Innovation in Technical and Vocational Education and Training in Island Developing and other Specially Disadvantaged States

Report of a Commonwealth Caribbean Regional Meeting
Nassau, The Bahamas, 26-30 April 1982

Commonwealth Secretariat

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PREFACE

Recognition of the interdependence of countries in the modern world does not lessen the determination of Commonwealth member states to reduce their dependence on foreign resources where needs can be met through better utilisation of indigenous resources. The more effective use of natural and human resources is the foundation of development policies in developed and developing countries alike.

Twenty-eight countries of the Commonwealth have a population each of less than two million. For them, as for other countries of the Commonwealth, it is important that national resources should be put to the fullest and most effective use. Many of the small countries suffer from a paucity of natural resources as well as cultural and industrial exploitation; they suffer too from problems associated with isolation, scale and limited political muscle on the world's economic and political negotiating stage. The most precious resource available to them consists of their people. It is they who, with a judicious combination of traditional and newly won skills, can ensure that their total resource base is put to the best possible use.

It is now widely recognised that the contribution of technical and vocational education is a crucial component in the development of the Island Developing and Other Specially Disadvantaged States of the Commonwealth. It is a contribution which is increasingly seen as encompassing a range of training programmes, courses and activities designed and implemented locally, to match specific and urgent national development needs. It was in recognition of this that the Eighth Commonwealth Education Conference (8CEC) meeting in Colombo, Sri Lanka 1980 recommended that the Secretariat should provide opportunities for the small states of the Commonwealth to meet together to examine the diversity and similarity of educational need. It recommended too that special attention should be given to an examination of the problems of achieving and supporting appropriate innovation in the field of technical and vocational education, though it was recognised that this would have different connotations in different countries.

It was against this background that the Education Division (now the Education Programme of the Human Resource Development Group) organised a regional meeting for the countries of the Commonwealth Caribbean in Nassau, The Bahamas, from 26-30 April 1982. As the report which follows shows, it was a very practical meeting of technical educators. It addressed itself to the ways and means by which technical and vocational education and training can be flexible and innovative in its response to real and urgent development needs. This report is offered to all member countries as a tool by which those with responsibility for policy and training may examine their own national and institutional policies in order to enhance their contribution to meeting the needs of our smaller member countries and to assist the fullest utilisation of indigenous resources.

Rex E O Akpofure
Director, Education Programme
Human Resource Development Group

INTRODUCTION

Twenty-seven of the 47[1] member countries of the Commonwealth have a population of less than 2,000,000 people. Of this group 18 countries have fewer than 500,000 people and seven of them have less than 100,000. Ten of the 27 countries lie within the Caribbean region and another eight are in the South Pacific.

Recognition of the distinctive problems which confront the smaller nations of the Commonwealth has resulted in initiation by the Commonwealth Secretariat of a number of programmes and projects for what is termed collectively the Island Developing and Other Specially Disadvantaged States of the Commonwealth. Support for special measures of Commonwealth assistance was re-affirmed most recently at the Commonwealth Heads of Government Meeting held in Melbourne, Australia in October 1981. Heads of Government acknowledged the existence of distinctive economic and trading difficulties related, in part, to limited human and natural resource endownments, coupled with specific transport and energy problems, and requested the Commonwealth Secretariat to strengthen Commonwealth assistance to the countries in question.

In the 1981-82 financial year the Secretariat's Commonwealth Fund for Technical Co-operation (CFTC) spent 36 per cent of its total programme expenditure on these smaller members of the Commonwealth, especially in support of scholarships and the provision of experts and consultants. In addition, educational development, export marketing, industrial development, the training of public administrators and the role of women in development have received attention from specialist divisions and units within the Secretariat. A few studies have been undertaken of the distinctive economic problems of small states, and of the implications of smallness and remoteness for health services.

WORK OF THE EDUCATION PROGRAMME OF THE COMMONWEALTH SECRETARIAT

Much of the work of the Education Programme of the Human Resource Development Group (the Education Division prior to January 1983) has been based on the provision of courses, seminars and meetings at a regional level. Therefore, support for the educational development of the Commonwealth Caribbean and of the Commonwealth Pacific has been of major concern in areas such as technical education, teacher education, book development, educational administration and the teaching of science and mathematics. Current initiatives include the proposed establishment of a Commonwealth Regional Training Programme for Educational Administration in the Caribbean following the recommendations of a regional meeting held in Jamaica in July 1982.

However, in addition to initiatives in established sectors of education, the 1979 meeting of Senior Education Officials recommended that the Education Division should undertake a survey of the educational problems of Island

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1 In September 1983 St Christopher-Nevis became the forty-eighth member country of the Commonwealth.

Developing and Other Specially Disadvantaged States of the Commonwealth in preparation for the Eighth Commonwealth Education Conference (8CEC). Based upon information received from member states a discussion paper entitled "Education in the Island Developing and Other Specially Disadvantaged States" (reference 8CEC/WP/2) was presented at the 8CEC held in Sri Lanka in August 1980. The Conference recommended that the paper should be supplemented and then revised. The revision, which is to be published shortly, pays particular attention to the problems of developing effective educational systems in the light of an analysis of the advantages and disadvantages imposed or brought about by scale, isolation and dependence in the smaller countries of the Commonwealth.

BACKGROUND TO THE MEETING

Another major recommendation of 8CEC was that "... the Secretariat develop its informational base and that of the island developing and other disadvantaged states over the next three years through initiatives that will provide opportunities for the small states of the Commonwealth to meet together to examine the diversity and commonality of educational need" (8CEC Report, para 160). Coupled with this recommendation was the statement in paragraph 161 of the 8CEC Report that "... meetings should be held to examine the problems of effecting and supporting appropriate innovation in the field of technical and vocational education and training, recognising that this will have different connotations in different countries "(para 161).

Technical and vocational education and training has been a major component of the work programme of the Education Division for nearly 15 years. During this period particular stress has been placed on the liaison between industry and technical education, the development of technical teacher training, the development of examinations in technical subjects, the provision of industrial experience, and the establishment and furtherance of regional co-operation among technical institutions.

These needs present a distinctive spectrum of difficulties in the Island Developing and Other Specially Disadvantaged States of the Commonwealth. The industrial base is likely to be small and narrow, and during the current recession stagnant, thereby providing limited employment opportunities. The formal educational base is also likely to be limited. Although most countries have their own small technical college, few offer technical teacher training or have their own examinations system or develop most of their own teaching materials. For these requirements there is dependence on countries overseas, often at relatively high economic and social cost.

Recognising the growing demand for effective and efficient technical and vocational education and training, yet aware of the special economic and educational limitations posed within the Island Developing and Other Specially Disadvantaged States of the Commonwealth, a meeting was organised by the Eduction Division of the Secretariat with funds from its Commonwealth Fund for Technical Co-operation (CFTC) from 26-30 April 1982 in Nassau, The Bahamas. It sought to examine appropriate ways and means by which technical and vocational education and training could benefit from greater innovative and cost conscious use of indigenous resources, both human and capital, in countries of the Commonwealth Caribbean.

OBJECTIVES OF THE MEETING

The meeting had three broad objectives:

1. To examine the current contribution to development of technical and vocational education and training within the Caribbean and other regions of the Commonwealth.

2. To examine innovation in the practice and management of technical and vocational education appropriate to the development needs of Island Developing and Other Specially Disadvantaged States.

3. To improve and develop regional and pan-Commonwealth co-operation to assist innovation in such states in technical and vocational education and training.

In pursuing these objectives the meeting identified projects and proposals, innovative in character, and with particular emphasis on the use of indigenous resources, which respect national ambitions, reflect actual needs - such as food production, job creation and community development - and relate to the range of agencies and possible mechanisms which can provide relevant education and training for adults as well as young people. In addition to the established forms of technician and craft training the meeting sought to recognise the present and potentially greater contribution of family and other small scale employers, and that of churches, voluntary organisations and local groups. The meeting was also concerned with the management and co-ordination of technical and vocational education and training.

The meeting stressed that the appropriate scope for technical and vocational education and training is not confined to any specific number of examinable training courses in formal education institutions. In this respect the meeting sought to examine the attitudes of those concerned with technical and vocational education and training through recognising that it has a broad developmental role to play. In this context technical and vocational education and training can take many forms, from the informal transmission of skills and knowledge from one individual to another through to highly organised and examinable national training courses. As the needs are numerous and varied, the responses must be flexible and not constrained by inherited models.

The scope and sequence of the meeting is reflected in the seven main chapters of this report. These are:

1. The Contribution of Technical and Vocational Education and Training to Development.

2. The Methodology of the Meeting.

3. Current Provision and Potential of Technical and Vocational Education and Training for Development.

4. The Management of Technical and Vocational Education and Training for Development.

5. Case Studies from the Commonwealth Caribbean and the Commonwealth Pacific.

6. Innovative Projects for Development.

7. Improving the Effectiveness of Technical and Vocational Education and Training through Regional and International Co-operation.

At the conclusion of the meeting the participants discussed and agreed upon a series of specific recommendations addressed to governments and to the Commonwealth Secretariat and other international agencies. The complete list of recommendations appears on page 6.

METHODOLOGY ADOPTED AT THE MEETING

The meeting had a practical orientation. For most of the week participants gathered in small workshop groups to isolate precise national development needs, examine existing training responses to those needs and identify the potential within national education and training systems which could improve training responses. This process is explored more fully in Chapter 2 of this report.

From an examination of these three stages, groups and individuals, although limited by time, proposed in outline specific training projects to match known economic and social development needs. The proposed projects were taken back in outline to the governments of the countries represented at the meeting for consideration and, where appropriate, subsequent implementation.

This workshop process was recognised by the participants as a valuable opportunity for the sharing of experience, needs, problems and innovations. Of particular interest and widely welcomed by the Caribbean participants was the infusion of ideas and information from Mauritius, Kiribati and Fiji, countries thousands of miles from the Caribbean but which offer examples of training programmes which can be applied in the Commonwealth Caribbean. The continuation of this sharing of experience can continue with the assistance of the Commonwealth Secretariat and through regional educational networks such as Unesco's recently established Caribbean Network of Educational Innovation for Development (CARNEID). The deliberate networking of educational information is especially important for small island countries which may suffer from professional isolation.

PARTICIPANTS AT THE MEETING

The importance attached to the meeting can be gauged by the response to the Commonwealth Secretariat's invitation. Fourteen of the 18 Commonwealth Caribbean countries, including associated states and dependent territories invited to attend accepted, as did three non-Caribbean countries - Fiji, Kiribati and Mauritius. Three of the Caribbean countries paid for a second participant to attend. Invitations to send an observer to the meeting were accepted by the Caribbean Community Secretariat (CARICOM), the Caribbean Examinations Council (CXC), the University of the West Indies (UWI) and the Association of Canadian Community Colleges (ACCC). The full list of participants is contained in Appendix A of this report.

THE GOVERNMENT OF THE BAHAMAS

The Ministry of Education and Culture played a vital role in ensuring that arrangements for the meeting were of a high standard. The Honourable Darrell E Rolle M.P., Minister of Education and Culture, formally opened the

meeting, and provided a valuable Bahamian insight into the problems with which participants would be grappling. The meeting was very ably chaired by Miss Marjorie Davis, Director of Education. Secretarial and administrative support was of the highest order. A warm welcome and memorable hospitality was extended to all participants, thereby providing the ideal context for the deliberations of the meeting.

RECOMMENDATIONS

The following recommendations are offered for consideration by governments, the Commonwealth Secretariat and other regional and international organisations. The numbers to the right of the page refer to the chapter and paragraph of the report in which the recomendations appear. Recommendations 25-28 do not appear in the text but were agreed to with all the other recommendations at the final plenary session of the meeting.

RECOMMENDATIONS ADDRESSED TO GOVERNMENTS

Policy Formulation (4.13)

Governments should :

1. Develop a consistent and long-term overall policy for technical and vocational education and training for development.

National Councils (4.13)

Governments should :

2. Establish, as a matter of urgency, wherever they do not exist, national councils which would bring together all those governmental and non-governmental agencies and institutions responsible for formal and non-formal technical and vocational education and training in order that effective programmes for development may be implemented and, as necessary, rationalised.

3. Ensure that national councils foster and increase collaboration between the government, the private sector and non-governmental organisations in order to improve the standards of technical and vocational education and training.

4. Establish appropriate machinery within and between government ministries to articulate and co-ordinate government training programmes for technical and vocational education and training.

5. Maximise the use of scarce resources by encouraging national councils to give close attention to the need for collaboration between different educational institutions offering similar courses.

Technical Colleges and Institutions (4.8)

Governments should :

6. Develop a consistent and long-term policy for technical and vocational education and training for development in technical colleges and institutions.

7. Draw upon the expertise of those working in technical colleges and institutions in the development of educational policies for technical and vocational education and training.

8. Ensure that policy makers respond positively to the development of technical and vocational education and training programmes in technical colleges and institutions.

9. Ensure that administrative decisions relating to technical and vocational education and training are translated into action at the earliest possible time.

10. Undertake a regular review of the management structures of technical colleges and institutions.

11. Make legal provision for the establishment of formal advisory boards for technical colleges and institutions.

12. Encourage positive relationships between personnel dealing with academic subjects and those dealing with technical and vocational education and training, recognising that this arises in part from the low status often accorded to the latter group.

13. Allow some flexibility in the administration of finance for technical and vocational education and training programmes in technical colleges and institutions. Increased financial autonomy should allow a greater local responsiveness to development needs.

14. Encourage staff development, and ensure that this is a major concern of the college or institution principal.

15. Emphasise evaluation as an important management tool in technical colleges and institutions.

16. Ensure that all programmes of technical and vocational education and training are based on clear objectives and that such objectives are achieved.

17. Ensure that training for the management of technical and vocational education and training institutions includes techniques of information gathering as these relate to the development of appropriate skills and courses.

Technical Teacher Training and Staff Development (4.8)

Governments should :

18. Ensure, through appropriate ministries, that technical teachers are up-graded by attending refresher courses and through attachments to industry.

19. Ensure that national technical teaching needs are satisfied by seeking internal and external funding, to provide for appropriate teacher training at regional institutions and elsewhere.

Schools (4.9)

Governments should :

20. Recognise the importance of technical and vocational subjects in the school curriculum. This importance should be reflected in appropriate weighting for this subject area in the school curriculum and timetable.

21. Introduce appropriate technical and vocational programmes at the primary or first cycle of schooling.

22. Encourage the acquisition and development of marketable skills by including the study and experience of work as a component of technical and vocational programmes in schools.

23. Ensure that schools place an increased emphasis on all aspects of agricultural education and training, including fishing.

The Community (4.9)

Governments should :

24. Make provision for parental and community involvement in school programmes of technical and vocational education and training.

The Private Sector

Governments should :

25. Approach manufacturers, and other elements of the private sector, for assistance with the provision of equipment, funds for scholarships and direct training opportunities.

New Technology

Governments should :

26. Ensure that the process of introducing new and specialised equipment to meet development needs includes training for the servicing and management of such equipment so that the maximum developmental benefit is derived. In this context particular attention is necessary regarding the processing and preservation of food.

Local Production

Governments should :

27. Organise campaigns and develop programmes at all levels of technical and vocational education and training which will encourage positive attitudes towards local products.

28. Ensure that technical and vocational education and training encourages the

setting of high standards for the production of local products for national agricultural and industrial markets.

Technical Co-operation between Developing Countries (7.10)

Governments should :

29. Give strong support to technical co-operation between developing countries in the field of technical and vocational education and training. This could include the exchange of teachers and students within and beyond the Commonwealth Caribbean, where this is perceived to be developmentally relevant. Other possibilities include the networking of training syllabuses, exchange of prototypes, attachments to ministries and institutions, and the development of professional associations.

RECOMMENDATIONS ADDRESSED TO THE COMMONWEALTH SECRETARIAT AND OTHER INTERNATIONAL AGENCIES

The Commonwealth Secretariat should : (7.16)

1. Provide expert assistance, through the mechanisms of the Commonwealth Fund for Technical Co-operation, to help with the promotion of technical and vocational education and training in the Commonwealth Caribbean. A consultant should be attached to an appropriate regional institution able to advise on the development of technical and vocational education and training in member states.

2. Continue to gather and disseminate information on technical and vocational education and training programmes throughout the Commonwealth.

3. Provide assistance with the formation of a regional association of technical colleges and institutions which would promote technical and vocational education in the Caribbean region.

The Commonwealth Secretariat and/or other agencies should : (7.16)

4. Prepare directories of funding agencies and distribute these widely in order to assist governments to develop a meaningful dialogue with those external agencies concerned with the promotion of technical and vocational education and training.

5. Increase the proportion of their expenditure which is devoted to the development of technical and vocational education and training.

6. Provide assistance for the purpose of training manpower planners from Island Developing and Other Specially Disadvantaged States.

7. Provide assistance for research into the effective and efficient development of technical and vocational education and training in Island Developing and Other Specially Disadvantaged States.

1. THE CONTRIBUTION OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING TO DEVELOPMENT

1.1 In the Island Developing and Other Specially Disadvantaged States of the Commonwealth there are many pressing development needs, nearly all of which have implications for technical and vocational education and training (TVET).

1.2 As the extracts from the Country Papers reproduced in this report show, there exists already a variety of training activity which plays an important part in national economic and social development by providing skilled manpower at craft and technician levels. This sample shows a wide range of programmes undertaken by ministries, educational institutions and private bodies.

1.3 However, it is evident that in the majority of small states scope exists for widening and enhancing the traditional contribution of TVET institutions by utilising the corpus of skills which they embody. At the same time the range of training resources for education and training outside of these institutions should be used in a more co-ordinated fashion.

1.4 Recognition of this fact does not require a debate on what precisely constitutes TVET. For those directly involved with practical programmes this is likely to be a sterile exercise. The debate is more meaningful when it concentrates upon isolating education and training activities which make a clear and genuine response to economic and social development. The meeting recognised that it is unlikely that a universally accepted definition can be found. It is much more productive if TVET is interpreted in the widest possible sense, including the development and enhancement of skills of all types and at all levels for clearly identifiable developmental purposes.

1.5 For many in the Commonwealth Caribbean very limited opportunities exist to benefit from the fruits of development especially in the commercial, modern sector of the economy. Amongst young people, where aspirations for a better life based upon material advancement are perhaps strongest, there is the bleak prospect of prolonged unemployment or underemployment. For girls and women the chances of regular gainful employment are invariably even more depressing than for men.

