. In Victoria also, a curriculum support team has been established for schools which need help in developing their curriculum with respect to technical education.

England and Wales have long represented an exceptional tradition in which curriculum control is localized. In England:

Responsibility for the school curriculum rests with local education authorities and school governing bodies. In practice day to day responsibility for curricular work in the schools rests with the head teachers and their staffs. Advice and guidance is available from external sources such as the Schools Council and HM Inspectorate.

Currently, after considerable public debate and professional review, the government has announced its intention to establish a nationally agreed framework for the curriculum. This is a major departure from long established tradition although it would bring England and Wales more in line with the pattern of control in most other Commonwealth countries. Some would argue that it is merely a logical extension of a trend towards greater central control beginning in 1964 with the establishment of the Schools Council for Curriculum and Examinations. This body undertakes research and development and advises the Secretary of State on examinations policy. More recently, since 1976, the country has engaged itself in a national debate on education which has highlighted public and professional concern about the maintenance of good standards and with the accountability of schools for spending public money to good effect. At the time of writing, the form of national framework for the curriculum might take is still uncertain and the subject of much controversy. The issues under review are the subjects which should be taught as a minimum core, their range and depth and the age-groups to which they are appropriate and the number of subjects which should be offered as options at the secondary level.

## Co-ordination

As in the New Commonwealth, co-ordination on control between types and levels of schooling tends to be informal or achieved on an ad hoc basis. Co-ordination is formally established most frequently for the curriculum of primary and secondary schools and least frequently between formal schooling

and non-formal agencies. Co-ordinating committees are the device most used. There is some formal machinery also at the secondary/tertiary level. In Manitoba, Canada, post-secondary institutions make inputs into the secondary curriculum committees dealing with senior high school subjects, and through liaison between members of the Articulation Council of Secondary and Post-secondary Education. But this is an exceptionally formalized example. New Zealand probably expresses the anxieties of many a country by suggesting:

Universities Entrance Board prescriptions for subjects in the final two years of secondary school should provide for co-ordination but, in fact, such co-ordination is not as widely carried out as it might be.

Where co-ordination exists it tends to be with authority from top-down, not bottom-up.

### Local Control and Participation

Apart from England, Wales and Northern Ireland, the countries of the Old Commonwealth work with state level curricula guidelines which all schools follow. Most emphasize, however, that local teacher participation in curriculum is important and ways are found to allow for, even encourage, local initiatives. In Saskatchewan, provincial curriculum guides, though in the process of being tightened up, are expected to be sufficiently flexible to allow for local modification and adaptation. Provision is made by the central authorities for locally developed courses. Innovative programmes are eligible for financial grants. In Manitoba, though the curriculum is mainly prescribed centrally, it is possible for a teacher group in a local school district to develop a complete curriculum for an optional course to be offered in the local school. This is most popular for Canadian Studies or Sociology where local student interest is high and teachers have special knowledge. In England, where the school in theory has autonomy to develop its own curriculum, in practice it is limited by the demands of examination boards and by recommendations of HM Inspectors, local authority advisers and the considered proposals of the Schools Council. Nevertheless, the work of teachers, often co-operating in Teachers Centres, has made a significant contribution to inter-disciplinary studies such as environmental education, development studies, political education and education for international understanding. While teachers centres are a useful means of relating teachers across subject boundaries, subject associations are possibly the more frequent mode of association in curriculum development as much in the Old as in the New Commonwealth.

There is no consensus about the proper participation of lay persons in curriculum development. Parents can have a say in school affairs but there is wide variation in the extent to which this is thought valuable. In England the recent democratization of governing bodies of schools has paved the way for parents to exert more control at the school level. In Western Australia, on the other hand, "very few schools invite parents to join in school curriculum development". However, contributions from extension and welfare agencies is welcomed; a parenthood course was devised and implemented with assistance from the Community and Child Health Services.

Discussion of the Old Commonwealth with respect to control and co-ordination of the curriculum has been singled out by virtue of the fact that machinery for control has been established much longer. The striking fact emerges, however, that apart from the longer tradition, the issues which are currently under review or proving problematic are very similar to those being experienced in the countries of the New Commonwealth which have more recently established institutions for curriculum development.

## TRENDS IN CURRICULUM REFORM

### National Goals for Secondary Education

In the last ten to twenty years most countries of the New Commonwealth have thought long and hard about national aims. Subsequently, most have tried to relate the goals of their education systems to these national goals and most have issued public statements declaring policy commitments.

The pattern of developments tends to be similar. First, the government of the day or a political party which subsequently assumes power takes a clear political initiative. This political lead sets the broad context for national development within which, at the next stage, goals for educational development are articulated. These are spelled out in national plans, educational policy review documents, national conference papers and the like and relate to national development goals. At the third stage, overall educational goals are broken down into more explicit aims and objectives for the various subjects of the primary and secondary curriculum.

Public debate may occur between any of these stages, though the process of refining educational aims and objectives gradually becomes more professional. This sequence is exemplified in the now famous Tanzanian Arusha Declaration of 1967. This set out the policies for African socialism and self-reliance on which Education for Self Reliance was based. Subsequently Tanzania has thoroughly overhauled its curriculum to operationalise its philosophy in the school system. Swaziland also gained inspiration for its educational policy through the political lead given in the Imbokodvo National Manifesto and the subsequent Second National Development Plan 1973-77. Educational aims were articulated in the National Education Commission Report of 1975. In 1976 the Ministry of Education issued its Current Trends in Educational Policy which discussed the progress being made in terms of school structure and curriculum towards achieving the goals laid down and anticipated in its discussions the imminent Third Development Plan. Here, perhaps, is the beginning of a fourth stage which incorporates professional evaluation and revision of strategies (and possibly goals as well) in the light of experience.

In the Old Commonwealth, where few radical breaks with the past have occurred since the last war and where national planning has not been so formalized nor so developmentally orientated, educational goals have not been so explicitly expressed. Nevertheless, there has been a considerable amount of rethinking about education. Schools are very much in the centre of public and political debate. Even in England, where traditionally national level goals have never been "imposed", a government Green Paper, Education in Schools 1977, listed general aims on the basis of an assumed national consensus on them. New Zealand is also currently formulating national level goals.

Such departures may indicate an unease in the countries of the Old Commonwealth about the direction of their education systems. In some cases the response to this unease is to tighten central control. If the content of educational goals is anything to go by, concerns throughout the Commonwealth are remarkably alike. Statements of goals vary considerably in their levels of generality and specificity but underlying most of them is the priority of

manpower development, expressed as "nurturing economic competence", providing in the curriculum opportunities to develop "life-skills", and to gain from "work experience". Another high priority is to develop the schools in such a way as to encourage the integration of culturally plural societies and equality of opportunity for all, regardless of race, sex, religion and class.

Swaziland's Second Development Plan, 1973-78, exemplifies the manpower development and the equality of opportunity goals:

1. To make places in secondary schools available to all who achieve the necessary qualifications.
2. To re-orientate the curricula at secondary level to counteract the current non-technological bias and to enable school leavers to move naturally into the employment opportunities open to them.

Malaysia's Third Plan, 1976-80, clearly deduces its goals for education from the national goals articulated in the New Economic Policy:

The education and training system has a multi-faceted role to play in the creation of a society based on the principles of the Rukunegara and the realisation of the objectives of the New Economic Policy (NEP). The overall objective is national integration and unity.

Bahasa Malaysia will continue to be implemented as the main medium of instruction to strengthen the basis for national integration and unity among the people of Malaysia, while the use of English will be extended as a strong second language. Policies and programmes for education and training will be geared to enable all Malaysians to participate more fully in the process of national development. To attain this objective, education and training will be oriented to meet the skilled manpower needs of the nation and to provide greater opportunity for education among those in the lower income groups and regions in the country. Curricular and extra-curricular activities will be developed to inculcate discipline and social responsibility as well as to promote a national identity and unity among all Malaysians. The education and training system of Sabah and Sarawak will be progressively integrated with the national system. (Ch. 22, p.384)

Most countries spell out educational goals which are relevant to the education system as a whole rather than with respect to secondary education in isolation. This lack of differentiation makes sense where basic schooling now extends to lower secondary level. At the level of basic schooling aims are generally expressed in terms of the knowledge, skills and attitudes students should acquire to enable them to develop their personal potential to the full, to become loyal citizens and to be competent and productive workers in the economy. The objective of lower secondary schooling is both to prepare young school leavers to survive in the world of work and to provide those who enter upper secondary education with the basic learning needed to cope with advanced studies. At the higher level, manpower requirements in technical and scientific fields are priorities.

## Language Policies

### Mother Tongue

Language policies reflect national goals. In recent years language policies for the primary schools throughout the world have indicated a growing awareness that learning in childhood is facilitated by the use of the mother tongue as the medium of instruction. Goals directed towards the development of the full potential of the student are involved here. In some countries adoption of a local or national language as opposed to an international language has been part of a movement towards political and cultural autonomy and nation-building. At the secondary level, however, the issue is more complicated. Many of the students who complete secondary education will enter the world of work where facility in an international medium is important or they will go on to higher studies where the medium is often an international language or where study materials are mostly in English or French. Manpower development goals are involved here.

### English and National Languages

Consequently, only a very few countries in the New Commonwealth have taken the decision to abolish the use of English as the medium of instruction at secondary level. Sri Lanka and Malaysia have recently done so and Tanzania is in the process of changing over to Kiswahili. Some countries use English alongside other national languages. Singapore, for instance, uses English, Chinese, Malay and Tamil at secondary level. Hindi is the official national language in India but in the secondary schools the medium of instruction will be the regional language and Hindi or English. At the Junior Secondary level three languages are compulsory; the mother tongue or the regional language, Hindi or English and another modern Indian language.

### Malaysia and Singapore

The contrasting policies of Malaysia and Singapore illustrate how different strategies may be used to work towards similar goals. Both countries emphasise national goals of economic development and national integration. Both have multi-lingual populations reflecting different cultural traditions and both in the past differentiated their secondary schools in terms of the four local languages. English was the language of instruction in the major academic schools and there was tough competition for entry to them. Other schools taught in Malay, Chinese and Tamil. With the extension of free lower secondary schooling the core curriculum became common to all language streams in both countries. This was justified on grounds of equity, efficiency and, above all, national unity. But here the similarity ends. Malaysia made the decision to introduce Bahasa Malaysia at the expense of all other media of instruction progressively throughout the primary and secondary schools up to form six by 1982 and eventually in higher education also. English is a compulsory second language up to form five. The other two languages are optional. Examinations are in Bahasa Malaysia. Despite the practical difficulties of implementing this policy Malaysia has persevered in the re-training of teachers in Bahasa Malaysia and in the adaptation of text books so that by 1979 even science and maths are taught in Bahasa Malaysia.

In Singapore the national language is Malay but four official languages (Chinese, English, Malay and Tamil) are recognized for educational purposes and parents are free to choose the language of instruction for an essentially common curriculum. Public examinations are in all four official languages. Bi-lingualism is emphasized and every student must study a second official

language. English is very popular. Singapore's major objective is to produce school leavers (after ten years of schooling) who are literate in at least one language but abler students may study two, even three, languages as first languages:

Every new government school is integrated to enable students and teachers of two or more language streams to work in one building under one administration and to participate in extra-curricular activities.

#### National and International Languages

A number of countries use English as the main medium of instruction at the secondary level while emphasizing other national languages at the primary level. Swaziland, for instance, has recently introduced Siswati as a national language but continues to use English at secondary level. The two major reasons for this are, the lack of suitable learning materials in other languages and the problems and expense of producing them without a very determined effort and, secondly, the obvious advantages of having a population schooled in an international medium. In general these considerations have outweighed those to do with the adoption of a national language for reasons of political and cultural self-assertion. This is demonstrated clearly by the fact that in most countries, whatever the media of instruction at secondary level, English is still the major language for public examinations. English is more often than not also a compulsory subject in the curriculum at the lower secondary level and will probably remain so.

A complementary rather than a countervailing trend is the attempt in many countries to inculcate respect for and facility in local languages. In Malta, for example, whilst French and Italian are still offered according to the tradition of the island, there is now provision for the study of Hindi, Urdu, Mandarin and Tamil. Recently, Arabic has been made a compulsory subject in schools. Tonga reports public concern at the former neglect of the Tongan language and now emphasizes it in the curriculum, particularly at primary level, despite shortages of learning materials. There is also growing awareness of the importance of regional languages in terms of economic and political links. Spanish is widely taught in the Caribbean. Indeed, Barbados has only recently adopted it as an official second language. All over the Commonwealth the study of Latin and Greek has fallen into disuse.

#### Old Commonwealth

Language policies in the Old Commonwealth are equally diverse and have proved equally difficult to work out. They are very controversial and usually represent compromises between competing ideals. These countries have recently had to cope with increasing demands from indigenous minorities for recognition and status for their own languages and with the difficult issue of catering for recently arrived immigrants whose children need to acquire facility in the language(s) of the host society at the same time as they need or demand the provision of mother-tongue teaching.

The general trend is for minority indigenous or imported languages to be acknowledged in the curriculum and sometimes to be used as the medium of instruction. Maori in New Zealand and Welsh in Wales are examples of indigenous languages which have gained status. In Western Australia, where English is the medium, the variety of optional and examinable languages reflects the multi-cultural composition of the population and regional interests. French,

German, Italian, Indonesian and Japanese are all available. A variety of other European languages are offered in a special multi-cultural programme in extra-curricular time. The needs of minorities from Asia and the Caribbean are now receiving attention in England though policy and provision is largely a matter for local authorities and schools and vary widely in actual practice. English is universally the medium of instruction and English as a foreign or second language is taught in special classes and centres in areas of special need. In Canada where English and French have equal status as official languages in some provinces, policies vary with regard to the media of instruction in schools. In Quebec students must learn one language and must study the other as a second language. In Alberta only English is prescribed but French and any other language may be offered at the local board's discretion. In Manitoba English and French are both media of instruction but any other language may be taught for up to fifty percent of the school day.

The issues in the Old Commonwealth, it appears, are very similar to those in the New; despite the longer history of their school systems these countries are only recently coming to grips in respect of language policies with problematic issues of national integration and manpower needs together with social justice and relevance for minorities. The context within which every language policy is worked out is unique and crucially important to its viability. It is noteworthy that even in countries with adequate resources, the issues to be resolved remain very difficult; the "right" policies to adopt are by no means self-evident and will probably embody a number of compromises between competing demands.

### Differentiation in the Curriculum

#### Lower Secondary

In the New Commonwealth a majority of countries provide different curricula in different types of school. But, although not very advanced at present, the trend is probably towards a basic, minimum, common core curriculum for all schools at the lower secondary level and for differentiation to be planned where necessary in accordance with specific local conditions and needs.

Where differentiation occurs it is mainly in terms of differences between technical, vocational, commercial and academic schools. It occurs mainly in countries which still have all-age schools or where there is highly selective entrance to prestigious academic schools. Some Caribbean countries are gradually eradicating such distinctions and working towards the provision of a common extended basic schooling at the lower secondary level. Nigeria's policy of universal primary education will be extended to the provision of a common school at the lower secondary level from 1982 onwards. (Figure 2 p.19)

But the academic/non-academic distinction is not the only one. Sometimes differentiation between schools occurs in terms of the differences in need of rural and urban students. In the past this would not have differed greatly from the vocational/academic distinction but one or two countries are experimenting with curricula for rural schools which would be relevant to highly localized contexts. Papua New Guinea's provincial high schools and Guyana's community high schools are examples.

Tanzania's strategy in recent years is to allow very limited access to secondary education until universal primary education is achieved. There are four types of secondary school, each with its own specialist "bias", technical, agricultural, commercial, and home economics. Students enter a bias according to preference and orientation. All subjects in any one bias are compulsory but there is a common core of subjects across all biases in Siasa (political

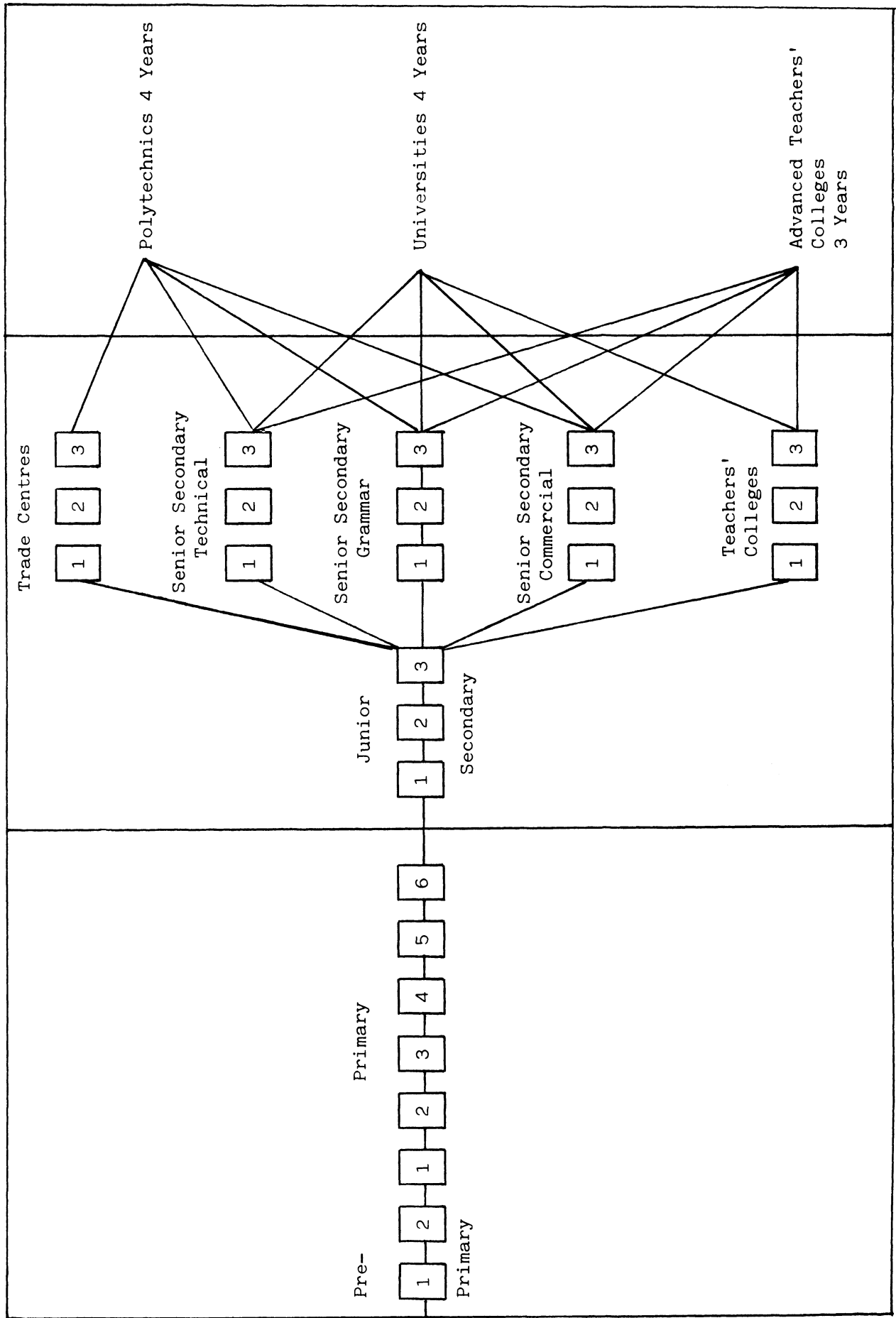


FIGURE 2 : THE STRUCTURE OF NIGERIA'S EDUCATION SYSTEM FROM 1982

education), Mathematics, Kiswahili and English. There is more specialization in the upper secondary level but political education is still compulsory. Tanzania does not have an academic "bias". This is important, for in this way schooling is geared more closely to the needs and actual conditions in the country. The present structure upholds a differentiated curriculum which is designed both to prepare young people early in their secondary schooling to become more productive members of their communities at the same time as providing an extended basic common core.

#### Ability Streaming Between Schools

The existence of different types of school often means in practice differences in their ability intakes. In general where lower secondary education is not yet universal, the entry examination selects for further schooling the primary leavers who perform best in the examination. The most able of these students are allocated to the schools of their first choice and in this way certain schools become known for their high standards and others are forced to accept lower ones. But even then, in many countries, there is still tremendous pressure for every available school place. In principle many countries are turning away from a policy of ability streaming between schools. In practice, however, there is often wide and unintended variation in the quality of schools and, therefore, unintended streaming. Sometimes quality will vary between rural and urban areas or between one part of a country and another. Sometimes the academic schools will cream off the most able and the less able will settle for technical or vocational schools.

Many countries of the New Commonwealth have policies against ability streaming at the lower secondary level and are very conscious of the need to try to equalize the quality of schools to make policy a reality. Even in the Caribbean where ability streaming between schools is still the norm the policy is under scrutiny. In Guyana where secondary enrolment has expanded at a fast rate since 1976 the most able students are allocated to the five year secondary programme and the less able to the four year community high schools. But provision is being made for transfer between schools. Those countries which have been able to abolish entrance examinations to secondary level find that this loosens one major constraint on the provision of common schooling.

However, in the Old Commonwealth where compulsory lower secondary schooling is universal the pattern of provision does not show a firm trend towards common schooling. New Zealand has moved towards it, and common schools prevail in Western Australia but some provinces of Canada make separate provision by ability a matter that is often for local decision. In Northern Ireland a system of grammar and secondary modern schools prevails. In England and Wales since the 1950's a slow trend towards common (comprehensive) schooling was reinforced under the recent Labour Government but with the change of government in 1979 the Conservative administration may allow greater freedom of choice to local authorities seeking to develop their own school system.

#### Ability Streaming within Schools

At the national level only a minority of countries encourage ability streaming within schools at the lower secondary level. Officially most discourage it. Nevertheless, throughout the Commonwealth, policies on how to teach students are in practice determined by the school. At the same time, in principle many countries encourage the idea of making special provisions for individual differences; special education for the handicapped, the disadvantaged, for

slow learners and the gifted, "setting" of students according to their ability in different subjects; and enrichment of programmes in certain aspects of the curriculum. Severe resource constraints may often mean that a hard choice has to be made between the provision of a good quality basic education for all and special provision for special categories of need. At a time of world-wide recession, this may be a problem which affects richer and poorer, larger and smaller nations alike.

#### Common Core Curriculum

In the New Commonwealth the trend is very definitely for schools to offer a basic core of subjects, usually at least one national language, maths, science and social studies as a minimum. In most countries the core comprises over half the subjects. Singapore and Malaysia distinguish between core compulsory and examinable and core compulsory and non-examinable subjects. Sri Lanka allows no optional element.

In the Old Commonwealth the picture is a little less clear. There is a trend towards the provision of a core curriculum but variations exist even within one country. In Canada, for example, Saskatchewan minimizes the number of compulsory subjects whilst Quebec provides for very little option at the lower secondary level. In Australia there is:

A general requirement that all students, especially in junior secondary, should undertake English, a branch of mathematics and science, and a humanity. Beyond this very general statement there is open choice of courses.

In England at present:

There is no nationally determined core curriculum although there have been widespread public debates about the desirability of greater consistency between schools.

This re-thinking reflects concern for standards and the needs of a highly mobile population.

#### Optional Subjects

In the New Commonwealth the trend towards providing a common and compulsory core of subjects at the lower secondary level is paralleled by official encouragement for students to broaden their education through optional subjects. Obviously, the number and range of these is limited to varying degrees by the amount of resources a country can devote to optional subjects, in particular, by the skills of the teachers and the materials available, and by the timetable (see p. 24). A few countries indicate that these constraints are very real and are highly undesirable when they affect important subjects like physical education or technical and pre-vocational subjects.

In general, most New Commonwealth countries tend to steer students into "optional" studies which are valuable for national development. Sri Lanka, for example, requires students to study one technical subject and either one commercial or one aesthetic subject. In Singapore, likewise, a technical subject is compulsory and in Nigeria agriculture and science are now encouraged as options having been made examinable in the School Certificate.

In the Old Commonwealth there is little direction to schools from the authorities in terms of encouraging particular options. This may, of course, reflect the rich resource base in these countries and the wide range of options locally available. It may also reflect less of an official emphasis towards the encouragement of scientific and technological studies and more of a commitment to the principle of voluntarism. In England currently there is much discussion about how many options should be open to students. In Aspects of Secondary Education in England 1979, HM Inspectors indicate from their review of the schools that the range of options offered to students at the end of the third year of secondary school is too wide and lacks coherence. They argue that a 40:60 ratio of core to optional subjects is unbalanced and that all students should have to study a broad course in science up to the age of sixteen as well as English, mathematics and physical education. They also suggest that abler students' aesthetic experience is often neglected. They reason that staff shortages for the core subjects are created when too many options are available. Thus, important subjects are taught in over-crowded classes. They are also concerned for the less able students that the range of options open to them are restricted to more practical and general subjects and that some of the courses are inappropriate for these students. They point out that a wide-ranging choice of options needs a full-scale support service from specialist careers teachers. These are often in short supply.

#### Upper Secondary Specialization

This debate in England concerns, of course, the programme up to the end of compulsory schooling. At the upper secondary level, in contrast, most countries are concerned to open up as many optional subjects as possible. At this level students tend to select the subjects in which they have shown most promise on the basis of achievement in the public examinations at the end of lower secondary school. A few countries make one or two subjects compulsory even at this level. Tanzania requires every student to continue his study of political education in the interests of nation-building and on the principle that the more privileged and educated members of the community have a special contribution to make as citizens. Malaysia enforces the study of civics with much the same aim in view. Nigeria encourages the students to choose subjects from four groups in the interest of breadth of study. Cyprus is experimenting with a Lyceum of Optional Subjects at the upper secondary level. Students will study a compulsory core but will choose other subjects freely. This innovation will introduce flexibility into the system which till now has been rigidly streamed into classical, practical-science and economics-commercial lyceums. It is also seen as a way of promoting democracy into the curriculum.

At the upper secondary level then, the trend is probably in the direction of greater curricular differentiation whether within a common school or in different types of institution. If the Nigerian plans for 1982 and the already established structures in Malaysia are clues to future patterns in other countries which have extended common schooling to the end of lower secondary and are thinking through the more specialized needs of the growing numbers of students at the upper end of the secondary schools, then the structure of the future is likely to cater increasingly to specialized technological and scientific manpower needs. Some countries, Malaysia, Singapore and Sri Lanka among them, are vigorously encouraging the ablest students to enter these fields. Scientific and technological courses are now of higher status than general and arts courses. It is possible that the traditional academic/grammar type of secondary school will be of less significance in the future.

## Over-specialization

To some extent competitive with the trend towards specialization at the upper end of secondary education is the move apparent in some countries to prevent "over-specialization". In India students at the upper secondary level enter either academic or vocational schools but the examinations policy encourages them, "in the interests of flexibility," to choose subjects from a wide range of options across specialized fields. In England too, the Schools Council proposed a replacement of the present General Certificate of Education Advanced Level Examination (GCE 'A' Level), which is normally taken in from one to three subjects, by a new five subject examination. Under this scheme narrow subject specialization would be delayed until the final year of secondary school for students intending to enter higher education. Though the government did not subsequently adopt these proposals they are indicative of a trend towards extending into the upper secondary school the concept of a broad general education once a nine to eleven year schooling is universal.

The tension, of course, is to steer a path which will allow a sufficient number of able young people to gain a high level of competence in subjects of specialization in order that they may profit from high standards at the tertiary level at the same time as encouraging them not to become narrow specialists. For students who wish to continue their studies into upper secondary schools but who do not aspire to enter higher education, the dilemma is to balance a sufficient depth of study in fields of their choice to fulfil their potential with a rounded education which will ensure they become productively useful in a job-market which demands flexibility and adaptability. A number of countries, faced with declining job opportunities for school leavers, are likely to have to face this problem as more young people opt to stay on in school beyond the age of compulsory schooling.

## Guidelines and Syllabuses

The concern of countries to gear their educational systems towards national goals of manpower provision, national integration and social justice has, as we have seen, led to rethinking of the aims of the curriculum of schools. This in turn has led to extensive and continuing revision of curriculum guidelines and syllabuses for school subjects.

The general picture throughout the Commonwealth is one of intense activity in ministries, curriculum development units, subject committees, panels and examinations boards with a view to revising the objectives and contents of syllabuses across the whole range of provision. The strongest influence behind these reforms are the need to up-date knowledge, the urgency to increase the relevance of what is learned both to the individual and societal goals and the pressure to adapt the curriculum content to meet the needs of mass schooling at the secondary level.

## Prescription

The majority of countries in the Commonwealth issue broad curriculum guidelines for the schools and these are normally prescribed. A large number of countries also prescribe syllabuses in some detail for almost all subjects at the lower secondary level. At the upper secondary level examinations boards tend in effect to take over the same function. The Caribbean Examinations Council has been very active in recent years in this respect. In a few countries, however, guidelines and syllabuses are not prescribed. In India the National Council for Educational Research and Training is influential in

promoting curriculum plans for adaption or adoption by the states. But at the state level Secondary Education Boards are free to follow either these national guidelines or those issued by the State Councils for Educational Research and Training. Sometimes they may even adopt a different set of guidelines. In Australia:

The status of syllabi varies from State to State (and Territory). In general State authorities issue guidelines for syllabus development at both primary and secondary levels. The implementation of these guidelines and preparation of detailed syllabi on a year by year basis is largely a task for individual schools.

In England, Wales and Northern Ireland no syllabuses are prescribed though optional guidelines are available in most subjects. These are written by HM Inspectorate, the Schools Council, individual curriculum project teams, teachers' centres and subject associations. The public examinations at 16+ largely determine the curriculum of the preceding two years. Many of these have been revised in recent years.

### Syllabus Revision

A feature of the 1970's has been the complete re-writing of syllabuses right across the curriculum. Some countries have revised the syllabuses for all subjects (Sri Lanka in 1972 and 1979, Tanzania from 1976, Tonga from 1974). By 1980 Fiji will have completed a wholesale revision started in 1971. In Canada, Nova Scotia uses no syllabus more than five years old and Manitoba is currently undertaking a major review of syllabuses from primary right through secondary school.

### Relevance

The revision of core subjects tends to receive attention first: national languages, English, maths, science, social studies or history and geography. But the underlying theme of all syllabus renewal is relevance to the local context. Agricultural education in Nigeria, Southern Africa and the South Pacific is being localized. Language studies are becoming "functional". Local literature is being emphasized alongside local history and geography, art, music and dance. Life-skills relevant to rural communities are emphasized in science, basic numeracy in mathematics and citizenship in civics and social studies.

A number of experiments with new subjects are also geared towards local relevance. Mauritius has introduced economics and sociology and Swaziland, elementary technology and development studies. Canada now includes consumer education, England and Wales, political education and the Seychelles, family life education.

### Overloading

One problem generated by the inclusion of new subjects in the curriculum of the school is the overloading of the timetable. As Swaziland's Ministry of Education put it in Current Trends in Educational Policy 1976:

This progress (in broadening the educational background of students) has, however, caused certain difficulties which show that the existing curriculum pattern is not flexible enough to encompass the new studies which are being introduced and those which in the future may be introduced.

Because teaching time is to be fixed between 40 and 45 periods (26 hours 40 minutes) per week, the time spent on each subject must be reduced whenever a "new" subject is introduced. Consequently, school administrators face the dilemma of trying, on the one hand, to provide a broad education by including new subjects and, on the other hand, to maintain or raise standards in the traditional academic subjects by not reducing the teaching time allocated to them. Obviously a rationalization of this situation is necessary if the aims of giving all pupils a broad general education and a sufficiently high level in the elementary skills are both to be achieved. (p. )

Given the amount of experimentation in the curriculum which is going on, it is likely that this is a problem common to many countries. In Malta, for example, the number of subjects made compulsory from form three has expanded. Arabic has been introduced. The number of periods left for the "general and cultural subjects" has therefore fallen to one. Since, it is suggested, "this is not enough... more use must be made of the mid-day break period". In Papua New Guinea, where English is the medium of instruction, schools and colleges introduce the study of other languages but:

The introduction of a language of Papua New Guinea into a school would be in addition to the other studies required by the syllabus, in time normally regarded as student time, or elective time, or in Cultural Activities time as part of a balanced cultural activities programme.  
(Education Plan 1976-1980, p.59)

Papua New Guinea's allocations for core and other subjects are shown in Figure 3. In most countries time allocations for subjects are generally specified. The normal number of teaching hours per week is about twenty-six, though the range is from thirteen to twenty-nine. With the introduction of new subjects it looks as if one solution is to extend the teaching hours into extra-curricular time. Certainly, few countries seem to be dropping subjects from the curriculum. Latin and Greek may be fast disappearing but little else is. Indeed, it appears much more difficult to drop subjects than to include new ones, despite the dangers of an overcrowded timetable.

Other strategies are possible in addition to the use of extra-curricular time. In India revisions of syllabuses have paid attention to discarding "dead wood" from the content. Streamlined syllabuses in some subjects may do a little to ease the way for new. The trend towards the integration of studies may also economize on time - or it may not.

### Integration of Subjects

There is a definite trend towards the integration of subjects at the lower secondary level. The most commonly integrated subjects are in the natural and social sciences. Integrated science replaces physics, chemistry and biology and social science or social studies replaces at least history and geography and possibly also includes civics and an environmental component. Home Economics now replaces domestic science in an expanded concept.

FIGURE 3: TIME PER WEEK ALLOCATED TO SUBJECTS  
PAPUA NEW GUINEA

Stage 1: Grades 7 & 8

Subjects are divided into three groups: Core subjects, practical subjects and pastoral subjects. Practical subjects are electives, but on a school rather than an individual student basis.

<u>Subject</u>	<u>Period Allocation</u>	<u>Comments</u>
English	8	Core subjects. These minimum period allocations should not be varied. The Social Science allocation does not include Guidance, which is taught as part of Social Science in Grade 7.
Mathematics	5	
Science	5	
Social Science	5	
Agriculture	4	Practical subjects. Students will take a minimum of any three, including Home Economics for girls and Practical Skills for boys. The period allocations may be varied according to staff availability, etc.
Commerce	4	
Expressive Arts	4	
Practical Skills	4	
Home Economics	4	
Guidance	1	Pastoral subjects
Religious Instructions	1-4	
TOTAL	<u>37-40</u>	

Stage 2: Grades 9 & 10

Subjects are divided into three groups: Core subjects, practical subjects and pastoral subjects. Practical subjects are electives on an individual, rather than a school basis as in Stage 1.

<u>Subject</u>	<u>Period Allocation</u>	<u>Comments</u>
English	8	Core subjects, minimum period allocations should not be varied.
Mathematics	5	
Science	5	
Social Science	5	
Agriculture	4	Practical subjects. Students will take a minimum of any three, including Home Economics for girls. The period allocations may be varied according to staff availability, etc.
Commerce	4	
Expressive Arts	4	
Home Economics	4	
Guidance	1	
Religious Instructions	1-4	
TOTAL	<u>37-40</u>	26

Humanities often replaces literature and the expressive arts. Language arts replaces the separate teaching of language and literature.

This trend, however, is not universal. In fact, there are signs of a countervailing one towards the "dis-integration" of subjects. Most countries stand fairly firm on the need for single subject specialization at the upper secondary level but England, Wales and Northern Ireland are currently experiencing a move "back to basics". Saskatchewan, Canada, has encountered some resistance to integration in mathematics and natural sciences and Papua New Guinea recently abandoned experiments in an integrated course for English, Social Science and Commerce at grade seven. Integrated Rural Science and Business Principles for grades seven and eight were replaced by separate courses in Agriculture and Commerce. Social Science, however, integrated from history and geography in the early 1970's was retained.

### Materials for Learning

The production of revised and new syllabuses has led to rethinking of policies and strategies for the production of learning materials to accompany them. Many New Commonwealth countries have set up curriculum resource centres and units of a general nature, mostly within ministries of education or closely associated with them. Fiji's Educational Resources Centre is a representative example (Figure 4). There are a few specialist units also such as those for the design of science equipment. Some teachers' colleges and institutes also have schemes for the design and production of materials. Some also produce test and evaluate materials. Teacher involvement is encouraged through curriculum workshops, teachers' centres and subject associations. Sometimes academics are commissioned to write texts or to translate existing texts into local languages. In Tanzania the project work of able students done for examinations is sometimes reproduced for use in other schools as learning material. The work of the National Council for Educational Research and Training in India is representative on a grand scale of many efforts throughout the Commonwealth to design and produce relevant materials:

By and large, print materials in the form of text books and supplementary readers remain the major teaching/learning materials. At the national level the National Council of Educational Research and Training (NCERT) prepares text-books on various subjects for adoption or adaptation by the states... It has a large publishing house, which publishes text books, supplementary readers and a large variety of other educational materials.

The NCERT also designs and develops science kits. These kits are mini-laboratories. The emphasis is now on indigenous low-cost materials. The kits are designed to go with curricular materials produced by NCERT. They prove valuable... in rural schools where facilities for good laboratories may not exist.

The NCERT has a large Central Library of educational films... loaned to schools...

Most other countries too rely mainly on print materials. Though still the major resource, the text book is being supplemented by other low-cost, adaptable and easily reproduced printed materials such as work-sheets, facsimile packs and graded work cards. Multi-media packs are used in countries which can rely on tape, slide-tape and film as well. The use of the overhead projector is rapidly supplementing the black-board in countries which can afford it and where electricity is available.

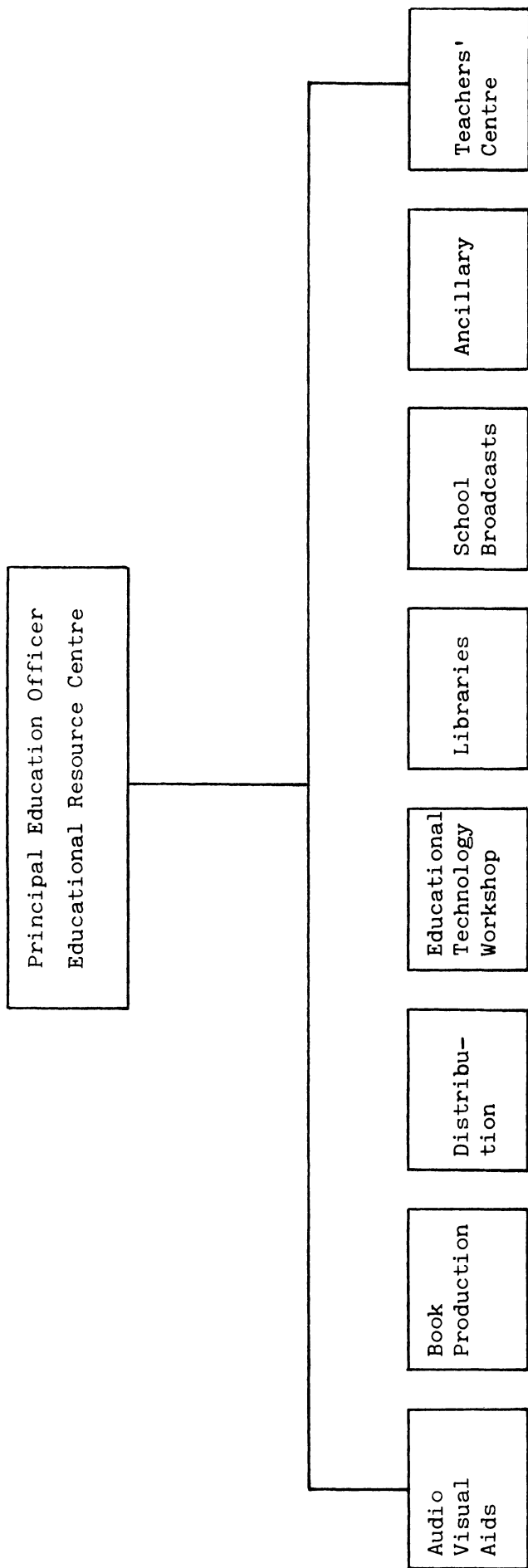


FIGURE 4 : FIJI'S EDUCATIONAL RESOURCE CENTRE

## Relevant Locally-Produced, Low-Cost Materials

On the whole, commercially-produced materials are widely used but there is now emphasis on the adaptation of these for local use. Increasingly, locally-produced materials made of local resources and at low cost are favoured. Singapore is one exception to this pattern, a fact perhaps which reflects a special context where commercially produced materials are relatively cheap and readily available. In Singapore to date, many teachers have been unwilling to use materials not specifically adapted to their own needs as they do not have the time or skills to produce their own; and since teacher-produced materials are not necessarily the cheapest nor the most presentable, commercially produced materials are currently in favour.

The variety of subjects for which learning materials are being produced anew is enormous but in general the emphasis is on science, maths and social studies. Other areas of attention are remedial materials and materials for the less able. Guyana has designed materials for remedial reading. Singapore has an audio-tape series for slow learners. Other efforts of interest are, Malaysia's resource kits for English at upper secondary level, Singapore's teacher guides and slide series for health education, Swaziland's student texts and filmstrips for agriculture. Northern Ireland is one of a number of countries producing kits for cultural and ethnic studies. Such examples, of course, do not do justice to the amount of locally-relevant materials produced in a variety of imaginative and relatively low-cost ways.

## Media

A number of countries use radio for educational purposes at secondary level. Television is less widely used. In general, radio and television programmes are supportive and are intended to enrich school courses. They rarely supplant formal schooling except in the few cases where they are used as part of a distance learning programme. In some countries specialized institutions are in the forefront of the development of materials for the mass media. In Nigeria the Nigerian Educational Technology Centre is active in this field and in Guyana the Radio Broadcasts Unit works closely with the Curriculum Development Centre. Some countries are hampered in developing these facilities by technical difficulties including problems with the quality of media services. India, however, has a well-developed system for delivery of schooling by radio and television for lower secondary level (classes six to ten). All India Radio (AIR) designs programmes and involves educationalists as advisers. The programmes are regularly put out by as many as thirty-two stations and there are facilities for relay to remote areas. More than six thousand programmes are broadcast every year to school children and nearly sixty thousand schools have receivers. Four television stations also produce programmes with language teaching and science predominant. The NCERT is now planning the co-ordination of media programmes with what is being done in schools:

But there is still a very long tough road to go before it becomes an accepted normal pattern rather than an experimental (one).

In other countries, also, the emphasis is on the use of the mass media for science and language teaching. It is very clear, however, that radio and television programme makers follow the design of subjects as taught in the schools. In very few countries is there evidence that the use of the media has had any significant influence on the design of learning materials used in the schools.

## Examinations Policy

Examinations inevitably have a great influence on the sequencing and content of the curriculum. The majority of countries in the New Commonwealth are gradually localizing control of national examinations at the end of the primary school (where they are held) and at the end of lower secondary school. It is worth repetition that localization of control of examinations has removed a major constraint on the development of curricula for national purposes.

Ministries of education have set up a variety of mechanisms for the control of examinations. Malaysia is representative of a widespread pattern whereby a special unit within the ministry, the Examinations Syndicate in this case, controls and runs the Lower Certificate Examinations. In Fiji, as an example of a variation on this theme, the Class Six, Eight and Form Four examinations are run by a panel of examiners for each subject area, drawn from the teachers and the Ministry's Curriculum Development Unit.

### Local, Regional and External Control

At the upper secondary level, in contrast, many countries rely on external examining bodies in co-operation with the Ministry of Education. At present, therefore, a dual system of examinations is operating. The Cambridge Overseas Certificate is still widely used, but regional co-operation is to some extent replacing reliance on external bodies at the lower secondary level. The West African Examinations Council is well established. The Caribbean Examinations Council has been very active. Such co-operation reflects regionalization based largely on countries of the New Commonwealth. In the South Pacific, in contrast, Australia and New Zealand play a direct part in the conduct of examinations of some of the smaller member states in that region. The pattern in the Solomon Islands is an example of the way in which local control is combined with regional co-operation. Since 1978 the Solomon Islands' School Certificate Examinations Board has controlled the School Certificate Examination taken at the end of form five. This is set by teachers appointed by the Board with ten consultants from the University of the South Pacific, the University of Papua New Guinea and the University of New England (New South Wales, Australia).

Currently few countries of the New Commonwealth have moved all the way towards localizing examinations at both lower and upper secondary levels. Even where regional co-operation is traditionally close, problems in maintaining it are many, as shown by the recent decision of Botswana to leave the Botswana-Lesotho-Swaziland Council and to take administrative control of its own junior certificate examination. Nevertheless, two factors are likely to intensify the trend towards local and regional control of examinations; the concern for relevance in the curriculum and the need for countries to have autonomy to expand and adapt their schooling systems as the pressure for mass secondary schooling intensifies.

### Primary Leaving/Secondary Entrance Examinations

In the New Commonwealth some countries, Malaysia for instance, have no primary leaving/secondary entrance examination at a national level. Malaysia has a very high level of enrolment at the lower secondary level. But, in other countries where, for socio-economic reasons, students are unable to take advantage of available secondary schooling, the primary school leaver needs a certificate as public recognition of his achievement. Unless, or until, a nine to ten year basic education is both free and compulsory (or voluntary enrolment is high) it is very difficult indeed for a country to do away with examinations for selection of some sort at the end of primary school.

The Seychelles is in the fortunate position of having a very high voluntary enrolment rate. It intends soon to introduce a ninth year of schooling on a voluntary and free basis. The Junior Secondary Entrance Examination will then be phased out. In Tonga the seven year basic cycle is free and compulsory but a secondary entrance examination is still necessary because of the limited number of school places available at the beginning of the secondary level. In Singapore there is a secondary entrance examination after five years of free but voluntary schooling. This selects students for extended basic schooling or vocational training. A number of countries are still in the process of achieving a five year or so basic schooling for all. Secondary school expansion, therefore, must compete with the expansion of primary education and must remain severely limited for the time being. In these cases the primary leaving examination is likely to be retained for the foreseeable future.

### Lower Secondary Examinations

Most countries in the New Commonwealth have a public examination at the end of lower secondary schooling (after nine or ten years of basic education). Examples would be the Lower Certificate of Education in Malaysia, (Figure 5 p.32) or the Matriculation in India. Since most students leave school at this point the examination may serve both as a leaving certificate and as a selective device for entry to upper secondary schools. Guyana provides a flexible examination system whereby students can gain a certificate of achievement which recognizes their efforts if they have to leave school after Form Three of the Community High School Programme (Proficiency Examination Part 1) or if they are able to complete the course in form four (Part 2). There is also the Caribbean Examinations Council examination for able students at Form Five.

A number of countries operate external or regional examinations as well as local ones at the end of the lower secondary programme. These examinations usually cater for the ablest students who aim to continue their studies. The Cambridge Overseas Certificate and the Caribbean Examinations Council General Certificate are external and regional examples respectively of these and the Malaysian Certificate of Education taken at the end of Form Five after eleven years of schooling is a locally-run example which is intended to replace Cambridge.

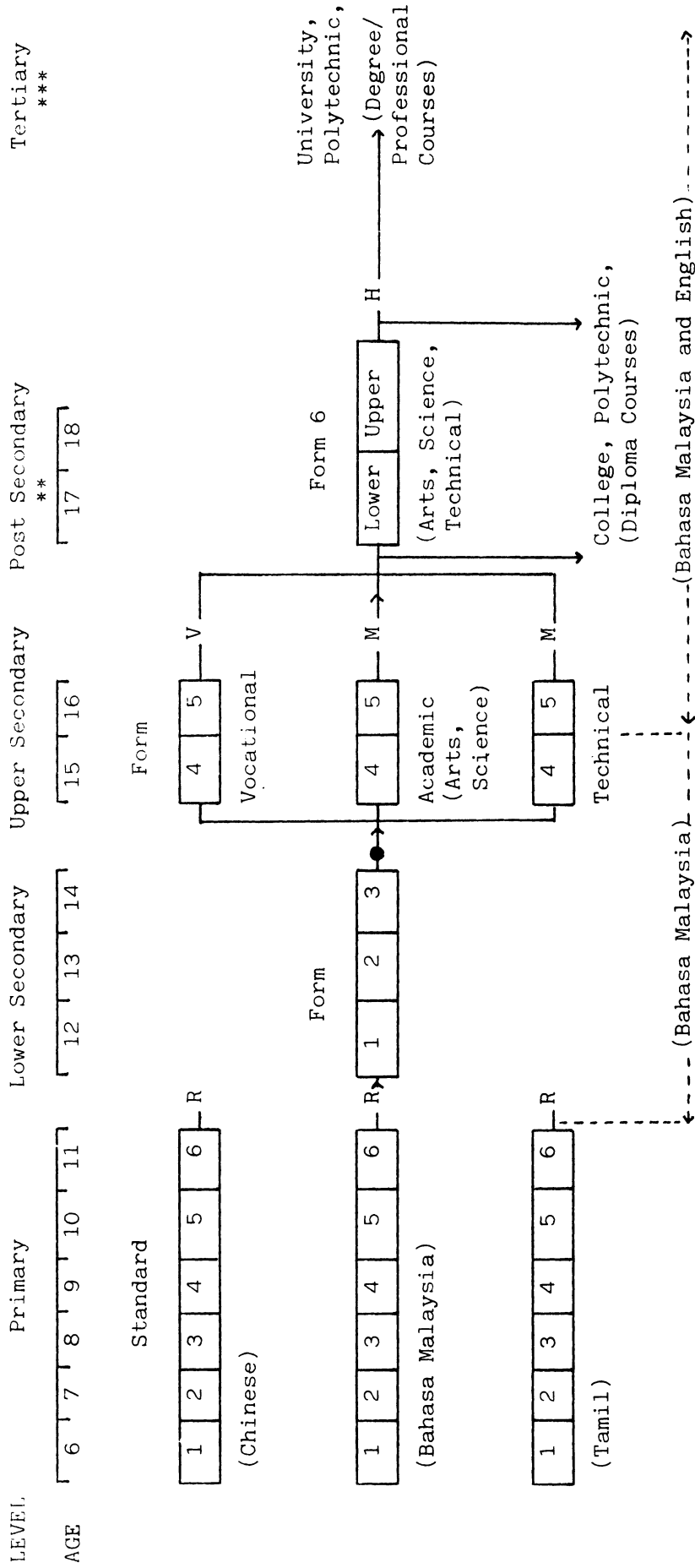
### Reducing the Number of Examinations

Some countries of the Old Commonwealth are reducing the number of examinations held at the secondary level. These countries have all, of course, now achieved universal schooling for ten or so years. They have no need, therefore, for examinations at the end of primary school to sort out the students who will enter secondary school. The trend towards a common school at the lower secondary level, where it exists, also obviates the need for selective entrance examinations for these are not needed to sort out students for different categories of secondary school.

In Canada and some states of Australia there are no public examinations at the lower secondary school level. Tests for achievement and proficiency are run at the local or school level. In England, Wales and Northern Ireland examinations are held but are not compulsory. At the end of the higher secondary level almost all countries have a public examination. External boards are still very much a part of the system in New Commonwealth countries at this level. Western Australia has no public examination except for the Tertiary Examinations, held at the end of the twelfth year of schooling:

From 1975, a single level examination called the Tertiary Admissions Examination became the responsibility of the

FIGURE 5 : SCHOOL SYSTEM OF MALAYSIA 1979\*



( ) indicates main medium of instruction

Public Examinations

- Lower Certificate of Education (LCE)
  - V Malaysian Vocational Certificate (MVC)
  - M Malaysian Certificate of Education (MCE)
  - H Higher School Certificate (HSC)
  - R Remove classes are transitional classes of one year's duration provided to give intensive language lessons to pupils who have to change their medium of learning from Chinese or Tamil at the primary level to Bahasa Malaysia at the secondary level. An extra year must be added to the ages of pupils who proceed from the Remove classes.
- \* Adapted from: MALAYSIA, Ministry of Education. Education in Malaysia 1974, p.98.
- \*\* Sixth Form classes, teacher training institutions, polytechnics and other institutions offering Diploma Courses.
- \*\*\* Universities and other institutions offering Professional Courses.

Board of Secondary Education. Establishment of the TAE allowed the introduction of ..... internal school assessment and hence greater involvement in schools in the determination of academic outcomes at Year 12. Deliberate attempts by superintendents and principals to encourage wider participation in decision making was aimed at establishing a greater sense of involvement by teachers, parents and students ..... The follow-on from this reduction in the examination nexus between secondary and tertiary institutions appears to be an increasing trend towards diversity within state secondary schools. Rather than secondary education being aimed at one final examination, schools seem much more willing to undertake ..... school based programmes, largely designed to meet ..... local requirements. This process has not been discouraged by the departmental administration which has laid down guidelines for the development of such school based programmes .....

In Canada an accepted alternative to the final examination is the accreditation system. New Zealand and Malaysia combine accreditation with examinations. In Saskatchewan, students accumulate credits for courses taken through years ten, eleven and twelve. The system builds in flexibility for students who may be unable to complete grade twelve for they may leave school with a number of credits at any stage. In countries which experience progressive drop-out throughout the secondary level and wish to avoid having public examinations every two years or so the credit system provides a well established alternative.

#### Increase in the Number of Examinations

England and Wales have recently been looking at the system of examinations in operation. At present, there are two levels of the General Certificate of Education (GCE), ordinary level ('O'), normally taken at age sixteen, and advanced level ('A') taken at age eighteen. At sixteen there is also the Certificate of Secondary Education (CSE), grade one of which is comparable to an 'O' Level pass. No examinations are compulsory though most students attempt at least one subject. There is the possibility that these two examinations may be amalgamated but the matter is controversial, technically difficult and by no means settled. Alongside this attempt to reduce the number of examinations at sixteen plus there are proposals to establish a new Certificate of Extended Education (CEE), designed for students who are unable to achieve an 'O' Level pass or its equivalent but who wish to continue in school beyond the compulsory age for one year. This proposal for a new examination must be seen in the light of a context of universal secondary education to sixteen and high levels of unemployment for school leavers. The Schools Council proposals for two new examinations to replace advanced level was discussed on page . Though not accepted by the government it is indicative again of a trend towards the democratization of upper secondary level education.

The likelihood is that most countries will phase out a primary leaving certificate if and when compulsory common schooling is introduced at the lower secondary level. For the foreseeable future it is likely that the majority of students will leave school after a basic nine to ten year programme. It is, therefore, probable that students, employers and the community will demand the retention of some form of secondary leaving certificate based on performance levels. For countries where students drop out progressively before nine or ten years it is reasonable to suggest that students need some form of certification after years six, seven and eight. It is likely therefore in many countries that a significant reduction in the number of examinations will take place.

## Examination Requirements

But, more important perhaps than the number of examinations is the purpose for which they are run and what they are intended to assess. Currently the emphasis is on achievement at a certain level on a subject basis. Various models are represented in the Commonwealth.

In the New Commonwealth the favoured model at the lower secondary level is for a pass to be contingent upon good grades in core subjects, ranging from two to six subjects according to the country. Apart from this requirement a free range of optional subjects is possible, practical constraints apart.