1.6 And yet skills training in strategically significant developmental areas would enhance the ability of the small island countries of the Caribbean to utilise and better manage their fragile resource base, foster the development of the neglected rural economy, promote and further the diversification of island economies including the establishment of small manufacturing and service industries, and lessen dependence on highly skilled foreign expertise. Not that overseas expertise is unwelcome in itself, but it is a symbol of dependence and a paradox when unemployment is unacceptably high at other levels within the economy.

1.7 The developmental search is for increased self-reliance based on maximising indigeneous resources. And yet, self-reliance is an elusive

concept in small states. Each nation seeks a political, economic and resource balance which is politically and socially acceptable. This search must recognise that there is scope for the improved and increased utilisation of all available resources: the soil, the sea, the mineral wealth, the landscape and the talents of the people even where this resource base is restricted and has been badly utilised and exploited.

1.8 An examination of the country extracts at the end of this chapter (p 14), which in turn reflect the aims and objectives of national development plans, shows that increased self-reliance based on the maximum use of indigenous resources is a developmental priority in many Commonwealth Caribbean countries. The broad strategic fronts along which development is sought can be categorised under the main heads of agricultural, industrial and service activity.

Agricultural development

1.9 The development of the rural areas of the Caribbean, and of island countries in the South Pacific and the Indian Ocean is a major policy priority. Invariably, agriculture, including fishing and forestry is the most important source of employment be it for subsistence or commercial production and yet in most countries there are significant problems in meeting domestic food requirements, resulting in high cost food imports. This stems in part from a history of monocultural export-oriented production. The diversification of agricultural activity is now required in order to provide more home produced foodstuffs at prices well below those which are imported. (see, for example, information on The Bahamas p 15, British Virgin Islands p 17, Dominica p 18, and St Christopher-Nevis p 20).

1.10 The diversification of the agricultural economy also relates to the need to manage with great care the often fragile ecological balance which exists on mountain slopes or atolls to take two significant examples.

1.11 For young people the prospect of working on the land or at sea is unattractive. Monetary returns are low. Expectations are oriented towards the town, invariably fostered by the educational system and the inherited urban development premises upon which it is based.

1.12 Some Island Developing and Other Specially Disadvantaged States report that the application of new forms of agricultural technology can open up new and more appealing opportunities in rural areas. Clearly such a process has implications for TVET. However, the experience of many countries is that the transfer and introduction of technology must be exercised with great caution especially if the innovation emanates from a different cultural context. Potential client groups must always be aware of the training, utility and the maintenance costs which accompany new forms of technology. These costs have social as well as economic implications, which must be carefully matched against the recipients' perception of the benefits to be derived from the adoption of new techniques. Agriculturalists often resist change and it may be therefore unrealistic to expect meaningful change to be effected rapidly. The ultimate purpose and benefits to be derived from technological change must be clear in the minds of the change agent and the clientele. In this regard TVET has a role to play not only in imparting the knowledge for working with new technologies but also in preparing a wider social awareness of the requirements and implications of technological change.

1.13 The school is one of the educational institutions which in its contribution to agricultural development must concern itself with the promotion of attitudes conducive to an acceptance of the developmental value, personal and national, to be derived from a rural lifestyle. The history of agricultural education in many Commonwealth countries suggests that this is far from easy. The Caribbean Examinations Council (CXC) has formulated a new course for young agricultural practitioners, but the introduction of this course faces familiar problems: the lack of land for schools to use, a shortage of agricultural teachers and a school curriculum which is already over-crowded and which is resistent to change.

1.14 The skills required of agricultural development include marketing - the growing of crops or the harvesting of fish is not enough. The internal markets of most Caribbean countries are small and marketing infrastructures are often inadequate. For local markets to be exploited effectively and for opportunities to be sought beyond the confines of the island or the country in question requires skills which should be acquired as an integral and vital element of technical and vocational education and training.

1.15 A special difficulty in fostering and confirming the importance of agricultural development in a number of the island countries of the Commonwealth Caribbean and the South Pacific is their proneness to natural disaster, especially hurricanes. Dominica has experienced two devastating hurricanes in recent years putting back the development of the economy by many years. A programme of economic rehabilitation and reconstruction in that country (see p 18) places great importance on the diversification of agriculture. (Tonga is a South Pacific country to be similarly afflicted in recent years.)

Industrial development

1.16 Industrial development, notably in the promotion of light manufacturing, food processing and craftwork is a second major development concern. (See, for example, these concerns regarding Antigua and Barbuda p 14, The Bahamas p 15, Dominica p 18, Jamaica p 19, and St Christopher-Nevis p 20.)

1.17 As with agriculture there is a need for diversification as well as expansion. The industrial base is limited, many manufactured goods are imported and heavy industrial products will continue to be imported. Few of the Island Developing and Other Specially Disadvantaged States have the resource base, the capital or the market to invest in such activity. However, industrial activity based upon food processing, selected import substitution and traditional craft skills and trades forms the basis for most industrial development plans except where major mineral resources such as oil or bauxtile provide larger scale industrial opportunities.

1.18 In many countries great stress is placed on industrialisation providing a major solution to the growing problem of unemployment. For example, Antigua and Barbuda in its efforts to create 3,350 new jobs in the 1981-1985 Socio-Economic Development Plan period envisages 37 per cent of these new jobs falling in the industrial sector, the largest single group. Thus as the Antigua and Barbuda Country Paper points out (p 14) this will necessitate an increase in the opportunities and need for TVET.

This, says the paper, will require not only the expansion and upgrading of traditional programmes and institutions, but also the adoption of creative practices in both formal and non-formal settings in which work and training are closely aligned.

1.19 The acquisition of new skills or the updating of old skills appropriate to new industrial needs varies in the current training provision in the Caribbean. Most countries can point to some preparatory training for this purpose in schools and more especially in technical colleges, specialist vocational institutions or 'on-the-job' apprenticeships. Few of these training programmes, public or private, are based on an adequate availability of local trained teaching personnel. However, this handicap can be partly overcome in some countries by utilising skilled craftsmen and tradesmen from the community preferably after they have received some pedagogical training.

1.20 Where trained technical teachers are available they often face a psychological disadvantage in relation to their academic colleagues. The second class blue collar status dies hard - an attitude which cannot help but spill over to the students seeking technical and vocational advancement.

Service sector

1.21 This is the third main front along which national development programmes are moving. It is a sector which includes the money making activities associated with banking and tourism, the service skills associated with the maintenance, repair and installation of equipment and machinery and the welfare services such as health and education. (See, for example, Anguilla p 14, British Virgin Islands p 17, Cayman Islands p 17, St Christopher-Nevis p 20 and Turks and Caicos p 24).

1.22 In this sector there are considerable variations in development strategy, especially in areas such as tourism, which in turn reflect differences in political opinion on the economic and social advantages and disadvantages of promoting or enhancing outside financial and cultural influence. In countries such as Bermuda and the Cayman Islands the development of tourism is central to development strategy and a special training provision in the form of vocational schools has been established. In some other countries the role of tourism is viewed more cautiously for the cultural and economic dependence to which it can give rise.

Conclusion

1.23 The development of the economy along these three broad and strategic fronts is part of a necessary and healthy process of diversification for economies which have long been lop-sided in the benefits and the opportunities which they have offered the people of the Caribbean communities. But diversification is demanding. It necessitates markets, the acquisition of new skills and knowledge and a readiness to accept a new outlook on economic life. It is there that TVET has a crucial role to play, in fostering skills across the economic spectrum in such a way that limited indigeneous resources are used to the maximum extent consistent with the efficient and effective management of the economy.

1.24 The meeting recognised that the significance of the existing and potential contribution of TVET to development should result in governments developing a consistent and long-term overall policy for TVET.

COUNTRY PAPER EXTRACTS ON THE CONTRIBUTION OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING TO DEVELOPMENT.

Commonwealth Caribbean

ANGUILLA

Tourism, agriculture and fisheries are Anguilla's priority areas for national development for the 1980s and the quantity and quality of technical and vocational education and training which our limited financial and other resources allow must relate to these three broad priority areas.

In an effort to develop these areas, the Government of Anguilla is in the process of developing a Technical and Vocational Centre to offer the following subjects: home economics, hotel trades, basic auto-mechanics, basic welding, plumbing, carpentry, basic electricity and electrical installation and commercial studies with emphasis on office-practice and typing at R.S.A. Levels I and II.

ANTIGUA AND BARBUDA

The **Socio-Economic Development Plan for Antigua and Barbuda (1981-85)** places great emphasis on the creation of jobs to ease the problem of unemployment by expanding the industrial sector of the economy, and on the supply of skilled labour necessary to support economic activity.

For the Plan to achieve even moderate success, opportunities for technical and vocational training will have to be significantly increased. This will require not only the expansion and upgrading of traditional programmes and institutions, but also the adoption of creative practices in both formal and non-formal settings in which work and training are closely aligned. In general, technical and vocational education will be guided by the need to promote the Government's objectives for the national education system, including:

1. The provision of a general education consistent with the demands and conditions of a modern industrial age; this involves creating a general awareness of the role of technology in everyday life and providing opportunities for the use of the hand in practical problem solving activities.

2. The provision of varied opportunities for the satisfaction of diverse cultural, academic and occupational interests in the realisation of individual potential.

3. The supply of required technical manpower to support national development projects, and the upgrading of the skills and managerial capabilities of existing personnel. To this end, both the formal and non-formal 'system' must offer intensive training in basic pre-vocational skills for students whose aptitudes and interests lead them to seek early employment, as

well as lay the foundation for employment at middle technician levels and for further academic or professional study.

Specifically, the major expansion or improvement projects envisaged in the 1981-85 Socio-Economic Development Plan are in agricultural production, tourism, utilities supply (mainly roads, water and electricity), agricultural processing, mining and oil refining.

Of the 3,350 new jobs expected to be created over the five year period - an estimated increase of about 12 per cent of the labour force - it is expected that 1,250 or 37 per cent of these will be in industry, 24 per cent in tourism, 18 per cent in agriculture, and 21 per cent in miscellaneous activities. All projects involve substantial construction components with far-reaching implications for the recruitment and training of various levels of qualified technical manpower in the building trades. The Plan makes provision for a wide-range of industrial training programmes, including programmes for the training of new workers on the shop floor as well as supervisory personnel at the lower and middle management levels.

The expansion of the tourist industry will result in increased emphasis on handicraft production. A handicraft centre is to be established to organise and stimulate the existing handicraft industry by providing the necessary technical advice and other forms of support. These measures, along with the planned expansion of existing "all-age" schools and the erection of new comprehensive schools will increase the supply of skilled and semi-skilled workers in the industrial arts, handicraft, and certain home economics disciplines.

To support these developments a vocational centre will be established for lower level training in craft, industrial arts, and home economics, and the technical offering of the Antigua State College will be expanded to provide an adequately equipped technical training force up to the junior secondary level. At the same time curriculum development and evaluation activities of the Ministry of Education will be reviewed and intensified to ensure that the qualitative aspects of the new projects receive due attention.

THE BAHAMAS

The Government's main economic development strategy over the next few years is to:

1. Generate additional economic activity to provide jobs for the unemployed and new entrants to the labour force.

2. Encourage new growth through export oriented industries.

3. Undertake an import substitution effort with appropriate linkages to the tourism sector.

4. Develop sufficient economic activity in the Family Islands to reduce or eliminate migration to New Providence.

To these ends major projects in agriculture, fisheries, forestry, tourism, urban development, inter-island air and sea transportation, health and

population control are to be developed. The Government is committed to self-sufficiency in agriculture.

If the country is to meet the economic objectives of the current Development Plan, it is obvious that individuals have to be trained for new jobs which are created through the generation of additional economic activity. The areas which have been identified as requiring trained individuals are: air-conditioning and refrigeration; agriculture; automotive mechanics; commerce; construction; electronics; fishing and related activities; food processing; forestry; health care; manufacturing, especially garment manufacturing; petro-chemicals; radio and television repair; solar energy; surveying and tourism.

While only three of the areas requiring trained individuals can be classified outright as food production processors, all of the areas can be classified as being in job creation and community development.

If an individual's training and education are advanced to the point where he/she has the requisite skills and knowledge of an area, and if the individual is entrepreneurially oriented, and if the funds are available, the trained individual has the potential to create jobs. This is clearly possible in fishing and agriculture where the entrepreneurial aspects of these areas have been set aside exclusively for Bahamians. Other areas with job creation potential are air-conditioning and refrigeration, automotive mechanics, construction activities, garment manufacturing, radio and television repair.

It can be concluded that the imparting of entrepreneurial skills and qualities requires immediate attention in any technical and vocational education and training programme. Education and training should include showing the individual how to become an employer. If there are employers there will be jobs; if there are jobs, basic needs and eventually higher needs can be satisfied in the individual. The satisfaction of an individual's needs leads to community betterment.

BARBADOS

The Development Plan (1979-83) of the Government of Barbados seeks among its major objectives to:

1. Maximise productive employment

2. Encourage and promote greater economic diversification

3. Develop a more diversified pattern of productive goods and services.

These objectives are linked very closely to the need to reduce unemployment which is projected to be down to about 6.1 per cent of the labour force by 1983.

It is recognised that in an effort to reduce unemployment, a major thrust has to be made to promote training in skills needed in industry. A high priority therefore has been given to technical and vocational education and training. This is evident by the construction and equipping of the new Samuel Jackman Prescod Polytechnic with the assistance of the

Inter-American Development Bank (IADB) and by the impetus which has been given to technical and vocational studies in secondary schools.

BRITISH VIRGIN ISLANDS

Technical and vocational education and training will make the greatest contribution to the following needs during the 1980s:

1. Training of skippers for yachts or charter trips to sail among the Virgin Islands
2. Training fishermen in modern techniques of fishing
3. Providing agricultural training for young citizens
4. Training British Virgin Islanders in middle management
5. Training in marine trades
6. Training in hospitality trades
7. Training in business studies.

CAYMAN ISLANDS

The economy of the Cayman Islands is based on tourism and banking. In a manpower survey of the Cayman Islands, 1978-1983, it was noted that:

1. Non-Caymanians predominate over Caymanians in the professional and managerial occupational groupings in finance, government, banking and hotel services.
2. Emphasis in the past has been too highly focussed on higher education for the few, as opposed to further education and training for the many.
3. Training efforts directed towards middle and lower level manpower can be more cost effective than higher education efforts for top level manpower.

In view of the foregoing, the following areas are being considered by Government:

1. The establishment of a college of technology which will be geared:
    a. To fulfil/satisfy the needs and aims of Caymanians
    b. Set a standard of competence comparable with existing patterns in the developed world
    c. Upgrade and qualify Caymanians in the vocational and technical professions
    d. Raise the level of the economic standards of our country and its people

2. The college will constitute and embody all schools of further education in the vocational and technical professions:

   a. Hotel School

   b. Marine School

   c. Building and Trade School

   d. Community College

   e. Banking Institute

   f. Any other schools for vocational/technical skills.

DOMINICA

Agricultural diversification and development is consistent with the Government's policy of decreasing the dependence of the island's farming community on the banana industry which has proved particularly vulnerable to high winds and the agencies of the external market i.e., international competition resulting in fluctuating green-boat prices which are daily becoming more and more uneconomical. Mitigating against this situation is a conglomeration of factors: the mountainous terrain; inadequate road infrastructure; high cost of inputs especially fertilizer; and high and frequent rainfall which renders spraying against leaf-spot ineffective and costly. The recovery and development of production is a question of economic survival for Dominica and of a viable way of life for her people.

The **Position Document for the Sectors Survey Team 18-22 May 1981** prepared by the Ministry of Education of Dominica, has the following policy statements:

> "There is need for a systematic and co-ordinated plan of tertiary, technical, vocational, community and adult education in the State College to service the development plans of Dominica. Much of the development must be in agro-industry and localised projects. There is a strong case for creating regional satellites of the State College at the under-utilised Portsmouth Secondary School, St. Andrews High School, Londonderry, and St. Joseph School. Each could develop as (a) senior secondary schools with technical and vocational offerings appropriate to their area; (b) area teachers' centres; (c) adult education centres for on-the-job vocational training and for community development education, and (d) for regional creative arts and cultural development.
>
> "It is therefore essential that in those schools the needs in vocational education be integrated with the school building plans immediately. Designs for simple modular building for workshops to be added to existing schools are also urgently needed at least for 1982.
>
> "An overall survey of equipment needed for vocational and technical education is long overdue, from technical to village skills levels in both formal and informal education. Their acquisition will depend in the first place on foreign aid".

Technical and vocational education and training will allow for the provision of a pool of skilled persons so vital to the Government's programme of industrialisation. This holds true for the new industries which are due to begin operations in Dominica soon, in particular, forestry and related occupations, and agro-processing.

Despite increased emphasis on industrialisation in the Government's developmental plans, the high cost of job creation and the present depressed state of the world economy suggests that great emphasis will have to be placed on self-reliance and self-employment as a means of solving the present unemployment problem, particularly among the nation's youth.

Training in technical and vocational skills will therefore allow for an increase in the number of persons who can earn a living through self-employment. Training in other skills, in the above context, especially in managerial skills for small businesses, is of paramount importance if self-employment is to make any meaningful contribution towards alleviating the unemployment situation.

GUYANA

Questions of what technical and vocational education and training can contribute to development become questions of what technical and vocational education and training can do to close the gap between "haves" and "have-nots". One school of thought opines that there are three main things to be done:

1. Reduce dependence upon developed countries that might lead to economic control. This we are told should be done even if it requires the abandonment of some goods and services from developed countries without substitution.

2. Exploit our resources ourselves using technology that does not re-introduce dependence or at least does so only minimally.

3. Trade in markets that offer fair rewards.

Three (3) above is in essence pure politics-economics and will not be considered further. One (1) and 2 are inter-related and both make heavy demands upon the technical capacity of the nation. Both relate to energy consumption. Many countries depend upon others for fuels and to reduce this dependence they must substitute energy sources from within their own borders. The aim then becomes development of alternative energy sources and production of food to the point of becoming self-sufficient in both. Both of these depend heavily upon technology that must in turn be sustained by technical and vocational education and training. Concerning 2, the exploitation of resources consumes energy, at least initially, and in the final analysis is also heavily dependent upon alternative energy sources and food production. These then are two areas in which technical and vocational education and training must make urgent and important contributions to development.