Another model is where a minimum number of subjects must be passed (core subjects may also be specified as prerequisites for a pass). A similar model is where a certain aggregate score must be attained. In Botswana, for example, a student must pass four subjects plus English and obtain an average score of 40 or more out of 100 when the marks of six of the subjects are added together. The requirement for English indicates the importance of this language for higher studies and is a stipulation common to many countries. In Tanzania, the list of subjects which must be passed is Kiswahili, social science, natural science or commerce, maths, a foreign language and political education.

Nigeria and India exemplify a model where the student must pass a subject or number of subjects from certain groups. This device may force the student to specialize in arts, sciences, technical or commercial subjects, or more usually, it may force the student to study generally across the range of specialist fields.

New Zealand recently phased out the group-pass model in favour of the scheme favoured in England, Wales and Northern Ireland and in Singapore and Sri Lanka. In these countries a student may offer as few or as many subjects (usually no more than ten) as he wishes. He can obtain a certificate in any one of these. In Singapore a minimum grade of six is necessary for a pass. In England there is no pass grade but students are ranged from A to E. Cyprus is in the process of limiting the scope of its final school leaving examinations to a few subjects only:

We believe that this weight-lifting will help the pupils to get rid of an, in many ways, purposeless stress that the examinations create and, moreover, will give them time and impulse for creative work on substantial matters. With the limitation of the examinations the possibilities of promotions are increased and thus the pupils have more chances to continue their studies to higher levels.

(Dr C A Sophianos, Minister of Education, Basic Issues of Educational Policy, n.d., p.20)

## Science and Technology

At the higher secondary level most countries allow students to self-select into a free range of options for examination purposes. Over recent years there has been a major shift in the New Commonwealth towards a preference for scientific and technological subjects and away from the arts. This trend is not so apparent in the Old Commonwealth. England and Wales reports a continuing emphasis on the arts, a trend common to the other Old Commonwealth countries.

## Modes of Assessment

As we have seen, many countries are progressively de-emphasizing public examinations. Instead they are moving towards internal school-based assessment for evaluative and diagnostic purposes. Tests and examinations are held as occasion demands or on a "continuous" basis instead of at fixed weekly, termly or yearly intervals. Assessment is becoming less a matter of judging students' performance at discrete intervals for predictive purposes and more a matter of monitoring progress, diagnosing weaknesses and their possible causes, and indicating guidelines for remedial action.

### Teacher-based Assessment

"Continuous" testing indicates that teacher-based assessment is now widely used either as a substitute for external assessment or in conjunction with it. In Tanzania as much as fifty percent of the assessment for public examinations is teacher-based and in Cyprus it is sixty percent. Teacher-based assessment takes many forms. In Tanzania, the teacher evaluates the character and productive work of the student as well as his academic work in accordance with the principles of African Socialism and Self-Reliance. In Nigeria and Botswana the teachers assess the practical aspects of scientific and practical subjects for public examinations. In Barbados and St Lucia teachers assess students' projects and assignments in local history. In England and Wales for 'O' Level GCE and the CSE the choice of whether assessment should be teacher-based or external is left to the school to decide. These examinations are conducted by the examining boards in three modes. In Mode One, examinations are conducted by examining boards on syllabuses set and published by the board. In Mode Two examinations are conducted by the examining boards on syllabuses devised by individual schools or groups of schools and approved by the board. In Mode Three the examinations are set and marked internally by individual schools but moderated by the boards on syllabuses devised by individual schools or groups of schools. Mode One is the traditional approach and is still the usual practice though increasingly there is a measure of teacher involvement. Mode Two is used by both GCE and CSE boards although not to any great extent, (only 2.5% in 1977 for CSE). Mode Three is more widely used by the CSE boards. (In 1977 about twenty-five percent of the CSE subject entries nationally were in Mode Three.) Clearly teachers in England and Wales are somewhat cautious about taking on the additional work and responsibility involved in preparing their own examinations. Many still prefer the more conservative approach of externally conducted examinations.

### Objective Testing

In both internal and external assessment there has been a strong trend in favour of the easily-marked objective tests, multiple choice questions and tests for specific skills and aptitudes. Essay-type examinations have recently been somewhat out of favour. Objective tests have the advantage of being marked by computer as in Malaysia and Mauritius but they do need good item-banking of questions if the questions are to vary. Singapore is currently building up its item bank for this purpose. The other main problem is that questions are difficult to compile and require skilled handling if they are to test the knowledge, skills and aptitudes for which they are intended. Also, skills tested by the writing of essays may be neglected in the curriculum if essay writing for examinations is not a requirement.

## Formal Examinations Again?

It is noteworthy that despite the very firm trend towards teacher-based assessment and continuous testing there are signs of a move in the opposite direction. Some Canadian provinces are re-introducing formal examinations. Papua New Guinea is rethinking its recent experiment whereby the teachers are responsible for three-quarters of the assessment, and is considering a move back to external assessment of formal examinations. There is a need to examine the reasons for this trend. One may be a lack of expertise or commitment among teachers in techniques of assessment; another may be the problem of standardizing school-based assessment nationally. Another possibility is that communities, parents and employers have greater confidence in the traditional modes of assessment which they judge to be fair.

## PROGRAMMES AND PROJECTS

This section describes some of the significant curriculum projects, pilot studies and initiatives which member countries have undertaken over the last five years. The number and variety of these is very great. The projects outlined here are selected because they are of special significance in the countries which reported them or they have features which may be of interest to other countries. Descriptions are based solely on material submitted by the countries concerned. In some cases, in the interests of economy, certain details are omitted. Inevitably the focus is on centrally-planned curricular reforms. The picture painted probably obscures somewhat the extent and richness of the many local, modest, small-scale efforts of teachers and schools.

### Wholesale Reform

The distinction must be borne in mind between those countries which have undertaken wholesale and sometimes radical reform of the secondary curriculum in recent years and those where reform has meant the revision of certain aspects of the curriculum. The general picture in almost every Commonwealth country is of rethinking and activity. The scene varies from one of routine institutionalized renewal of the curriculum to radical and concentrated reform. The vast majority of projects are initiated, sponsored and directed by the national or state/provincial level educational authority. In some cases there has been considerable input from international and bi-lateral agencies.

Following are but a few examples of projects and programmes concerned with wholesale reform.

#### BANGLADESH

In 1975 the National Curriculum and Syllabus Committee was set up to examine proposals from the National Education Commission and to suggest new syllabuses for the whole school system:

The committee submitted its report in four phases. The reports include: Conceptual frameworks and principles .... detailed curricula and syllabi for selected subjects for each class, guidelines for text-book writing and suggestions for teachers' guides and aids .... New text-books were introduced in Classes One to Three in January 1978 and Classes Four and Five in January 1979. The text-books for Class Six (will be) introduced in January 1980.

The Bangladesh programme was planned, approved and implemented for the primary level in three to four years.

## BARBADOS

A similar programme in Barbados managed to complete syllabuses for a number of subjects at the primary level between 1974 and 1979 and is still piloting secondary syllabuses. One problem, however, has been that this length of time has proved inadequate for efficient implementation.

The National Curriculum Development Council was a project set up by Cabinet decision in 1974; its duties were mainly:

- (a) To review the existing curricula in the various schools.
- (b) To advise the Minister on the subjects to be taught at each level in the primary and secondary schools and the time to be allotted to the various subjects.
- (c) To set up committees for the production of syllabuses, guidelines, lists of appropriate textbooks and teaching material, and to make recommendations thereon to the Minister.

The overall aim was to improve the quality of the curricular offerings in the various schools at primary and secondary level. The length of life of the NCDC was not specified.

During the five year period 1974-1979 primary syllabuses were completed in the following subject areas:

Agriculture, Art and Craft, Language Arts, Mathematics, Health Education, General Science, Music, Social Studies, Religious and Moral Education. These have been piloted, revised and are being implemented.

The secondary syllabuses produced were in the areas of Agriculture, Industrial Arts, French, Spanish, History, Health Education, Language Arts, Art and Craft, Music and Geography. Secondary Language Arts is being implemented in 1979, but the other subjects are still being piloted.

The specific vocational subjects being taught are Typewriting, Business Education, Agriculture, Industrial Arts, Housecraft; of these Agriculture and Industrial Arts are under the aegis of the NCDN.

The content of the syllabuses, especially Agriculture and Social Studies, is not rigid, but can be utilized by individual schools to cement a close relationship with their community.

The main problems associated with this programme are:

- (a) The adequacy of resources to efficiently implement the syllabuses over the entire island within a relatively short period of time.
- (b) The apparent tardiness of subject committees to work on the production of syllabuses. For years text-

books, syllabuses and materials had been imported. Effort is therefore needed to spur on the sub-committees to complete their tasks.

Members of subject committees, however, are also teachers and carry a full-time work-load.

## SWAZILAND

Unlike Barbados which exemplifies syllabus renewal that is carefully piloted before being implemented nationally an increasing number of countries use the pilot or experimental formula on a small scale and then test and evaluate before committing themselves to national level programmes. This device needs careful and realistic timing and phasing. The Swaziland Secondary Curriculum Project is an example of a scheme which incorporates these features.

The project is sited at William Pitcher Teacher Training College Campus, Manzini, which is an urban area. The building housing the unit is shared with the Primary Curriculum Unit (supported by a USAID project) to facilitate close co-operation. It is a National Curriculum Development Unit under the control of the Ministry of Education. The Unit is supported by a UNESCO/SIDA project with proposed bi-lateral assistance from UK sources.

### Secondary Curriculum Project

The short term objectives are:

- (a) To establish a fully operational Secondary Curriculum Unit.
- (b) To train a staff of Swazi national personnel to operate the unit within four years of the opening of the projects.
- (c) To initiate the implementation of a reformed curriculum by:
  - producing the curricular materials for years One, Two and Three.
  - trialing, piloting, evaluating and revising materials for years One and Two.
  - evaluating the trial teaching of year 3 materials.
  - assisting in the in-service and pre-service training of teachers necessary for these three operations.
- (d) To initiate a system of continuous assessment, aptitude testing and pupil guidance by:
  - producing draft II\* aptitude tests suitable for administering to secondary school entrants and Form II pupils.
  - producing draft II\* attainment tests for Form I

and draft I\* attainment tests for Forms II and III.

- training Guidance Teachers in the administering and interpretation of aptitude and attainment tests and in the techniques of pupil guidance based upon these interpretations.

- training all teachers in the techniques of administering standardized attainment tests and recording results according to an established system.

(e) To negotiate reformed examination prescriptions and examining systems with the existing public examination body.

(f) To advise, on request, the Ministry of Education on any matters related to the attainment of these objectives.

UNESCO/SIDA inputs are:

(a) Personnel

1 Curriculum Co-ordinator/Project Manager

1 Science Curriculum Specialist

1 Development Studies Curriculum Specialist

1 Home Economics Curriculum Specialist

1 Elementary Technology Curriculum Specialist

1 Specialist in Educational Research

Consultants: International  
Local

Administrative and Production Staff

(b) Prototype Materials Production Workshops

Local personnel costs

Materials

(c) Equipment and Miscellaneous Costs

The proposed inputs from UK sources are:

1 Mathematics Curriculum Specialist

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\*A draft I tests is one that has been administered to one group in the process of standardization. A draft II test is one that has been administered twice.

## Subject Focused Reform

In the early 1960's the pattern throughout the world was for reform to be concentrated on single subjects within the curriculum. Change was conceived centrally and implemented, if at all, via the "ripple" effect of a "model" project. More recently the concept of a model project has given way to the idea of the pilot project (which may ultimately serve as a model after evaluation and revision). Today, as we have seen, pilot projects are extensively used by central agencies and with some limited teacher involvement. The emphasis too is still on subject-focused reforms. Currently, however, it is rare for a single subject to absorb the attention of the curriculum developers.

Most countries are concerned simultaneously with the range of subjects across the curriculum and, as we have seen, with the integration of some of them. Today too, there is effort to relate the changes in any one subject to similar changes in the approach to other subjects. For example, reform in a number of subjects may exemplify a concern with relevance or the adaptation of the contents to suit mixed-ability teaching. But the most important emphasis to emerge from analysis of the projects and programmes is concern with reform related to the internal and external efficiency of the school. In terms of internal efficiency, (the concern with how much and how well can the student learn with given resources), the problems are how to relate the aims, objectives and contents of syllabuses to the developmental stages, life-experience and necessary life-skills of the student and how to devise the most effective teaching-learning strategies. In terms of external efficiency the problems are how to incorporate up-dated but ever-changing new knowledge and how to select material which is relevant to the social, economic and political developmental needs of the nation. Following on from these concerns some curriculum projects emphasize the need to ensure relevant and effective implementation of changes by involving the teachers and sometimes the community in curriculum renewal. The extent to which countries have achieved teacher and community involvement varies greatly and is somewhat problematic.

### SOLOMON ISLANDS

The process of secondary curriculum development in the Solomon Islands, 1975-79, exemplifies many of these concerns. The government's overall aim in education is to provide a co-ordinated system of education which will:

- (a) Meet the nation's needs for skilled manpower as quickly as possible.
- (b) Provide a basic education for all children, suited and related to the environment in which they will live and work as adults.

The Solomon Islands has an expanding secondary school system with about thirty-four percent of primary school leavers entering secondary school. In a complete overhaul of the curriculum new course objectives and guidelines have been developed since 1975:

The aims of each course can make a unique and significant contribution to the achievement of the national educational goals of the Solomon Islands.

The purpose of the Secondary School Curriculum Committee is to co-ordinate and facilitate the functions of the various subject committees/panels in developing a relevant secondary school curriculum.

It is intended that the community will become more involved and would be informed by newsletter, radio, seminars and lectures, visits to CDU and teacher-parent associations so that they will accept and support the changes taking place in curriculum development.

Having decided on the specific aims for each subject, the (subject) panels devised an appropriate content. The panels also do their own original writing based on research here. For example, the Social Science Committee has already produced units on "Making a living in Honiara". The English panel are making use of local stories as comprehension exercises. In Mathematics the panel members asked most employers in Honiara about the skill that they expect of their workers when they first join the business. These findings were incorporated into the Maths curriculum. These are but a few of the examples of our attempts to give the curriculum greater relevance to the Solomon Islands.

As you can see much of the curriculum development work at the secondary level is teacher-based. (Report submitted by the Curriculum Development Officer, Secondary).

The process of curriculum development in the Solomon Islands is ultimately subject-based and exemplifies concerns with curriculum quality. The problems which emerge there are common to many countries. These are:

- (a) Lack of professional and technical expertise,
- (b) Lack of teacher education and training in the philosophy and methods of the subject area.
- (c) The persistence of traditional teaching approaches.
- (d) Lack of finance for resource facilities, workshops and in-service work.
- (e) Lack of community involvement at present.
- (f) Teachers themselves are very busy people so the work tends to be slow.

## SCIENCE

Perhaps the most widespread concern in terms of subject-based reform has been to update and localize science. A few case studies must suffice here to exemplify a wide variety of projects.

### BOTSWANA

Botswana is facing massive expansion at the secondary level and about seventy percent of the primary school leavers are now entering secondary school. The Integrated Science Programme was designed to meet problems arising out of this expansion.

#### Integrated Science Programme

Concern about the poor quality of science pupils and the need for science-based graduates in the country, led to the formation of Subject Panels drawn from experienced teachers in secondary schools in 1972.

Dissatisfaction with the science syllabus called "Introductory Science" was expressed by both teachers and Ministry Officials. There was no guidance on the depth to which topics were to be treated and some of the topics were considered unsuitable for the first three years of secondary school. Moreover the syllabus was presented as a series of topics in physics, chemistry and biology with physics forming the largest component in the syllabus.

A paper was put forward proposing a complete revision of the science syllabus and presenting arguments for the adoption of 'Integrated Science' in the first two years of secondary school. Arguments similar to those put forward by the Schools Council in England were presented. Children at this age should see science as a whole; there were arguments about the unity of science and a plea for doing away with the pigeon-holing of knowledge and the belief that pupils would gain a better understanding of the unity of science if they were taught science in an integrated fashion by one teacher. The case for integration was thus firmly established and it was the duty of the Science Curriculum Development Officer and the National Science Panel to put the above ideas into practice.

Integrated science schemes in other parts of the world were studied by the Panel and it was finally decided to base the Botswana Integrated Science course on the Scottish scheme. The Botswana scheme came to be called "Science by Investigation in Botswana" emphasizing the practical nature of the course. The broad aims of science education at this level as contained in Curriculum Paper No 7 of the Scottish Education Department were adopted unaltered, including the three main themes of Energy, the Particulate Nature of Matter, and Life, which were to form the main integrating links in the course.

The National Science Panel subsequently decided to adapt the Scottish scheme to conditions in Botswana.

The question of relevance to the Botswana context was considered while at the same time considering the needs of the majority of pupils whose education would be terminal at the end of three years of secondary schooling. The course at the same time had to lay a firm foundation for those pupils who would be continuing with science in the fourth and fifth year of secondary school.

The course was divided into 15 units which were to be taught in the three years of Junior Secondary education. Each unit was supported by a series of pupil worksheets and teachers' guides. Regular in-service courses were to become an integral part of the education system in Botswana, mainly to familiarize teachers with the new scheme as it was recognized that most teachers had specialized in only one science subject at university. Detailed teachers' guides prefaced with specific objectives were produced for those unfamiliar with the other branches of science. Recently two textbooks to supplement the course have been written by local authors from Botswana, Lesotho, and Swaziland. The books are titled: 'BOLESWA Integrated Science' Books I and II.

The main changes in emphasis have been from a talk and chalk method of presenting science to a more pupil-based course where pupils are involved in doing the experiments themselves or what has been called a 'guided discovery' approach by the Nuffield schemes. There is thus more stress on practical work done by the pupils and less stress on demonstration work done by the teachers. There is a move to reduce rote learning and to develop the pupil's ability to think for himself, to reduce factual recall of information and an emphasis on comprehension and application of knowledge gained to new situations. This is reflected in the type of questions asked in the National Examination which are in the main objective type questions or structured where longer answers are required.

Pre-testing of questions for examination purposes is now being carried out with an item analysis at the end to increase the validity and reliability of questions set in these examinations.

## GUYANA

Guyana is one of a number of countries adapting science curricula for the Caribbean Examinations Council Examination at Form Five level. Since 1976 Guyana has made its secondary education free for all. Approximately eighty-seven percent of primary school leavers now enter secondary school and up to seventy-three percent continue up to fifteen years of age. Most teachers are non-graduates and roughly half are trained. Guyana has introduced general science in Forms One to Three and is concentrating upon Integrated Science for Forms Four and Five.

## Pilot Project - Integrated Science at 4th and 5th Form Levels

### Objectives:

- (a) To provide teacher and pupil material to enable teaching of the science syllabus for the Caribbean Examination Council Examination. (The syllabus is a two-year one for the 4th and 5th forms).
- (b) To provide background/resource materials which emphasize scientific applications in everyday life and industrial activities particularly for local industries.
- (c) To develop teacher competency through workshops and seminars.
- (d) To develop skills in measurement and evaluation relevant to the continuous assessment requirement of the CEC examination.

The project is spread over the rural/urban districts; and has initially a five-year limit 1977-81.

Between 1977 and 1979, 10 schools and 25 teachers were involved. By 1981 there will be 13 schools and 35 teachers participating in the Project.

The strength of the pilot project lies in:

- (a) Links with industry and everyday applications.
- (b) Participation by teachers in preparing and testing materials.
- (c) The variety of materials for most situations.
- (d) Emphasis on students acquiring skills and attitudes in addition to knowledge of content.

Two problems in the main weaken the effectiveness of the project:

- (a) A shortage of competent science teachers.
- (b) A shortage of reprographic facilities.

The essential feature of the project is the production of resource materials, background reading and teacher guides in regard to the methodology required for Integrated Science. This exercise has great relevance for Guyana as it could lead to a resource/retrieval system which would assist science teaching generally. Examples of materials produced so far include:

- (a) Studies on local industries.
- (b) A teacher's guide to project work.
- (c) A guide to assessing enquiry skills and attitudes.
- (d) An introduction to independent learning.

FIJI

Basic Science Forms 1-4 and Physical and Biological Sciences Form 5

Fiji along with other Pacific Islands has developed a Basic Science course for Forms One to Four, the aims of which are:

- (a) To give the likely Form Four "terminator" a good all-round terminal course.
- (b) To give the likely on-goer a satisfactory foundation of post Form Four work.

Sponsored by the Ministry of Education with help from UNDP/UNESCO this is a large scale project begun in 1972 and scheduled to be trialed and nationally implemented to Form Four by 1976.

This is an integrated science course; to a large extent activity-based and child-centred and thus has been large degree of acceptance.

The course was nationally implemented without printing pupil's books. This has created a lot of problems.

Fiji has also developed a more advanced physical science and biological science curriculum for Form Five. After trial and revision between 1975-80 it is due to be implemented in 1981.

This is a totally different course as compared to the physics courses based on the 1945 prescription. The (new) physics course is expected to replace these courses but the thinking in some quarters is that the new course should place the same emphasis on content as the older courses did. However, this is not possible in view of the (ir)relevance of some of the topics in the old courses (to present education needs).

Also the course is pupil centred, activity based and is designed to develop certain skills and attitudes along with scientific concepts. This called for lots of activities to be carried out by pupils in small groups. In many cases this is not being done due to large science classes (up to 45 in many cases) and inadequate facilities. This leads to the course being taught in a traditional fashion and therefore some of the objectives of the course are not achieved.

For its Biological Science course for Form Five there was great demand:

The course was readily accepted by most schools in Fiji. There was a great demand for its introduction in the non-trial schools during the trial stages, and as a result only a few schools are not taking this course at the moment.

However,

..... it has been necessary to recognize that pupils .... will have come from widely differing backgrounds and that the schools where the subject is taught will vary considerably in teaching facilities and equipment, class sizes, staffing stability and teacher competence.

NEW ZEALAND

Form Five Modular Science

As a last example of various approaches to the development of science at the lower secondary level, the New Zealand modular science programme is outlined for its attempts to incorporate flexibility and individuality.

Objectives:

To develop modules of units of work from which teachers could construct a course in Biological Science, Physical Science or Alternative Science which would:

- (a) Provide for individual differences in students and opportunities for students to gain satisfaction through involvement.
- (b) Encourage students to study individually; seek knowledge from the descriptions and explanations of others; operate in groups and accept that other people do not always see the same phenomena as they do.
- (c) Emphasis is placed on individual student development and on methods of learning.

Location:

Department of Education, Wellington, New Zealand.

Control:

Director of Development  
Curriculum Development Division  
Department of Education  
Private Bag  
Wellington  
New Zealand

Time-Scale:

1974-1984

Finance:

During trials finance comes from the Curriculum Development Division's publications and conference vote.

Size:

Trials are being carried out in 40 schools. Probably there will be an extension to all secondary schools in New Zealand.

Outcomes to Present:

A wide variety of courses being offered in trial schools.

A significant change of school and class organizational patterns.

A significant degree of experimentation with teaching practices and learning styles.

A concern about internal assessment has led to the production of guidelines, item banks, and increased knowledge about scaling procedures in both the school and national context.

A rapid development of resources and techniques at school level to assist individualized learning programmes.

Some progress with resource development for teacher training.

Future Activities:

The continued collection of module teaching approaches and identification of resources. From this the production of guidelines for each module. Publication of these during 1979-80.

The continued development of item banks.

Study proposals for the most effective ways of reporting attainment and the attributes of students.

Study the feasibility of internal assessment on a national scale in these subjects.

Evaluation:

There is on-going evaluation using questionnaire and structured interviews with teachers and students.

## MATHEMATICS

A number of countries have experimented with mathematics curricula. Nigeria and Tanzania implemented the Entebbe (new) Mathematics which had already been adopted in Uganda but took the brave decision to revert to traditional mathematics once experience showed that in the Nigerian and Tanzanian context the experiment was not a success. In the Caribbean and the South Pacific the modern approach to mathematics is well established. In England, according to HM Inspectorate:

Modern mathematics has been understood differently by different people; for some the emphasis has been on new content while for others it has been on teaching by methods which are practical and informal. Again, for some people the new content has implied merely a variety of topics with no close interconnections, whereas for others intellectual coherence is paramount. This latter aspect has been important in some other countries, where "modern" mathematics has stressed the introduction of new concepts with the expressed intention of using them subsequently in a highly structured way to clarify long-standing areas of difficulty. Generally speaking, English schools have seized on the informal presentation of modern ideas, but the disciplined use of the concepts to build up the more difficult areas of the subject has been little pursued; to do so could in any case demand more carefully planned continuity into the secondary schools than we usually find; the ideas, moreover, are difficult for non-specialist teachers.

If the purposes of some modern ideas are misunderstood, time can be spent on trivia, and insufficient practice given to developing understanding and mastery of the structured skills which are essential for future progress .... In spite of the widespread misunderstanding the reforms have brought some substantial advantages .... the changes in recent years have diminished the long-standing fear of mathematics which so many children had ... there is often agreement that the pupils benefit from the greater emphasis now given to graphical ideas, and to statistics and probability.

(HM Inspectorate, Mathematics, Science and Modern Languages in Maintained Schools in England: An Appraisal of Problems in some Key Subjects, Department of Education and Science, 1977).

## BOTSWANA

### Cambridge School Certificate Mathematics

Botswana was deeply concerned about "the alarming failure rate" in the Cambridge Mathematics Syllabus C Examination. Therefore, a new Certificate in Mathematics course was jointly designed by Botswana, Lesotho and Swaziland, to improve students' "competence in manipulative skills and increase their confidence."

The chief component of this course is "basic numeracy" which can be considered as a combination of the ability to perform calculations and the recognition of circumstances in which a certain calculation is appropriate.

The course is designed to strengthen the pupils' grasp of basic concepts and operations, to reinforce

their knowledge of topics previously studied and to broaden their range of skills. The emphasis is on the practical applications of mathematics to general careers and non-scientific further study ....

Employers were familiarized with the nature and content of the course and most of them appreciate its worth in the knowledge that not only is a Certificate in Mathematics more useful and meaningful than a failure in the Cambridge School Certificate Mathematics Syllabus C, but that this is a move in the right direction for our young school leavers.

## NEW ZEALAND

A similar concern with standards is behind the New Zealand School Certificate Mathematics Programme initiated in 1975.

### Nelson-Marlborough Mastery Levels Assessment Scheme

#### Objectives:

To establish a system of assessment whereby each pupil is motivated to achieve at a level best suited to his/her ability.

To define criteria for a five-level mastery system against which achievement may be tested progressively during the Form Five year.

#### Operation:

(a) The project operates in secondary schools in the Nelson-Marlborough region.

(b) Operation of the scheme is in the hands of a local co-ordinator, assisted by a committee of local teachers, the Education Officer (Secondary Mathematics), and the Curriculum Development Division, Department of Education, Wellington, which acts in an advisory capacity.

(c) The project is sponsored by the Department of Education through the School Certificate Examinations Board and the Curriculum Development Division.

(d) 1975 Meeting of Principals and Heads of Mathematics Departments in the region. Formulation of scheme. Proposal made to SCEB.

1976 Trial of scheme alongside Conventional School Certificate. Courses for teachers on mastery and assessment techniques.

1977 Project commenced. Further in-service courses. National in-service course to survey progress in this and parallel mathematics schemes. Publication of brochure for parents and employers.

1978 Continuing in-service training courses, held annually. Evaluation of scheme by SCEB Mathematics Sub-Committee and confirmation of scheme for further three years.

(e) The project involves approximately 1,500 pupils in 13 schools. Only one large and one medium-sized school in region are not involved in scheme.

(f) The scheme has been successful in achieving its basic aims. Communication with employers to gain acceptance of scheme has been a problem. Matching mastery levels with norm-referenced grades for the purposes of awarding School Certificate has been a major problem.

An important feature of this project is the continuing emphasis on the training of teachers to handle the new approach to mastery learning and assessment. The project was evaluated after one year's full implementation before continuation was guaranteed.

## AGRICULTURE

In response to the demand for relevance a number of countries are continuing to emphasize the place of agriculture in the school curriculum on the grounds that it is into agriculture that most students will go after leaving school. The place of agriculture in school as a vocationally-oriented subject has always proved controversial and its merits doubted. However, the recent trend has been both to retain agriculture or agricultural science as a subject and to approach it also through science, maths and environmental studies. Agriculture syllabuses are being radically revised. In Papua New Guinea there is a major shift from teaching commercial to subsistence farming. In the Tanzanian secondary schools with an agricultural bias (see p       ), students must study subjects across the curriculum; agriculture, however, constitutes thirteen out of a total fifty-four periods a week and physics, chemistry and biology another ten.

### BOTSWANA, LESOTHO AND SWAZILAND

#### Botswana-Lesotho-Swaziland Agriculture for Junior Certificate

With the introduction of the Diversified Curriculum in the secondary school system in 1970 more and more schools took to teaching agriculture at Junior Certificate level. Even then the success or failure of the programme depended on the interest and initiative of individual teachers.

When the Junior Certificate Examinations Council of Botswana, Lesotho and Swaziland established subject panels in 1972 to review the syllabi, the Ministry of Education asked members of the Botswana Agricultural Teachers' Association (BATA) to form the Panel.

In April 1979 the Regional Panel approved the idea of making practical work account for fifty percent of the final grade in Botswana.

To strike a balance between theory and practical work, practical activities, gardening, poultry raising, tree planting etc. were re-designed and re-emphasized. Diary cards for students, teachers' grading cards and trading record sheets were designed, printed and distributed to schools.

Practical examination techniques were designed and approved by the Regional Panel and the Examinations Council of Botswana, Lesotho and Swaziland.

Teachers' notes on topics like maize growing, ground-nuts, poultry, orchards, small livestock, soils etc. were worked out. The syllabus was re-arranged so that topics came in their logical sequence.

In 1978 the scope of practical activities was expanded to include secondary schools' contests in production, livestock, cereal and legume judgment. An in-service course was held in January 1978, to bring the teachers up to date in practical examination techniques, secondary school contests in production and livestock and crop judgement.

A consultancy in secondary school agriculture which collected information in October 1978 released its report in February 1979. The report strengthened the case for agriculture in the secondary school system of Botswana. It recommended links with primary schools, teacher training colleges, farmers and agri-businesses. It also recommended the amalgamation of practical subjects with agriculture as the base. We have started working on teaching units. A publishing company that has published some Botswana books is interested in helping.

#### Cambridge School Certificate Level

Realizing that the agricultural syllabus provided by the Cambridge Examination Syndicate was irrelevant to the conditions and needs of the Southern Africa countries, the three sister countries of Botswana, Lesotho and Swaziland also worked out an agricultural syllabus relevant to the needs of countries in Southern Africa in December 1978. The syllabus is such that each country can concentrate on its particular needs while also teaching the broad aspects covering Southern Africa and indeed general agriculture.

#### Swaziland Modern Agriculture:

The Schools' Agriculture Project was set up with the co-operation of the Agricultural Faculty of the University of Swaziland at Luyengo and the Schools' Agricultural Panel, a consultative body set up to oversee the project. One key participant from the Faculty of Agriculture inspired and co-ordinated the project.

From 1973 a series of booklets and units were produced as cheaply as possible. They were used extensively in schools and evaluated with the co-operation of teachers. The third edition of the units together with teachers' handbooks is now being used. The course has a strong practical bias and is as supportive of teachers' work as possible. Teachers' consultative meetings were called before each new edition of the units was edited. The Schools' Agriculture Panel brought in a wide range of interest and enthusiasm through representatives of the Ministry of Education, the Ministry of Agriculture, the University, a secondary headmaster, a primary headmaster, an agriculture teacher and others.

Further details and comments on the project are given below. The Swaziland project directors state that they would greatly value an exchange of information and a dialogue on school agriculture with other interested countries

#### Schools' Agriculture Project

OBJECTIVES, have a bearing on the way the materials were written:

- (a) To give students practical training in the skills and techniques of farming.
- (b) To teach agriculture as an applied science, correlating it where appropriate with other subjects.
- (c) To encourage respect for farming as a way of life.

		GRADE 6									GRADE 7																	
		Term 1			Term 2			Term 3			Term 1			Term 2			Term 3											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D			
Practical Work		Sow			Harvest			Sow			Harvest			Rear			Sell			Poultry								
		Vegetable Production			Crop Production			Crop Production			Crop Production			Poultry			Poultry											
Class Work		1. Finding out about Nature			2. Vegetable Production			3. Crops in Swaziland			4. Crop Production			1. Crop Harvesting and Storage			2. Farm Records			3. The Soil			4. Keeping Chickens			5. Cattle in Swaziland		
Agriculture is a subject for the final two years of the primary course																												

FIGURE 6 : THE PRIMARY AGRICULTURE SYLLABUS IN SWAZILAND

(d) To introduce students to farming as a business.

CONTROLLED, by Ministry of Education, through the Senior Inspector for Schools' Agriculture and the Subject Panel.

SPONSORED, in the first instance by charitable bodies. Money was obtained to begin producing units. Later, as the project grew, the books which had been supplied free at the beginning, were sold to students to cover costs. Now the units are produced and sold commercially.

Filmstrips to go with the units, were financed from British aid.

TIME SCALE: 1973-79. New three year phase now starting from 1979

SIZE AND SCALE OF THE PROJECT: Medium, becoming large. At present 42 secondary and 48 primary schools teach agriculture. It is the intention to expand into all schools eventually.

STRENGTHS AND WEAKNESSES: There are plenty of capable and interested people to press ahead with the work entailed, in a diligent and sensible manner. They have tried to produce materials as well suited as possible to the needs of Swazi students. The intention, at least, has always been good.

Speaking with hindsight, one weakness is that there has been no real development from the original work in terms of format and style, merely revision of sections of the text. The units are good in the way they cover a wide range of topics, in presenting quite complex material simply but a "question and answer" technique is employed throughout which may be repetitious and therefore boring. More seriously, there is too much "spoon feeding" and not enough "discovery" in the course. Something on the basis of Nuffield Science is called for, with well structured assignments, stage-managed by the teacher using a good handbook, but still with an emphasis on "lets find out".

We have found that poorer teachers use the books badly, as a crutch for their own support, making the children read and learn by rote what is written there. The books rather lend themselves to this treatment, unfortunately.

For all their faults .... they have done a very effective job over the years.

Lastly, we have been remiss in not taking the initiative in co-operating with the Curriculum Unit. This was largely an historical accident, in that we had produced materials before the CU was effectively

	FORM 1			FORM 2			FORM 3		
	Term 1	Term 2	Term 3	Term 1	Term 2	Term 3	Term 1	Term 2	Term 3
	J F M A	M J J A	S O N D	J F M A	M J J A	S O N D	J F M A	M J J A	S O N D
Vegetables	Sow	Harvest							
Crops						Sow	Harvest		
Animal Husbandry				P O U L T R Y Layers and Broilers			R A B B I T S		
Classwork (Units)	1. Plants and Man 2. Vegetable Production	3. Farm Records 4. Cattle in Swaziland	5. Soil and Conservation 6. Forestry	7. Crops in Swaziland 8. Poultry Production	9. Pasture Management 10. Farm Business	11. Plant Growth and Environment 12. Crop Production 13. Soil Conservation	14. Animal Husbandry 15. Crop Harvesting and Storage 16. Nutrition	17. Farm Tools and Machinery 18. Development Agencies	Revision
Practical	Award Marks e.g. Layout of Plots Careful Sowing and Spacing. Thinning and Weeding			Assess Work on Swaziland	Assess Work on Poultry	Assess Crop Plots	Assess Work on Rabbits		
Assessment Theory	Test after Each Unit	School Exam	Test after each Unit			Mock Junior Certificate	Revision	Certificate Exam	

FIGURE 7 : SWAZILAND'S MODERN AGRICULTURE SYLLABUS - SUMMARY CHART

established. The time has clearly come for close co-operation.

## FIJI

### Modern Studies

Fiji's Modern Studies exemplifies concern with relevance in agriculture. The project was started in 1973 and is still at the trial stage. A number of schools are added each year. There are now forty-eight trial schools scattered all over Fiji, in urban as well as rural areas. By 1980 it is expected that all secondary schools will be able to run this programme.

#### Aims and Objectives:

The main purpose of Modern Studies is to make secondary education more relevant to the future lives of most children. It is a new approach to make life more meaningful.

The course consists of two strands:

(a) **Basic Topics:** This aims to introduce students to certain basic economic and commercial concepts and skills that have application in economic development. The criterion of greatest importance in selecting basic topics is their universality in economic life.

(b) **Projects:** The principal aim here is to provide opportunity for students to study and participate in projects of particular relevance to their environment. It also aims to re-inforce in a practical way the work done in Basic Topics and also to demonstrate how basic biological and other scientific ideas can be applied to improve plant and animal production.

In Form Three a small project - "The Living Soil" - is studied. It aims to give students an appreciation of the importance of soil for food production.

In Form Four each school selects one project for study. There are five projects:

- (a) Growing Meat Chickens.
- (b) Growing Vegetables for Profit.
- (c) Growing Dalo for Profit.
- (d) The Coconut.
- (e) Profit in Plant Nurseries.

All these are rural-orientated but can be easily adapted for urban situations, as has been done at Dudley and Tilak High Schools.

## TECHNOLOGY

Manpower needs are reflected in the emphasis on technologically-based technical and "practical" subjects in the secondary curriculum. Tanzania has schools "biased" strongly towards technical subjects. Sri Lanka makes the study of a technical subject compulsory at lower secondary level.

### SINGAPORE

Singapore reports:

Technical education and industrial training have been greatly expanded to meet the manpower needs of the fast developing industrial sector. Despite the stress on the teaching of mathematics, science and technical subjects introduced in 1959 preference for an academic education and reluctance to train for blue collar jobs have resulted in an inadequate number of operatives, craftsmen and technicians. Consequently the Government introduced in 1969 a new common curriculum for the first two years of secondary education. More than four times the number of students will receive technical education beyond the first two years.

However, metalwork and woodwork (for boys only) is normally outside school hours. Mathematics, general science and physics, physical science or engineering science are compulsory examination subjects. Eight out of nine elective examination subjects are technically biased. In the non-technical stream one science or health science or home economics are the technically-based compulsory examination subjects. Among elective subjects in the non-technical stream basic sciences and mathematics are offered. Figures 5, 6, and 7 indicate the allocations for technical subjects.

### NIGERIA

#### Technology for Secondary Schools

The Nigerian Federal Ministry is also keenly aware of manpower needs for its expanding industrial base. In collaboration with the Ogun State Ministry of Education it sponsors a project managed by the Comparative Education Study and Adaptation Centre of the University of Lagos (CESAC). CESAC pilot-tested a project Technology for Secondary Schools between 1967 and 1973 and is now expanding it. The project objectives are:

- (a) To provide technological literacy to all pupils at the lower forms of secondary schools.
- (b) To provide skills to start a life of work.
- (c) To provide orientation for higher technological studies.

The project is proving worthwhile in terms of its first objective but is hampered by:

The capital costs for workshops, equipment and lack of teachers. (It) requires careful planning to synchronize needs and their provision.

FIGURE 8 : THE COMMON SECONDARY I AND II CURRICULUM  
SINGAPORE

	No. of Hours per Week*		
	Boys	Girls	
		Taking Technical Subjects	Not Taking Technical Subjects
First Language and Literature	5	5	5
Second Language	3¼	3¼	3¼
National Language	1¼	-	1¼
Mathematics	3 <sup>1</sup> / <sub>12</sub>	3 <sup>1</sup> / <sub>12</sub>	3 <sup>1</sup> / <sub>12</sub>
General Science	3¼	3¼	3¼
Physical Education	1¼	1¼	1¼
Civics	⅔	⅔	⅔
Assembly	⅔	⅔	⅔
History ) ) Geography)	2½	2½	2½
Home Economics	-	1¼	**3
Art and Crafts	1¼	1¼	1¼
Music/Singing	7/12	7/12	7/12
Technical Drawing	1¼	1¼	*** (1¼)
Metalwork ) ) Woodwork ) ) Basic Electricity)	**3	**3	-
TOTAL	28	28	28

\* Minor adjustments are made by schools where necessary

\*\* Normally outside school hours

\*\*\* The principal has the discretion to allocate the time to history and geography or to any other subject other than general science and home economics

FIGURE 9 : THE REVISED SECONDARY III AND IV CURRICULUM

TECHNICAL STREAM - SINGAPORE

Subjects	Periods* per Week	Hours per Week
<p>A. Compulsory examination subjects</p> <ol style="list-style-type: none"> <li>1. First Language</li> <li>2. Second Language</li> <li>3. Technical Drawing</li> <li>4. Elementary Mathematics</li> <li>5. Physics or Physical Science or Engineering Science</li> </ol>	26	16½
<p>B. Compulsory non-examination subjects</p> <ol style="list-style-type: none"> <li>1. Civics/Current Affairs</li> <li>2. Physical Education</li> <li>3. Assembly Talks</li> <li>4. Musical Appreciation/Singing</li> </ol>	<p>6</p> <p>2) 2) 1) 1)</p>	4¾
<p>C. Elective examination subjects</p> <ol style="list-style-type: none"> <li>1. Additional Mathematics</li> <li>2. Physical Science **</li> <li>3. Engineering Science</li> <li>4. Physics</li> <li>5. Chemistry</li> <li>6. Woodwork***</li> <li>7. Metalwork***</li> <li>8. Electricity and Electro- nics***</li> <li>9. Literature/History/Geography</li> </ol>	9	6
TOTAL	41	26

\* A period will last 35 or 40 minutes

\*\* C2 may not be taken with C4 or C5

\*\*\* One only of C6, C7 and C8 must be taken

FIGURE 10 : THE REVISED SECONDARY III AND IV CURRICULUM

NON-TECHNICAL STREAM - SINGAPORE

Subjects	Periods per Week	Hours per Week
<p>A. Compulsory examination subjects</p> <p>1. First Language 2. Second Language 3. Literature or History or Geography 4. A Science subject or Health Science or Home Economics 5. Elementary Mathematics*</p>	26	16¼
<p>B. Compulsory non-examination subjects</p> <p>1. Civics/Current Affairs 2) 2. Physical Education 2) 3. Assembly Talks 1) 4. Musical Appreciation/Singing 1)</p>	6	3¾
<p>C. Elective examination subjects**</p> <p>1. Literature 2. Geography 3. History 4. Bible Knowledge*** 5. Islamic Religious Knowledge 6. Third Language 7. Additional Mathematics 8. General Science" 9. Physical Science"" 10. Physics 11. Chemistry 12. Biology 13. Art and Crafts 14. Music 15. Needlework and Dressmaking 16. Cookery 17. General Housecraft 18. Health Science 19. Commercial Studies """" 20. Commerce 21. Principles of Accounts</p>	9	6
TOTAL	41	26

\* Elementary mathematics is optional for students taking a total of 6 examination subjects

\*\* Special approval is required for 3 electives. Furthermore, not more than 2 science subjects (including A4) are to be taken

\*\*\* C4 may not be taken with C5

" C8 may not be taken with C9

"" C9 may not be taken with C8 or C10 or C11

"""" C19 may not be taken with C20

## FIJI

### The Industrial Arts Programme

Fiji's course in Industrial Arts is an approach which aims to provide a broad and relevant curriculum through the inclusion of a wide range of specialist topics. These are technical drawing, descriptive geometry, art and metalwork, machinery and industrial process, sheet metal fabrication, electro-electronics, fitting and machinery, power mechanics, plastics, lipidary, home maintenance, boat building, ceramics, foundry and forge, welding, engineering mechanics, material science, history of technology, leather work, indigenous craft, graphic arts, photography, building construction, cabinet making and wood carving. Currently the programme has reached form two in its national implementation after extensive trials. It is expected to reach a national scale by 1981.

## POPULATION EDUCATION

### BANGLADESH

The population Education Programme in Bangladesh is closely related to the needs of a predominantly rural country most of the population of which works on the land in subsistence agriculture. With a very high rate of population growth and a very youthful population, Bangladesh has a wide ranging family planning programme. As a contribution to this the Population Education Programme was begun in 1976 with the purpose of preparing population education material and teachers' guides for all schools and for training the teachers. Once the programme is completed, fifty-eight thousand teachers and educational administrators will be involved in the programme from Class Four of primary school and throughout the secondary level. Population education is being introduced into other subject areas and by 1980 will be taught from classes four to six.

## WORLD OF WORK

Emphasis on science, maths, agriculture and technology is part of the pervasive efforts of Commonwealth countries to adapt school curricula to prepare students for productive work; work in a job-scarce world which may not necessarily be wage employment. As we have seen, some countries are making great efforts to encourage student participation in pre-vocational and vocational subjects. Many of the case-studies above are of course relevant to the world of work but they are essentially school-based and do not necessarily involve the students in contact with actual work experience. Unless a number of countries have failed to comment on such schemes there appears to be a lack of projects of this latter sort. If this is so, it may reflect the obvious difficulties inherent in organizing and running them, or other factors which need investigation.

### ST LUCIA

Home Economics and Craft Teachers' Course in Project Preparation and Management

#### Objectives:

It is expected that, through the training, teachers will be competent to undertake projects in schools and expose pupils to the relevant features of economic life in general and project undertaking in particular. As a result of these studies, therefore, the teachers are expected to develop awareness of:

- (a) A clearer link between education and economic life.
- (b) The potential roles of Home Economics and Handicraft towards the manufacturing of primary products.
- (c) The general, as well as the specific nature and demand of manufacturing and commercial life.
- (d) The role of the community in curriculum development and employment possibilities.

The course incorporates lectures and seminar work at the technical Teacher Training College, attachments with four separate manufacturing enterprises, and the writing of course papers at local bases, the Junior Secondary Schools.

The course is controlled by a Co-ordinator with the support of the Planning Unit of the Ministry of Education.

Teacher training is sponsored by the Ministry of Education in three stages:

First Stage: In-school preparation of students sponsored by the Ministry of Education.

Second Stage: A Work/Study Phase, to be sponsored by the Ministries of Community Development and Labour.

Third Stage: The full Production Phase, to be sponsored by Ministries of Agriculture and Trade.

Time Scale: Project First Round

- (a) Teacher Training - 1979-80.
- (b) School Project Implementation Phase - 1980-81.
- (c) Work/Study Phase - 1981-82.
- (d) Full Project Implementation Phase - 1982-83
- (e) Final round ends - 1989-90

Size and Scale of Project:

Growing from small to large, First round - 180 students, Last round - 5,188 students.

This is one of the few schemes in operation which involves work experience. (Grenada is currently planning a work/study scheme but details are not yet available). The St Lucia scheme is noteworthy for a number of features. First, its emphasis on project preparation and management training for teachers as a priority, in a curriculum which demands a new role for the teachers; secondly, the sharing of responsibility between three ministries; thirdly, the implicit concern it may generate for the training of girls.

## SRI LANKA

### Field Work Centres

Objectives:

These centres are being organized to reinforce the objectives of secondary level education, through out-of-school, non-formal education, by-passing the constraints in the formal system like curriculum, examination requirements, timetables and certification.

Each centre is developed on different lines and they are primarily designed for up-dating and re-training youth for community leadership.

Location

- A. Thondaimannar Field Work Centre - Northern Region, mainly rural but includes an urban sector.
- B. Kegalla Field Work Centre - Kegalla District in the Central Province situated in a rain forest area and mainly directed towards the problem of conservation.
- C. Horana Field Work Centre - Kalutara District in the Western Province, situated in the wet zone,

deals with the problems in a rural environment.

Centre A, is controlled by a non-government agency supported by the Curriculum Development Centre (CDC) and the Regional Education Department.

Centre B is controlled by the CDC.

Centre C is controlled by the Regional Education Department supported by the CDC.

Centres A and C are sponsored by the respective Regional Education Departments.

Centre B is sponsored by the CDC.

Centre A started in 1968 and is continuing.

Centre B started in 1976 and is continuing.

Centre C started in 1979 and is continuing.

All the projects are small scale ones.

The Thondaimannar Centre has been able to develop a variety of programmes for implementation at the regional and national level and also establish international links. The other Centres are still in the process of development.

The Sri Lanka project is exceptional in that it is centrally concerned with out-of-school youth. As we have seen, Sri Lanka places great emphasis in school education on;

imparting knowledge and skill that would equip and facilitate a young person to participate in socio-economic activities.

as well as;

facilitating the fullest growth and development of a student's personality.

In a context where one quarter of the labour force was unemployed in 1977 the continuing education and training of young secondary school leavers, who form a high proportion of the population, is essential if their talents are not to be wasted.

The teaching of vocational/technical subjects at an advanced level of sophistication to school leavers is one of the main programmes of non-formal education and this is proliferating fast ... they are becoming very popular with the youth ... The instructors for these programmes are drawn from the community. (Ministry of Education, Sri Lanka, Country Report, for 4th Regional Conference of Ministers of Education and those responsible for Economic Planning in Asia and Oceania, organized by UNESCO with the co-operation of ESCAP, Colombo 24 July - 1 August 1978).

Work Experience

Throughout the 1970's in England and Wales there has been growing recognition by schools and industry of the importance of work-related studies for the secondary schools. The factors behind this are the increasing economic difficulties, the low productivity of industry, structural unemployment which badly affects school leavers and severe shortages of scientific and technological manpower.

(a) Local Initiative

After the school leaving age was raised to sixteen, the Education (Work Experience) Act 1973 gave positive direction to schools to involve their students in the final year of compulsory schooling in work experience. Following the national debate on education in 1976 the Department of Education and Science (DES) stressed in a consultative Green Paper, Education in Schools, (HMSO, July 1977, p. 34-35) that "the key to better understanding (between schools and industry) lies above all with local initiative." It went on to suggest possibilities:

- (i) People with experience in management and trades unions can be appointed as governors of schools.
- (ii) Industry and commerce should be involved in the curriculum planning process at national and local level ....
- (iii) Employers and trade unions ... can make significant contributions to careers education and to improving understanding of productive industry by offering opportunities for work experience and work observation. Every effort should be made to make full use of such activities and relate them properly to school programmes.
- (iv) Employers can offer serving and potential teachers opportunities to gain experience of working in industry. They can also foster direct contacts between their own staffs and teachers in local schools, and those in education should encourage employers to participate in this way.
- (v) These contacts should be planned in particular to widen the career horizons of women.
- (vi) For pupils continuing their education liaison between schools and universities and polytechnics can help to develop subject interest and open possibilities for further study. This is especially relevant in engineering which, while it is not taught in schools, is obviously of industrial and national importance ....
- (vii) Close liaison between schools and colleges of further education is valuable ....

(viii) Pupils should have the opportunity ...  
of taking part in linked courses ....

Young people need ... a basic understanding of the  
economy ... especially manufacturing industry .....

It is for local education authorities, schools and  
industry to get together and decide which proposals suit  
them best: This is an area where no amount of central  
direction can take the place of local initiatives.

In November 1977 the DES issued a circular, Local Education Authority Arrangements for the School Curriculum (Circular 14/77 DES and Circular 185/77 Welsh Office) which asked all LEA's to carry out a review of curricular arrangements with regard, among other things, to preparation for working life. In 1978 the DES reported that a number of LEA's had established links with industry and commerce. The DES suggested that LEA's should consider establishing liaison committees aimed at broadening mutual co-operation between industry and educational institutions.

(b) Research into Work Experience

In January 1979 the DES issued a list of current educational research projects which it is supporting, some jointly with the European Economic Community. A fair number of these are concerned with the transition from school to work. The DES does not conduct these projects itself but invites institutions and individuals to apply for sponsorship of policy-related research. Some of these are:

(i) School-Based Project: Transition from School to Working Life

An examination of the problems of the lowest forty percent of the ability range during the last two years of compulsory schooling and in the first year out of school.

(ii) Transition from School to Working Life: Bridging Programme

To improve co-operative educational provision by the Inner London Education Authority (ILEA) colleges and schools for under-achieving fifteen to nineteen year olds.

(iii) Development of a Job-Knowledge Index

To assess the feasibility and evaluation of professional and technician level occupational group indices. To complete as many indices as will be needed to test their feasibility and usefulness to practitioners.

(iv) Special Needs of West Indian and Asian Young People

To develop a one-year programme to meet the special needs of West Indian and Asian young people who are unemployed or leaving school.

(v) Community-Approach to the Transition of Young People from School to Work

To facilitate and monitor the use by schools of community resources applicable to students' needs in coping with their future transitions and to gather information on how they use such provisions at various transitional stages.

(vi) Individual, Family and School Influences on the First Year of Employment

A longitudinal study relating data on employment with family characteristics, scholastic attainment, behaviour at school and characteristics of schools attended.

England and Wales share with a number of other countries a concern not only with the transition from school to work but also with curricula throughout the school which increase students' knowledge about possible careers open to them.

## CANADA

### Careers Education: Manitoba

In Manitoba an administrative structure will be established by the Department of Education in the near future to co-ordinate, develop and articulate a comprehensive programme on career development from kindergarten to grade 12. The prime purposes of such a structure will be:

- (a) Close co-operation between educators and labour and industry to keep abreast of up-to-date information and the promotion of federal-provincial co-operation.
- (b) An increase of linkages between school and the world of work and an involvement of outside expertise as learning resources for students.
- (c) The improvement of communication between all agencies and consequent dissemination of information, including research information to schools.

Important components of this comprehensive programme will include:

- (a) The development of a "scope and sequence" chart which outlines which career development tasks/needs are appropriate, at which grade levels through the school system.
- (b) The integration of occupational awareness, exposure, and experience into all appropriate grades, making use of volunteer or work education programmes.
- (c) The development and provision of alternative opportunities; including training, work education, and individualized curricula, for all students.

Some of the questions arising from the experience of countries in terms of the relationship of secondary schools with the world of work are:

- (a) What basic pre-vocational knowledge and skills will be useful to the student and what ones are most appropriately learned in school?
- (b) How are these best taught?
- (c) How can positive attitudes be created towards manual, rural blue-collar and technological work?
- (d) How can the students of below average ability be helped to cope with the world of work and to make the most of the opportunities open to them?
- (e) How may all students be made aware about the real range of opportunities open to them and be helped to make sensible choices?
- (f) How may employers, employees and the community become aware of the help which schools and industry can give each other and how can schools involve them in the education of school leavers?

## SCHOOL AND COMMUNITY

While no country would claim to have solved the problems of the relationship between schooling and the world of work there is concern about it and a consensus that a closer relationship between schools and industry/agriculture is important. In contrast, where the relationship between the school and community is concerned, there is considerable difference of opinion about the wisdom of closer co-operation. In many countries official policy is to encourage school community links but it is evident from the paucity of projects in this field that this is not easy. Other countries maintain a general policy of keeping the school and the community at some distance from each other.

There is moreover, some diversity in the interpretation of the concept of the link between school and community. Pressures for efficiency, accountability and relevance are all themes which recur in discussions of the issue. The community school can mean that the students and teachers should serve and encourage the local community through productive work. Productive work in the community may be seen as a way of involving school leavers in (rural) communities and preparing them for a useful life in the area. The multiple use of a school's facilities by the community is a way of achieving most-saving economies of scale. Community management of schools increases the school's accountability. Lastly, a school closely linked to the community in terms of its management and curriculum is more likely to meet the demands for relevance.