JAMAICA

The Government fully recognises that economic recovery during the eighties must be redressed by programmes that can: reduce unemployment; increase the level of productivity; generate foreign exchange earnings; and remove the social barriers that work contrary to the cohesiveness of the society.

A systematic approach to industrialisation supported by relevant industrial/technical/vocational training and education programmes have been identified as twin strategies.

In a recent study carried out to determine manpower needs in Jamaica two major conclusions emerged:

1. There is a considerable resource gap for trained personnel which will hamper the process of economic recovery. The resource gap has been estimated in the **Projections of Manpower Requirements (1982/83)** as follows:

   > "On the basis of a projected employment total of 869,900 persons in 1985, the resource gap for trained skilled personnel is estimated at 95,000 and that at the same time, there should be an over-supply of unskilled persons of approximately 273,000."

2. There is a large pool of unemployed young individuals between the ages of 14-29. The level of unemployment among youth was estimated by the National Planning Agency at October, 1979 to be 200,000 out of a youth labour force of 416,300.

Age Group	Unemployed	
	Male	**Female**
14 - 29	50.7%	82.3%
20 - 24	33.0%	60.1%
25 - 29	18.9%	46.9%

The foregoing table illustrates that there is a definite need for emphasis on human resource development programmes to which technical and vocational education and training can make a significant contribution.

MONTSERRAT

Technical and vocational education and training in Monteserrat should make its greatest contribution in the 1980s towards meeting developmental needs in building/construction, commerce, tourism, agriculture, and light industries such as electronics assembly and cloth/clothes making.

ST CHRISTOPHER-NEVIS

The development needs of St. Christopher-Nevis are numerous and diverse. With varying degrees of emphasis, these have been conceptualised as follows:

1. Agricultural diversification, particularly;

    a. Local food production

    b. Livestock development

2. Tourism

3. Industrialisation with emphasis on light industries

4. Infrastructure development and improved service facilities, focussing on:

    a. Sea and air communication

    b. Road construction

    c. Water

    d. Telephone/electricity

5. Housing

6. Most significantly of all, education or investment in human resources.

The Government of St. Christopher-Nevis has quite rightly envisaged these needs, not as ends in themselves, but as a means towards a better standard of living, more employment opportunities, social equality and social justice and less dependence on the outside world.

The Central Planning Unit of the Government of St Christopher-Nevis is endeavouring to provide integrated sector planning whereby fiscal, educational, agricultural and infra-structural development programmes are carefully planned to match existing and projected manpower needs. In general these needs are:

1. To reduce the immediate problem of high unemployment and under-employment which is sometimes to the tune of 20 per cent during off-crop season.

2. To tackle the paradox whereby unemployment abounds for locals and because of inherited factors, highly skilled scientists, engineers and technicians have to be imported.

3. To reduce the number of unemployed school leavers.

4. To lessen the uncomfortable shortage of trained technicians and middle level workers in comparison with the more numerous band of persons only capable of performing at craft level.

5. To develop a technical teacher training programme bent on breaking the continued reliance on the employment of expatriate staff at the Technical College and decreasingly so in science and maths subjects at the Secondary Schools.

6. Programmes aimed at educating a core of flexible, versatile, trainable people, capable of performing a multiplicity of roles in view of the seasonal nature of employment opportunities.

7. Development of non-examination courses in arts and crafts, whereby housewives and school leavers could produce local products for sale on the tourist market, thereby banning the importation of foreign souvenirs/products which are often overstamped.

Some priorities for the 1980s

1. For technical/vocational education to contribute to the development needs of the island, the economic and social institutions and administrative machinery must all continue to be orchestrated towards that end.

2. Outdated equipment and machinery in schools and colleges should be replaced or otherwise updated.

3. For some schools existing buildings should be renovated, while others need to be replaced completely.

4. There is need to construct new buildings for science laboratories for several educational institutions, notably the Teachers' Training College.

5. Revision of school curricula to ensure that potential employees in the tourist trade and the agricultural sectors have a reasonable base on which further training can be built. For example, emphasis on cultural, aesthetic history, folk-lore, domestic science and foreign languages can help to equip potential trainees.

6. A more practical syllabus for science and maths based subjects for persons whose skills lie in agricultural and mechanical engineering, electronics, welding, road construction and agro-technology.

7. A realistic re-appraisal of the job opportunities which exist for the blue and white collar job seekers holding CXC agricultural certificates vis-a-vis the scope and opportunity for an agricultural science programme aimed at promoting home/backyard or kitchen gardens.

Limitations of Technical/Vocational Education

An idealistic hope of the role of technical and vocational education (as well as ruralisation of the curriculum) could lead to much disillusionment. Many planners and teachers hold the view that the urban school curricula should be made more relevant and that rural schools in particular should be oriented towards rural life and work. But unless unemployment is a result of inefficiencies in an otherwise sound system, major changes in the school curriculum will not solve the problem of educated unemployment. As Blaug has indicated to ask the school to prepare for clearly defined occupations is to request what is literally impossible.

ST LUCIA

An examination of Ministerial pronouncements, government sponsored reports and official documents, reveals an emerging agreement on the following as some of the priorities for the national development of St Lucia:

1. Promotion of self-reliance. This involves the development of the capacity of a people to solve their own problems, an attack on the psychology of dependence, and getting people to realise that their destiny lies in their own hands.

2. Development of a serious work-ethic. This refers to the importance of instilling proper attitudes to work, including the eradication of the view that some traditional forms or levels of work are undignified.

3. Uniformity of provision between rural and urban areas.

4. Reducing unemployment. The problem of unemployment is to receive particular attention, and in this regard the following strategies, among others, will be used:

   a. Job creation through a balanced programme of inviting foreign investment on the one hand; and on the other, of assisting local industry and encouraging self-employment.

   b. Provision of pre-employment and in-service training opportunities for the labour force for self, wage, and salaried employment in all sectors of the economy.

   c. Reducing the imbalance in employment opportunities for particular groups, e.g. young people and women.

5. Self-sufficiency in food production.

6. Community development through joint local self-help action and participation in decision-making.

7. Diversification of national output by acquiring new skills, developing appropriate technologies, and promoting the use of indigenous materials.

8. Closer liaison between the educational system and the world of work, and involving educational institutions in the examination and solution of the problems facing society.

9. Sectoral development. Major emphasis will be placed on the development of the agricultural, tourism and industrial sectors of the economy.

This list is not intended to be exhaustive, but it is suggestive generally of current thinking about national development for St. Lucia and in particular of those development objectives to which technical and vocational education and training can contribute.

ST VINCENT AND THE GRENADINES

Limited funds for providing much needed facilities and a dire shortage of trained teaching personnel are two of the many formidable problems with which the Government is faced in the effort to achieve its goals.

The eruption of La Soufriere volcano in April of 1979 and a visit by hurricane Allen one year later have helped to aggravate an already serious situation.

The Government's policy for the future is to make use of local resources and to make every effort to obtain, whenever and wherever possible, any form of assistance from external agencies which are genuinely willing to extend the hand of friendship to assist us during this early and very trying period of our national development.

TURKS AND CAICOS

Education within the Turks and Caicos Islands followed the pattern of education in small British colonies i.e. emphasis was placed on the teaching of the three Rs with scanty exposure to the sciences and social studies. This was supplemented by the introduction of secondary education mainly through the efforts of private bodies. These decided the nature and content of subjects to be taught. It was not surprising that technical education was never introduced at a level other than rudimentary training in some of the basic trades: carpentry, straw work, turtle shell and sea shell craft, and embroidery. In the late 1960s several factors caused a careful review of the education system, and technical drawing became an integral part of the secondary school curriculum.

Recent developmental trends within these islands have revealed the acute shortage that exists in manpower and the training of skills which will only be met by extensive technical and vocational training. This contribution may be discussed under four heads.

Trained Technicians

When one considers the importance of the trained technician to service the many building programmes in these islands, and the total dependence of such programmes on expatriate personnel one realises that at the professional level - surveyors, contractors and engineers - an input from technical training is an asset.

Skilled Craftsmen

With the advent of the power driven tool and modern building techniques, upgrading of the few local craftsmen is a requisite. Previously this area suffered a brain drain because of the poor economic outlook and the education system now has to train persons to replace those who have migrated.

Semi-skilled Personnel

High schools will be asked to expose these persons to the practical aspects of technical education. Shortage in this area may be judged by the fact that more than 90 per cent of the personnel presently employed at this level is from overseas.

Crafts

Improved means of communication have led to an increase in tourism and there is a demand for articles which are locally made. Raw materials can be obtained e.g. sea shells, turtle shell, fish scales and local straw and there are individuals who specialise in local craft. The demand cannot be met. Training in this area will not only encourage self-help projects, but lead to lucrative returns.

Commonwealth Pacific/Indian Ocean

FIJI

Fiji is basically an agricultural country and it will remain so in the forseeable future. Fiji does not have the raw materials to become an industrialised nation. Over half the population employed are directly engaged in agriculture while many others are occupied in processing or handling the agricultural products which earn a large percentage of Fiji's export income. Sugar cane is Fiji's most important cash crop. Raw sugar accounts for between 60 - 70 per cent of Fiji's exports. Besides agriculture, tourism plays an important role in the economic life of the people of Fiji. The industry has grown significantly over the years. It can be rated as the second biggest industry next to sugar. Development of pine forests and the sale of timber products will in future have a significant effect on the economy.

During Development Plan 8 (1981-85) the Government's policy is to provide students with the opportunity to take more practical subjects, so that overall education will be well balanced and tailored to employment as well as academic considerations. Practical education is currently taught in two main ways:

1. Vocational training offered at technical institutes, rural training centres and by youth organisations

2. Normal school programmes which include Industrial Arts, Home Economics, school gardening and multi-craft subjects.

Currently some 150,000 students are estimated to leave school annually and of this number over half the school leavers end up with occupations definitely requiring some practical knowledge including home duties, agriculture, etc. The need to include practical education in the largely academic curriculum currently offered is obvious.

The Development Plan for the period 1981-85 places emphasis on the need to provide an education system more realistically linked to the employment pattern. The need to introduce Agro-Tech. courses (inter-disciplinary agriculture and technical courses combining agricultural science, mechanics and commercial skills) is appropriately emphasised.

In a changed and changing commercial and industrial economy such as ours, technical and vocational education plays an important role not only in the equipping of the individual to ensure a livelihood for himself and his dependents but also in fulfilling the manpower requirements of the nation.

As technical and vocational education provides students with marketable vocational skills for emerging occupations, unemployment is reduced. Students trained for work in specific vocations find little difficulty in obtaining employment and where employment opportunities are unavailable, they may resort to self-employment.

It is acknowledged that as a general responsibility, the contribution of technical and vocational education and training will be in the areas of skills upgrading in all sectors to facilitate the objective of localisation and to provide for manpower requirements. Technical and vocational institutes will be expected to place stronger emphasis upon the provision of basic skills to unemployed people, school leavers and youths to bring down unemployment rates. Plans to set up small scale technology and manufacturing industries should be considered. The availability of human resources to man production plants will necessitate the heavy involvement of technical and vocational education and training to ensure necessary skills are available in the labour pool.

The areas of need which currently exist in Fiji and will continue to exist for several years are summarised below:

1. Agriculture and agricultural engineering
   a. Food processing
   b. Rice growing
   c. Dairy and cattle farming
2. Fisheries - processing, etc.
3. Forestry - timber and timber products
4. Electrical engineering
   a. Heavy current - generation and distribution
   b. Light current - refrigeration, air conditioning, domestic appliance repairs
   c. Electrical devices - domestic and industrial
5. Marine engineering
6. Computer science

7. Civil Engineering - road, water supplies, structural design, wastewater and sewerage, wharves and jetties

8. Mechanical Engineering - installation, operation and maintenance rather than design and construction.

KIRIBATI

Kiribati is a group of atoll islands scattered over more than two million square miles of Pacific Ocean. The islands are remote from large centres of civilisation and the scattered nature of the Republic and its remoteness present unique and difficult problems in administration, transport and communication.

Since the mining of phosphate ceased on Banaba in November 1979 the Kiribati government has no other source of revenue than that derived from the export of copra and fish, the latter of which the Government has designated a high priority area during the 1980s for development.

Since independence Kiribati has been considering its socio-economic circumstances, to learn from the past, evaluate the present and anticipate the future. To analyse the above in a meaningful way, Government has had to consider very carefully the delicate balance between known population and the resources that govern the viability of the country. Such considerations have led government to produce a major **Decentralisation Study** which is currently under detailed analysis. The study directs attention to a wide range of issues relating to population versus land, population versus subsistence resources, drought versus population immigration, cash versus subsistence and the viability of Kiribati and the role of government. It recognises the need for the economic development of Kiribati's limited natural resources but places the greatest emphasis on rural development which it is anticipated may therefore become national development.

Prior to independence Kiribati witnessed a high rate of development with the importation of modern technology such as computers and sophisticated communication systems accompanied also by development in the construction industry. However, like many other small developing islands the rate at which skills are being developed is not keeping pace with the imported technology. Hence a situation has developed in which a large percentage of the workforce can only be viewed as semi-skilled, thereby placing a greater dependence on the need for overseas officers. Government in tackling this problem has produced a localisation plan which in turn lays down very clear directives for training if the plan is to be successful. Training therefore is a priority area not only for localisation but in order that skilled manpower is available to achieve the objectives of the National Development Plan for Kiribati.

Emanating from a seminar held in 1980 on Employment and Urbanisation the government has already introduced a labour rotation programme for unskilled and semi-skilled labour, based on an island quota system. In addition, the seminar endorsed the need for greater emphasis to be placed on the development of rural skills, primarily those associated with village level technology.

The introduction of labour rotation, for the out-islands and the growing emphasis being placed on rural development and development of rural skills has generated the need for a complete reassessment of the training required to implement the changing policies envisaged for the future development of Kiribati.

It is anticipated therefore that a major input of technical and vocational education and training will be directed towards the rural sector to encourage self-help projects, self-sufficiency and self reliance in a predominantly rural subsistence economy. Additionally, the importation of new technology into the modern sector will necessitate a major programme in upgrading of skills at both craft and technician level to accommodate the changing pattern of development in Kiribati. Historically I-Kiribati people have always had strong associations with maritime occupations. Employment and remittances received from seamen trained in Kiribati and employed overseas are a vital factor in the economic development of the islands. Apart from greater numbers of seafarers who will have to be trained, continuing adaption of training programmes for all sea-going personnel will be required in order to prepare them to operate new and more complex systems and equipment and to perform new tasks in advanced types of vessels designed for special functions.

Little doubt now exists that during the 1980s those in technical and vocational education and training will have to focus more specifically on training programmes allied to the needs of rural development objectives as identified in the National Development Plan. Severe financial constraints will also dictate that training must be cost effective and considerable emphasis will be placed on training to improve efficiency in all sectors of the economy. Inherent in such an approach we have identified the training of supervisors and managers as a priority area, if training is to have a meaningful impact in achieving national and rural development objectives.

It would be remiss not to mention the role of women and their contribution and greater participation in the development process. Community Affairs Officers, in consultation with the Women's Federation and the Technical Institute, are planning a variety of training programmes during the next development plan period for womens' interest groups from the outer islands to undertake training in appropriate technology, public health, child care, handicraft, family management and other relevant programmes.

MAURITIUS

In the current Mauritius Development Plan, it has been stated that the country's most important resource is its manpower and that a well-motivated labour force possessing the requisite mental and physical skills for a modern economy is the most valuable national asset. In order to meet the demand generated by prospective economic development, emphasis is being placed on changing the quality of secondary education. The Mauritius Institute of Education (MIE) has been set up with the following long-term objectives:

1. As an innovative centre, the Institute is expected to act as a catalyst in the education system and guide it to meet the needs of the country. To this end the MIE has undertaken studies in identifying national requirements in curriculum development with

a view to bridging the gap between general education on the one hand and technical and vocational education on the other.

2. The MIE has also concerned itself with the improvement of the quality of teacher education by providing appropriate in-service and pre-service training courses.

3. The Institute has also been given the responsibility to carry out a nationwide examination at the Junior Secondary education level.

The Central Training Office set up by the Government is a body corporate under the Ministry of Education and Central Affairs. The objectives of the Office are to:

1. Monitor the needs for occupational training in consultation with the Ministry for Employment.

2. Co-ordinate all such existing training schemes sponsored by Government as the Minister may determine.

3. Provide for, promote, assist in and regulate the training or apprenticeship of persons employed or to be employed in commerce or industry.

The duties of the office are to:

1. Advise the Minister on matters relating to vocational and technical education and industrial training.

2. Carry out investigations and make recommendations on any matter connected with the Act.

3. Make annual reports and such special reports as the Minister may from time to time determine.

The Lycee Polytechnic has been set up to enhance the vocational field by providing three year and four year courses leading to the development of skilled workers and technicians.

2. THE METHODOLOGY OF THE MEETING

2.1 As outlined in the Introduction to this report, the meeting had a practical orientation. It followed a sequence of discussion and analysis agreed to by the participants at the commencement of the meeting. This sequence can be followed with practical benefit in a variety of developmental situations in Island Developing and other Specially Disadvantaged States.

2.2 As Chapter 1 and the extracts from the Country Papers included in this report show, there are development needs across the whole spectrum of the economy and the social fabric of small states. The determination of priorities within the broad sectors of agriculture, industry and services is a matter for political debate and consensus, and the results invariably find expression in national development plans.

2.3 Within these broad areas of priority it is necessary to identify specific programmes and projects designed to meet and contribute to the achievement of national development objectives. For example, the development of the fishing industry is important to many small states. To achieve such development will require programmes and projects which may include boat building, net and sail making, the installation of freezer plants, the development of new marketing infrastructures, the improved servicing of fishing equipment and many other components.

2.4 For each of these components there will be training implications. Our example of improved servicing of fishing equipment (see Figure 1) and, in particular, the servicing and maintenance of outboard motors (of great importance to the burgeoning fishing industries of small states) allows an extension and mobility of the fishing capacity. However, as the outboard motor is likely to be imported machinery, its working needs must be fully comprehended and met if it is to be used efficiently and economically. Fisherman must know how best to service the machine and must be aware of the availability and cost of spare parts. Each of these concerns has training implications. How is this information to be imparted and by whom? What sort of training response is appropriate and available? How can indigenous training skills be utilised to fullest effect?