### SRI LANKA

Sri Lanka is officially committed to the spirit of community involvement in schooling. Members of the community participate in teaching, particularly in technical and vocational fields. Both urban and rural communities sometimes contribute land and buildings for their children's education.

Such support is however evident more in schools already considered as favoured.

Sri Lanka expects that the decentralization of education under the scheme for the institution of District Ministers, will lead to greater support from the people.

No special incentives appear to be necessary for the most part to involve people in education or to mobilize their resources. What appears to be wanting is the capacity of the system and the capacity of officialdom to respond adequately.

### TANZANIA

In Tanzania, in accordance with the spirit of Education for Self Reliance, schooling at the primary level is run by and for the local community. Schools take a pride in maintaining themselves (apart from teachers' salaries) by productive labour and every student has to do some productive work as part of his training. In most schools three hours a week are devoted to practical work. The concept of the community school has not till now been adapted to the secondary school although the idea that the students should serve the community in the wider sense permeates the educational system. Nevertheless, the fact that community schools are easier to establish and to conceptualize at the primary level is a reflection of the fact that secondary schools are everywhere expected to prepare students for life at the national level. Secondary schools, moreover, often serve a wide catchment area which serves many "communities".

Secondary School Community Education Project

Between 1965 and 1975 secondary education in Papua New Guinea has been developed almost from scratch. This has meant a four-fold increase in enrolment. The provincial high schools cover four years of secondary education in two cycles. In Grades Seven and Eight students are intended to acquire positive attitudes towards agriculture, manual work and life in a rural setting and preparation for active participation in rural development. In 1979 five schools have become part of the Secondary School Community Education Project (SSCEP). In the selected schools students will continue into grades nine and ten. Practical courses will be added to these grades. Project documents from a Curriculum Unit seminar in July 1979 are quoted fairly fully. The reasons for the project are outlined thus:

Why SSCEP?

- (a) Declining employment opportunities coupled with expanding secondary system.
- (b) Problems experienced by school leavers in applying classroom learnings to village life.
- (c) Social adjustment problems of "drop-outs".
- (d) Growing dissatisfaction with system as voiced by community leaders, politicians and teachers.
- (e) Aims set by National Government specify more direct relationship between school learnings and community application/development.
- (f) Present "elitist" system emphasizing "academic white collar" orientation versus felt need for "home grown" system respecting Melanesian egalitarianism and development relevance.

The Aims of the Project:

- (a) To produce graduates who are aware of the relevance and usefulness of subject studies in solving personal and community development problems after leaving school.
- (b) To produce graduates who are less estranged from their home community than at present.
- (c) To produce graduates with basic technical skills appropriate to the needs and resources of their home community.
- (d) To produce graduates with attitudes and skills more closely in harmony with the Government's stated objectives for social and economic development,

especially in rural areas.

(e) To better prepare students who are unable to secure further training or salaried employment for return as a useful citizen to his rural home.

(f) To at least maintain the intellectual achievement levels of students.

What SSCEP does not attempt

(a) To change present syllabi.

(b) To force students to return home to rural community.

(c) To change student attitudes towards the "carrot" of urban employment.

(d) To produce experts in any practical or technical field.

(e) To prevent students from entering higher level studies.

(f) To produce graduates who will immediately become successful entrepreneurs.

(g) To produce graduates who will immediately assume leadership roles in the rural community.

The heart of the scheme is the idea of the core project through which:

(a) Intellectual skills from existing syllabuses can be taught in practical situations without causing a decline in the learning of those skills.

(b) Topics and skills in the existing syllabuses can in many instances be more closely related even in the classroom situation to the student's life and needs.

The core projects are designed with four main purposes in mind.

These are:

(a) To provide a vehicle for developing intellectual and practical skills simultaneously.

(b) To demonstrate to students that "classroom intellectual skills" are in fact relevant to practical situations and therefore to their lives in their communities.

(c) To serve as a structured means of providing concrete examples for use in the classroom teaching of syllabus topics and skills.

(d) To constitute a "core" which will serve as a basis for organizing and sequencing skills and topics in the core subjects.

Several core projects are being selected by individual schools according to these criteria:

- (a) Relevance to student needs.
- (b) Relevance to community needs.
- (c) Availability of land, money and materials.
- (d) Availability of technical and managerial expertise.
- (e) Suitability as a means of developing a wide range of intellectual skills which reinforce the existing curriculum.

Planning the core projects as controlled learning experiences for students follows the same basic principles as the curriculum development process:

- (a) Precise identification of desired outcomes (behaviours) in terms of intellectual skills, project technical skills, knowledge items, attitudes and problem-solving skills.
- (b) Careful planning of sequenced learning experiences to be undergone by the students in order to develop the desired behaviours.
- (c) Design and application of appropriate assessment devices in the various areas of desired outcome to ascertain extent of student achievement and therefore the suitability of the planned learning experiences.

The organization for planning the core projects is as follows:

- (a) Detailed planning guidelines are provided by headquarters staff.
- (b) Headquarters staff monitor all project planning.
- (c) School co-ordinators supervise project planning in each school to ensure balance and to avoid too much duplication of emphasis.
- (d) SSCEP project teachers (usually) in charge of planning individual projects.
- (e) Groups of teachers representing the four core subjects plan the project's learning experiences and select syllabus skills under the guidance of the project leader and in accordance with general project development guidelines.

The basic approach to teaching within the project framework is: Involve students actively in all phases of the project from planning through implementation to analysis by posing issues and developing problem-solving abilities .... do not merely disseminate information and use students as project labour.

Timetabling and staffing:

(a) Yearly: Core projects vary in length from a few weeks to an entire year, and more than one core project may be in operation at the same time. The actual timing is less important than having a finished plan which can therefore serve as a basis for curriculum planning.

(b) Weekly: Approximately 12 periods of project time has been made available in the SSCEP schools by re-arranging periods from agriculture, practical skills and the core subjects. It is important to note that reduced core subject class time does not mean reduced time for covering topics and skills since the time has been merely allocated to the core projects for the same usage; i.e. basic skill development.

(c) Staffing: Core project planning involves groups of teachers from various subject areas. The actual implementation and teaching of the projects will be done by the SSCEP project teachers, or perhaps in some cases by regular teachers with project skills whose regular subject-teaching load will be reduced.

Schools have selected projects and have begun their project planning. The initial steps (selection, logistics analysis, suitability for various criteria) were conducted during the one-week SSCEP workshop. The details of planning are underway but will not be completed until the end of fourth term at the earliest.

While the concept of the core projects is clear and while the steps of core project planning are clear, there remain numerous constraints which will have to be resolved in practice ... but such is the nature of a developmental project:

(a) Difficulty of task: Teachers are often accustomed to being involved in projects, but planning them as structured and carefully developed learning experiences for students is a novel approach. It is a difficult and demanding task to carry out. Even with intensive guidance, teachers will encounter problems... but the SSCEP headquarters team are operating on the assumption that for the core projects to be successfully implemented and developed in a school, the staff of the school have to be intimately involved in the planning.

(b) Time available: Difficulty aside, the time for the task has to come from somewhere. The normal school requirements, not to mention the demands of SSCEP in other areas, compete with project planning time. The pace of

planning will undoubtedly be slow and the product will very likely need considerable improvement. However, it is considered essential to pay the price of slow development for the sake of increased teacher planning skills.

#### Long-term implications

The Education Department has not yet determined what its policy will be on the dissemination of SSCEP. Such determination is, of course, premature until more is known about the success of the present strategies in terms of achieving SSCEP objectives.

Whatever the policy may be, the present approach of SSCEP is heavily based on intensive in-service work with teachers in SSCEP schools. There is no viable alternative. If a school is to plan its curriculum around preparing its students for life in the surrounding area, the curriculum must to a large extent reflect community conditions and must therefore be tailor-made for the school. Furthermore, the types of educational objectives which SSCEP stresses (problem-solving, application of knowledge, etc) require a special kind of teaching. These objectives cannot be achieved without training teachers in appropriate teaching styles.

The consequence is that SSCEP is likely to succeed only in a situation where large amounts of in-service support and curriculum advice are available. This means money. And money for implementing SSCEP in a large number of schools may not be available ... however successful the pilot schools may have been. The pilot project will result in a "streamlined" set of strategies which will no doubt lessen the degree of intensity required in further implementation in the future. However, further implementation in great depth may be restricted for financial reasons.

## CITIZENSHIP

A theme closely related to the external efficiency of the school system is the need for schools to foster national integration and civic virtues. As we have seen a number of countries have re-designed their history, geography and social studies syllabuses in conformity with national goals.

## NIGERIA

### Social Studies

The Nigerian Federal Ministry of Education in co-operation with CESAC has been piloting a Social Studies Curriculum for secondary schools. It is a large scale project which is thought to have high potential. Its objectives are:

- (a) To develop a positive sense of co-operative, social and moral responsibility.
- (b) To promote national identity and integration within Nigeria's historical origins and inter-related cultures.
- (c) To foster a basic understanding of the nation's developmental process through the study of the physical environment, social and political institutions as well as the national economy and how it is related to other economies.

At this early stage the scheme suffers from a lack of trained teachers but efforts are underway to remedy this.

## TONGA

### Social Science

Tonga participated along with other South Pacific countries in the UNDP/UNESCO Secondary School Curriculum Project which ended in 1975. Its aim was to provide a basic four-year course in the whole curriculum. The Social Science materials which had been developed up to Forms Two and Three were not wholly acceptable in Tonga. However, the training offered by the project,

... gave many countries, of which Tonga is one, confidence in their teachers' abilities to develop their own curricula tailored to their own needs.

Tonga is currently re-developing its own social science curriculum through Forms One to Four. In Tonga, as in Nigeria, the problems of the teacher in adapting to new courses are readily appreciated:

The geography teacher now finds he has to understand the fundamental concepts from other social science disciplines such as sociology, anthropology, economics and politics. (From Curriculum Development Officer, Curriculum Development in Tonga then and now, Appendix F to Questionnaire).

## MALAYSIA

### New History and Civics

Malaysia has a programme of teacher preparation to accompany the introduction of its new history and civics curricula into the schools.

To prepare teachers towards the implementation of these curricula, in-service courses are held at both national and state/district levels. At the national level, teachers/key personnel are trained by officers of the project with the help of other divisions of the Ministry of Education and the Curriculum Development Centre. These key personnel in turn will train teachers at the state/district level. The duration of these in-service courses is between twenty-five and thirty hours. Prior to implementation pilot studies are also carried out in some schools. These are to find out areas of difficulties and the needs of teachers. Support materials in the form of teachers' handbooks and teachers' resource books are also undertaken to help teachers implement the new syllabus.

The history syllabus introduced in form one and progressively to Form Three by 1980, is a compulsory subject in the Lower Certificate of Education. Its objectives are:

- (a) To create a national consciousness and identity through the history of Malaysia.
- (b) To develop a sense of belonging to society and the nation as a single entity.
- (c) To create a collective historical memory as a means towards national consciousness among the people of Malaysia.
- (d) To cultivate international understanding.
- (e) To arouse interest in the learning of history.
- (f) To evoke and develop critical thinking.

In 1975 Malaysia introduced a non-examinable but compulsory civics syllabus. This was to be implemented up to Forms Four and Five by 1979. The objectives of the civics syllabus emphasize the determination of the Malaysian government to gear the education system towards fostering the goals of national unity made explicit in its national ideology. Its objectives are:

- (a) To transmit information/knowledge concerning a multi-racial nation and society.
- (b) To cultivate desired and positive attitudes of a responsible citizen.
- (c) To develop favourable behaviour in line with the aspirations and principles of the national ideology.

## AUSTRALIA

### Social Studies: Western Australia

In 1975 Western Australia's Social Studies Syllabus Committee focused on:

- (a) The identification and sequencing of the skills and concepts fundamental to social studies.
- (b) Seeking a clear articulation between primary and secondary courses to ensure that there were no unnecessary over-laps in content and that progress from year to year was both rational and developmental.

One of the difficulties that has emerged is the problem of agreement as to what constitutes an essential core of social studies knowledge. Opinions cover a broad continuum from the impossibility of identifying an essential core knowledge, to a preparedness to name specific facts seen as essential. Similarly, the identification and method of incorporation of skills into the content has presented difficulties.

Paralleling these debates is the issue of the values inherent in social knowledge. Conscious attempts have been made to consider the types of values contained in the syllabus content and several differences of opinion have emerged as to how these can best be handled.

Since the initial meetings in 1975, the syllabus has undergone a series of stages involving writing, rewriting, controlled exposure and response from selected school personnel. From here the projected programme is as follows:

- 1979 Distribution of limited copies of the draft to all schools.
- 1980 Conduct of syllabus trials in a small number of selected schools.
- 1981 Reviews, rewrites, reprints.
- 1982 Full implementation in all state schools.

## ENGLAND AND WALES

### Political Education

The Programme for Political Education in England and Wales was conceived not necessarily as a distinct subject with a syllabus of its own but as a conceptual contribution to many subjects such as history, geography, economics, English and religious education. The programme was designed to remedy some of the defects of traditional approaches to civics and government courses which emphasize political machinery or political philosophy at the expense of real issues.

The programme was introduced in the context of a society which is increasingly participatory.

The school curriculum would be wise to recognize this and to increase the likelihood of responsible participation by supporting it with knowledge and an informed understanding of the potential, and the limitations, of the contribution of individuals to their own government. (Department of Education and Science, Curriculum 11-16, Working papers by HM Inspectorate: A contribution to current debate, December 1977, p.56)

The content involves three areas, which according to the basic concept of the programme are:

- (a) Understanding of the machinery not only of central and local government but also industrial relations, the education system, and the contribution made by pressure groups.
- (b) Understanding of issues over which people disagree. Disagreement may be over goals, over values or over results.
- (c) Knowledge of the groups who are involved in political decision-making including regional, economic and ethnic differences. Insight into the potential (and) the limitations of political action.

Concepts (are seen as) tools of analysis and a necessary bridge between mere political knowledge and political understanding. Which concepts are present in a syllabus will depend upon objectives and the issues of current importance.

The most important attitude to develop for political competence in a democracy is toleration, not only the acceptance but the welcoming of diversity in society. Another political attitude is an acceptance of compromise and open-mindedness.

In order to develop these attitudes certain skills and abilities are necessary; the ability to find evidence and evaluate it, to identify slanted interpretations and bias and the ability to understand and appreciate the predicaments and points of view of other people.....Reason and logical thinking must be at the heart of political behaviour. (Ibid. pp. 5607)

The Political Education Programme is indicative of an approach, therefore, which emphasizes political competence and understanding in a democratic and pluralistic context.

## Special Needs

A significant number of projects are concerned with the capacity of the educational system to enable special categories of students to achieve their potential at school.

### GUYANA

#### Remedial Reading Project

Guyana's expansion of educational opportunity in 1976 has led to concern with the quality of educational provision for students who are failing to achieve literacy. In 1977 the Remedial Reading Project for the Community High School Programme was begun. Its objectives are:

- (a) To produce material for remedial reading in Community High Schools, especially for form one students.
- (b) To "marry" educational theory, curriculum development and remedial education so that on account of the union, the learning/teaching act would be structured.
- (c) To apply the theory of curriculum planning to remedial work in schools.

The project is spread over the rural/urban districts and is sponsored and controlled by the Curriculum Development Centre of the Ministry of Education. In the first phase the project has a time scale of four years from January 1977 to December 1980.

The project, in its first phase is a small one. It is projected that 110 teachers and 3,300 students from each education district in Guyana would be involved by 1980.

#### Features:

The STAR Reading series is a Reading/Language Arts programme which is being developed. It is intended that adequate scope be given to reading skill development and this will be sequentially documented so as to produce a manual for teachers and reading material for students.

The strength of the project lies in a cluster of principles among which are:

- (a) The materials have been tested and refined in school settings.
- (b) Curriculum workers, teacher-educators, teachers and pupils have been interacting so as to ensure that the results and findings are based on knowledge of subject matter and educational practices.

The weakness of the project can be listed as follows:

- (a) Lack of skilled personnel to monitor the programme.

- (b) Inadequate financial resources to provide enough materials to participants in the project.

## ENGLAND

### Slow Learners

In England between 1971 and 1974 the Schools Council initiated a project on the curricular need of slow-learning pupils. This group of pupils (the least successful fifteen percent of the school population between the age five and fifteen) are not necessarily identical with students who need help with reading but it soon became apparent that there was a particularly urgent need for a guide concerned with the reading development of students with learning difficulties. The aims of the project were to study good practice in a large number of schools. The project produced a report, (W K Brennan, Reading for Slow Learners: A Curriculum Guide, Schools Council Curriculum Bulletin: 7 Evans Methuen 1978), and a practical teachers' guide as well as many seminars with teachers' groups.

## SINGAPORE

### Gifted Students

A number of countries are investigating the needs of gifted children and ways of enabling them to reach their full potential, often in the context of mixed ability teaching and the common curriculum. From 1981 Singapore will alter the structure of its courses at secondary level in order to cater for both below average and very able students. There will be a special course of four years for the very able, a normal course of four years for the average and above and an extended secondary course of five years for the below average students.

## CANADA

### Cultural Minorities

In the Old Commonwealth, projects concerned with the special needs of cultural and ethnic minorities are numerous. In Canada, Nova Scotia initiated a Multi-Cultural Studies Programme in five schools in different parts of the province. The aim of the course is to increase understanding of the cultural traditions represented in Canadian society.

In Manitoba, the English as a Second Language Programme in Winnipeg is intended to ensure that the educational system responds adequately to the linguistic and cultural needs of non-English speaking persons. It is seen as part of the schools overall objectives for language development and is intended to help all students in attaining an acceptable degree of fluency in the use of standard oral and written Canadian English in a milieu that supports cultural diversity.

Manitoba is also running a programme for Native Education. Its objectives are:

To evaluate educational programmes designed for Native children and students in Manitoba, to recommend priorities and policies for the Department related to Indian and Metis education, and to co-ordinate the

planning, development, and implementation of Departmental programmes designed to serve the needs of Native children and students on an on-going basis.

The Native Education programme is designed to make the Manitoba educational system more responsive to the needs of Native children and students. The programme is administered by the Native Education Branch which acts as a liaison among Department branches in matters concerning Native education and also between the Department, other levels of government, and Native communities and organizations; it also assists school divisions/districts in assessing and meeting the educational needs of Native students in terms of individual and community requirements and in developing educational programmes related to Native culture and heritage.

Operating within kindergarten to Grade 12 parameters, the programme emphasizes those aspects of Native education that deal with education for Native people and education about Native people. The concern in the area of education for Native people is to respond to the needs of Native peoples - through consultation with communities, bands, schools, and teachers - by developing comprehensive educational programmes designed to meet these needs more adequately. Education about Native people focuses on programmes for both Native and non-Native students by which, through exposure to North American Native cultures, all students are provided with the opportunity to become more aware of Native cultures.

## AUSTRALIA

### Girls

In countries where secondary level education is not compulsory the enrolment of girls lags behind that of boys, with one or two exceptional cases. The trend, however, is for girls' participation to increase and to receive official encouragement. But very few reports of special programmes and projects single out girls as a target group. There is, however, one interesting example of an integration approach to the Home Economics curriculum.

### Home Economics: Western Australia

School-based initiatives in Western Australia in 1978 led to:

.. the development of Home Economics as a subject in its own right rather than as a series of skills to be imparted to lower school girls. Increasingly schools are attempting to break down the stereotype sex-role images. In this respect many schools actively encourage male students to undertake Home Economics studies. These encouragements have met with varying degrees of success as have similar encouragement of female students to undertake Manual Arts courses traditionally reserved for males.

## Standards

A number of countries are concerned about standards of achievement at the secondary level. The trend towards school-based assessment has high-lighted a need for machinery to co-ordinate standards between schools in all areas of the curriculum.

### ENGLAND

#### Assessment of Performance Unit

The Department of Education and Science set up the Assessment of Performance Unit (APU) in a number of subject areas in response to public concern about standards. The APU has the task of promoting the development and use of better forms of assessment of students' achievement, of monitoring standards and identifying under-achievement of students of all levels of ability. The APU has been exploring the application of a wide range of techniques to broad areas of the school curriculum. In some of these areas, mathematics, language and science, the stage has been reached of developing the necessary tests. Monitoring in these areas started with mathematics in 1978. One expectation of this programme is that it will co-ordinate methods of assessment and record-keeping from school to school in the interests of a student population which is very mobile.

### CANADA

#### Measurement and Evaluation: Manitoba

A project in the same vein is the Measurement and Evaluation Project in Manitoba set up:

To develop, disseminate, and interpret for government, the general public, and all Manitoba educators, on an ongoing and cyclical basis, detailed indicators of student achievement at selected grade levels in the core curriculum areas of reading, writing, and mathematics and in additional curriculum areas, designated according to priority and need, and to provide follow-up specialist support to provincial and school/school division personnel to improve student evaluation practices and school programme.

The Measurement and Evaluation Programme is a provincial learning assessment programme that provides for professional educators, various levels of government, and the general public, on-going information on the general level of student achievement and the manner in which educational programmes in Manitoba schools are meeting provincial educational objectives and the needs of students and society. Responsibility for the programme falls to the Measurement and Evaluation Branch, established April 1, 1978, which works with an Advisory Joint Committee on Evaluation (made up of representatives of the Manitoba Teachers' Society, Manitoba Association of School Trustees, Manitoba Association of School Superintendents, Faculties of Education, and Department of Education), prepares and administers via a sampling process student tests in various areas of the school curriculum, and supplies data, recommendations, and support services for programme improvement.

Implementation and Evaluation: Alberta

The Curriculum Policies Board, Alberta, has reviewed, since 1976, the total Alberta School programme and provided criteria on what new curricular proposals should be given priority among the many being made.

The Board's major concern was that all aspects of the implementation of new programmes be thoroughly evaluated. Thus, before a recommendation for programme approval was made, the Board insisted that the programme include the following elements:

- (a) Identification of specific knowledge, skills, values or attitudes at each grade or division level.
- (b) Identification of required and optional sections.
- (c) Relationship among elementary, high and senior high sections of a programme.
- (d) Identification of appropriate student learning resources.
- (e) Provision of implementation activities and resources.
- (f) Provision for the evaluation of the programme.

In addition the Board gave much thought to problems of implementation. Ensuring that school boards have sufficient time to provide teacher in-service training and to acquire the necessary resource materials before the programme became mandatory was a continuing concern. Programmes were recommended for a specific minimum time period. (Report of the Curriculum Policies Board, 1976-78, Alberta, pp. 3-4)

Since 1976 the Board has recommended sixteen new or revised programmes which proved consistent with these criteria.

## ISSUES AND PROBLEMS

In this section some of the general issues and problems arising from the foregoing survey of projects and innovations are identified. These can be considered under Information and Channels of Communication, Decentralization and Devolution, Relevance, Optional Subjects, Work Study, Citizenship and Equality of Opportunity.

### Information and Channels of Communication

Central authorities are well aware that in order to control the process of curriculum development accurate information and channels of communication are essential. In general, statistical information is growing but the survey reveals some areas where important information may not be readily available to those working in the curriculum process in ministries of education. Gaps in information are both quantitative and qualitative.

Gaps in quantitative information are in areas such as:

Teachers' levels of education and qualification.

Percentage of the appropriate age group in full-time formal secondary education and the extent of the participation in non-formal secondary education.

Numbers of drop-outs and repeaters.

Participation rates of girls.

Proportion of secondary school leavers continuing to further education of different types.

Variations from average staff-student ratios by regions, types of school, etc.

Types of non-formal educational provision offered for out-of-school youth in the secondary school age group.

Separate information with respect to all the above for lower and upper secondary schooling.

Areas where there appear to be a lack of qualitative information are:

The types of educational work in which other ministries and agencies are involved.

The ways in which the curriculum of teacher education is adapting to meet the demands of curriculum change at school level.

Local involvement in curriculum change by:

Teachers, individually or as members of teams in schools

Teachers' groups and centres

Teachers' subject associations

Materials production centres

Employers

Members of the community in general

Members of the community with specialist knowledge and skills

Parents

Co-operation between primary and lower secondary schools

Co-operation between secondary schools and further education institutions

Co-operation between schools and non-formal educational agencies

Naturally, quantitative data are somewhat easier to assemble. Nevertheless, most countries pay tribute to what they perceive as the vital contribution of teachers and others at the local level to curriculum change. Centralized curriculum control and direction is in danger of operating in a vacuum if it lacks a data base from which to guide local endeavours.

To gather data at the local level, channels of communication have to be established, institutionalized and used fully. Many countries recognize this and some have already gone a long way towards establishing them. This may be easier, of course, in smaller countries than in larger ones. But as we have seen, the 1970's has been a decade when efforts have been geared mainly to the establishment and consolidation of curriculum development machinery at the centre. In order to ensure maximum returns on this effort the 1980's, perhaps, should be a decade when strategies are devised and put into effect for opening up communication between central agencies and local personnel.

#### Decentralization and Devolution

On the evidence of the survey it is not clear whether a majority of countries consider decentralization of curriculum development to be desirable. There is a large gap between a determination to involve local personnel in the process of curriculum implementation and a desire to devolve responsibility to the local level for the complete process, from planning and design to implementation and evaluation.

As noted earlier (p. 13), a number of countries are reviewing where they stand on this issue. Within the Commonwealth there are differing traditions and contexts exemplifying different degrees and modes of control and participation. In the majority of countries it is likely that a high measure of central control will remain. The problem seems to be, rather, how central authorities can provide opportunities and incentives for local initiative and commitment while controlling the process in favour of those projects which prove most worthwhile with respect to nationally-determined criteria. The twin drives are for efficiency and accountability, harnessing local enthusiasm and relevance to central guidance and control.

A number of considerations are relevant to the formulation of policy on this issue. Sensible decisions will be made in the light of a number of crucial contextual variables. In particular, the following questions must be raised:

How far are central authorities and personnel prepared to share a measure of power and authority with local ones?

To what extent are there traditions of local participation in schooling?

Do local institutions exist which are willing and able to adapt to new responsibilities or must they be created? School managers and boards, local education officers and teachers' colleges are particularly important.

Do the teachers in a locality have sufficient levels of education, training and experience to undertake responsibilities for the various stages of the curriculum development process?

If not, do training opportunities exist? Are they up-to-date?

Are the teachers able to undertake a major and continuing commitment to extra tasks? What is the relationship of teacher supply to student enrolment? What is the effective staff-student ratio?

Are the teachers posted to a particular locality long enough to develop a knowledge of it and a commitment to it?

Are sufficient support staff for teachers available? Examples of these are supervisors, inspectors, curriculum development officers and advisers who are locally based; para-professionals whose work enables teachers to undertake new duties for curriculum development.

Furthermore, decisions in regard to these questions have to be taken within various contexts. Some of these are:

The size of the country and the efficiency of its communication network.

The size and scope of the local administrative unit.

The channels of accountability, including very importantly, methods of financing. Evaluation procedures are also indispensable.

The specific stages of the curriculum development process to be decentralized or devolved. As we have seen, teacher participation is a major mode of local involvement but their role is limited in many cases to syllabus adoption and materials production.

The formal channels of communication to be used or developed to ensure a two-way flow of information without excessive red tape.

## Relevance

A major argument for some measure of decentralization or devolution is, of course, to increase the relevance of school-based learning to the locality. Our review of the changes in the objectives and content of school subjects reveals that relevance is a major concern here too - relevance to the individual's interests and needs and, even more prominently, to national needs.