2.5 In Figure 1 this example is analysed in a series of identification stages. Whilst treated sequentially the nine stages are all preparatory to the implementation of a training programme in order to develop a national training response to a developmental need.

2.6 This identification process forms the basis for the analysis of innovation in technical and vocational education and training in the rest of this report.

FIGURE I

INNOVATION IN TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING - NEEDS, RESPONSE AND POTENTIAL

1. Identification of development priority	e.g. The fishing industry
2. Identification of specific development needs	e.g. The operation, servicing and maintenance of outboard motors on fishing boats
3. Identification of existing training	e.g. Informal training among fishermen. Extension services by the fisheries officer. School based evening courses. Technical college extension courses. Ministry of Works training courses. Initial training advice by manufacturers' agent.
4. Identification of improved training response using existing indigenous training skills	e.g. Mobile training team running short courses in fishing villages composed of a technical college lecturer, an experienced fisherman, the manufacturers' agent and a fisheries extension officer.
5. Identification of existing management processes	e.g. Hierarchical management structures in ministries, colleges and companies - relatively inflexible in meeting specific development needs as they arise.
6. Identification of improved management processes using indigenous experts	e.g. Co-ordinated management of a mobile fisheries training team by a college or ministry drawing upon the widest possible range of indigenous training skills.
7. Learning from others	e.g. Training courses for village fishermen (such as at the

Tarawa Technical Institute, Kiribati, South Pacific).

8. Designing innovative training programmes

e.g. A mobile training team to train fishermen in the operation, servicing and maintenance of outboard motors.

- targets group
- detailed objectives
- strategies to gain social acceptance
- training methodology
- finance
- operational needs
- co-ordination of all training resources
- resource implications/ outside assistance
- evaluation

9. Identifying forms of regional and international co-operation to complement and reinforce the national training effort

e.g. Short-term attachments to the team of advisers from within the region.

Short-term attachments for team members to institutions and programmes within the region and beyond.

Financial support for the development of training resources and equipment.

3. CURRENT PROVISION AND POTENTIAL OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING

3.1 The governments of many developing countries regard technical and vocational education and training as one of the key elements in national development. This view is held in countries of all sizes and stages of development, but particularly so in Island Developing and Other Specially Disadvantaged States where isolation and dependence on other countries for technological support creates a pressing need for the development of their own technical education and training systems. This development of technical education in small states during recent years has followed an approach adopted in larger, more industrialised countries, that is the establishment of purpose built technical colleges to provide skilled labour at craft and technical levels. Such colleges, often built, equipped and staffed with assistance from bilateral and multilateral donors, contain classrooms, laboratories, drawing offices and workshops suitable for technical and commercial courses leading to national, regional and international examinations. The industrial plant in these technical colleges usually includes woodworking machinery, engineering machine tools such as lathes and milling machines, automobile and agricultural repair equipment, air-conditioning and refrigeration plant, and electric arc and oxy-acetylene welding bays. These typical engineering and construction facilities, together with laboratories and commercial office machinery rooms, constitute a substantial technological resource, in both technical training and developmental assistance to the community.

3.2 From the Country Papers brought to the meeting by participants it is clear that in the small states of the Commonwealth Caribbean and South Pacific, technical college facilities and their capabilities follow the general pattern described in the previous paragraph. For example, the Morne Fortune Technical College in St Lucia comprises five departments: technical teacher training, building, engineering, hotel trades and commerce. Both full-time and part-time courses are offered, leading to qualifications at craft and technician levels. In collaboration with industry the College provides a wide range of courses to up-grade employees in the public and private sectors.

3.3 In Kiribati, the Tarawa Technical Institute is the focal point of technical education and training in engineering, construction, business studies and public sector training. A Department of Appropriate Technology has been established at the Institute to carry out innovative programmes, focused on the needs of the basic family unit. Mobile training teams from the Institute co-ordinate training activities at community level, in close co-operation with Island Councils and church organisations.

3.4 The Samuel Jackman Prescod Polytechnic in Barbados offers craft courses in a wide range of engineering, construction and vocational subjects geared to the industrial and commercial manpower needs of the country. Technician level courses are available at the Barbados Community College in three main departments - Technology, Hospitality and Health Science.

3.5 Extracts from the Country Papers relating to the current provision of technical education are given at the end of this chapter. These show that

technical education in small states is also provided from a number of sources other than post-secondary technical institutions. A number of countries have established technical courses in secondary schools - for example the Multilateral Schools and the Community High Schools in Guyana offer a range of technical subjects: industrial arts (design and technology and technical drawing), agriculture, home economics and commercial work. In St Vincent, secondary high schools prepare pupils for the world of work by providing courses in accounting, office practice, industrial arts and agriculture.

3.6 In a number of countries technical education and training is provided outside the secondary and post-secondary sectors of education. Some institutions in Dominica offer vocational education and training. These include the Public Works Department, the Public Health Department and the Division of Community Services. In other small states, training of this nature is provided by government departments, private industry, and church and voluntary organisations.

3.7 In all, the current provision of technical and vocational education and training in small states represented at the meeting covers a very wide spectrum of formal and non-formal approaches to the development of skilled human resources. Any assessment of national capacity to develop human resources must take account of the many and varied forms of formal and non-formal technical and vocational education and training - supported by governments or by private initiatives. The capacity of technical and vocational education and training to assist national development will be strengthened if it's separate sources and provisions are regarded as a totality rather than a range of unco-ordinated efforts. The co-ordination of all provisions of technical and vocational education and training is one way to tap unrealised potential and the management of this process is dealt with in Chapter 4.

3.8 The potential of technical and vocational education and training to increase its contribution to national development may also be realised by using existing resources - buildings, equipment, staff and students - to provide innovative training responses to specific development needs. In the agricultural sector the skills of personnel engaged in the operation and maintenance of agricultural machinery could be improved through short on-the-job courses. Such training could be organised by a technical college, or a public works department, or a department of agriculture. Taken singly, the resources of these separate institutions may be insufficient to provide training responses to a very common development need - the care and maintenance of agricultural machinery. However, a combination of resource inputs from all three sources could release latent energy in the technical and vocational education and training system. Drawing on the special strengths of each source, such inputs could include the expertise of technical teachers to design a training module, the heavy plant experience and equipment of public works, and the specialist knowledge of agricultural field officers.

3.9 The meeting devoted a great deal of attention to the innovative use of existing resources in a technical and vocational education and training system. In Chapter 5 three case studies - from The Bahamas, Jamaica and Kiribati - illustrate how latent energy in technical and vocational education and training systems can be released through an innovative approach to the design and implementation of training programmes. These case studies provided a solid foundation for a rigorous and detailed

examination of innovative training responses to specific national development needs. This intensive work by the meeting resulted in the design and analysis of training responses based on innovative methods. Some of these training responses are detailed in Chapter 6 and they show, in a very practical way, how the present capacity of technical and vocational education and training to serve national development can be substantially increased.

COUNTRY PAPER EXTRACTS ON THE CURRENT PROVISION AND POTENTIAL OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING FOR DEVELOPMENT

Commonwealth Caribbean

ANGUILLA

The main elements of formal technical and vocational education and training are woodwork and home economics subjects offered in the island's only secondary school. There is an attempt to encourage handicraft development on a non-formal basis. Tie-dying is promoted and a shop has been opened where handicrafts are handled on a sale-or-return-basis. A few Anguillians receive non-formal training in the construction industry and become skilled workers through on-the-job experience.

ANTIGUA AND BARBUDA

The Antigua Hotel and Catering School, established in 1970, provided training for service workers in the hospitality industry. This school was absorbed into a new institution, the Antigua Technical College, established in 1972. The new college offered courses in basic hotel and catering work, carpentry, masonry, plumbing, motor mechanics, basic engineering, electrical installation, refrigeration, secretarial and commercial studies. In 1978 the College was merged with the Teachers College to form the Antigua State College. In 1981 the hotel and catering programme was transferred from the State College to the Ministry of Economic Development and Tourism.

Technical and vocational education in schools embraces four main areas: industrial arts, home economics, girls handicrafts, and commercial studies. In primary and junior secondary schools industrial arts and home economics are offered to all students where facilities are available. At senior secondary level commercial studies are provided for selected students, and industrial arts, home economics and girls handicrafts are offered as options. In addition to these provisions by government schools, private individuals run day and evening courses -mainly in shorthand typing, book-keeping and business English. Other sources of technical and vocational education and training include:

1. Ministry of Public Works and Communication. On-the-job craft courses in engineering and construction work.

2. The Community Development Branch, Ministry of Education, which offers craft and domestic science courses for employed and unemployed adults and young people.

3. Craft courses offered by trade unions. These include appliance repairs, construction, domestic science, hotel work and secretarial studies.

4. Two steelwork and four furniture companies provide on-the-job training for apprentices. Some of these companies organise a few formal sessions for related studies. It is likely that the West Indies Oil Company will soon resume its well-organised systematic training programme.

In addition to their present capacity, all these sources of technical and vocational education and training have potential for an increased contribution to development. For example, government education and training institutions could utilise the resources of industrial establishments to provide on-the-job experience. This approach could be supported by measures to assist trainees to embark on productive and remunerative work, for example, with help to form co-operatives, provide initial finance and offer marketing advice. One such project is under consideration by the Community Development Branch, Ministry of Education.

THE BAHAMAS

Formal technical and professional training programmes are offered by the College of The Bahamas, The Bahamas Hotel Training College, the Industrial Training Centre (National Industrial Training Council), the Ministry of Education and Culture and the School of Nursing. The College of The Bahamas has seven academic divisions. The Division of Technical and Vocational Studies offers architectural drafting, air conditioning, automobile engineering, cosmetology, light clothing manufacture, and welding. The Division of Applied Science and the Division of Business Administrative Studies also provide technical and vocational education and training. The Bahamas Hotel Training College trains hotel and allied industry personnel at all levels and it offers several part-time and full-time fully institutional programmes and a variety of on-the-job courses. The Industrial Training Centre (National Industrial Training Council) offers courses in carpentry, cosmetology, electrical installation, industrial sewing, masonry, plumbing, welding, hotel training and housekeeping. Trainees in carpentry, electrical installation, masonry, plumbing and welding are placed for one month internships during their last month in the programme. Trainees in cosmetology, industrial sewing, hotel training and housekeeping are placed for two weeks.

The Ministry of Education and Culture provides technical and vocational courses in all government secondary schools. These courses include agriculture, business education, cosmetology, electricity, electronics, home economics, hotel training, motor mechanics, plumbing, technical drawing and woodwork. The School of Nursing offers five areas of specialisation - registered nursing, clinical nursing, midwifery, community nursing and psychiatric nursing.

Non-formal education may be described as organised educational activity outside the established formal school system, e.g. pre-school day care centres, school equivalency programmes, adolescent and adult classes, school based curricula activities, young farmers' clubs, sports and recreational groups. This category of technical and vocational education and training includes a wide range of privately owned and operated institutions. Some privately owned training organisations offer book-keeping, clerical, English, filing, shorthand/typing, switchboard and telex courses. The Public Service Training Centre is an arm of the Department

of Public Personnel which provides a full range of training programmes for Government employees in public administration and related studies. The courses are designed to improve job performance and management skills and are structured to meet specific, identified needs in the public sector. Programmes on public policy issues are also offered periodically. The Ministry of Youth, Sports and Community Affairs' Youth Division is responsible for promoting youth development in the 5-25 year age group with emphasis on education, sports and cultural activities. The 1982 programmes include: leisure, creative and cultural development; education, training and participation in economic development; international regional participation; and involvement and participation in community development.

In-house company training is provided at various levels by professional bodies such as The Bahamas Institute of Bankers and The Bahamas Institute of Chartered Accountants. Construction companies also provide training in various crafts. Industrial plants, e.g. The Bahamas Cement Company, Bahamas Oil and Refining (BORCO), Burmah Oil, Franklin Chemicals, Freeport Port and Light also provide extensive training for their employees.

BARBADOS

Technical and vocational education in Barbados is provided through a wide variety of courses at a number of institutions. All secondary schools offer some form of technical and vocational education and training. Courses offered are industrial arts, home economics, commercial studies, agriculture and art and crafts. These courses assist some students to go directly into employment, but basically they are regarded as preparation for further education and training.

The Samuel Jackman Prescod Polytechnic offers training in a wide variety of courses at craftsman level. These include: building, mechanical engineering, electrical installation, electronics, welding, masonry and tiling, auto-body repair, auto-mechanics, agriculture, home economics, sewing machine operation, garment design and shoe-making. Courses are also offered in building and engineering drawing at 'O' and 'A' levels. It is planned that printing and cosmetology will be added in the coming year.

The Barbados Community College has three divisions. The Division of Technology offers courses at technician level in building, civil engineering and electrical engineering. A course in surveying leading to a professional certificate in land surveying is also offered. Other short and ad hoc courses are mounted as the needs demand. Participants for these courses come mainly from the secondary schools or from the Polytechnic. The Division of Hospitality Studies trains persons for the hotel and catering industries. Courses include: hotel catering and institutional management, food service and catering supervision, basic cookery, and house-keeping skills, waiting and bartending procedures, and front office sales and reception procedures. The Division of Health Science offers courses in the following: medical record technology, medical laboratory technology, pharmaceuticals, dietetic technology, rehabilitation therapy, community health nursing and public health inspection.

The Skills Training Programme of the Ministry of Labour and Social Security offers training designed on a modular basis in a variety of skills.

Participants should normally be eighteen years old and over. Courses are offered in carpentry, masonry, steel-bending, electrical installation, plumbing, auto-mechanics, needlecraft, upholstery, horticulture and tractor operation. The Handicraft Division of the Industrial Development Corporation (IDC) offers training in some areas of handicrafts. The IDC organises training in straw work, pottery, handbag making, loom weaving and miscellaneous crafts from wood, metal, shells etc.

The programmes offered by the Barbados Community College, the Samuel Jackman Prescod Polytechnic and the Skills Training Programme make a very significant contribution to development. The handicraft programmes offered by the Industrial Development Corporation (IDC) also play a very significant role in the utilisation of indigenous resources. Most of the training is concentrated on crafts which utilise indigenous materials and relate very closely to the cultural background of Barbadians. They renew and maintain some of the traditional craft skills. For example, pottery - for which there is an abundance of local materials - was once a thriving craft, but over the years had lost its importance and was practised by a mere handful of traditional potters. Today through the efforts of IDC this craft is reviving at a rapid rate. The significance of the IDC training programmes is that they reach out to people who cannot find employment in the productive sector. For many of the trainees, part-time work in cottage industries is the most convenient form of employment.

BERMUDA

Most secondary schools provide technical subjects such as woodwork, metalwork, domestic science, typing and shorthand, automotive work, agriculture and hotel work. Pupils undertaking hotel work have an opportunity to gain experience at the commercial hotel operated by The Bermuda College (Department of Hotel Technology).

The Bermuda College has four departments. The Department of Commerce and Technology offers programmes in automotive, electrical, electronics, refrigeration and air conditioning, plumbing, carpentry, and a mixture of formal, and on-the-job training in construction, masonry and stationary power engineering. Other formal courses include accountancy, computers, book-keeping, secretarial work, management and business administration. In the Department of Academic Studies students are prepared for transfer to degree programmes at universities and colleges in Britain, U.S.A. and Canada, with full credit for the work done in Bermuda. The Department of Hotel Technology offers a wide range of programmes covering all aspects of food production (cooking), hotel service (waiting), wine and liquor technology (bartending), food and beverage control, reception and management. Such programmes are designed to meet local hotel needs, but there is a university transfer programme to enable students to complete the first two years of a four year degree programme in Bermuda prior to a transfer to selected overseas universities. The Department has the facilities of a training hotel, owned and operated by the college. The hotel is run on a commercial basis and students are trained in real working conditions in order to supply trained personnel to the hospitality industry.

The Extension Division caters for all part-time courses - evening, day release, or twilight classes (between 4.30 and 7.00 p.m.). The College will establish any course that has a guaranteed intake of 12 persons.

There are approximately 2,500 students attending part-time courses, which is 5 per cent of the entire population or approximately 12 per cent of the labour force. These high participation rates indicate the large number of people seeking education and training.

BRITISH VIRGIN ISLANDS

During the first three years in secondary school all students receive instruction in industrial arts. The programme is a general one in which students are exposed to various types of skills - carpentry, housecraft, metalwork, technical drawing, principles of electricity and upholstery. Students then select a special area of concentration for the final two years. The areas from which they may choose are: business studies (accounts, shorthand, typewriting, office arts, principles of business), auto-mechanics, woodwork, electricity/electronics and home economics (food and nutrition, needlecraft, house-craft, management). At post-secondary level formal technical and vocational education is provided by tertiary level institutions in other Caribbean countries: Jamaica, Trinidad and Tobago, The Bahamas, St Lucia, Antigua, and U.S. Virgin Islands, as well as Canada, the U.S.A. and Britain. The B.V.I. Government is planning to establish a post-secondary institution which will provide training in at least six areas of technical and vocational education: business studies, hospitality trades, building trades, marine trades, and agriculture and fisheries.

CAYMAN ISLANDS

The Cayman Islands High School - organised on the lines of the British Comprehensive system - is for children of 11 to 18 years of age. In A **Profile of the Cayman Islands System June 1978** it was stated:

> "If our education system is to meet the needs of the community it serves, then there is a dire necessity for the provision of courses geared to a commercial or technical vocation. We must not overlook the fact that if we fail to provide suitable courses at this level for our students, we are in fact giving short shift to no less than 80 per cent of our school population".

The International College of the Cayman Islands offers courses in business and related fields up to Associates & Degree Level. The Community College (evening classes) attached to the High School offers courses to meet the following needs: academic, remedial, semi-professional-typing, accounts, professional (Institute of Bankers), and recreational. These include courses to CSE, 'O' and 'A' levels. The Hotel School offers a wide range of subjects related to the hospitality industry, from basic services to management level. The Marine School deals with both engineering and deck training. Navigation students receive practical instruction on a training ship, but the workshop facilities for engineering students are not fully operative. The Building and Trade School offers full time courses in carpentry, and part-time courses in roofing, architectural drawing, plumbing, air conditioning and refrigeration, and concrete technology.

DOMINICA

The Clifton Dupigny Technical College is the major institution responsible for technical and vocational education and training. In addition the Convent High School offers pre-vocational education mainly in business education and home economics. Fourteen of the all-age (primary) schools provide pre-vocational education and work study programmes in the last three years of post-primary education.

Several institutions are involved in non-formal technical and vocational education and training. They include: the Centre for Adult Education, the Public Works Department, Public Health Department, Social League, Division of Community Services, Youth Division, Rotary, Planned Parenthood Association, and the Agricultural Department through its extension services. Training offered by the Public Works Department and the Social League is on-going and personnel oriented. In the other institutions the education and training appears to be directed towards development of skills required for community building.

All of these sources of technical and vocational education and training contribute to national development. The promise of increasing this contribution through an innovative use of existing resources is particularly strong at the Technical College, with its capacity to offer technical and vocational education and training at a high level. The appointment of well trained staff and the acquisition of good facilities will create a pool of highly skilled craftsmen, technicians and technologists. Another resource of great promise is the Junior Secondary Programme - an innovation in pre-vocational education and training recently introduced in Dominica. The programme has a high potential to contribute to development through an increased usage of indigenous resources.

GUYANA

Technical and vocational education and training is provided formally within the school system, in post-secondary institutions and in tertiary institutions. At the end of primary schooling, students take a placement examination, the Secondary Schools Entrance Examination. Those whose performance indicate that they can cope with and benefit from the more academic programme are admitted to Multilateral Schools. The remainder enter Community High Schools. In the past the traditional pattern of the grammar schools curriculum paid scant regard to technical and vocational education. In 1972, with the launching of Multilateral Schools, the curricula of the premier secondary schools in Guyana were extended to include technical subjects at the traditional examinations. The subjects now included are agriculture, home economics (food and nutrition, needlecraft and dress), and industrial arts (design and technology, technical drawing). Commercial education had been introduced into three girls' secondary schools but technical and vocational education gained a substantial boost when having assumed responsibility for all education in 1976 Government made all secondary schools co-educational. A division of technical education was created in 1970 headed by an Assistant Chief Education Officer (Agriculture) and a Senior Education Officer (Technical) concerned directly with industrial arts and home economics. There are specialist Education Officers in the several subjects and they function in the Education Districts visiting schools.

The students in the Multilateral Schools have an opportunity to study grammar school subjects but they are also able to study and sit for examinations in the technical subjects. Appropriately qualified candidates then enter technical institutes to pursue technician courses, enter the VIth form to do mainly physics and mathematics, or in a few instances they go directly to universities. Pupils in Community High Schools pursue a course of general education, (60 per cent of time). The remaining 40 per cent is given to pre-vocational education. At the end of the three-year period, they write part I of the Secondary Schools Diploma. In the fourth year, the time allocation is reversed. The results of parts I and II make them eligible for admission to the craft courses at the technical institutes, the certificate course in agriculture, or for employment in a number of categories both in the public and private sectors. It was hoped that a number would go into self-employment, but so far this has met with little success. Not every Community High School offers technical and vocational subjects. The subjects included in the school's curriculum are geared to the life of the community and job openings. Thus in an agricultural community agriculture, industrial arts and home economics are likely to be in the curriculum whilst business education is not. It is hoped that this arrangement will both reduce frustration amongst youth trained but unable to find employment in their home communities as well as reducing rural-urban migration.

In the non-formal sector the Adult Education Association provides a variety of classes in a range of subjects that vary from highly academic preparation for recognised examinations within the formal system to quite informal, practical treatments of the interests of housewives. The Association uses school facilities including laboratories and workshops, outside school hours. This very wide programme seems ambitious but it is really an attempt to meet needs that can be analysed into clusters of problems. For example, there is often the need to up-grade literacy and numeracy before promoting skill acquisition, which is itself to be followed by learning how to manage a small enterprise, followed by knowledge and insights into the marketing of produce from that enterprise.

Whilst the Adult Education Association is a voluntary organisation, privately run, in many ways a Government counterpart to the Association is found in the activities of the Co-operatives Department and Extra-Mural Department of the University of Guyana. They do not sponsor examination courses but both agencies arrange non-formal courses to meet the needs outlined, and both operate over the entire country. An interesting departure from the pattern of the Adult Education Association and the Co-operatives Department is provided by the activities of the Women's Revolutionary Socialist Movement (WRSM). This is the women's arm of the Peoples National Congress, the political party lead by the Executive President of Guyana. Their objective is to raise the consciousness of women in Guyana politically, economically and culturally and to prepare them to function on an equal footing with men in every sphere of activity. The aim of the WRSM is to modify behaviour and therefore constitutes education. A fair amount of attention is paid to topics traditionally associated with women such as child care, nutrition, food preservation, crafts etc. There is also a noticeable emphasis on acquisition of skills such as brick-laying and carpentry and a cluster of other skills associated with appropriate technology, skills which have hitherto been the preserve of men. The skills acquired are used for personal and family benefit as well as in performing self-help and community service. Their way of learning and doing things is best

simplified in a UNICEF-sponsored project they have undertaken jointly with Christian and non-Christian religious organisations.

The practical and non-formal orientation of this project is shown by the fact that nutrition is based upon the actual production of foodstuffs followed by preservation and preparation. Extension Officers of the Ministry of Agriculture make inputs of know-how and some planting materials as does the agriculture teacher attached to school farms in the district. Families are assisted to plant crops and rear pigs, ducks, chickens and occasionally cows. Whilst the WRSM provides the necessary stimulus to parents, the school provides complementary stimuli to the students. The food preservation aspect of the project introduces appropriate technology by the construction and use of solar driers to preserve fish, shrimps and a variety of vegetables. The association of schools with the project has brought three kinds of benefits. Firstly, as a result of schools and some parents being brought closer through the exercise, those parents show more interest in their children's problems and progress at school. Secondly, the gap between formal and non-formal education has been bridged. Thirdly, a school has benefitted by way of the gift of a windmill for pumping water into an over-head tank to supply the school. This last is an outcome of the appropriate technology aspect of the project. Pupils of the school have started to study the windmill with a view to designing and building one or more so their full needs can be met. This is an excellent opportunity for teaching science and technology by informal and non-formal ways whilst performing useful work. Finally, this project illustrates how bridges can be built between formal and non-formal technical and vocational education and training.

JAMAICA

High level technical and vocational education and training is offered at the College of Arts, Science and Technology. This large polytechnic, which serves both national and regional needs, has a student population of 3,500. The College offers 70 different programmes for full-time, part-time and evening students. A number of these programmes lead to qualifications for professional practice in most Commonwealth Caribbean countries. Special courses and programmes have also been developed, for example for bio-medical engineering technicians, and modular courses in electronics and telecommunication. The College has also undertaken a curriculum development project workshop for the Caribbean Examinations Council. The College is continuing to grow, and an extensive programme of expansion is now being executed.

The curricula in schools for technical and vocational education have been divided into five broad areas: agriculture, art and craft, business education, home economics and industrial education. These subjects are offered at different levels in both the formal and the non-formal systems. The objectives of the programmes and methodologies applied vary between these two systems, as they serve different target groups.

Art and craft work using local materials is an important part of the tourist industry. Industrial education includes the use of a variety of local woods to produce furniture. Agriculture and home economics have to be linked as together they offer tremendous scope for agri-industry. Jamaica is noted for its variety of species of tropical fruits and vegetables. Since these crops are seasonal there is much scope for the development of food

technology. Business education is an essential part of industrial development, which requires sound business practices, supported by efficient office skills.

MONTSERRAT

The Montserrat Technical College is responsible for most of the formal technical and vocational education and training being carried out in the country. The College is relatively small, but it offers a number of craft level courses in office arts, auto-mechanics, carpentry and joinery, electrical engineering, masonry and plumbing. In addition, a small number of part-time technician level courses are available. The College programme is complemented by introductory courses in the secondary education sector.

Non-formal technical/vocational education and training is not yet properly organised. However, some non-formal work has been carried out by agencies such as our UWI Extra-Mural Department and Agricultural Extension Department. All of the formal and non-formal agencies mentioned above have the capacity to make a contribution towards developing Montserrat's indigenous resources. However, the Montserrat Technical College would perhaps be expected to make the major formal and non-formal developmental contribution.

ST CHRISTOPHER-NEVIS

Traditionally technical and vocational education in the islands has been provided by the technical and vocational wings of the Department of All-Age Schools, the former Grammar School for boys and the High School for girls, now replaced by a network of comprehensive High Schools, and at post-secondary level via the St Christopher-Nevis Technical College. Non-formally it has been provided through the Apprenticeship System, mainly at the Central Sugar Factory, Basseterre and on-the-job training schemes which several large firms, industries and corporations undertake in their own self interest. Informally it is run through cottage type industries and indigenous technology, home or family based. There was (and still is) the tendency to overlook this aspect, but it is through the informal system that there grew up the vast army of semi-skilled workers in the twilight zone of the urban section of our economy.

The non-formal Adult Education programme in St Christopher-Nevis seeks to encourage among its nationals the development of saleable skills to improve the quality of life in the community, the nurturing of positive interpersonal relationships which foster the attitude of being "one's brother's-keeper" and the acquisition of literacy and numeracy skills which would render each person functional at the highest level of his ability. Each objective has implications for technical and vocational education and training, and is intended to be an improvement on what used to be the conception of adult educational activity in the state. The newest dimension to this activity has been the development of economically viable programmes which require technical and vocational skills.

The Young Mothers Group operating under the auspices of the local Family Planning Association is securing land from the National Agricultural

Organisation and guidance from the Agricultural Department and the Caribbean Agricultural Research and Development Institute (CARDI) to launch a Hot (Pepper) Sauce Industry both for the local market and for export.

The Ministry of Education jointly with the Agricultural Department and CARDI have launched a pilot project-Scientific Kitchen Gardening. The intention is to encourage people to utilise every available space in growing kitchen vegetables taking into account the type of crop that will thrive best on a particular piece of land at a given season.

In addition to the above the Ministry of Education has organised home improvement classes which embody cooking, laundering, food preservation and making useful articles for the home, needlework classes in which people learn to make and repair clothing and home maintenance programmes which prepare people for effecting repairs to their houses and to furniture.

The Teenage Family Life Education Project includes a programme of craft development. The young ladies are taught to make artifices as souvenier items. All three projects utilise local expertise and can be developed to make a significant impact on the economy. It would appear that the Scientific Gardening Programme has the greatest potential for contributing to the growth of the economy. The people must develop the necessary skills to diversify the all important agriculture and break the stranglehold of our total dependence on the mono-crop sugar cane.

Technical and vocational education is receiving more emphasis in the secondary and all-age schools than a decade ago. In an effort to improve the hitherto limited choices available to students the Ministry has recently expanded the range of commercial arts subjects in Cayon, Sandy Point and Charlestown Secondary School. Another school, the Basseterre (Senior) High received an additional stock of typewriters. Particular mention should also be made of the employment of a supervisor to co-ordinate the teaching of secretarial courses in all high schools. A scheme is being implemented to broaden the exposure of some students graduating from the Basseterre Junior High school, who may find employment opportunities as carpenters and masons.

The home economics programme in all secondary and All Age schools has been receiving qualitative improvement. Through attendance at seminars in nutrition arranged by the CARICOM Secretariat in Guyana, the home economics programme in all schools has been reorganised to give emphasis to nutrition. This programme is also worked in conjunction with the school agricultural programme. Agriculture in school is pursued with perhaps two clearly established target groups. The persons who would leave school equipped to promote their own back yard or kitchen vegetable garden. The second target group is still perhaps the more popular. Students who pursue programmes in agriculture to write the various overseas examinations and CXC, as a passport into white-collar and blue collar jobs.

The St Christopher-Nevis Technical College is the main formal institution from which manpower needs at craft and to a lesser extent technical level are met. In response to the demand expressed by employers, the College provides intermediate level courses in mechanical and electrical engineering to upgrade craftsmen already employed. There are also a range of courses

in building, mechanical, electrical and automotive trades, secretarial studies, and one year courses in hotel trades.

ST LUCIA

The main technical and vocational education and training institutions are government operated. The Morne Fortune Technical College and the Castries Comprehensive Secondary School are administered by the Ministry of Education and Culture; the St Lucia Agricultural College by the Ministry of Agriculture, Lands, Fisheries, Labour and Co-operatives. The Technical College is divided into five sections; the Technical Teachers Training College (TTTC), the Hotel Trades School (HTS), the Building Department, the Engineering Crafts Department and the Commercial Department. The courses in the various sections are generally full-time of either one year's or two years' duration. Recruitment takes place either annually or biennially.

The following one-year courses are held at the regional TTTC: science teachers course, industrial arts (IA) teachers course, and the technical teachers course. The HTS runs a one-year full-time basic hotel trades course, and 10-week part-time courses for hotel department supervisors. The Building Section has the following two-year courses: building technicians, masonry, plumbing, and carpentry/joinery. The Engineering Crafts Section conducts courses in auto-mechanics, construction mechanics (heavy plant), refrigeration and air-conditioning, mechanical engineering crafts, and electrical installation. The Commercial Section concentrates on a two-year full-time secretarial course, and a business studies course is planned. The majority of courses are offered at the basic craft level, although a few technician level courses are conducted which require students of GCE 'O' Level or CXC General Proficiency attainment in English and Mathematics.

The Technical College is involved in the apprenticeship scheme of the St Lucia Electricity Services Ltd, and conducts part-time upgrading courses for semi-skilled employees of the company. The College also provides facilities for Cable and Wireless Ltd to operate a regional telecommunications craft training programme. From time to time, the College puts on part-time courses e.g., customs brokerage, refrigeration and air-conditioning, plumbing, and accounting, in response to demands from the general public or employers. For example, this year for the first time, a part-time evening course, comprising typewriting and the elements of office practice is being conducted for junior typists in the Civil Service. It is planned to develop new courses at the College to cater for a larger clientele - to relieve the shortage of skills where they are lacking, and to upgrade them where they are deficient. It is expected that new courses will be offered in electronics, automative body work, small business management, advanced accounting, architectural technology, land surveying, supervisory and foremanship studies, garment manufacture, and hotel management. It is expected that the facilities of the Hotel Trades School and its course provision will be expanded.

The Castries Comprehensive Secondary School (CCSS) established in 1974, is a five-form secondary school having both academic and vocational and technical offerings in its curriculum. During the first three years students are given a general balanced exposure to academic and vocational subjects. In the 4th and 5th forms students either major in vocational

subjects or academic areas. Among the technical/vocational subjects are typewriting, sewing, home economics, welding, machine shop, small engine repair, electricity, plumbing, auto-mechanics, woodwork, masonry, building construction, business studies, accounting, and technical drawing. Opportunities exist for students to take relevant external examinations, e.g., CXC and GCE in all the academic and some of the technical subjects.

The St Lucia College of Agriculture runs one-year certificate courses for intending farmers, and two-year diploma courses for agricultural technicians. Some of these diplomates become extension officers within the Ministry of Agriculture. The first year is common to both courses. During that time students attain basic agricultural knowledge and practical skills in forestry, crop production, animal production, animal health, farm business, farm machinery, agricultural science, vegetable plotwork and farm practice. Practical and academic studies have equal time weighting. In the second year, students may specialise in forestry or general agriculture. Forestry, crop and animal husbandry are studied in greater depth; the recording and interpreting of the physical and financial data from farm businesses are introduced and the agricultural sciences are stressed. The time schedule for academic and practical studies in the second year is divided in the ratio 3:2. Consideration is currently being given to conducting 3-year programmes to train agricultural technologists in specialist fields relevant to St Lucia.

The Vieux Fort Senior Secondary offers technical education, mainly in woodwork and technical drawing. Deterioration of the building and lack of instructors have put a temporary halt to instruction. However, a study is being undertaken to transform the school into a comprehensive institution. At the Soufriere Comprehensive School home economics, needlecraft, woodwork and agricultural science have been attempted at GCE 'O' Level standard, but the results so far have not been very successful.The six Junior Secondary Schools offer all or some of woodwork, technical drawing, home economics and agricultural science.

The private I-IV Form Girls Vocational School, now 13 years old, and run by the Corpus Christi Carmelite Sisters, offers needlecraft, home economics, book-keeping, shorthand, typewriting, and commerce in addition to the regular academic subjects. The school caters for girls who are 13 years and over. The students in the IVth Form register for the Pitman's examination in the commercial subjects. About 30 students graduate every year.

In the non-formal sector various institutions and organisations (private, quasi-government, and voluntary) carry out skills training, mainly for the youth of the country.

ST VINCENT AND THE GRENADINES

The St Vincent Grammar School (with a sixth form) and the Girls High School are government owned schools. The Intermediate High School is a privately owned school, and the remaining ten secondary schools are church schools.

Many of these schools are now preparing students for the world of work by offering among other subjects, principles of accounts, office practice,

typing, commerce, agriculture, home economics, industrial arts and, in one school - The Bequia Anglican High School - students have already written the GCE 'O' Level (Cambridge) Examination in navigation and obtained gratifying results.

The Technical Training Centre, formerly a wing of the Grammar School offers technical education mainly in the fields of general metals, woodwork and technical drawing to some 442 full time students from a number of government schools. Also, some 38 male and three female students from the St Vincent Teachers' College receive industrial arts education at the Centre while the other female students study home economics as part of their College's programme. The Centre runs an Adult Evening Programme for about 48 students in the fields of woodwork, welding and drawing. Eight of these students are women. At St Vincent Teachers' College modifications have been made to the professional and academically oriented programme to provide training opportunities for students in the fields of agriculture, industrial arts and home economics. This is in keeping with Government's policy to create in teachers an awareness of and an appreciation for skills. There are opportunities for further training offered to the most promising students so that they, in turn, may eventually become specialist teachers in the vocational and technical fields.

The St Vincent Technical College, built in 1971 is the main centre for technical education and training for students from St Vincent and the Grenadines. It presently offers training for 131 full time students and 1,126 part-time students in various fields. The College staff comprises 25 full time members and nine part timers. Subjects offered at the College are intended firstly to satisfy the manpower needs of government and local industries and then to provide training that would help to make some of the graduates independent and self employable.

In addition to these programmes in educational institutions, the Government Funding Scheme in the Ministry of Communications and Works has an organised programme for training apprentices in the field of auto-diesel mechanics. At present about 50 youths are benefiting from this programme. The Ministry of Home Affairs has 12 active Handicraft Centres where interested persons may attend a training period of approximately three months in the field of basketry and the making of local souvenirs for the tourist market. At the craft centre in Kingstown training is provided, in addition, in the fields of ceramics and jewellery.