### Academic-Vocational Subjects

The distinction between "learning for its own sake" and learning for instrumental, often vocational, purposes is fast disappearing in practice. Several factors are responsible for this:

The trend towards a common core curriculum for all students, irrespective of their ability, background, expectations for the future and the type of school they attend.

The trend towards subject integration which combines traditionally distinct "academic" disciplines or concepts, in ways which are intended to lend them local and contemporary relevance.

The trend towards the identification of a basic core of "subjects" which demand, in their revised forms, the application of "intellectual" skills to practical issues. One important point here is the full recognition that basic numeracy and literacy are pre-eminently vocational - pre-requisites for full citizenship and economic participation just as much as for entry to higher education.

The trend towards a rich programme of optional subjects wherever practicable and especially at the upper secondary level. The range of options spans "academic", aesthetic and "practical" interests.

### Problems with Relevance

While the concern for relevance provides a unifying theme in curriculum change, certain issues seem problematic in almost all countries. These are:

#### Standards

How can relevance be combined with good standards? There seems to be an anxiety here that these aims are incompatible. Two points are important. One is that the logical sequence of a subject does not necessarily have to be followed in teaching the subject. Unless the needs and interests of the learner and the pace at which he can learn are taken into account in the teaching of any syllabus, true understanding, as opposed to meaningless memorization of content, cannot occur. To equate "ground covered" with "standards achieved" is a false equation. The other is that the criteria by which standards are judged must themselves be relevant to the context. Standards do not exist in a vacuum, unrelated to a context. Examinations are just one way of measuring standards in international, regional,

national and local contexts. Other criteria may exist and should be used in addition.

### Core Concepts

Related to the issue of standards is the problem of identifying what are the basic minimum core concepts and skills which are essential to the integrity of any subject? This is even more problematic where integrated studies are involved unless these are conceived as contributing towards learning skills rather than covering subject matter from each discipline.

### Teaching Methods

Most countries in principle favour "student-centred", discovery, enquiry, problem-solving techniques which tend to presume a large degree of individualized learning. This in turn demands an appropriate cultural context, suitably trained teachers and the ample human and material resource base which many countries lack. Thus teachers may struggle to implement curricula devised with "modern" teaching methods in mind even when conditions favour teacher-centred methods and a didactic approach. The knowledge base is very weak here and research is needed to decide which teaching methods are appropriate in local contexts.

A similar issue is how best to cater for the different abilities and special needs of students. Streaming may be deterministic while self-selection may tend to depress students' capacity to widen their interests and extend their abilities. Mixed-ability teaching is widely practised but methods of enabling all students, including the gifted and the slow learner, to reach their full potential, have not yet been found. Discussion of teaching methods is crucially involved with how to make learning relevant to the student and how to improve standards.

### Optional Subjects

While there is consensus that the provision of options is important there are practical problems in providing them. Major ones are the shortages of specialist teachers, teaching materials and equipment, especially in science and technology, and the dangers of over-loading the timetable. Devices for overcoming these problems are urgently needed.

A related problem is how to combine student choice with manpower needs. This is, of course, a perennial issue. A number of countries are experimenting with an element of compulsion in the study of nationally significant subjects such as science, technology, agriculture, civics and language. The expectation is that students will "discover" an interest and aptitude in subjects which they consider difficult or of low status. Another strategy is to "integrate" aspects of such subjects into broader programmes. Additionally, "flexibility" and "adaptability" can be made important objectives of any work-oriented programme.

## Work Study

There is a consensus on the vital importance of work-study arrangements but very few practical experiments and even fewer wholesale success stories are reported. This may be one issue which needs a high degree of local involvement if it is to be resolved. Significantly, the principle seems very difficult to put into practice whatever the resource-base and context.

## Citizenship

The degree to which countries explicitly write a commitment to developing student patriotism and citizenship into their curricula varies. Much depends on national style and the urgency of problems of national unity and integration. One aspect on which there is a dearth of information is the extent of student involvement in community projects and the effect on these of students' knowledge, attitudes, orientation and skills. Another important issue in most countries is to resolve the tension between the aims of civics curricula to nurture in students habits of loyalty and respect at the same time as developing in them the constructive, enquiring and critical frames of mind necessary if they are to make their contribution as involved and responsible adults.

## Equality of Opportunity

Many of the issues discussed above relate also to equality of opportunity as a national aim, but two additional points may be emphasized here.

### Differentiated Curricula

How far should particular groups of students be provided with different curricula in the interest of providing for their special needs and how far should this process go before it becomes discriminatory? This question is a perennial one which is raised with respect to rural and urban schools, students at the top and bottom of the ability range, ethnic and other cultural minorities and the handicapped.

Predictably, as secondary school enrolments rise in countries which are extending basic education, the number of special categories of students will rise. So this issue will not go away. Indeed, it may even spill over more than it does at present, to include larger numbers of secondary school age pupils who are catered for in non-formal institutions or by distance teaching.

The trend is towards a policy of common core with optional elements to cater for special needs. A great deal of skill and sensitivity is needed to devise curriculum and syllabus guidelines which are sufficiently prescriptive and sufficiently flexible to encourage both national standards and local adaptation. The key is to alter the balance from "different but equal" to "equal but different".

### Examinations

Examinations must promote efficiency and be relevant but they also have great influence on opportunities. The issues which emerge from the survey indicate how significant examinations policies are to the process of curriculum reform. The major questions are these:

How can the structure of examinations be loosened in order to enable every student to gain some recognition of his achievements even if he has to leave school before the end of his basic education?

What other methods of assessment of performance and potential are available apart from, or in addition to, formal examinations?

How can the modes of examination be developed which encourage curriculum innovation in the interests of genuine education and to the discouragement of cramming and rote-learning?

How can methods of testing (essays, objective tests, etc.) strike a balance which gives encouragement to many different aptitudes and abilities of students?

If teacher records, student profiles and locally administered tests are used, how can national standards be maintained and consistency between schools be achieved?

Does the trend towards a compulsory core of subjects mean a stronger trend towards examination of compulsory core subjects? And if so, must students pass in all of them in order to gain an award?

Must students pass or fail (in the interests of standards) or may their achievements be recorded on a graded scale (in the interests of individual differences in motivation and ability)?

Can levels of passing and failing be divorced from considerations of the levels of job-opportunities in the economy, in the interests of justice to the students?

How can teachers best be trained to devise and administer tests with imagination, versatility and fairness? How can they learn to use tests and examinations not only to test the achievements and diagnose the learning problems of their students but also to evaluate the curriculum and their own teaching?

## COMMONWEALTH CO-OPERATION

Although the 1970's was a time when individual member states of the New Commonwealth exercised increasing initiative in determining school curricula, it was also a period of growing bi-lateral and regional co-operation. Of the many different initiatives that have taken place perhaps the most common is the borrowing and adoption of subject based and integrated courses especially mathematics, science and the teaching of languages.

At the regional level, notably among the smaller states of the Commonwealth there have been a number of initiatives to co-ordinate elements of the curriculum development process. This may take the form of co-operation for the development of a syllabus for a specific subject as, for example, in agriculture in countries such as Botswana, Lesotho and Swaziland in Southern Africa. In the Caribbean a new regional examinations council has been established and in the Commonwealth Pacific a regional assessment board will now assist member states to develop their national examinations and assessment procedures. Linkages of this type often continue to draw upon the expertise of the Old Commonwealth. Institutional and examination syndicates offer advisory services where these are appropriate to self determination in the area of curriculum development.

The experience of the metropolitan countries is still valued and a number of curriculum projects, particularly in mathematics, integrated science and English as a second language, have made considerable impact. However, even in such cases, foreign models are often adapted for local use. There is now a growing awareness that innovations which suit the particular circumstances of the countries of the Old Commonwealth may not be suitable for very different conditions elsewhere. Moreover, many countries express interest in learning about the outcomes of projects from countries facing similar social and economic problems, an indication that borrowing and adoption is done with greater discrimination than in the past.

### Potential for Commonwealth Co-operation

The responses to the questionnaire suggest that there is ample scope for increased co-operation between Commonwealth countries bi-laterally, regionally and collectively. The survey has revealed that the major area of need where co-operation within the Commonwealth would be most useful is that of training.

### Staff Training

If curriculum development is to be institutionalised in order to ensure continuous progress and renewal, a major need is for training that is wide both in scope and range. One implication of this is that curriculum development should be a team effort. Consequently, all members of the team need orientation and training in order to fulfil their tasks efficiently. Thus training

must involve the following categories of personnel.

1. Curriculum development officers both centrally and locally based.
2. Inspectors, supervisors, examinations officers and advisers who oversee the work of schools.
3. Teacher trainers at both the pre-service and in-service levels.
4. Administrators at national and local levels who have the task of facilitating curriculum development.
5. Teachers identified as leaders, by schools and subject associations who will undertake curriculum development as a major task.
6. Teachers at the initial training level.
7. Teachers involved in curriculum renewal or development as part of their in-service training.
8. School managers and other interested community members.

#### Types of Training

Different members of the curriculum development team need different types and levels of training. The specific "mix" depends on local conditions. The variables here are whether the training should be: in-country or overseas, long or short, general or specific to a particular need, or whether it should be carried out by means of courses, attachments, workshops, conferences, seminars or individual study leave. In organising training programmes, the special needs of the various categories of personnel participating in them should be specially catered for. Some of these are:

1. The planning, management and administration of curriculum development for officers of central and local authorities.
2. All aspects of the process of curriculum development - planning, design, implementation, and evaluation - for teachers, teacher educators, supervisors, inspectors, advisers, examination officers, etc.
3. Teaching methods appropriate to particular syllabus designs and general aspects of pedagogy for curriculum designers, teachers and teacher trainers.
4. The design and production of appropriate learning materials and equipment for teachers and teacher trainers.

#### The Role of the Commonwealth Secretariat

The ability of the Commonwealth Secretariat to facilitate co-operation of the

type described above has been demonstrated through a number of programmes. These activities have not sought to take a broad view of curriculum development but have concentrated upon recommendations adopted at regional meetings, specialist conferences and Commonwealth Education Conferences, which relate to particular subject areas, task areas and specialist roles. For example, attention is currently focussed on the production of low cost science equipment and the role of mathematics and science teaching in response to the social and economic needs of a nation; on book production; on the role of technical education in the school and the training required for technical teachers; on new forms of teacher training including the teachers role in curriculum development; on training for educational managers including the co-ordinating role which educational administrators must play in the curriculum development process and on the subject of teaching about the Commonwealth as one example of the ways by which international co-operation and understanding may be appreciated and developed in schools.

The results of the present survey suggest that the Commonwealth Secretariat could well undertake a promoting interest in the curriculum in a more integrated way, allowing personnel from different sectors of the educational system to appreciate and develop their interlocking roles in the process of curriculum development. The ability of the Commonwealth Secretariat to respond to the variety of needs which have been expressed will depend upon the resources at its disposal and upon the priorities established by member states at the Eighth Commonwealth Education Conference in Sri Lanka. The results of the survey and the specific requests and suggestions arising from it are now before the Conference for consideration.

## APPENDICES

1. Control of the Curriculum of General Secondary Education
2. Recent Curriculum Programmes and Projects
3. Languages Used in Schools
4. Examinations
5. Questionnaire
6. Commonwealth Desk Officers
7. Ministries of Education

Questionnaires were returned by the following Commonwealth countries:

Australia (Western Australia, Victoria - Technical Section), Bangladesh, Barbados, Botswana, Canada (Alberta, Prince Edward Island, Manitoba, Nova Scotia, Quebec and Saskatchewan), Cyprus, Dominica, Fiji, The Gambia, Great Britain (England, Northern Ireland), Grenada, Guyana, India, Jamaica, Malaysia, Malta, Mauritius, New Zealand, Nigeria, Papua New Guinea, St Lucia, Seychelles, Sierra Leone, Singapore, Solomon Islands, Sri Lanka, Swaziland, Tanzania, Tonga, Tuvalu and Western Samoa.

The appendices 1-4 do not necessarily include information on all of the countries to respond to the questionnaire. In some instances information was not available or the question was inappropriate, in others repetition has been avoided especially in the case of provincial or state systems.

CONTROL OF THE CURRICULUM OF GENERAL SECONDARY EDUCATION

APPENDIX I	RESPONSIBLE AGENCIES										DISTANCE TEACHING (d.t.)
	COUNTRY (co)	CONTROLLING AUTHORITIES (c.a.)	NATIONAL AIMS AND GOALS(n.a.g.)	CURRICULUM PLANS (c.p.)	LEARNING RESOURCES			PUBLIC EXAMINATIONS (p.e.)	TEACHER TRAINING CURRICULUM (t.t.c.)		
					CONTENT (c)	PRODUCTION (p)	DISTRIBUTION (d)				
AUSTRALIA (National Return)	State Depts. of Education or specific statutory bodies e.g. Victorian Institute of Secondary Education. Increasing emphasis on school based curriculum in most States/Territories.	In so far as national aims are set, the Australian Education Council (State, Territorial and Commonwealth Ministers of Education) and the Conference of Directors' General of Education.	No enforceable national curriculum. Syllabuses set by agencies in States and Territories.	No national supervision although Education Branch of A.B.C. commissions broadcasts used across the States	Government and commercial.	Government and commercial.	Government and commercial.	Requirements vary a little from State to State. Key exam Higher School Certificate. (Year 12)	Universities and Colleges of Advanced Education.	State Departments of Education.	
WESTERN AUSTRALIA (Sample State Return)	Year 8-10 Lower School Curriculum. State Education Dept. Year 11-12 Upper School Curriculum. Board of Secondary Education.	Reference to Curriculum Development Centre Canberra.	Curriculum Branch of State Education Dept. State Board of Secondary Education.	Curriculum Branch of State Education Dept. Audio Visual Dept. Publication's Board of Secondary Education.	Curriculum Branch Publications and Audio Visual Branch of State Education Dept.	Curriculum Branch Publications Branch and Audio Visual Branch of State Education Dept.	1. Tertiary Admittance Exam. Committee including representatives of government and non-government schools, Education Dept., and tertiary institutions. 2. Certificates of Secondary Education-Board of Secondary Education. 3. Public Certificate.	University of W. Australia. Nedlands College of Advanced Education. W. Australia Institute of Technology Murdoch University.	Lower Secondary as for formal system. Upper Secondary-Isolated Students Matriculation Scheme (ISMS) using standard syllabus for Years 11 and 12.		

BANGLADESH	National Curriculum and Syllabus Committee (N.C.S.C.)	N.C.S.C. and National Commission for Education.	N.C.S.C.	N.C.S.C. Bangladesh School Text Book Board (B.S.T.B.) Radio Bangladesh	Bangladesh Educational Equipment Development Bureau (BEEDB) Audio Visual Education Centre (AVEC) B.S.T.B.	B.S.T.B. B.E.E.D.B. A.V.E.C.	Board of Secondary Education awards Achievement Certificates to students who leave during or after 3 years of lower school.	Academic councils of degree awarding universities.	Not available.
BARBADOS	Ministry of Education and Culture. National Curriculum Development Council.	Ministry of Education and Culture.	Ministry of Education and Culture. National Curriculum Development Council.	Curriculum Division and Audio Visual Aids Dept. of Ministry of Education and Culture.	Curriculum Division and Audio Visual Aids Dept. of Ministry of Education and Culture.	Curriculum Division and Audio Visual Aids Dept. of Ministry of Education and Culture.	Ministry of Education and Culture conducts national exams and those on behalf of international bodies (Cambridge, London etc.) and the regional Caribbean Examinations Council.	Ministry of Education and Culture through Erdiston College and the School of Education, University of the West Indies.	Not available.
BOTSWANA	Ministry of Education.	Parliament.	Ministry of Education-Development and Evaluation Department.	Ministry of Education.	Government Printer and Teaching Aids Production Unit. Commercial Publishers.	Ministry of Education.	Junior Certificate, Ministry of Education. Cambridge Overseas Certificate.	University College of Botswana in consultation with Ministry of Education.	As for formal system.

co.	c.a.	n.a.g.	c.p.	c.	p.	d.	p.c.	t.t.c.	d.t.
CANADA (e.g.) SASKATCHEWAN	Department of Education.	Department of Education.	Department of Education Departmental Curriculum Committee.	Department of Education.	Department of Education.	Department of Education.	Department of Education conducts Grade XII provincial exams. Accredited teachers may allocate school marks for final standing in Grade XII.	University (Colleges of Education).	Correspondence school of Department of Education offers courses from formal programme.
CANADA (e.g.) QUEBEC	Department of Curriculum Development, Ministry of Education.	Ministry of Education.	Department of Curriculum Development.	Department of Curriculum Development.	Resource development and production units of the Curriculum Development.	Department of Distribution and the resource development and production units of the Department of Curriculum Development.	Teaching Evaluation Unit of the Curriculum Development Department of the Ministry of Education.	Universities submit the curriculum for Ministry approval.	Available only to adults.

CANADA (e.g.) ALBERTA	Curriculum Policies Board (estab. 1976).	Curriculum Policies Board (16 members: 7 educators and 9 representatives from commerce, industry, politics and parents).	Co-ordinating Committees for subject or subjects from Grades 1-12. 8-10 members depending upon courses and amount of developmental work. 50% teachers 50% from universities and department nominations.	Curriculum Policies Board has established a policy for material production and selection. Determined by curriculum committees made up of departmental, school system, teachers association and university representatives.	Proposals originate from many systems. Each proposal is evaluated for curriculum fit and priority by curriculum committee.	Usually co-ordinated by School Books Branch (prescribed resources) but a variety of agencies for recommended and supplementary material.	Departmentally controlled.	Curriculum Policies Board.	Alberta Correspondence School does not differ from provincial curriculum.
CYPRUS	Ministry of Education, Planning Bureau. Ministry of Finance. Council of Ministers. House of Representatives.	Council of Ministers through the Minister of Education and partly, the House of Representatives.	Secondary General Dept. and Secondary Technical Dept. of Ministry of Education.	Ministry of Education (Cyprus) and Ministry of Education and Creeds in Greece for secondary schools recognized by Greece as equivalent.	Mainly statal, some parastatal but very little commercial.	Ministry of Education.	No specific agencies. Some pupils sit for overseas examinations on their own initiative (GCE, City and Guilds etc.)	No controlling authority. No training required prior to appointment. Measure of control exercised by Ministry.	Some secondary education available by radio and TV. No difference in institutional framework.
DOMINICA	Schools have autonomy within limits set by examination syllabus requirements.	Government of Dominica.	Overseas examination boards and subject departments in schools.	Government of Dominica.	Government of Dominica.	Government of Dominica.	Education Division sets common Entrance Examination. Schools autonomous for internal exams. Overseas boards (Cambridge, London Chamber of Commerce) for School Certificate and vocational exams.	University of West Indies for Diploma or certificate in education. Local training controlled by Ministry of Education and Health.	No control.

CO.	FIJI																		
	Ministry of Education.	Ministry of Education.	National Subject Curriculum Committees.	Curriculum Development Unit (C.D.U.) of Ministry of Education.	Trial materials printed by Educational Resources Centre of Ministry of Education. National course material printed commercially for sale to students.	Trial materials distributed by Educational Resource Centre. Commercial materials by Government Supplies Section or private book shops.	<p>P.</p> <p>Trial materials distributed by Educational Resource Centre. Commercial materials by Government Supplies Section or private book shops.</p>	<p>d.</p> <p>Trial materials distributed by Educational Resource Centre. Commercial materials by Government Supplies Section or private book shops.</p>	<p>P.C.</p> <p>1. Class 6 and 8 and Form 4, Ministry of Education. Subject committee of teachers and C.D.U.  2. Form 5 Dept. of Education New Zealand. C.D.U. in association with New Zealand subject panels for South Pacific options.  3. Other Form 5 School Certificate papers New Zealand controlled.  4. Form 6 New Zealand University Entrance. New Zealand English paper in association with University of South Pacific (U.S.P.).  5. Form 7 Ministry of Education panel from C.D.U. USP and subject teachers.</p>	<p>d.t.</p> <p>Not available.</p>	<p>t.t.c.c.</p> <p>1. Junior Secondary - U.S.P. colleges for Junior secondary teachers.  2. Teachers for colleges for Junior secondary teachers.  Ministry in-fluence via C.D.U.</p>								

GAMBIA	Curriculum Development Unit, Ministry of Education. (C.D.U.).	C.D.U.	C.D.U.	Ministry of Education.	Commercial	Schools and Education Dept.	West African Examinations Council.	None.	None.
GREAT BRITAIN (ENGLAND)	Local education authorities and school governing bodies. In practice day to day responsibility lies with heads and teachers. Advice and guidance available from inspectorate and bodies such as the Schools Council.	Not specified by central authority. Current public debate to which government has contributed mainly through inspectorate.	Local education authorities and schools with examining boards and the advice and guidance of Schools Council.	Determined by individual authors and publishers.	Commercial. Selection is a matter for schools.	Arrangements made locally by schools and education authorities.	1. 8 GCE Boards for ordinary level and Advanced level Certificate of Education. Boards have close links with universities. Teachers on subject panels. 2. 14 regionally based boards for Certificate of Secondary Education. Independent boards, recognized by Secretary of State for Education. Schools Council exercises co-ordinating role on matters of consistency and advises on policy.	None.	Teacher training institutions in conjunction with validating bodies who award qualifications (universities at the Council for National Academic Awards).
									Not employed in secondary education. Educational broadcasting amplifies and enriches normal curricular work.

CO.	GREAT BRITAIN (NORTHERN IRELAND)	Outside statutory responsibility for Religious Instruction schools have responsibility influenced by Area Education Boards, Northern Ireland Examinations Council, Northern Ireland Schools Curriculum Committee, higher educational institutions.	n.a.g.	Implicit in the work of the Dept. of Education, Area Boards and Schools working in accordance with Education Act of 1947.	C.P.	Principally schools on the Examinations Council with the advice of the Inspectorate.	C.	Publishers, British Broadcasting Corporation, Independent Television Companies, Area Boards and commercial companies.	P.	Publishers, British Broadcasting Corporation, Independent Television Companies, Area Boards and commercial companies.	d.	Apart from national organizations (see England) Northern Ireland Schools Examinations Council which has 2 boards: 1. N.I.GCE Board. 2. N.I.CSE Board. Boards broadly representative of educational system.	t.t.c.c.	Faculty of Education of Queen's University, Belfast, 3 colleges of education, New University of Ulster and Ulster Polytechnic. Advisory Council for Supply and Training of Teachers has a voice.	d.t.	Not applicable.
GRENADA		Ministry of Education through school principals.	Ministry of Education.	School principals.	External examination boards.	Materials Production Unit.	Through Education Officers, Supervisors and teaching staff.	An Examination Officer responsible for administration of examinations set by Cambridge Examinations Syndicate and Caribbean Examinations Council. A National Committee acts as an advisory body.	Not available in Grenada.	Not available.						

GUYANA	Ministry of Education, Social Development and Culture.	Curriculum Development Centre (C.D.C.).	C.D.C. Specialist Education Officers. University of Guyana, Faculty of Education. Caribbean Examinations Council.	C.D.C. Broadcasts to Schools Unit. University of Guyana (U.G.), Faculty of Education.	C.D.C. Faculty of Education.	C.D.C. Broadcasts to School Unit. Book Distribution Unit.	Test Development Unit, Ministry of Education is responsible for developing tests and exams at primary and secondary levels e.g. Secondary Schools Entrance Examination (Grade 6) and Secondary proficiency examinations Parts 1 and 2 at the end of the 3rd and 4th years.	Lilian Dewar College of Education. University of Guyana, Certificate. Bachelor and Diploma Programme.	Not applicable.
INDIA	State Governments.	Ministry of Education and Social Welfare advised by Central Advisory Board of Education and by specialist committees.	National Council for Educational Research and Training (N.C.E.R.T.) develops curricula for adoption and States. In States plans developed by Secondary Education Boards. For Central Schools, Public Schools and a few Union Territories - plans prepared by Central Board of Secondary Education.	N.C.E.R.T. State Education Departments Secondary Boards. Private firms.	N.C.E.R.T. State Education Departments Secondary Boards.	N.C.E.R.T. State Education Departments Secondary Boards.	Central Board of Secondary Education. State Education Department Secondary Boards. N.C.E.R.T. and State C.E.R.T.'s research evaluation and assessment procedures.	Universities to which teacher colleges are affiliated. National Council of Teacher Education (N.C.T.) prepares framework for consideration by faculties. N.C.E.R.T. prepares model text books for teacher courses.	Not available.

Co.	c.a.	n.a.g.	c.p.	c.	p.	d.	p.c.	t.t.c.	d.t.
JAMAICA	Ministry of Education, Planning Division (General Education and Technical Education Units).	Ministry of Education.	Curriculum committees and subject specialist lists.	Ministry of Education General Education Units.	General Education and Technical Education Units. Educational Broadcasting Section. Correspondence Section. Publications Section.	Ministry of Education.	Caribbean Examinations Council. Cambridge General Certificate Examination International. Secondary School Certificate Evaluation Unit. Jamaica School Certificate Evaluation Unit.	Joint Board of Teacher Education. Representatives from Teachers' College, Ministry of Education and University of the West Indies.	Limited number of courses at Jamaica School Certificate level through correspondence section of the Ministry.
MALAYSIA	Educational Planning Committee (E.P.C.) and Central Curriculum Committee (C.C.C.) on advice of Ministry of Education Divisions, especially Curriculum Development Centre (C.D.C.)	Educational Planning Committee chaired by Minister of Education (for final approval by Parliament).	Professional divisions of the Ministry especially C.D.C., Schools Division and Technical Vocational Division.	Text books Bureau, C.D.C. Educational Media Services (E.M.S.) with approval of C.C.C.	Dewan Bahasa and Pustaka (a government agency) and commercial institutions with approval of C.C.C.	Printed material by Dewan Bahasa Pustaka and commercial bodies. Broadcast materials by E.M.S. with approval of C.C.C.	1. Lower Certificate of Education - Examinations Syndicate, Ministry of Education. 2. Malaysian Certificate of Education, Exam Syndicate in collaboration with Cambridge Local Examinations Syndicate. 3. Malaysian Vocational Certificate - Exam Syndicate and Technical and Vocational Division of Ministry. 4. Higher School Certificate - University of Malaya Exams Syndicate and Cambridge Overseas Examination Syndicate.	1. Lower Secondary, Teacher Training Division of Ministry and partly, local universities. 2. Upper Secondary, local universities and partly, Teacher Training Division. 3. Pre-university, local universities.	Not available.