The School for the Blind and the Centres for the Handicapped help many handicapped and disadvantaged persons enjoy a feeling of independence. The Liberty Lodge Boys' Training Centre, with the assistance of local donors and organisations, is providing training for boys who would otherwise become delinquents. The most noteworthy thing about this centre is that all inmates and day participants enter voluntarily. Many of the graduates are now responsible community supporting citizens.

TURKS AND CAICOS

Formal training falls into two categories, tuition at secondary school, and in-service training at the work place. Tuition at secondary school includes theoretical and practical training in woodwork, and theoretical training in technical drawing. Courses based on GCE and Royal Society of Arts'

syllabuses are taught over a period of four years and at the end of this pupils are expected to write exams at the GCE ordinary level. Outstanding pupils eventually go overseas for further training.

On-the-job training is done at a few private firms, and in certain sections of the Civil Service. This includes practice in surveying, design, training in maintenance and repair of electronic equipment and, in a few instances, training in the major trades. Some non-formal training is provided by voluntary effort and in a sense might be considered traditional and a family legacy. Such training includes skills in the making of shell-work,scale work, straw-work, embroidery and crochet work.

Commonwealth Pacific/Indian Ocean

FIJI

Formal technical and vocational education is mainly provided at tertiary technical institutes to meet the manpower requirements of industry. The courses are structured to provide training and skills leading to various levels of certification. In addition to technical institutes there are other centres and also secondary schools geared to providing vocational training at a somewhat lower level. The Fiji National Training Council also provides training in a somewhat different form. The primary objective of technical institutes is to provide skilled manpower to industry for economic growth. One of the main elements of formal technical and vocational training is the apprenticeship scheme. The scheme provides the necessary machinery for the training of apprentices financed by employers. The apprentice is protected from being exploited and is paid in accordance with an approved pay guideline. All apprentices are registered and required to attend some or all of the following classes for training; full terms, block release, day release, sandwich and evening. Almost 90 per cent of the students attending technical institutes are registered apprentices. The remaining 10 per cent or so are private students.

The Fiji National Training Council (FNTC) - a statutory body whose training approach is different from the technical institutes is the other major body. The FNTC conducts courses of shorter duration, lasting from a few days to several weeks. The main objective is to provide courses for up-grading skills in particular disciplines. They may be termed refresher courses and are provided in several centres. The FNTC funds its activities through a one per cent levy system. Training is also provided by some high schools, specialised institutions for the under-privileged and privately owned commercial schools. These institutions either provide their own training programmes or follow courses developed by recognised foreign organisations such as the Royal Society of Arts. Where local prescriptions are followed, students are examined and certificated by the Fiji National Training Council. These institutions provide trade training at a lower level.

Non-formal education and training is provided by a number of agents such as the FYCA, youth groups, religious bodies and several government ministries. The courses are both ad-hoc and structured in nature, lasting from a few weeks to several months. The present non-formal multicraft programme provides the much needed technical and vocational education and training for young men and women who are unable to follow an academic programme or cannot have access to tertiary technical institutes for formal training.

KIRIBATI

The Ministry of Education, Training and Culture established a pilot project of Community High Schools in 1976, which sought to introduce a new concept of integrated education for young people on the out islands. The objectives of this project were to enable young people to be educated and trained in appropriate skills which would equip them to lead a fuller life in a subsistence environment. In 1980 after an evaluation of the Community High Schools the project was stopped in favour of a more academic curriculum. However, within the framework of skills training, the new primary schools have absorbed into their curriculum the traditional and community skills training element from the original project.

The Tarawa Technical Institute is the focal point for nearly all training in Kiribati concerned with engineering, construction, English, business studies and public sector training. With respect to craft training, Kiribati adopted a traditional pattern of apprenticeship training in 1973. However, it soon became apparent that such a system of training, relying heavily on the transfer of skills and knowledge taking place on the job was basically alien to the Kiribati culture. Furthermore the main body of personnel employed in craft occupations were themselves not competent to undertake the role of training on-the-job. Therefore a more flexible system of training, which would accommodate the changing pattern of skills required, provide further training for the existing workforce and provide a recognised programme of training for new entrants into craft occupations was sought. Hence in 1977 the Contract of Service normally associated with an apprenticeship scheme was replaced by a Contract of Training based upon a modular system of training. With the introduction of this concept three levels of skill have been identified. It is anticipated that these three levels will eventually form the basis of our occupational skill standards and certification programme.

In 1979 the Institute established a department of Appropriate Technology primarily concerned with projects focusing on the basic family unit seeking out problems and providing solutions to satisfy the basic needs of the family group. It was felt that such an approach would improve living standards, create internal development, promote an exchange of skills at village level and encourage self reliance. Such projects are not based on new metropolitan concepts, but are aimed at improving existing ways, and removing complex skill factors in the manufacturing process. Earlier this year the Institute conducted its first ten week training programme for out island community leaders in appropriate technology. The programme aimed to enable individuals to acquire the skills necessary to introduce and undertake various projects which had been developed at the Institute at the request of island communities. Many of these projects have been translated into training booklets, including many pictures and illustrations for use by relatively unskilled people.

As the department develops the Institute will become a practical training centre for teachers and community group leaders who wish to develop appropriate technologies in their schools and islands. Such projects already include low-cost housing, water storage systems, pumps, roof sheeting, coconut graters and furniture. Introduction of new technology and skills training at village level is not an easy task. Many cultural factors tend to work against the concept of change. Sharing or exchange of skills at village level is not common in Kiribati culture. These facts illustrate that the rate at which change takes place is an indeterminate variable, and highly dependent on individual attitudes. Whilst every parent wishes their child to have an equal opportunity to enter the wage earning sector the majority must look forward to a subsistence way of life on their islands. From 1977 to 1980, 1,386 boys and 1,307 girls have left school and have no opportunity to enter the wage earning sector, except copra cutting or fishing, both subsistence occupations. The future does not hold any real promise that the situation will improve. The rejection of Community High Schools has now led many to advocate the establishment of a Community Development Centre on each island. Such a centre, it is anticipated, will become a focal point for the community; embracing such areas as programmes of training for out-of-school youth, adult education and general community programmes undertaken by community workers. It would also be identified as the centre for mobile training teams to carry out their programmes.

MAURITIUS

The Industrial Trade Training Centres have been established to meet the short and long-term requirements of industry in Mauritius. Short-term requirements are met with full-time short courses of variable duration in selected trades for unskilled, semi-skilled and skilled workers in industry. Long-term requirements are being met with full-time basic craft courses of one year's duration. The basic courses are mechanical engineering, craft practice, electrical installation and maintenance, auto-mechanics, welding and metal fabrication, plumbing and pipe fitting, carpentry and joinery, masonry and concrete work, maintenance fitting, tractor mechanics, upholstery, sheet metalwork and cabinet making.

Handicraft (vocational) training is provided in five vocational centres in the following trades: leathercraft, woodwork, dressmaking, embroidery and basketry. The training period is of 18 months for girls and two years for boys. The level attained by the trainees at the end of their programme is that of a craftsman.

4. THE MANAGEMENT OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING FOR DEVELOPMENT

4.1 Development needs require training responses. Training responses require management if they are to be effective. This is true whether it is one instructor preparing his own programme or a country implementing a national training policy.

4.2 Despite the relative size of population in Island Developing and Other Specially Disadvantaged States of the Commonwealth there exists a surprisingly wide range of agencies responsible for the management of technical and vocational education and training policies and programmes. Ministries, educational institutions, voluntary groups, the churches, private companies, aid agencies and individuals all have a part to play.

4.3 For example, the table below indicates some of the agencies in a sample group of countries with responsibility for training activities for the servicing and maintenance of out-board engines on fishing boats, a crucial skill training programme for sea-bound countries.

The Bahamas	Ministry of Agriculture and Fisheries
Barbados	Ministry of Trade and Industry; private companies
British Virgin Islands	Private companies
Cayman Islands	Marine School; pre-secondary training scheme
Dominica	Ministry of Agriculture (Fisheries Division)
Fiji	Fiji Institute of Technology (Division of Automotive Engineering); Fiji National Training Council; Ministry of Works
Mauritius	Ministry of Fisheries; Ministry of Employment
St Lucia	Schools
St Vincent	Technical College; special Government funding scheme; Ministry of Agriculture and Fisheries; Ministry of Works
Turks and Caicos	Department of Education and Training schemes; fisheries firms.

4.4 In the manufacturing sector food preservation and food processing is of special importance if diversification of the national economy and the development of rural areas is to take place. Responsibility for skill training programmes in this area includes the following in five of the countries represented at the meeting in The Bahamas.

Antigua and Barbuda	Ministry of Agriculture; Ministry of Education; Women's Desk (Home Economics Division)
Dominica	Ministry of Education; Ministry of Agriculture; Social Leagues
Fiji	Ministry of Agriculture and Fisheries; Ministry of Commerce and Industry; Fiji Canning Company; Ministry of Education
St Vincent	Ministry of Education; Ministry of Agriculture; Ministry of Home Affairs (Community Development); Organisation for Rural Development; National Women's Council
Turks	Service clubs; fishing companies; Department of Fisheries

4.5 A significant example from the service sector is the training of hotel personnel for the tourist trade. In the following group of countries training is the responsibility of a wide range of public and private bodies.

Anguilla	Ministry of Social Services; Hotels Association
The Bahamas	Hotel Training School; Hotels Training Council; High Schools; Industrial Training Council; University of West Indies; Ministry of Tourism
Barbados	Community College; Hotel Training School; Hotel Association; Tourist Board; Caribbean Tourism Research Centre
British Virgin Islands	Hotels Association; Department of Community Development; Department of Education
Cayman Islands	Department of Tourism; Hotels Association; individual hotels
Jamaica	High Schools; Community Colleges; Hotel Tourist Association, University of the West Indies; Tourist Board
Mauritius	Hotel and Catering School
Montserrat	Overseas training
St Lucia	Hotel Association; Morne Fortune Technical College

4.6 Whilst it is clear in these three and limited examples that ministries predominate, it is also apparent that colleges, schools, private companies and non-government organisations have an important role to play.

Additionally, lists such as these omit the informal expertise which is passed on in farming and fishing communities.

4.7. The efficiency and effectiveness of these managerial bodies varies enormously both within the organisation and in the co-operation and co-ordination that exists between them. The meeting examined both facets of the management equation.

4.8 As the technical college is perhaps the single most important repository of training wisdom and resources in the small countries of the Commonwealth particular attention was paid to ways and means by which governments might improve the ability of training colleges to respond effectively to developmental needs. A number of measures were identified which should enable technical colleges to increase and diversify their development role through improved management. **The meeting recommended Governments should:**

- Develop a consistent and long-term policy for technical and vocational education and training for development in technical colleges and institutions.

- Draw upon the expertise of those working in technical colleges and institutions in the development of educational policies for technical and vocational education and training.

- Ensure that policy makers respond positively to the development of technical and vocational education and training programmes in technical colleges and institutions.

- Ensure that administrative decisions relating to technical and vocational education and training are translated into action at the earliest possible time.

- Undertake a regular review of the management structures of technical colleges and institutions.

- Make legal provision for the establishment of formal advisory boards for technical colleges and institutions.

- Encourage positive relationships between personnel dealing with academic subjects and those dealing with technical and vocational education and training, recognising that this arises in part from the low status often accorded to the latter group.

- Allow some flexibility in the administration of finance for technical and vocational education and training programmes in technical colleges and institutions. Increased financial autonomy should allow a greater local responsiveness to development needs.

- Encourage staff development, and ensure that this is a major concern of the college or institution principal.

- Emphasise evaluation as an important management tool in technical colleges and institutions.

- Ensure that all programmes of technical and vocational education and training are based on clear objectives and that such objectives are achieved.

- Ensure that training for the management of technical and vocational education and training institutions includes techniques of information gathering as these relate to the development of appropriate skills and courses.

- Ensure, through appropriate ministries, that technical teachers are upgraded by attending refresher courses and through attachments to industry.

- Ensure that national teaching needs are satisfied by seeking internal and external funding, to provide for appropriate technical teacher training at regional institutions and elsewhere.

4.9 In schools and amongst the community at large there is also a need to enhance the value of technical and vocational education and training. The introduction of technical and vocational education and training into schools is a live issue throughout the Commonwealth in large and small countries alike. **The meeting recommended that Governments should:**

- Recognise the importance of technical and vocational subjects in the school curriculum. This importance should be reflected in appropriate weighting for this subject area in the school curriculum and timetable.

- Introduce appropriate technical and vocational programmes at the primary or first cycle of schooling.

- Encourage the acquisition and development of marketable skills by including the study and experience of work as a component of technical and vocational programmes in schools.

- Ensure that schools place an increased emphasis on all aspects of agricultural education and training, including fishing.

- Make provision for parental and community involvement in school programmes of technical and vocational education and training.

4.10 The co-ordination of the many technical and vocational education and training programmes and projects exists more in the intention than in practice. There are instances of co-ordination and co-operation between institutions and ministries as for example in Jamaica where the Ministry of Education and the Ministry of Youth and Community Development combine on the latters' courses for school technical instructors. However, many countries note wasteful overlaps with different institutions offering similar programmes. This is true, for example in The Bahamas where a secondary school, the Hotel Training School and the Industrial Training Centre could usefully discuss the co-ordination of training resources without loss of opportunities. Similar problems were reported in St Lucia and Cayman Islands.

4.11 A number of countries show a strong desire to establish some form of national advisory council or board for technical and vocational education

and training (see, for example, Antigua and Barbuda p 57, Dominica p 61, Montserrat p 62, St Lucia p 62, and Kiribati p 65). Barbados, Jamaica, and Mauritius in the Indian Ocean are examples of countries which have taken this step. Representation on such a central body usually includes government, unions, training institutions, the private sector and individual members of the community. Responsibilities and power vary but usually include the overall co-ordination of programmes, the setting of standards, certification and in some cases the assessment of manpower needs on a regular basis.

4.12 The meeting recognised that the presence of a national council helps establish and confirm the credibility of training. It acts as a focal point for all forms of training. By establishing occupational and certification standards there is a greater likelihood that regional standards can be determined; an important consideration for small states with mobile populations.

4.13 Recognising the role which a national council could play in the overall development of a policy for technical and vocational education **the meeting recommended that Governments should:**

- Develop a consistent and long-term overall policy for technical and vocational education and training for development.

- Establish, as a matter of urgency, wherever they do not exist, national councils which would bring together all those governmental and non-governmental agencies and institutions responsible for formal and non-formal technical and vocational education and training in order that effective programmes for development may be implemented and, as necessary, rationalised.

- Ensure that national councils foster and increase collaboration between the government, the private sector and non-governmental organisations in order to improve the standards of technical and vocational education and training.

- Establish appropriate machinery within and between government ministries to articulate and co-ordinate government training programmes for technical and vocational education and training.

- Maximise the use of scarce resources by encouraging national councils to give close attention to the need for collaboration between different educational institutions offering similar courses.

COUNTRY PAPER EXTRACTS ON THE MANAGEMENT OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING FOR DEVELOPMENT

Comonwealth Caribbean

ANGUILLA

There is hardly any formal or non-formal technical and vocational education in Anguilla. However, with the Government in the process of developing a Technical and Vocational Centre, there is an urgent need for training educational personnel to manage such training.

ANTIGUA AND BARBUDA

The management of technical and vocational education in Antigua and Barbuda is admittedly an area that needs some attention. Schools which are owned and operated by Government come directly under the supervisory control of the Ministry of Education in every aspect of their operations. Non-government agencies have to observe, in theory, some regulatory principles embodied in the Education Act, but this requirement is loosely met. There is at the moment no machinery or provision for consultation between the community or other interest groups, and the various agencies involved in technical and vocational education in the determination of curricular content and evaluation standards. However, some training institutions like the State College, by virtue of their informal but close relationship with industrial establishments obtain some feedback on their work, which is taken into account in curriculum development.

The Ministry of Education is actively considering proposals for the formal establishment of machinery to promote the widest possible collaboration in the shaping of programmes, in the setting of evaluation standards and in other aspects of curriculum planning and implementation.

THE BAHAMAS

The management structure of technical and vocational education and training varies from institution to institution. Currently, there is no one machinery existing to co-ordinate all forms of technical and vocational education and training. However, some form of control is envisaged when the National Industrial Training Council is properly constituted.

There is an Advisory Committee on technical education which was re-established in 1975. The terms of reference of this Committee include:

1. The preparation of annual reports, according to guidelines established by the Committee, on technical and vocational training in the College of The Bahamas, the school system and in other establishments.

2. The preparation of a report on demand for manpower in the technical and vocational sectors and, if possible, projections on demand; all in accordance with guidelines to be established by the Committee.

Formal Programmes

The College of the Bahamas is administered by its Council which is composed of nine members as follows:

1. The Principal (ex - officio)

2. One public officer representing and appointed by the Minister

3. Six members appointed by the Minister of Education after consultation with such economic or social bodies and associations from which he considers that such members should be selected

4. A student of the College selected by the Principal and appointed by the Minister of Education.

All major decisions must be approved by the Minister of Education.

The Academic Board is responsible for the academic administration of the College and it is composed of the Principal (as Chairman), the heads of teaching departments, the librarian, a student and three persons selected by the Principal and appointed by the Council. Technical and Vocational Studies, Applied Science, and Business and Administrative Studies are academic divisions.

The Bahamas Hotel Training College is administered by the Bahamas Hotel Council a tripartite body consisting of representatives of Government, industry and labour. The College is financed by Government and the hotel industry. The Industrial Training Centre is administered by the National Industrial Council (interim), an arm of the Ministry of Education and Culture.

In Government schools, technical and vocational studies are supervised by the Division of Supervisory Services of the Ministry of Education. One section, with one Senior Education Officer, is responsible for the Primary and Secondary schools of New Providence. Another section, which has eight District Education Officers, is responsible for all Family Island schools. In addition to on-the-spot visits from these officers, seminars and other in-service activities geared toward curriculum implementation are also handled by them.

The Department of Nursing Education exists within the Ministry of Health under the Chief Nursing Officer. It is administered by the Principal Nursing Officer for Education; this officer plans and controls the budget. Minimum curriculum guidelines are set by the Council of Nursing of The Bahamas. The nursing faculty is responsible for curriculum development based on health sector policy and objectives and on advice from Ministry of Health officials and the Nursing Advisory Committee representing nursing leaders in the education service.