MALTA	Education Department. Secondary Education Section.	Minister of Education and Cabinet.	Education Department. Director of Education and Education Officers.	Apart from imported materials, local production by parastatal or commercial companies under supervision by Education Department. Broadcasting section of Telemalta Corporation responsible for radio and TV production assisted by Education Department.	Education Department.	1. Foreign examinations administered by Registrar of Examinations under Department of Education. 2. Local matriculation responsibility of Old University.	Faculty of Education, New University in collaboration with Department officials.	Not available.
MAURITIUS	Ministry of Education and Cultural Affairs. The Mauritius Institute of Education.	Ministry of Education and Cultural Affairs.	Not available.	Not available.	Not available.	1. Mauritius Institute of Education - Form III. 2. University of Cambridge for School Certificate and Higher School Certificate.	Mauritius Institute of Education.	Mauritius College of the Air. Ministry of Education and Cultural Affairs.
NEW ZEALAND	Development Division, Department of Education. 15 year olds - School Certificate Examination Board (SCEB). 16+. Universities Entrance Board.	Department of Education.	Resources Development Division.	Resources Development Division.	Development Division.	SCEB for School Certificate. Ministry, University and teacher representation. University Entrance Board: University, Ministry and teacher representation.	Teachers' College Councils - Auckland and Christchurch.	Correspondence school - no different formal structure.

co.	c.a.	n.a.g.	c.p.	c.	p.	d.	p.c.	t.t.c.	d.t.
NIGERIA	Federal and State Ministries of Education.	1. Minister for Education. 2. National Council for Education. 3. Joint Consultative Council on Education. 4. Federal and State Ministries of Education.	1. Federal and State Ministries of Education. 2. Nigerian Educational Research Council (N.E.R.C.). 3. West African Examination Council (W.A.E.C.). 4. Comparative Education Study and Adaptation Centre, University of Lagos (CESAC).	1. Federal and State Ministries of Education. 2. Nigerian Education Technology Centre (NETC). 3. Schools Units of Nigerian Television Broadcasting Authorities.	1. Federal and State Ministries of Education. 2. NETC. 3. Schools Units of Nigerian Television and Broadcasting Authorities.	1. Federal and State Ministries of Education. 2. NETC. 3. School Units of Nigerian Television and Broadcasting Authorities.	W.A.E.C.	1. Universities for Senior Secondary. 2. For Junior Secondary - Advanced Teachers' Colleges, Universities and Joint Consultative Committee on Education.	Curriculum based on same examinations as schools.
PAPUA NEW GUINEA	Minister of Education, Science and Culture. Immediate control exercised by Curriculum Unit in Provincial Standards Division.	Ministry of Education.	Curriculum Unit.	Provincial Standards Division. National Broadcasting Commission. Educational broadcasts are controlled by a board of which Secretary for Education is Chairman.	Division of Standards. Dependence on commercial texts minimal (except English).	Materials section - Curriculum Unit.	Exams at Grades 6 (Secondary Entrance) 10 and 12 set by officers of Curriculum Unit with assistance from teachers.	University of P.N.G. Secondary teachers receive a degree or a diploma at Goroka Teacher's College.	College of External Studies Grades 7-10. Secretary of Education approves courses and Principal Curriculum Officer is Chairman of College Board of Studies.

ST. LUCIA	Ministry of Education.	Ministry of Education.	Ministry of Education.	Ministry of Education.	Ministry of Education.	Ministry of Education.	Ministry of Education.	1. Junior Secondary School leaving exam. Ministry of Education, Board of Examiners composed of practising teachers. 2. GCE-Cambridge Examinations Certificate. 3. Secondary school certificate - Caribbean Examinations Council.	1. St. Lucia Teachers' College - University of West Indies (Cave Hill Campus, Barbados) and Ministry of Education for lower secondary level. 2. Overseas training responsibility of training authorities	Not applicable.
SEYCHELLES	Division of Research and Pedagogy, Ministry of Education and Information (being re-organized).	Government.	Subject committees through advisers within Division of Research and Pedagogy.	Ministry in conjunction with Division of Research and Pedagogy, subject advisers and Schools Broadcasting Unit.	Ministry of Education and Information with Division of Research and Pedagogy. Teachers' Resource Centre, Ministry of Culture.	Ministry of Education and Information with Division of Research and Pedagogy. Teachers' Resource Centre, Ministry of Culture.	Local control (Ministry) of Year 6 and Year 8 exams. Cambridge syndicate for O and A levels.	Seychelles Teachers' Training College in consultation with subject advisers and Ministry of Education and Information.	Not applicable.	
SIERRA LEONE	Ministry of Education in co-operation with Curriculum Revision Unit of the Institute of Education, University of Sierra Leone.	Ministry of Education.	Curriculum Subject Units, Institute of Education.	Ministry of Education.	Ministry of Education.	Ministry of Education.	West African Examinations Council.	Institute of Education - Junior Secondary teachers. University of Sierra Leone - Senior Secondary.	Not available.	

CO.										
SINGAPORE	c.a.	n.a.g.	c.p.	c.	p.	d.	p.c.	t.t.c.	d.t.	
	Curriculum Development Committee, Ministry of Education (C.D.C.)	C.D.C.	C.D.C. Ministry of Education Subject Advisory Committees.	C.D.C.	C.D.C.	C.D.C.	Ministry and Cambridge Local Examinations Syndicate.	Institute of Education.	Not available.	
SOLOMON ISLANDS	Ministry of Education and Training.	National Education Board.	Curriculum Coordinating Committee on the advice of subject panels.	Curriculum Coordinating Committee on the advice of subject panels.	Curriculum Coordinating Committee, Curriculum Unit.	Curriculum coordinating Committee through Curriculum Unit.	Solomon Islands' School Certificate Examinations Board. S.C. Teachers panels taken at Form 5. work with consultants from University of South Pacific, University of Papua New Guinea and University of New England (Australia).	Overseas training at Universities of Papua New Guinea and South Pacific.	Not available.	
SRI LANKA	Ministry of Education.	The Cabinet, Ministry of Education.	The Curriculum Development and Teacher Education Division of the Ministry of Education.	Ministry of Education.	Ministry of Education.	Ministry of Education.	Department of Examinations conducts all public examinations and is the agent for conducting British examinations.	The Curriculum Development and Teacher Education Division of the Ministry of Education.	Not available.	

SWAZILAND	Director of Education advised by subject panels and Secondary Curriculum Unit.	National Education Commission.	Secondary Curriculum Unit for approval by panels and Directors of Education.	Curriculum Unit, subject panels and Director of Education.	Trial and pilot materials produced by Curriculum Unit. Approved materials are produced commercially.	Curriculum Units. Commercial.	Regional Examinations Council and Cambridge Examinations Syndicate.	Higher Education Board.	Follows some examination syllabuses.
TANZANIA	Institute of Education in collaboration with Inspectorate and Secondary Education Departments.	The Party (C.C.M.)	Institute of Education.	Subject Panels, Inspectorate Department and Institute of Education.	Institute of Education.	Tanzania Elimu Supplies. The Institute of Education.	National Examination Council of Tanzania. Involvement of teachers, lecturers, administrators and individuals.	Institute of Education.	Institute of Adult Education. Distance learning based on doctrine 'Education has no end'. Caters for students of various abilities.

co.	c.a.	n.a.g.	c.p.	c.	p.	d.	p.c.	t.t.c.	d.t.
TONGA	Curriculum Development Unit, Ministry of Education.	National Curriculum Committee; permanent members, Ministry of Education and School Principals.	Subject Curriculum Committee members, Ministry of Education and Curriculum Development Unit.	National Curriculum Committee and Subject Curriculum Committee.	Curriculum Development Unit.	Curriculum Development Unit.	Primary and Secondary Divisions of Ministry of Education.	Special Steering Committee (representation from all agencies offering secondary education).	Not available.
TUVALU	Department of Education.	Department of Education, Ministry of Social Services.	Only one high school in Department of Education.	Curriculum in Tuvalu - Department of Education.	policy the responsibility of the		New Zealand School Certificate, Fiji Junior Certificate Examination.	Expatriate teachers.	Not available.
WESTERN SAMOA	Director of Education and Secondary School Education Officers.	Director of Education.	Curriculum organisers of Department of Education Subject committees.	Curriculum and education officers. Subject committees.	Curriculum Production Unit and Schools Broadcasts Unit.	Department of Education.	Department of Education for High School Entrance and Junior High School leaving. New Zealand for School Certificate and University Entrance.	Department of Education and Secondary Teachers College.	Not available.

RECENT CURRICULUM PROGRAMMES AND PROJECTS

Part C of the questionnaire sought information on curriculum projects, pilot studies and initiatives which have been undertaken in the last five years or which are currently in the process of development. From this information examples were selected for inclusion in the main body of the text.

This Appendix lists the projects and programmes for countries which responded to the questionnaire. Each entry refers to the projects described in the text and to projects which are not given detailed consideration in the survey. Wherever possible a brief outline of the project is provided. This list is of necessity selective and should not be read as in any way indicating the totality of curriculum innovation in a country, state or province.

AUSTRALIA

National Level

1. Australian Science Education Project for Junior and Middle Secondary Schools.
2. Social Education Materials Project for Junior and Middle Secondary Schools.
3. Asian Studies Co-ordinating Committee for the development of teaching Asian languages and cultures in Australian schools.
4. The establishment of the National Curriculum Development Centre to undertake co-operative tasks in the development of curriculum and teaching materials.

Information: Curriculum Development Centre, P.O. Box 52, Dickson  
A.C.T. 2602, Australia.

State Level, e.g. Western Australia

1. Social Studies Syllabus Development (p.79).
2. Physical Education: Concentration upon the up-grading of the quality of instruction and the facilities available to schools. Appointment of specialist teachers with administrative support. Encouragement for outdoor education; camp areas and camp schools.
3. Foreign Languages: Increase in internal school assessment allows greater variety of language options.
4. Music: Nomination of selected schools as specialist music schools with appropriate instructional support.

5. English: The Martin Report (1979) examines influences in the teaching of English in state schools. .

Information: Director General of Education, Education Department,  
Parliament Place, West Perth, 6005, Western Australia.

#### BANGLADESH

1. Population Education Programme (p. 63).

Information: Ministry of Education, Secretariat  
Building, Dacca.

#### BARBADOS

1. The establishment of the National Curriculum Development Council (p. 5).

Information: Ministry of Education and Culture, Jemmott's Lane,  
Bridgetown.

#### BOTSWANA

1. Science by Investigation (p. 44).
2. Agricultural education (p. 55).
3. Mathematics education (p. 50).

Information: Ministry of Education, Private Bag 005, Gaborone.

#### CANADA

##### Alberta

1. The development of a Curriculum Policies Board, Subject Co-ordinating Committees and Subject Ad Hoc Committees. Some of the main programmes for consideration by the Board are: The completion of programme overviews in science, senior high school mathematics, business education, home economics, industrial education and fine arts; a continuing review of the structure and process of curriculum development; the continuing development of a learning resource policy; the review of locally developed courses.

Information: Director, Curriculum Policies Board, c/o Department of Education, Devonian Building 11160 Jasper Avenue, Edmonton, Alberta T5K 0L2.

##### Manitoba

1. Career Education (p.69)
2. Native Education (p.82)

3. Measurement and evaluation: A measurement and evaluation unit established in 1978 develops, disseminates and interprets for government, general public and all Manitoba educators, indicators or student achievement in the core curriculum areas of reading, writing and mathematics and in additional curriculum areas and provides specialist support to school personnel to improve student evaluation practices.

Information: Department of Education, Room 507, 1181 Portage Avenue, Winnipeg, Manitoba, R3G 0T3.

Nova Scotia

Two pilot projects for 1979-80 are:

1. Multi-cultural studies.
2. A locally initiated project starting in Junior High Schools for superior learners.

Information: Curriculum Development Programme, Department of Education, Box 578, Trade Mart, Nalifax, Nova Scotia.

Prince Edward Island

1. The development of a variety of experimental courses at the provincial level, initiated by the Curriculum Division prior to their inclusion in the list of authorised courses for the province.
2. School or unit projects initiated locally but approved and supported by the Curriculum Division leading to restricted authorisation in a school.

Information: Director, Curriculum Division, Department of Education, Box 2000, Charlottetown, Prince Edward Island, C1A 7N8.

The projects indicated for selected Canadian provinces are a small part of the total and varied curriculum development process.

## FIJI

Fiji has an extensive curriculum development process. Fourteen subject areas are currently under active consideration. For example:

1. Modern Studies (p. 58).
2. Physical Science (p. 47).
3. Industrial Arts (p.63).
4. English: This project involves the development of a course to serve the needs of the rural Fijian child. A team of writers and trial teachers is currently working on materials for Forms Three and Four. The course should be nationally implemented by 1982. The programme necessitates in-service courses for teachers.

Information: Curriculum Development Unit, Ministry of Education, Suva.

## GREAT BRITAIN

### England and Wales

Curriculum development in Great Britain encompasses a wide variety of concerns. Receiving particular attention at the present time are: The core curriculum, the needs of slow learners, multi-cultural education, links between school and industry.

Information: International Relations Branch, Department of Education and Science, Elizabeth House, 39 York Road, London SE1 7PH.  
Schools Council, 160, Great Portland Street, London W1N 6LL.

### Northern Ireland

1. Computer assisted Management for Learning (NDPCAL).
2. Schools Cultural Studies Project (Rountree).
3. Religion in Ireland (Northern Ireland Schools' Curriculum Committee Project).
4. Schools Curriculum Project (Malone).

Information: Department of Education for Northern Ireland, Rathgael Hs, Balloo Road, Bangor, Co.Down, BT19 2PR.

## GRENADA

1. West Indies Science Innovation Project.
2. Planning for the Development of a Centre for Popular Education.

Information: Ministry of Education, Youth and Social Affairs, Young Street, St. Georges.

## GUYANA

1. Remedial Reading Project for the Community High School Programme (p.81).
2. Integrated Science (p.45).

Information: Curriculum Development Centre, Ministry of Education, Social Development and Culture, 21 Brickdam, Georgetown.

## INDIA

From the range of curriculum activity underway at the secondary level two science projects are noted here:

1. Learning Science: An integrated science curriculum for middle schools. The project is being undertaken by NCERT. 1976-79 was a period of syllabus development and textbook production. Currently teachers guides, kits and audio-vieo materials are being developed. The course which is piloted in 2000 schools aims to emphasize the relevance of science to rural life and to encourage an understanding of scientific methods of enquiry.
2. Secondary Science for Classes IX and X. This 5 year project is developing materials for physics, chemistry and biology which are trialed in schools and examined at teacher workshops.

Information: For these and other curriculum development projects contact the National Council for Educational Research and Training, New Delhi - 110016.

## MALAYSIA

1. New History and Civics Syllabus (p.78).

Information: Curriculum Development Centre, Ministry of Education, Federal House, Kuala Lumpur.

## NEW ZEALAND

1. School Certificate Mathematics. Nelson Marlborough Mastery Levels Assessment Scheme (p.51).
2. Form Five Modular Science (p.48).
3. National English Syllabus Committee: Set up and sponsored by the Department of Education, this is a national programme which has been in existence for ten years. The programme has moved through a sequence of discussion, formulation of aims, unit writing, trialing, evaluation and a revision of aims. The objectives include the revision of the English Syllabus for Forms Three to Five, the production of a handbook of teaching suggestions and a revision of the School Certificate prescription. Possible outcomes include the replacement of a prescriptive syllabus by national guidelines, the assessment of student achievement based on all language modes and administered internally, and curriculum development based upon district committees rather than a national committee.

Information: Director, International Education Division, Department of Education, Private Bag, Government Buildings, Wellington.

## NIGERIA

1. Technology in Secondary Schools (p. 59).
2. Social Studies (p.77).
3. Science in Secondary Schools: Sponsored by the Federal Ministry and carried out by CESAC at the University of Lagos the main programme took place between 1973 and 1978 but is now being revised and more widely propogated throughout the country. The project aims to develop participatory learning in three science disciplines. This requires more teaching equipment. Teachers complain that this approach involves too much work.

Information: Curriculum and Evaluation Unit, Federal Ministry of Education, Victoria Island, Lagos.

## PAPUA NEW GUINEA

1. Secondary Schools Community Education Projects (p.72).

Information: Department of Education, P.S.A.Haus, Private Mail Bag, Post Office, Boroko.

## ST LUCIA

1. Home Economics and Craft Teachers' Course in Project Preparation and Management (p.64).

Information: Ministry of Education and Health, Castries.

## SEYCHELLES

1. Careers Education: A Ministry of Education and Information project, controlled by the Careers Guidance Officer in the Division of Research and Pedagogy. This small scale project seeks to design and implement an integrated school-work experience programme with students in their final year at a boys secondary school.
2. Educational Reform and Curriculum Design: This large scale project sponsored by UNESCO and the Ministry of Education aims to re-design the educational system and its many parts. 1978-80.

Information: Ministry of Education and Information, La Bastille, P.O.Box 48.

## SOLOMON ISLANDS

1. National Secondary Curriculum Project (p. 42).
2. Pacific Islands' Agriculture Curriculum Project: An ADAB sponsored project, to include curriculum development, the production of teachers' guides, the organization of school farms, the training of agricultural teachers and the running of in-service courses. The project is based at the University of New England. Originally for the

Provincial Schools, now extended to National Secondary Schools and the Solomon Islands' School Certificate.

Information: Curriculum Development Unit, Solomon Islands Training College, P.O.Box 1, Honiara.

#### SRI LANKA

1. Field Work Centres (p.65).

Information: Ministry of Education, Malay Street, Colombo 2.

#### SWAZILAND

1. Secondary Curriculum Unit (p.39).
2. Schools Agriculture (p.54).

Information: Ministry of Education, P.O.Box 39, Mbabane.

#### TONGA

1. Curriculum Development Unit. Four main programmes: Social Science, Industrial Arts, Home Economics and Agricultural Science (p.77).

Information: Senior Education Officer (Curriculum), Ministry of Education, P.O.Box 61, Nukua'lofa.

LANGUAGES USED IN SCHOOLS					
Countries	Official National Language	Media of Instruction	Other Prescribed Languages*	Changes in Language Policy	
Australia	English	English	60 elective languages. No compulsory second language policy. Some schools may require students to study some units	Discussion on place of languages of immigrant and ethnic minorities. National policy favours social cohesion with due regard for cultural differences. Full effects of move to multi-cultural education services still being discussed	
Australia (Western Australia)	English	English	French, German, Italian, Indonesian and Japanese optional for grades 8-12. Assessed at Achievement Certificate level; examined at Tertiary Admission Examination. A multi-cultural programme is offered on an extra curricular basis in Croatian, Greek, Macedonian, Polish, Portuguese and Serbian	Except for some private schools the trend of treating foreign language study as optional prevails in Western Australia. There is an extension of language teaching into primary schools with the nearest secondary school acting as a resource centre and a provider of teachers	
Bangladesh	Bangla (Bengali)	Bangla	English at all secondary levels. Arabic, Persian, Pali, Sanskrit and Urdu (optional)		

Countries	Official National Language	Media of Instruction	Other Prescribed Languages*	Changes in Language Policy
Barbados	English	English	French and Spanish to 'O' and 'A' Levels	Greater recognition of the distinction between standard English and local dialect and the fact that each has a place in a child's development. Adoption of Spanish as the official second language
Botswana	Setswana English	English	French optional at Junior Certificate and School Certificate. Setswana at Junior and Senior Certificates	-
Canada (Alberta)	English French	A school board may authorize French as a language of instruction or that any other language be used as a language of instruction in addition to English, in one or more of its schools	Only English is prescribed; all other languages are offered at a Board's discretion	Increased interest in second language learning. Boards setting up language policies to reflect increased commitment
Canada (Prince Edward Island)	English French	English French	-	-
Canada (Manitoba)	English French	English and French. PS Act recognizes other languages for up to 50% of school day	Grades 7-12 German, Ukrainian, Italian, Spanish. Grades 8-12 Latin and Hebrew	Legislation in the past decade makes it possible to teach any language where there is interest as a first language for up to 50% of the school day. Some experimentation is underway using ethnic languages as a language of instruction in primary grades and as a transition measure for students who cannot understand English

Countries	Official National Language	Media of Instruction	Other Prescribed Languages*	Changes in Language Policy
Canada (Nova Scotia)	English	English and French	German, Gaelic, Latin and Spanish at high school level	Increasing use of French in the Arcadian Districts
Canada (Quebec)	French	French English Inuit Amerindian	French, second language English. Second language compulsory for all five years of secondary course. Italian, Portuguese and Greek; language of origin, experimental programmes for all five years. Greek and Latin optional. German, Spanish, Italian and Russian optional for last two years.	Regulations control admission to schools where the language of instruction is English.
Canada (Saskatchewan)	English French	English is the main language of instruction but either language may be used with approval	German, Ukrainian	Change in the School Act (1978) makes provision for a Board to pass a resolution to use a language of instruction other than English in specified schools
Cyprus	Greek Turkish English	Greek in the Government controlled area of the Republic. Turkish in Turkish occupied Cyprus	English and French at Junior and Senior Secondary. German - Senior Secondary	Desire on part of pupils and parents for more foreign language learning, especially English and French
Dominica	English	English	French and Spanish Form 1	-

Countries	Official National Language	Media of Instruction	Other Prescribed Languages*	Changes in Language Policy
Fiji	English Fijian, Hindi	English	Hindi, Fijian and Urdu to Form 4. French to Form 6	In preparing students for New Zealand exams, Hindi has been dropped as an exam subject at Form 5. Increased emphasis on teaching of mother tongue. In English the integration of literature and grammar
Gambia	English	English	French and Arabic	-
Great Britain (England and Wales)	English In Wales - English and Welsh	English. In Wales, English and Welsh depending upon the linguistic characteristics of the area and parental wishes	No prescribed languages. French and German are common options. Selection is a matter for local education authorities and individual schools	Successive governments have recognized the importance of language studies in modern society. In Wales, the curriculum, including language policy is a matter for local authorities. There has been a steady increase in the use of Welsh as a medium of instruction and bi-lingual secondary schools have been established in mainly English speaking areas
Great Britain (Northern Ireland)	English	English except in teaching of modern languages where the target language is often used	Years 1-7 Irish and Latin Years 2/3-7 French, German and Spanish. Years 1/2-6/7 Russian. Years 2-7 Italian and Years 3/4-7 Greek	Since Second World War, increased emphasis on oral proficiency and an improved knowledge of the countries where the language is spoken by direct experience
Grenada	English	English	Spanish and French to 'A' Level	Spanish now taught in all secondary schools because of nearness of Spanish speaking countries and membership of OAS
Guyana	English	English	Spanish and French to 'O' and 'A' Level, Hindi is offered to 'O' Level in a few schools	Latin has been dropped from the curriculum

Countries	Official National Language	Media of Instruction	Other Prescribed Languages*	Changes in Language Policy
India	Hindi	Regional languages. English or Hindi	3 languages compulsory at lower secondary; mother tongue or regional language; official language or associate official language of Union; modern Indian or foreign language not covered by other two categories and other than that used as a medium of instruction. Optional languages include classical languages, such as Sanskrit. At higher secondary only one language of choice is compulsory, but electives are possible. In vocational spectrum only one language prescribed	-
Jamaica	English	English	Spanish. New Secondary Schools. Grades 7-11	Spanish as an obligatory second language in New Secondary Schools. Acceptance of the local dialect as a means of communication for some teaching
Malaysia	Bahasa Malaysia (Malay)	Malay exclusively to Form IV. Malay in Forms V and VI with English for Science and Maths in some schools until 1979. English being phased out except in Sarawak where Malay has progressed to Grade 4.	English. Compulsory second language Forms I to V. Arabic in religious schools (Islamic). Chinese or Tamil as optional languages Forms I to V	Systematic change from English to Bahasa Malaysia in former English medium schools. By 1980 all subjects will be taught in national language up to Form V and by 1982 to Form VI
Malta	Maltese English	Maltese English	Arabic is compulsory. Options - Italian, French and German	Arabic introduced in 1975
Mauritius	English	English	French, Hindi, Urdu, Mandarin, Arabic, Tamil - Forms I-VI optional subjects	Increase in the emphasis on the teaching of oriental languages

Countries	Official National Language	Media of Instruction	Other Prescribed Language*	Changes in Language Policy
New Zealand	English Maori	English	French, German, Maori, Japanese and Indonesian at all levels. Russian, Spanish and Italian in the final two years	Maori and Pacific Basin languages have been especially encouraged in recent years
Nigeria	English National Languages recognized by 1979 constitution: Hausa, Ibo, Yoruba	English Other language subjects taught in respective languages	Form I-V: Hausa, Ibo, Yoruba, French and Arabic. With the exception of Ibo these languages are taught to GCE 'A' Level	Study of local languages and French is encouraged.
Papua New Guinea	English	English	-	-
St Lucia	English	English	Spanish and French	Growing importance of French and Spanish vis a vis geographical contacts
Seychelles	English French Creole	English	French at all levels	Extensive research and discussion into the educational role of the three main languages
Sierra Leone	English	English	French, Latin and German to GCE 'O' and 'A' Levels	Greek dropped. Very few schools select Latin. Intensification of the teaching of French
Singapore	English, Chinese Malay and Tamil are official languages. Malay is the national language	English and Chinese/ Malay/Tamil	French, German and Japanese are options	Ministry of Education report 1978: Most able children to do 2 '1st' languages and possibly a third; the average and above average a '1st' and a '2nd' language and the least able to be literate in one language. In 1977 Nanyang University switched its language of instruction and its exams to English. This posed problems for the best Chinese stream schools and the raising of the level of English. Special assistance plan announced in 1978

Countries	Official National Language	Media of Instruction	Other Prescribed Languages*	Changes in Language Policy
Solomon Islands	English	English	-	-
Sri Lanka	Official language - Sinhala National language - Sinhala and Tamil	Sinhala and Tamil	English language is a compulsory second language at the junior secondary level. At senior secondary, grade 11 and 12 options: Pali, Sanskrit, Latin, Greek, Arabic, Malay, Russian, French, German, Persian, Hindu, Urdu, Japanese and Chinese	-
Swaziland	Siswati English	English	Siswati in Junior Secondary. Zulu and modern European optional at Higher Secondary	Introduction of Siswati to replace Zulu at the junior level
Tanzania	Kiswahili	Kiswahili and English	French	Plans underway to replace English as a medium of instruction and to use Kiswahili throughout
Tonga	English Tongan	English	Tongan up to Higher Leaving level (Year 12)	English is entrenched as the medium of instruction but there are growing reservations about the neglect of Tongan. Increasing emphasis may be given to Tongan in the future
Tuvalu	English	English	-	English important in regional context
Western Samoa	Samoan English	Samoan English	-	-

\*In the column entitled 'Other Prescribed Languages' member states may have indicated languages other than the media of instruction which must be studied or languages which may be studied as options or electives.

EXAMINATIONS

Item 8.1 of the questionnaire requested that respondents indicate public examinations offered at different levels of the secondary system. Some countries have indicated the existence of an entrance examination to the secondary system and these responses have been included but this should not be taken to read that all secondary entrance examinations are listed below.

If an examination does not refer to the name of an overseas board or regional council, this indicates that the examination is set in the country in question.