Non-Formal Programmes

The management of these programmes varies from one extreme to the other. In situations with training and education provided in privately owned and operated institutions, there is no community input other than that provided by employers, if such a feedback mechanism exists. Within the Ministry of Youth, Sports and Community Affairs, there are various levels of community participation for Youth Division activities. The Youth Division works closely with 40 to 50 registered youth groups. There is an advisory council or youth board. There is on-the-job training for six weeks where the activities of the participants are monitored and evaluated. Junior Achievement uses advisers from industry, and facilities, information and leadership performed by the community. The training performed by the Public Service Training Centre can be classified with other in-house training and education arrangements such as those of construction, banking and finance, and industry; in these situations, the management of the programmes is a "family matter".

BARBADOS

There is no single management structure for technical and vocational education and training since the responsibility does not rest with one Ministry or Department.

In the Ministry of Education there is an education officer whose responsibility it is to advise the Chief Education Officer on matters related to technical education and training. This officer also supervises the teaching of industrial arts programmes in schools, where the headteachers and the heads of the vocational studies departments are responsible for the functioning of the programmes.

The Samuel Jackman Prescod Polytechnic and the Barbados Community College are both departments of the Ministry of Education. The principals, assisted by deputy principals and the heads of various divisions are responsible for the type and functioning of programmes offered.

The manager of the Handicrafts Division of the Industrial Development Corporation assisted by a handicrafts officer is responsible for the development and functioning of training.

The Director of the National Training Board and the Director of Skills Training Programmes function under the Ministry of Labour and Social Security with various responsibilities for vocational training.

Co-ordination of Technical and Vocational Education and Training

The National Training Board was established under the Occupational Training Act 1979-82 to provide for the training of persons for or in gainful employment in occupations, in all branches of economic activity in Barbados. In carrying out its functions the Board through its Director works closely with all other institutions dealing with technical and vocational education and training.

Represented on the Board are the Ministries of Education and Labour, employers, employees and trade unions. The Board has the power to

appoint committees which assist with decision making, implementation and evaluation of specific training. The committees have the same type of representation as the Board, although some of the members are chosen because of their close association with and knowledge of specific trades.

Because of the small size of the island, communities are not greatly separated either by distance or by different interests in the training programmes. Technical committees of the Board are therefore representative of the whole island which is regarded as one community.

BERMUDA

An Apprenticeship and Training Council is in charge of all training through the Apprenticeship and Training Act. It is composed of 10 members: a chairman, three members representing employees, three representative employers, and three public officers.

It has advisory committees representing all the major branches of industry, for example construction, electronics, accounting, administration and secretarial. These committees are themselves composed of representatives from the particular fields. These committees use a Dacum method for indicating the terminal objectives they consider essential for competency in their particular areas of industry. From this a course outline and eventually a procedure is developed which allows the Training Council to keep its finger on the pulse of industry and give advice to Bermuda College on which courses are needed to fulfil the needs of industry. This close co-operation between industry and College ensures that training is carried out by the best possible means, whether it be formal in the classroom, work in the College workshops or on the job in industry.

BRITISH VIRGIN ISLANDS

Formal technical and vocational education in the British Virgin Islands is administered by the Department of Education. The 1977 Education Ordinance makes provision for an Education Advisory Committee (EAC) which advises the Minister of Education on educational matters. The membership of this committee represents industry and commerce, parents, the church, teachers, government and other community groups. Thus through this committee the local communities make their contributions to decision making. Sometimes ad hoc committees representing members of the EAC and other citizens may investigate a particular issue and report to the EAC and hence to the Minister.

Non-formal technical and vocational education may also be monitored by the EAC but there are other Government departments and committees which assist in this operation. The Community Development and Labour Departments do considerable work in evaluating non-formal technical and vocational education. These findings are fed into the unit of the Ministry responsible for development and planning. This unit then ensures that each project has training built into it to meet the needs of target groups.

CAYMAN ISLANDS

The government has assumed responsibility for vocational and technical training under the portfolio of Tourism, Aviation and Trade. The three

vocational schools are situated on two different sites, eight miles apart, and are directed/supervised/controlled by a Director/Supervisor of Technical Training. The head of each school is appointed by the Director/Supervisor.

DOMINICA

Formal Education

This has been carried out almost exclusively by the Ministry of Education through its number one institution the Clifton Dupigny Technical College.

In the formative years of the Technical College an Advisory Board was appointed but it never functioned. A period of ten years of inadequate co-ordination has thus ensued.

Recently a new Technical Advisory Board for the College was appointed to advise the Hon. Minister of Education on matters of technical and vocational education and training. The Board is to assist in promoting liaison between the Technical College and industry and, to assist the government and the staff of the College in raising funds for the running of courses, for tools, equipment and machinery.

Non-formal

This is carried out by several agencies some of which are Departments or Units of the Division of Education and Health, the Ministry of Labour and that of Agriculture.

Private, local non-governmental organisations like the Social League, Rotary, Dominica Association of Industry and Commerce (DAIC), the Planned Parenthood Association and some trade unions all do some form of education and training, directed towards the greater efficiency of their membership in particular, and interested individuals among the public.

A new entrant to the field of training is Management Consultant Limited, a local firm, concentrating on educating and training operators of small and medium sized businesses in middle management.

Technical and vocational education and training is still very much in its infancy, hence it lacks coherence, management and co-ordination of its elements as obtain in more developed countries.

JAMAICA

Management of the formal system is largely the responsibility of the Ministry of Education with other Ministries providing a few programmes. The non-formal system on the other hand is administered primarily by the Ministries dealing with youth, community and labour matters, as well as by private institutions.

There is also a National Training Board which has responsibility for co-ordinating all forms of vocational training. A major area of responsibility of this Board is the Apprenticeship Scheme.

Community involvement comes through participation of members of a number of organisations in committees and task forces appointed by the Minister of Education to examine matters critical to the advancement of education. These community organisations include business and professional groups, Service Clubs etc.

MONTSERRAT

The Ministry of Education, Health and Community Services is responsible for overseeing management of formal technical and vocational education and training. This it does by close collaboration with institutions under its control.

Non-formal technical and vocational education and training is not yet properly organised, and responsibility for this area is still fluid. However, the Ministry of Education, Health and Community Services has been taking an increasing interest in this area.

To date no properly organised mechanism exists to co-ordinate all forms of technical and vocational education and training. However, plans are underway to create an Advisory Body which will advise on action to be taken in this area.

ST CHRISTOPHER-NEVIS

At the formal level all the technical and vocational education institutions are under the direct control of the Education Department. The non-formal programmes fall under the portfolio of an Education Officer, based within the same Department, who liaises with all the other Ministries - Agriculture, Communications and Works, Finance - as the needs arise.

A vehicle exists for community participation. The State of St Christopher-Nevis is zoned for Youth and Community Councils set up with officers having direct responsibility for each locality. Through these channels matters of socio-cultural importance, as well as technical and vocational education can be expressed.

The Apprenticeship and Tradesmen's Qualification Act of 1971 provided for the setting up of an apprentice training scheme to satisfy the skilled manpower needs of the country.

It was envisaged that the scheme would be administered through the Office of the Director of Apprentices who would also be responsible for the payment of wages, holiday pay etc. The scheme would be financed by the employers with every employer being obliged to contribute in direct proportion to the size of the work force, with perhaps a subsidy from Government. In this way no employer could be said to be subsidising the training costs of another's work force.

ST LUCIA

Although consideration is being given to the establishment of a National Advisory Council on Technical and Vocational Education and Training, there is as yet no specific national body charged with the responsibility of

overseeing and co-ordinating the provision of technical and vocational education and training. At present, a close look is being taken by the Ministry of Education and Culture at the education system in order to promote stronger articulation among the various levels of technical and vocational education and training provided in the different educational institutions.

The management of formal training institutions is generally the task of the principal of the institution, who is responsible for initiating programmes, normally in consultation with relevant personnel from the private or public sector.

There has not been a strong emphasis on evaluation of programmes in the formal sector. However, current indications are that the educational institutions will gradually move towards the position of regarding the carrying out of evaluation activities as a necessary part of their function. In contrast, there is a tradition of involvement of local communities in the planning, decision-making and implementation of non-formal training programmes; and evaluation almost always forms a part of any non-formal project expecting to attract funding from regional or international agencies.

ST VINCENT AND THE GRENADINES

Government, through Cabinet, has given approval for the formation of an Advisory Committee to advise Government on the training needs of St Vincent and the Grenadines. The Committee comprises members from Government and the private, commercial, business and industrial sectors of the community.

TURKS AND CAICOS

An emphasis on technical education resulted from the appraisal of the education system in the nineteen sixties. It is not surprising that the input has been from the top - Minister, Chief Education Officer, Headmaster. The subject is still considered as being subject to the discretion of the Ministry which provides equipment, teachers and funds for maintenance.

The subject forms a separate department in the High School, and its head is answerable to the Principal who accounts to the Minister through the Chief Education Officer. Suggestions for change or improvement may be channelled from the community through the Parent Teachers Association.

Commonwealth Pacific/Indian Ocean

FIJI

The management of primary and secondary education is the responsibility of the Ministry of Education which provides teachers, prescriptions,

conducts examinations, etc. It is also the responsibility of the Ministry of Education to administer technical education at secondary and tertiary levels.

Apart from the Ministry of Education there is another statutory body - the Fiji National Training Council (FNTC) responsible for providing technical and vocational training. The Council was formed to cater for the needs of industry. The Council is funded by a one per cent compulsory payroll levy on employers. The FNTC, under the statutory regulation is a completely autonomous body providing its own staff who are responsible for developing courses and providing training to people in various sectors of industry. The Council awards its own certificates. While the Fiji Institute of Technology (FIT) provides training in central places the FNTC takes the training programme to the people. Besides FIT and FNTC, the two major training bodies, there are other organisations such as the Fiji Electricity Authority (FEA), and Telecommunications which have their own schools for the specialised training of their staff. Also, the Ministry of Youth and Sports is responsible for providing basically non-formal practical training to youths who have found academic education unappealing.

One of the major issues currently facing the development of technical and vocational education and training is the absence of a central authority for total co-ordination and administration. The absence of a central authority to administer and control technical education is not only taxing the country's economy but is adversely affecting training programmes and the output of qualified personnel. The establishment of a central authority or council would provide unity of control of technical education and training by the integration of the various training bodies, give improved utilisation of the present facilities, reduce or eliminate overlap in training and allow more economical and effective use of scarce financial resources. The development of a central authority would allow the introduction and development of courses designed to meet local conditions and requirements.

Members of the community are involved in the design and evaluation of courses. Before writing a curriculum for a particular course the need to develop a course is first established. The information on need is obtained from various sources such as the Fiji National Training Council, industries, individuals or the staff of technical institutes. Once the need is established, the school responsible for mounting the programme (School Board) with the assistance of the Industrial Advisory Board draws up the structure for the course. The structure is then approved in principle by FIT's Academic Board. The approved structure is then presented to the school specialist staff to write the syllabus which is scrutinised by the School Board and Industrial Advisory Board. The final draft is then presented to the FIT's Academic Board for approval.

The Industrial Advisory Committee meets at regular intervals to discuss the curriculum and recommends changes as necessary. A typical Advisory Committee consists of:

Head of School
Director of Training (Employer)
Training Development Officer (FNTC)
Specialist staff from the Institute
Suitably qualified representatives from interested organisations.

KIRIBATI

A real need exists for more interaction between government ministries, church organisations and other non-government agencies concerned with all aspects of technical and vocational education and training. Fragmentation is leading to duplication of effort and a gross waste of both financial and manpower resources, which if unified would have a significant impact on many of the problems being encountered. It has been proposed and is currently under consideration that better management and co-ordination of all training activities will result from the establishment of a National Training Council, composed of representatives from both government and non-government sectors.

Whilst the Ministry of Education Training and Culture is primarily responsible for co-ordinating all training activities, the scattered nature of the islands makes effective co-ordination difficult, hence we have witnessed many independent training programmes implemented both by government and outside aid agencies which in certain cases have been irrelevant to the felt needs of the communities themselves. In respect of outside aid agencies implementing projects on outer islands, government has now recognised the need to co-ordinate their activities to ensure that such projects undertaken are in keeping with objectives of the National Development Plan.

The Technical Institute through its appropriate technology programme and mobile training teams has over the past four years established an informal network in co-ordinating training activities at community level. Close co-operation with Island Councils, Womens Interest Groups and church organisations has provided a valuable information source, which in turn has highlighted specific areas that require an input of training.

A vital factor in co-ordinating not only training, but many other activities, at village level is the role of the church. The church is a large, if not the largest factor in the village socio-political process. It is an integral part of the community and it plays an extremely influential role in the daily lives of people. The religion of a particular island's people has implications for the achievement of development objectives. Religion has influenced the social structure of the various islands and makes each island distinguishable depending on the religion of its people. It is therefore imperative that such a force is adequately represented on any management or co-ordinating committee concerned with the training function.

MAURITIUS

The Industrial Trade Training Centres are headed by a manager, the Handicrafts Training Branch by a supervisor and the Lycee Polytechnique by a principal. The heads of these institutions are responsible to the Chief Education Officer based at the Ministry of Education and Cultural Affairs.

Changes in management are possible when the Central Training Office becomes fully operational. The Central Training Office will eventually have the overall responsibility for technical and vocational education and training.

5. STUDIES FROM THE COMMONWEALTH CARIBBEAN AND THE COMMONWEALTH PACIFIC

5.1 The preceding chapters describe how the potential of technical and vocational education and training can be realised in order to increase its contribution to national development. The key to release latent potential in a technical and vocational education and training system is a systematic process which identifies:

1. Development needs
2. Existing training provisions
3. The potential to satisfy development needs by the innovative use of existing resources in effective training responses
4. Existing management practice
5. The potential to improve such management in order to co-ordinate the provision of resources to provide effective and innovative training responses

5.2 The meeting examined three case studies of programmes in operation which exemplify this systematic process. The case studies were presented by participants who were deeply involved in their planning and implementation. Although the case studies describe three widely different training programmes, there is a common thread between them -the release of new technical and vocational education and training energy from existing sources by resourceful and innovative investigation, planning and management.

Jamaica Work Experience Programme

5.3 The essence of this programme is to assist pupils in the last two years of secondary education to gain useful work experience in order to ease the transition from school to the world of work. Although school/work schemes are in operation in a number of countries, the Jamaica programme offers a special benefit because it matches work experience with specific vocational subjects. For example, a pupil taking the child care option in the home economics curriculum may be placed in a day care centre, a children's ward in a hospital or an infants school. Similarly, an auto-mechanics vocational course in a school is linked with work experience at a garage, service station or a Government vehicle maintenance depot.

5.4 The objectives of the Work Experience Programme are designed to:

1. Inculcate positive attitudes in pupils towards self, others, school and work, through a meaningful and relevant work experience.
2. Provide practical experience in a real work situation to enable a pupil to acquire useful skills and knowledge.

3. Develop a greater awareness of the complexities and importance of inter-personal relationships in the world of work.

4. Facilitate the transition from school to employment by enabling a pupil to receive education and training in a carefully planned and matched manner.

5. Foster the development of acceptable work habits, good grooming and self-discipline.

6. Enable a pupil to enter employment, at the end of secondary education, with a marketable skill competence.

7. Provide increased opportunity to a pupil to enter an occupation related to a chosen vocational subject area in school.

8. Provide a sound bridge between school and the working community.

5.5 The Programme created a need for additional instructors, and efforts to fill this need illustrate how the management of technical and vocational education can be co-ordinated so that existing training resources are utilised in an innovative way. Discussions between two government ministries, Education and Youth, led to a joint training programme for instructors. Thus, the management skills and resources of two ministries directly concerned with young people have been brought together to provide an innovative form of training activity. The benefits flowing from such collaborative efforts include the promotion of good working relationships between the ministries, schools and work experience stations; the development of new curricula; and a substantial increase in the quantity and quality of training from existing resources.

5.6 At present each secondary school participating in the Work Experience Programme has at least one full-time teacher to administer the programme and in some large schools two teachers are employed. In all 74 'New' secondary schools, and two high school secondary departments are operating the Work Experience Programme. During the Programme pupils spend a period of three weeks at a work station, and are expected to conform to the normal working day. Each pupil is supervised at the work station and a rating form is completed by the supervisor to record performance on the job. The employer is protected from claims arising from accidents by a letter of indemnity, issued by the Ministry of Education.

The Bahamas National Industrial Training Programme

5.7 This innovative programme is sponsored by the Government and supervised by the National Industrial Training Council (Interim), an arm of the Ministry of Education and Culture. The programme is designed to curb unemployment by training young people in a wide range of skills appropriate to the development needs of the country. This training is carried out at the Industrial Training Centre and the courses, of six month duration, include carpentry, electrical installation, welding, hotel training, garment making and cosmetology. All trainees receive a stipend for attending twenty hours of instruction per week.

5.8 In the final month of the six month period, trainees undertake on-the-job training with employers and this experience - related to the formal training carried out at the Centre - provides an opportunity for employers to assess the capabilities of trainees. The on-the-job training period also allows a trainee to sample work processes and this experience helps to confirm the original choice of vocation or, if necessary, to make decisions about a change in career direction.

5.9 The conditions for entry to the programme are that the trainee must have left school, show a desire and willingness to acquire specified skills, be above 14 years of age and be unemployed. The selection of trainees does not involve the use of tests based on educational achievement and the programme attempts to accommodate all applicants. Nevertheless, there is a limit to the intake for each course and applicants who cannot be accepted are encouraged to re-apply for admission at a later stage. The selection process is essentially based on carefully structured interviews and detailed consultation between members of the selection team.

5.10 An appraisal of the trainees performance during the on-the-job training period is carried out by the employing organisation. This appraisal process is carried out by using a standardised form which provides a useful record to identify further career development, as well as valuable feedback to the Industrial Training Programme.

5.11 The overall management of the Industrial Training Programme is vested in the Bahamas Industrial Training Council, an interim body pending the establishment of a permanent authority. During the formative period of the programme informal consultation is being carried out with other providers of technical and vocational education and training. More permanent arrangements are being planned to effect co-ordination between the Industrial Training Council and individuals and organisations with a direct interest in the success of the programme. In this way it is hoped that the quality of both off-the-job and on-the-job training will be improved, and that the rate of take-up trainees into useful and gainful employment will be enhanced.