CXC Caribbean Examinations Council

WAEC West African Examinations Council

LCC London Chamber of Commerce

Country	Public Examinations	Changes in Exam Policy
Australia (Western)	Tertiary Admissions Examination (TAE) at the end of Year 12	Matriculation level examinations abolished. 50% internal assessment for Certificate of Secondary Education (not a public examination). Calculators approved for selected subjects. Achievement Certificate has replaced Junior Examination
Bangladesh	Secondary School Certificate Class X. Higher Secondary School Certificate Class XII	-
Barbados	Secondary Schools' Entrance Grade 6. Secondary Schools' Certificate Stage 1 Grade 9. Caribbean Exams Council and Overseas GCE Boards 'O' Level Grade 11. 'A' Level Cambridge and London Grade 13	Schools encouraged to enter candidates for CXC exams rather than those offered by UK Boards

Country	Public Examinations	Changes in Exam Policy
Botswana	Junior Certificate Form III Cambridge Overseas School Certificate Form V	Administrative control for Junior Certificate since 1979 after leaving Botswana, Lesotho and Swaziland Examination Council
Canada (Manitoba)	No public examinations. Examinations responsibility of local school districts	External exam system dis- continued in 1970. Indi- vidual school divisions now responsible for test- ing, promotion and gradu- ation of students
Canada (Quebec)	Department exams compul- sory for academic sub- jects during last two years of school. In future departmental examinations for certain courses to be announced each year	Increased account taken of school assessment
Cyprus	No public exams. Stu- dents may sit for GCE 'O' and 'A' Level, LCC book-keeping and typing, City and Guilds and over- seas university entrance exams	Growing emphasis on conti- nuous assessment. Fewer examination subjects and new grading systems for internal examinations
Dominica	Cambridge Certificate of Education Form 5. London Chamber of Commerce Form 5	GCE pass level placed at Grade C
Fiji	Secondary entrance Class 8 Junior Certificate Form 4 New Zealand School Certi- ficate Form 5, New Zealand University Entrance Form 6 and Fiji Seventh Form Exam Form 7	Move towards localizing New Zealand School Certi- ficate (Fiji options). Increased involvement in setting and marking NZ School Certificate. Increased range of exam subjects. More students passing exams as increase in places at different stages

Country	Public Examinations	Changes in Exam Policy
Gambia	Selective entrance exam Primary 6, West African Examinations Council, 'O' Level Form 5, WAEC 'A' Level Upper 6 and School leaving exam (Secondary Technical)	-
Great Britain (England and Wales)	General Certificate of Education. 'O' Level and 'A' Level, usually taken at 16 and 18. Certificate of Secondary Education, taken at completion of 5 years of secondary education	<p>Close study has and is being given to:</p> <p>(i) A single examination to replace GCE 'O' Level and CSE</p> <p>(ii) The replacement of the present 'A' Level by a broader combination of subjects taken at different levels of difficulty</p> <p>(iii) The introduction of a Certificate of Extended Education to be taken at approximately 17 years</p> <p>No firm policy decision has been taken</p>
Great Britain (Northern Ireland)	N.I. Schools Examination Council. GCE 'O' Level at 16+years Year 5, GCE 'A' Level at 18+years Year 7 and Certificate of Secondary Education Year 5	GCE 'O' Level grading changed from 1-9 to A to F with no pass/fail. Move towards greater teacher assessment
Grenada	'O' and 'A' Level Cambridge, London and Caribbean Examinations Council. City and Guilds and Association of Certified Accountants exams	Schools now enter for GCE and CXC

Country	Public Examinations	Changes in Exam Policy
Guyana	Secondary school proficiency exam for Community High School Programme. Part 1 at end Year 3 and Part 2 at end of Year 4. GCE - London University Board Year 5. CXC - Secondary School Certificate Year 5 and 'A' Level London University Board	Regional exams have begun to phase out London 'O' Level paper. Local Secondary School Proficiency exams have replaced College of Preceptors exam since 1978
India	Class X High School Exam/Matriculation and Class XI and XII Higher Secondary/Intermediate	Evaluation now taken as continuous process; internal assessment with external assessment. Objective questions as well as essay type. Grades rather than marks. Attempt to evaluate effective and psychomotor domains as well as cognitive
Jamaica	Jamaica School Certificate (individual entry) Grade 10, Secondary School Certificate (school entry) Grade 11. GCE and CXC 'O' Levels (school and individual entry) Grade 11 and GCE 'A' Level (school and individual entry) Grade 13	CXC will gradually replace GCE. Recent development of Secondary School Certificate
Malaysia	Lower Certificate of Education Form III, Malaysian Certificate of Education Form V and Higher School Certificate Form VI	Increasing role played by Exam Syndicate and University of Malaya in MCE and HSC exams; correspondingly smaller role by Cambridge Exam Syndicate
Malta	End of Form V GCE 'O' Level, Oxford, London, AEB or Malta Matriculation. End of Form VI GCE 'A' Level (as above)	GCE exams in Maltese and Italian substituted by Maltese Matriculation exams for entry to higher education. 'A' Level English (Oxford) specially prepared for Maltese students
Mauritius	Mauritius Institute of Education Form III, Cambridge School Certificate Form V and Cambridge Higher School Certificate Form VI	Introduction of national exam at Form III

Country	Public Examinations	Changes in Exam Policy
New Zealand	School Certificate Form 5. Most subjects externally examined, some are internally assessed, others combine internal assessment and moderation by Department of Education. University Entrance Form 6, gained by exam or accreditation. University Bursaries Exam and University Scholarship - responsibility of Universities Entrance Board	Development of single subject awards. Increase in school assessment
Nigeria	West African School Certificate, Form V, West African Higher School Certificate, two years after School Certificate	Objective tests introduced where possible. Gradually, English Language and Mathematics being de-emphasized
Papua New Guinea	Primary leaving exam Grade 6 Mid-year rating exam Grade 10 (MYRE), School Certificate Grade 10 and Trial exams Grade 12	Since 1975 School Certificate exams internally marked although questions supplied by Ministry for core subjects. 75% of final grade based on internal assessment in grades 9 and 10. MYRE taken in July to determine percentage of distinctions and credits awarded to the school.
St Lucia	Junior Secondary School Leaving Exam Form 3 Cambridge 'O' Level Form 5 'A' Level Form 6 CXC Secondary School Certificate Form 5	Cambridge GCE being phased out. Increase in multiple choice questions. Attempts to standardize local exam.
Seychelles	Junior Secondary Year 8 Cambridge 'O' Level at Secondary 3 and Cambridge 'A' Level	Abolished Junior Secondary exam in Year 9 in favour of continuous assessment. Plan to abolish Junior Secondary entrance exam at the end of Year 6

Country	Public Examinations	Changes in Exam Policy
Sierra Leone	West African Examinations Council 'O' Level Year 5 'A' Level Year 7	Grades 7 and 8 at 'O' Level now accepted as a pass
Singapore	Primary School Leaving Examination Grade 6 GCE 'O' Level Grade 10 Cambridge and GCE 'A' Level Grade 12 Cambridge	Primary leaving exam gives double weightage to first and second language T. score to grade candidates from 1973. 'O' Level changed from certificate to subject exam in 1971. Similar 'A' Level change in 1975
Solomon Islands	Primary leaving examination, Primary 6 and Solomon Islands School Certificate - Form 5	Change over from Cambridge in 1978. New Form 3 exam to be established in 1981
Sri Lanka	GCE 'O' Level Junior Secondary, GCE 'A' Level Senior Secondary. Set by Sri Lanka examinations department	-
Swaziland	Certificate of Primary Education Grade 7 Junior Certificate Grade 10 and Cambridge Overseas School Certificate Grade 12	-
Tanzania	National Form IV exam National Form VI exam	Exams measure non-cognitive factors. Exams encourage group competition. Continuous assessment favoured. National exams constitute 50% of final mark
Tonga	Secondary Schools' Entrance Examination Class 6, Higher Leaving Certificate Class 12, New Zealand School Certificate, Form V in academic secondary schools and Year 14 in general secondary. NZ University Entrance Examination, Year 15 in general secondary schools and Form VI in academic schools	-

Country	Public Examinations	Changes in Exam Policy
Tuvalu	Common Entrance Exam Class 6-7, Fiji Junior Certificate Form 4 and New Zealand School Certificate Upper 5th Form	-
Western Samoa	High school entrance Form 2/Grade 8, Junior High School leaving certificate, Form 5 lower, New Zealand School Certificate Form 5 upper and New Zealand University Entrance Form 6	-

COMMONWEALTH SECRETARIAT

SURVEY OF TRENDS IN CURRICULUM REFORMS  
IN SECONDARY SCHOOLS OF COMMONWEALTH COUNTRIES

QUESTIONNAIRE

Name of Respondent: .....

Official Designation: .....

Name of Country or Institution: .....

Please return to:

The Director  
Education Division  
Commonwealth Secretariat  
Marlborough House  
Pall Mall  
London SW1Y 5HX

## AN EXPLANATORY NOTE

In the preparation of this questionnaire no particular country was taken as a model. Since the Commonwealth displays a great variety of educational patterns and structures and an equally great variety in regard to population and size, it is possible that this questionnaire might be too detailed for some countries and inadequate to reflect the many local variations that obtain in others. What is required therefore from the returns is the broad pattern of changes proposed or taking place in secondary schools with as much detail as possible to make these explicit.

It would help if, in addition to the return of the questionnaire, any recent publications and statements of policy available, dealing with curriculum changes in secondary schools, are forwarded to us at the same time. If there are any special projects in this particular field which you consider would be of significance to other Commonwealth countries we would welcome more detailed accounts of these together with published material in support, if there is any. In regard to statistical returns it is expected that the latest figures would be used and that their date of compilation would be indicated. Since the last survey of this kind undertaken by the Commonwealth Secretariat was in 1971, information since this date is particularly important.

In the questionnaire, technical terms have been reduced to a minimum so that no additional explanation is necessary beyond what is given in the text. It is possible that some of the terms used would carry different meanings in different contexts within the Commonwealth. In regard to the broad term "secondary school" used in the questionnaire, the UNESCO definition of "Second Level, General" has been accepted.

The term "Second Level, General" refers to education in "secondary schools" that provide general or specialized instruction based upon at least four years previous instruction at the first level, and which do not aim at preparing the pupils directly for a given trade or occupation. Such schools may be called high schools, middle schools, lyceums, gymnasiums, etc., and offer courses of study whose completion is a minimum condition for admission to a university. In many countries because of the desire to provide other types of training for students not proceeding to university, there has been a development of schools with the aim of providing both academic and vocational training. These "composite" secondary schools are considered as equivalent to the academic type of secondary school and are classified as "Second Level, General".

It is possible that in answering the questionnaire the space allotted under each section and/or sub-section is inadequate for your inserted answer. For this reason the page opposite has been left blank so that you may continue your answer there. If you have occasion to do this please indicate the section number on the margin of each such insertion. The blank pages at the end of the questionnaire are for project information and any general observations you may wish to make.

## PART A

### ORGANIZATION AND PLANNING

Please append a diagram indicating the official structure of the formal education system in your country. (For guidance see the example provided on p.13).

#### 1. CONTROL OF THE CURRICULUM OF GENERAL SECONDARY EDUCATION

(By general secondary education here we mean schools which are not wholly specialized, e.g. technical, craft, commercial, etc.).

1.1 Name the MAIN controlling authority (ies) responsible for the planning and development of the curriculum of general secondary education.

(If available please supply diagrams of machinery of curriculum learning and development. No set format is required but an example is appended on p.14).

1.2 Name the SPECIFIC agencies, if any, responsible for: 6

1.2.1 specification of national educational aims and goals

1.2.2 curriculum plans (e.g. syllabuses)

1.2.3 policy on instructional materials (including printed materials, TV and radio), in respect of:

(a) content

(b) production (e.g. parastatal or commercial, both)

(c) distribution

1.2.4 public examinations  
(please describe the composition of controlling agencies indicating involvement of international, national and regional bodies).

1.2.5 curriculum of secondary teacher education  
(please specify where separate controlling authorities exist for junior and senior secondary).

1.3 If secondary education is available via distance teaching (e.g. correspondence, television) please state how the institutional framework for curriculum control and policy is different for this type of secondary education.

#### 2. CURRICULUM CO-ORDINATION

What machinery exists for co-ordinating the curriculum of secondary stage education between:

2.1 general secondary and other provision at the second level (e.g. technical, religious, special schools).

2.2 formal school provision and non-formal agencies (e.g. youth brigades, farm institutes).

2.3 secondary and primary

2.4 secondary and tertiary

3. PARTICIPATION IN CURRICULUM DEVELOPMENT AND PLANNING

3.1 LOCALLY-BASED CURRICULUM DEVELOPMENT

This section concentrates on how far teachers and other local personnel participate in planning, refining and implementing the curriculum.

In what aspects of the curriculum have local initiatives and involvement been most apparent? (e.g. plans and materials for specific subjects, school-community links, work experience).

3.2 Comment on the role of the following (if applicable) in curriculum development:

- (i) teachers' colleges
- (ii) teachers' centres
- (iii) locally-run curriculum resource centres, units, etc.
- (iv) local boards, panels or committees
- (v) subject associations and societies
- (vi) parent - teacher associations
- (vii) extension and welfare services
- (viii) co-operatives and other self-help groups
- (ix) other .....

4. MAJOR CHANGES

Describe any major changes made in recent years or planned in respect of the machinery for curriculum control, development and co-ordination. Please attach any appropriate documents.

PART B

CURRICULUM CONTENT

5. GOALS

5.1 Are national goals for the secondary curriculum explicitly stated? If so, indicate where and include statement of these goals.

5.2 What significant changes or modifications of such official statements have there been in the last decade?

5.3 Please indicate any other public statements incorporating goals or national philosophies, in moral, religious, political, social or economic spheres which have been widely adopted as a basis for determining secondary school curriculum. (please include a copy of public statements if available)

5.4 Which goals for national development planning are particularly emphasized in national curricula at secondary level?

## 6. LANGUAGE

6.1 Which language(s) is/are recognized as official national language/languages?

6.2 Which languages are used as media of instruction in secondary schools?

6.3 Which other languages are prescribed as subjects in secondary schools and at what levels?

6.4 Comment on the extent of use of these languages

6.4.1 - in prescribed texts

6.4.2 - in public examinations

6.5 Have there been significant changes in language policy in secondary schools in recent years? If so please comment.

## 7. CURRICULUM PLANS

### PRINCIPAL FEATURES

Please comment in GENERAL terms on trends in the national secondary school curriculum in respect of the following categories, (indicating where differences exist between lower and upper levels).

7.1 a common or differentiated curriculum with respect to different categories of general secondary school.

7.2 policies in regard to ability streaming BETWEEN different categories of general secondary schools.

7.3 policies in regard to ability streaming WITHIN schools.

7.4 the balance between core (compulsory) and optional (elective) subjects (See also 7.10).

7.5 policies in regard to integration of education and work.

7.6 policies in regard to the development of community schools.

### 7.7 SYLLABUS

Is there a prescribed syllabus for all subjects? If separate subject syllabuses are issued state which.

7.8 What major revisions have taken place in the last decade (e.g. issue of new syllabus documents in all or some subjects) and if so when?

### 7.9 GUIDELINES

Are curriculum guidelines - e.g. official handbooks of suggestions for teachers available? If so, please specify subjects.

7.10 COMPULSORY AND OPTIONAL (ELECTIVE) SUBJECTS

(If comprehensive statements of officially prescribed subjects and time allocations exist, please supply).

7.10.1 What subjects, if any, are compulsory at what levels?

7.10.2 What subjects are officially recommended as optional subjects?

7.10.3 In cases where official time allocations exist for specific subjects please indicate below:

GRADE/CLASS

	1	2	3	4	(5)	(6)	...	...
Compulsory subjects (Minutes per week)								
Optional subjects (Minutes per week)								
Teaching time per week normally available (e.g. 30 hours)								

7.10.4 Please indicate significant trends in respect of compulsory and optional subjects recommended in the last ten years (e.g. new subjects recommended; subjects discontinued; significant changes in recommended time allocations).

7.10.5 Please comment on trends towards subject specialization and/or integration in the last ten years; (e.g. integrated science at the junior secondary level).

## 7.11 CHANGES IN EMPHASIS

Describe any recent major changes in emphasis within specific subject programme or groups of subjects (e.g. new approaches in mathematics, science, social community education).

## 8. EXAMINATION AND ASSESSMENT

8.1 Public examinations offered at different levels. Please give name of examination and state the grade in which pupils take it.

8.2 Which compulsory subjects are prescribed at various levels nationally or regionally for public examinations?

8.3 Which optional subjects are offered? If possible please indicate percentages of total entrants offering such subjects.

8.4 Are students required to offer and pass certain combinations or groups of subjects? If so please specify. (If official statements of policy and regulations for examinations exist, please supply).

8.5 What changes have taken place in examination policy during the last decade?

8.6 What major changes have taken place in choice of subjects by candidates?

8.7 To what extent have methods of assessment changed? e.g. more or less use of multiple choice questions and marking machines; greater or less emphasis on teacher based assessment; more or less emphasis on project or assignment work in comparison to "closed" questions.

8.8 Describe any significant trends in modes of assessment, e.g. greater emphasis on alternatives to formal examinations at secondary level.

## 9. MATERIALS AND MEDIA

9.1 What significant official programmes for the design and production of teaching/learning materials for specific subjects have been undertaken in recent years?

9.2 Have the mass media (e.g. radio and television) significantly influenced the design of curricula for secondary education? Please comment on grades and subjects where most use has been made of the mass media.

9.3 What further trends have there been in the development of materials and media?

## 10. THE CURRICULUM OF TEACHER EDUCATION

Comment on the curriculum of teacher education in relation to the changing emphases in the secondary school curriculum. (Please differentiate between junior and senior secondary levels where necessary).

## PART C

### RECENT PROGRAMMES AND PROJECTS

11. This section concentrates on the identification of particular significant curriculum projects, pilot studies and initiatives which have been undertaken IN THE LAST FIVE YEARS or which are currently in the process of development. Please describe each project separately on pages attached to the end of the questionnaire.

We particularly invite consideration of programmes and projects designed to increase EFFICIENCY or RELEVANCE in the school curriculum with respect to:

- (a) Specific subject areas.
- (b) The relationship between school and work.
- (c) The relationship between school and community.

In each case please describe the project under the following headings:

- (a) Brief description of objectives.
- (b) Where sited (e.g. name of region, rural/urban, etc)
- (c) How controlled (e.g. National C.D. Unit, Institute of Education, etc.).
- (d) By whom sponsored (including type of inputs from international sources).
- (e) Time scale (e.g. 1975-77, or 5 years from 1978).
- (f) Size and scale of the project - either large, medium or small. (A project in national terms may be judged large, medium or small in relation to the combination of financial, human and material resources allocated to it and the geographical area covered (or target school population).
- (g) Please comment on any other features of the project; comment on any significant strengths and weaknesses that have become apparent from experience in the design, organization and implementation of this programme or project.

## PART D

### COMMONWEALTH CO-OPERATION

12. Are there any recent curriculum reforms in Secondary Schools which have benefited from the experience or contribution of other Commonwealth countries?

13. Indicate any areas of need in curriculum development which could gain from co-operation with:

- (a) Other Commonwealth countries.
- (b) The Commonwealth Secretariat.

APPENDIX

This section asks for some basic up-to-date statistics on enrolments and teacher supply.

ENROLMENTS

1. What general direction is secondary education taking? e.g. Is there expansion and if so for what reasons?
2. Numbers of schools and enrolments by grade including participation of girls. (Please attach latest official statistic with dates).
3. Percentage of primary school leavers entering form 1 of secondary schools.
4. Percentage of appropriate age group in full time secondary education. It may be necessary to distinguish between junior and senior secondary levels.
5. Official figures for drop outs and repeaters in the secondary system.
6. Percentages of secondary school leavers continuing to further education. Differentiate, where possible, between University, technical and vocational courses.
7. Types of non-formal educational provision offered for out-of-school Youth in the secondary school age group.

TEACHERS

8. Average staff student ratio in secondary schools. (Please differentiate if necessary between junior and senior secondary levels and where major regional and other variations exist).
9. Please complete the table below indicating levels of education and training of secondary school teachers.

Total Numbers of Teachers*	Total Numbers in Junior Secondary	Total Numbers in Senior Secondary
Graduate trained		
Graduate untrained		
Non-graduate trained		
Non-graduate untrained		

\*(or percentages)

- END -

Thank you very much for your co-operation

APPENDIX 6

COMMONWEALTH DESKS IN MINISTRIES OF EDUCATION

AUSTRALIA	Mr Frank Grotowski Director, International Relations Section International Education Branch Department of Education P O Box 826 Woden Canberra ACT 2606
THE BAHAMAS	Director of Education Ministry of Education and Culture P O Box N3913 Nassau
BANGLADESH	Secretary National Commission for Unesco Ministry of Education and Cultural Affairs Secretariat Buildings Dacca
BARBADOS	Mr L Jordan Senior Assistant Secretary (Planning Division) Ministry of Education and Culture Jemmott's Lane Bridgetown
BOTSWANA	Mr C A R Motsepe Deputy Permanent Secretary Ministry of Education Private Bag 005 Gaborone
BRITAIN	Mr L E Dawes Overseas Development Administration Eland House Stag Place London SW1E 5DH
CANADA	Academic Relations Division Department of External Affairs Ottawa
CYPRUS	Mr G C Economides International Relations Office Ministry of Education Nicosia
DOMINICA	Ministry of Education and Health Government Headquarters Roseau

FIJI	Deputy Secretary Ministry of Education c/o Department of Foreign Affairs Prime Minister's Office Suva
THE GAMBIA	Director of Education Education Department Bedford Building Banjul
GHANA	Principal Assistant Secretary (General Administration) Ministry of Education and Culture Ministry Branch Post Office P O Box M45 Accra
GRENADA	Mr R O Palmer Chief Education Officer Ministry of Education Youth and Social Affairs Young Street St George's
GUYANA	Mrs Carmen Jarvis Secretary-General National Commission for Unesco Ministry of Education Social Development and Culture 21 Brickdam Georgetown
INDIA	Secretary Indian National Commission for Co-operation with Unesco Ministry of Education and Social Welfare Department of Education Shastri Bhavan New Delhi 110001
JAMAICA	Ministry of Education P O Box 498 Kingston
KENYA	Secretary-General National Commission for Unesco Ministry of Education P O Box 30040 Nairobi
KIRIBATI	Ministry of Education Training and Culture c/o Minister of Foreign Affairs Ministry of Foreign Affairs Kiribati South Pacific

LESOTHO	Mrs I Monoto National Commission for Unesco P O Box MS47 Maseru
MALAWI	National Commission for Unesco Ministry of Education Private Bag 328 Capital City Lilongwe 3
MALAYSIA	Under Secretary Foreign Affairs Division Ministry of Education Federal House Kuala Lumpur
MALTA	Mr Paul Ebejer Ministry of Education Valletta
MAURITIUS	Ministry of Education and Cultural Affairs Port Louis
NAURU	Secretary for External Affairs Ministry of External Affairs
NEW ZEALAND	Director International Education Division Department of Education Private Bag Government Buildings Wellington
NIGERIA	Mrs Abisogun-Alo Nigerian National Commission for Unesco Federal Ministry of Education Victoria Island Lagos
PAPUA NEW GUINEA	Mr P Songo Ministry of Education, Science & Culture Department of Education PSA Haus Private Mail Bag Post Office Boroko
ST LUCIA	Mr Leonard Simon Education Officer (Planning) Ministry of Education and Culture Castries
ST VINCENT	Mr F A Toney Chief Education Officer Ministry of Education Kingstown

SEYCHELLES	Mr G D Payet Liaison Officer. (Commonwealth) Ministry of Education and Culture La Bastille P O Box 48
SIERRA LEONE	Mr H L Tucker Secretary Unesco National Commission Ministry of Education New England Freetown
SINGAPORE	Assistant Director (External Relations) Ministry of Education Kay Siang Road P O Box 746 Singapore 10
SOLOMON ISLANDS	Mr Geoffrey Siapu Chief Education Officer Ministry of Education and Training Honiara
SRI LANKA	Mr J T Dumbukola Additional Secretary Ministry of Education Malay Street Colombo 2
SWAZILAND	Permanent Secretary Ministry of Education P O Box 39 Mbabane
TANZANIA	Mr E Muze Commissioner for Higher Education (Attention MDK) Ministry of National Education P O Box 9121 Dar es Salaam
TONGA	Miss Ana Taufe'ulungaki Senior Education Officer for Curriculum Department of Education P O Box 61 Nuku'alofa
TRINIDAD & TOBAGO	Mr Waldron Emmanuel Director Educational Planning Unit Ministry of Education and Culture Alexandra Street St Clair Port of Spain

TUVALU                    Mr Pasoni Taafaki  
                              Senior Education Officer  
                              c/o Ministry of Social Services  
                              Funafuti Atoll

UGANDA                    Mr Joseph S Magoba  
                              Secretary-General  
                              Uganda National Commission for Unesco  
                              Ministry of Education  
                              P O Box 7063  
                              Kampala

WESTERN SAMOA            Mr R C Bishop  
                              Director of Education (Secondary)  
                              c/o Secretary to Government  
                              Prime Minister's Department  
                              Apia

ZAMBIA                    Permanent Secretary  
                              Ministry of Education  
                              P O Box RW93  
                              Ridgeway  
                              Lusaka

## MINISTRIES OF EDUCATION

<u>Country</u>	<u>Address</u>
AUSTRALIA	Department of Education P O Box 826 Woden Caberra ACT 2606
THE BAHAMAS	Ministry of Education and Culture P O Box N3913 Nassau
BANGLADESH	Ministry of Education and Cultural Affairs Secretariat Buildings Dacca
BARBADOS	Ministry of Education and Culture Jemmott's Lane Bridgetown
BOTSWANA	Ministry of Education Private Bag 005 Gaborone
BRITAIN	Secretary of State for Education Elizabeth House York Road London SE1 7PH
CANADA	Liaison Officer Elementary/Secondary Education Council of Ministers of Education 252 Bloor West, Suite S500 Toronto Canada M5 S1V5
CYPRUS	Ministry of Education Nicosia
DOMINICA	Ministry of Education and Health Government Headquarters Roseau
FIJI	Ministry of Education c/o Department of Foreign Affairs Prime Minister's Office Suva

<u>Country</u>	<u>Address</u>
THE GAMBIA	Ministry of Education, Youth and Sports Bedford Place Building Banjul
GHANA	Ministry of Education and Culture P O Box M45 Accra
GRENADA	Ministry of Education St Georges
GUYANA	Ministry of Education, Social Development and Culture P O Box 1014 21 Brickdam Georgetown
INDIA	Ministry of Education and Social Welfare Shastri Bhavan New Delhi 1
JAMAICA	Ministry of Education P O Box 498 2 National Heroes Circle Kingston
KENYA	Ministry of Education P O Box 30040 Nairobi
KIRIBATI	Ministry of Education Training and Culture c/o Minister of Foreign Affairs Ministry of Foreign Affairs Kiribati South Pacific
LESOTHO	Ministry of Education, Sports and Recreation P O Box 47 Maseru
MALAWI	Ministry of Education Private Bag 328 Lilongwe 3
MALAYSIA	Ministry of Education Federal House Kuala Lumpur
MALTA	Ministry of Education Valletta

<u>Country</u>	<u>Address</u>
MAURITIUS	Ministry of Education and Cultural Affairs Port Louis
NAURU	Secretary for External Affairs Ministry of External Affairs Nauru
NEW ZEALAND	Department of Education Private Bag Government Buildings Wellington
NIGERIA	Federal Ministry of Education 1-3 Moloney Street Lagos
PAPUA NEW GUINEA	Department of Education, Science and Culture P O Box 2051 Konedobu
ST LUCIA	Ministry of Education and Culture Castries
ST VINCENT	Ministry of Education St Vincent
SEYCHELLES	Ministry of Education and Culture La Bastille P O Box 48
SIERRA LEONE	Ministry of Education New England Freetown
SINGAPORE	Ministry of Education Kay Siang Road P O Box 746 Singapore 10
SOLOMON ISLANDS	Ministry of Education and Training c/o Secretary for Foreign Affairs Foreign Affairs Department P O Box G1 Honiara
SRI LANKA	Ministry of Education Malay Street Colombo 2

<u>Country</u>	<u>Address</u>
SWAZILAND	Ministry of Education P O Box 39 Mbabane
TANZANIA	Ministry of National Education P O Box 9121 Dar es Salaam
TONGA	Ministry of Education P O Box 61 Nuku'alofa
TRINIDAD & TOBAGO	Ministry of Education and Culture Alexandra Street St Clair Port of Spain
TUVALU	Department of Education Funafuti
UGANDA	Ministry of Education Crested Towers P O Box 7063 Kampala
WESTERN SAMOA	Ministry of Education c/o Secretary to Government Prime Minister's Department Apia
ZAMBIA	Ministry of Education P O Box RW93 Ridgeway Lusaka

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