5.12 One of the main innovative features of the Industrial Training Programme is that it offers good prospects of skilled employment to a group of young people who would otherwise drift into a permanent state of unemployment - with attendant dangers of anti-social behaviour. The programme also taps the training potential within those companies and organisations that offer on-the-job training. There is also considerable scope for innovative management of technical and vocational education and training through a Training Council which will draw together existing training resources from a wide range of sources, thus releasing latent training energy.

Kiribati Rural Training and Development Centre

5.13 About 70 per cent of the population of Kiribati live in the rural sector and the life-style of these people is based on a subsistence economy. The Government has recognised a need to place a greater emphasis on rural development and the improvement of the subsistence economy. Accordingly, the Government has encouraged a greater degree of self-reliance in the improvement of basic living standards such as sanitation, public health and the collection and storage of water.

5.14 In order to establish innovative training programmes to meet these development needs the Tarawa Technical Institute has created the Rural Training and Development Centre. The evolution of this centre followed an investigation by the Technical Institute on ways by which the existing resources and expertise of individual departments could be utilised in a novel manner to provide assistance to rural communities. A survey, supervised by the Institute staff, and assisted by pupils in upper primary schools, collected information on the levels of existing technology in rural areas. The survey yielded comprehensive data on the stock of outboard motors, sewing machines, pressure lamps, permanent buildings, motor cycles and cars. The survey enabled the Institute staff to design a three year syllabus based on skill level objectives, so that young school leavers would be able to maintain and repair equipment in their home communities.

5.15 The survey also identified a need to develop traditional technology in support of import substitution, water supply and storage, and low-cost housing. In order to assist rural communities to carry out such developments the Technical Institute established an Appropriate Technology Department. A further survey identified priority areas of development to improve the basic standard of living in a family unit in the subsistence sector. The Appropriate Technology Unit produced a viable solution to these development needs within nine months of the survey. During this research and development stage it was recognised that training programmes would be needed to enable people in rural communities to acquire skills to implement appropriate technology projects. The removal of complex skill elements during the development stage simplified the design of the training programme and reduced its cost.

5.16 Implementation of the training programme was preceded by a mobile exhibition which toured rural communities to give information on the new technologies, the training programme, and costs. The training programme was designed around pictorial material, with a minimum of written instructions. Correspondence courses were developed by the Technical Institute in English and in the national language using cassette tapes and the local radio.

5.17 The generator of the training programme is the Rural Training and Development Centre, located in urban Tarawa. The Centre was constructed by the first intake of trainees, using the low-cost building technology developed at the Technical Institute. Each island in Kiribati is expected to select their own trainees - who may be male or female - for the training programme. Trainees attend for part or all of the programme, according to the specific development needs of their islands. Income from the sale of articles produced in the training programme is used to offset trainees travelling expenses, provide tool kits and assist the training allowance budget. The commercial aspect of this operation is also used for training in marketing, accounting, ordering, planning and finance. This training encourages an entrepreneural spirit which could help to promote cottage industries.

5.18 On completion of the programme the trainees have acquired skills to undertake projects which will help to satisfy the rural community's needs for shelter, water supply and storage, and sanitation. Self-sufficiency in these important areas of need relieve the government of the high expense of providing expertise from central sources.

5.19 The Rural Training and Development Centre has provided a unique and innovative training response to national development need. The management of the programme and its resource base draw on a combination of existing sources in ways that tap latent potential in the formal and non-formal systems of technical and vocational education and training. The objectives of the Centre - to improve health, provide better housing, promote income generation and increase employment opportunities - are common to the development needs of many Island Developing and Other Specially Disadvantaged States in the Commonwealth.

6. INNOVATIVE PROJECTS FOR DEVELOPMENT

6.1 The main task of the meeting - the design of innovative training responses to specific national development needs - resulted, in the first instance, in the design of a project outline sheet covering 14 key areas. This analytical tool was formulated and agreed upon at an early stage of the meeting. Individuals or small workshop groups then applied this analysis either to innovative projects which had been introduced recently in countries represented at the meeting or in the design of completely new training activities based on the participants' extensive knowledge of national development needs in Island Developing and Other Specially Disadvantaged States. The 14 key areas on the project design sheet are listed below:

1. **Development need**

   Taken from the analysis of needs produced at the meeting or a need identified by a participant.

2. **Training response**

   Defined by the analysis or by a participant.

3. **Management**

   Identification of the organisation in immediate contact with the training activity.

4. **Target group**

   Identification of the training clientele.

5. **Goals/Objectives**

   Stated in terminal behavioural terms.

6. **Strategies to secure approval**

   Statement of cost savings to government, and any other reasons to commend implementation.

7. **Strategies to gain social acceptance**

   Statement of any socio-cultural benefits.

8. **Training approach/method**

Description of appropriate training methods to be used.

9. **Financial aspects**

Estimation of training costs and possible income.

10. **Operational needs**

Statement of resource needs; buildings, equipment and transport.

11. **Linkages with other providers of training**

12. **Uses of indigenous resources**

13. **Main innovative features of the tralning programme**

14. **Evaluation**

6.2 The three projects which follow are selected as examples of the approach to the design of innovative training responses and are not necessarily representative of the development needs of all the countries represented at the meeting. The first two, A and B, are examples of training projects which are already in train. Study C represents one of the projects designed in outline at the meeting.

A The Operation and Maintenance of Hotel Plant

B Agricultural Based School Co-operative Project

C Hotel Trades Development and Training

A. OPERATION AND MAINTENANCE OF HOTEL PLANT

1. Development Need

A thriving tourist industry is one of the major economic sectors in some small states. The benefits gained from tourism include foreign exchange earnings and employment. Many of the jobs in the tourist industry are highly skilled - none more so than the operation and maintenance of complex stationary plant installed in modern hotels. The reliability of services such as air-conditioning, water, electrical supply and elevators is often a key factor in the reputation of a hotel. There is therefore a development need to operate and maintain hotel plant in the most efficient way, and this need must be met by an appropriate training response.

2. Training Response

The Government has built a commercial hotel which is operated by the Hotel Training College. The National Training Council, through its Power Engineering Advisory Committee, recruited a senior power engineering lecturer from an overseas college to design a special training programme, based on local needs. A unique feature of this programme is that trainees from hotels receive instructions in the college and in their own power-machinery plants. In this way theoretical study at the college is related to the trainees own work situation.

3. Management

The training programme is co-ordinated by the management staff of the Hotel College, the Department of Technology of the Technical College and the management of hotels.

4. Target Group

The programme caters for the training needs of technical staff in hotels, and also for hospitals and the electrical generating station.

5. Goals/objectives

The training programme aims to produce highly skilled technical staff who are able to operate and maintain complex stationary electrical and mechanical plant in hotels, hospitals and generating stations. Safety in operating such plant is a major objective.

6. Strategies to secure approval

The cost of sending personnel for overseas training is of the order of $10,000 per trainee. The national training programme is operated at a cost of $2,800 - a considerable saving of training costs. In addition the training is more appropriate to local needs than that available in overseas institutions.

7. Strategies to gain social acceptance

The hotel industry, as one of the largest employers in a tourist economy, should be seen as an attractive career. Sound training, leading to nationally, and internationally recognised qualifications in plant engineering, will enhance the status of an important sector of hotel employment. The managers of the programme have secured recognition of the quality of training by arrangements to obtain certification by several overseas colleges and universities. Furthermore a training programme to improve safety and efficiency in the operation and maintenance of hotel, hospital and generating plant has important social benefits, as well as economic advantages.

8. **Training approach/method**

With the assistance of a senior lecturer from an overseas country the Advisory Committee of the National Training Council prepared a detailed programme and individual courses to match the specific training needs of the island community. The design of syllabuses drew upon the expertise of the Hotel Training College, and the hotels themselves. The courses ensure work in the Hotel Training College associated with practical on-the-job training in the country's hotels, hospitals and generating stations.

9. **Financial aspects**

In addition to the cost-savings already described, the major training costs are met by expenditure within the country and this obviates the need to use foreign exchange for overseas training. Greater efficiency in the operation and maintenance of plant has important implications for the revenue of the hotel industry, and also the cost of operating hospital and generating plant.

10. **Operational needs**

In terms of buildings and equipment, the training programme makes use of existing resources. Classrooms for theoretical study are available at the College and the use of existing equipment at the College's hotel, trainees' hotels, and the generating station satisfies the main operational needs of the training programme.

11. **Linkages with other providers of training**

Assistance from an overseas institution in the design and implementation of the training programme has created permanent and durable links with a strong training resource base. Transfer arrangements have been made for higher level study at this institution and a university in a developed country. Within the country, linkages with training staff in the hospital and power generating sectors have enhanced the level of co-operation in the technical and vocational education and training system.

12. **Uses of indigenous resources**

The use of indigenous training resources is one of the main features of the training programme. The provision of very expensive off-the-job training plant is obviated by the use of existing equipment in full operational use.

13. **Main innovative features of the training programme**

The design and implementation of the training programme has released latent training energy from existing sources. In addition, the involvement of several sources of training management, working as a co-ordinated team, has promoted a new and higher level of co-operation between several sectors in the technical and vocational education and training system. Arrangements for overseas certification and entry to higher

levels of training in developed country institutions have increased the status of this national training programme. Finally, the use of well designed and supervised training on existing plant at the trainee's workplace lends a reality to the programme which could not be obtained by traditional theoretical training and work experience on model, small scale plant.

14. Evaluation

National and external evaluation is carried out by the Hotel Association, the Hotel College Advisory Board, the National Apprenticeship Council, and the overseas college linked to the programme. This co-ordinated approach enables the programme management to make regular reviews of the technical content of the training, and to incorporate changes caused by the introduction of new types of plant machinery.

B. AGRICULTURAL-BASED SCHOOL CO-OPERATIVE PROJECT

1. Development Need

The problem of unemployment among school leavers, especially in rural areas, is a matter of deep concern in many countries. Small island developing states are particularly affected because their agricultural industries are often based on one main item of produce - for example, bananas or sugar. Any adverse fluctuations in international markets for such produce has serious consequences for the employment of young people. Faced with such problems, some governments have decided to give a special emphasis to the development of self-reliance and self-employment in order to alleviate youth unemployment. A national development need to develop the income generating capabilities of school leavers in rural areas of a small island state has initiated the project described below.

2. Training Response

A three year training programme for pupils leaving primary and junior secondary schools has been established.

a. First year. A modified curriculum for the last year in school, with an emphasis on practical subjects allied to the production of marketable goods and the provision of services.

b. Second year. Work/Study period.

c. Third year. Commercial production.

3. Management

The training programme and the co-operative venture is managed by senior staff in primary and junior schools, and the Ministry of Education.

4. Target group

Boys and girls who are about to enter the final year of their education in primary and in junior secondary schools.

5. Goals/Objectives

The following objectives have been set for the project. It is aimed to:

a. Establish a link between education and economic life.

b. Prepare school leavers for employment in manufacturing, industrial and commercial work by participating in co-operatives.

c. Initiate a search for the manufacture of primary products through handicraft and home economics.

d. Forge community interest in local and national curriculum activities.

e. Enlarge youth participation in employment, economic and social development.

f. Reduce the need for imported goods.

g. Develop skills in young people to enhance opportunities for work in the region.

6. Strategies to secure approval

Commercial production in the third year of training generates income for the co-operative, and these funds assist the overall training budget. The provision of goods and services which make maximum use of indigenous resources offers important economic advantages to government development strategies.

7. Strategies to gain social acceptance

The second and third year of the programme involves members of the community who have special skills to pass on to young people. The wider community is also made aware of the the training programme and the school based co-operative project through consultations with parents and guardians. In this way the whole community takes part in efforts to alleviate youth unemployment.

8. Training approach/method

The curriculum in the last year of school has been modified to give a greater emphasis to practical work. The second year of the programme concentrates on practical work and related study, followed by experience in the co-operative venture in the third year.

9. **Financial aspects**

One of the most significant benefits from the programme is the generation of income from the sale of goods and services. This commercial return helps to make the co-operative project more self-sufficient, and also provides valuable business experience for the trainees.

10. **Operational needs**

The most important operational needs are: low-cost buildings at each school taking part in the project; experienced teachers and instructors; and the supply of simple tools and equipment.

11. **Linkages with other providers of training**

The Ministry of Agriculture Food Processing Department, Ministry extension officers and the Department of Co-operatives are providing training expertise and specialist advice to the school co-operative project. In addition to the value of these professional contributions to the training programme, such co-operation provides experience for the trainees in dealing with government departments.

12. **Uses of indigenous resources**

Indigenous materials and animals such as sisal, fruits, and rabbits are the main sources of marketable produce.

13. **Main innovative features of the training programme**

Many children in their last years at school feel that a purely academic curriculum does not prepare them for useful work in their community. Practical subjects allied to income generating employment offer opportunities to school leavers to set up small business enterprises. The involvement of the community and a number of government agencies brings together training and resource inputs from non-educational sources to reinforce a school training programme in an imaginative and innovative way.

14. **Evaluation**

A research project is being planned to make an on-going study of the earning capacities of young people who have completed the full training programme.

C. HOTEL TRADES DEVELOPMENT AND TRAINING

1. **Development need**

In a number of small states the tourist industry is well established and is an important sector of the national economy. However, in very small

states the development of tourism is less advanced and such countries are faced with a need to provide training facilities for hotel staff. The experience of countries with an established hotel industry shows that a training hotel, where on-the-job instruction can be carried out under live conditions, is a commercially viable way to train hotel staff.

2. Training response

The project proposes a five bedroom self-contained hotel/guesthouse unit managed by the Government. The construction of this facility will be supervised by the Public Works Department, using local materials and built with help from the community. A hotel trades trainer will be recruited from overseas to design the training programmes and to carry out practical training, as well as to act as the manager of the hotel unit. Courses in front office management and reception, catering, restaurant and bar services will be offered. A counterpart manager will receive overseas training.

3. Management

The Education Department, the Hotel Association and government departments with a direct interest in the tourist industry.

4. Target group

The main intake of trainees will be drawn from school leavers (16+) who are interested in a career in hotel work. Ideally, pupils who have completed a secondary curriculum in home economics will be recruited.

5. Goals/Objectives

The training programme, based at the hotel, will provide a regular supply of hotel workers who have been trained in an on-the-job situation, and who can take up posts in a growing hotel industry.

6. Strategies to secure approval

The training programme will be cost-effective because the costs will be lower than those required for overseas training. In addition, the revenue gained from guests - for example, visiting government officials - will be used to defray capital and recurrent expenditure. Within a given budget it will be possible to train more hotel workers than if overseas courses are used.

7. Strategies to gain social acceptance

The community will regard the training hotel as an important government initiative to promote employment of school leavers who might otherwise face a period of unemployment. Close consultation with parents, guardians, community leaders and the hotel industry will ensure that the project enjoys wide support.

8. **Training approach/method**

The training will be carried out in three separate, but related ways. The Vocational Training Centre will offer theoretical study and some practical training; the training hotel will undertake the bulk, (probably 75 per cent) of the practical training; further training sessions in other hotels will be arranged.

9. **Financial aspects**

The capital and recurrent costs will be met by the government. However, the income derived from the training hotel, and the use of indigenous food supplies and other resources will help to defray running costs. This income may also be used to extend the facilities of the training school.

10. **Operational needs**

The basic training facilities will be provided by the low-cost building used as a training hotel. Other training facilities, in the Vocational Training Centre and in commercial hotels will be used at very little extra cost.

11. **Linkages with other providers of training**

Close liaison with other training institutions and agencies will be maintained. These include; primary and secondary schools, Ministry of Agriculture, the Hotel Association, and overseas institutions and organisations.

12. **Use of indigenous resources**

The training hotel will make the best possible use of indigenous resources. Agricultural produce from government operated sources and private farms will be purchased. Locally made equipment such as furniture will be given preference over imported goods.

13. **Main innovative features of the training programme**

The hotel trades training programme, based on a small purpose built training hotel is an innovative project which offers a number of advantages. It is a low-cost operation which draws on several sources of technical and vocational education and training. The programme will also foster co-operation between a number of departments with a direct interest in the tourist industry.

The use of indigenous materials and resources - a key element in the training programme - taps existing national sources, increases economic activity and reduces reliance on external assistance.

14. Evaluation

The training programme will be closely monitored in its early stages so that any necessary changes can be effected without delay. The progress of trainees after they leave the training hotel will be regularly checked, in consultation with employers. Costs and income will also be kept under constant review in order to provide for greater efficiency in the use of capital and recurrent budgets.

7. IMPROVING THE EFFECTIVENESS OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING THROUGH REGIONAL AND INTERNATIONAL CO-OPERATION

7.1 The analysis developed by the meeting emphasised the potential for the increased use of indigenous resources for technical and vocational education and training. The use of these resources was viewed as central to the design of innovative programmes and projects. Nevertheless, critical inputs of outside assistance can make a major difference to the success or failure of a programme.

7.2 Analysis of the Country Papers (extracts from which are reproduced at the end of this chapter), suggests that various forms of assistance are sought after in the field of technical and vocational education and training in the Commonwealth Caribbean and elsewhere. The meeting recognised six main forms of assistance and attempted to rank them according to need, and based on the Country Papers.

Ranking	Types of Assistance
1	Finance
2	Personnel - advisers - qualified personnel - teacher trainers - teachers
3	Training facilities - workshops and classrooms - equipment and machinery
4	Pooling and dissemination of information - curriculum and syllabuses
5	Research and evaluation
6	Student exchange

7.3 The meeting examined these forms of assistance against the regional backdrop - the Commonwealth Caribbean - and also the wider international "aid" scene. It was recognised that valuable forms of assistance already exist but that the key to effectiveness of such assistance was its ability, in whatever form, to foster the national capacity to undertake technical and vocational education and training. Support for indigenous training capacity is the acid test for external assistance.

7.4 Within the Commonwealth Caribbean some but not all of the six forms of assistance identified in paragraph 7.2 are to be found. Finance flows

into the Caribbean Examinations Council (CXC), the University of the West Indies (UWI), the Caribbean Institute of Mass Communication (CAR/MAC), the Caribbean Development Bank (CDB) and the Caribbean Community Secretariat (CARICOM) from countries within the region and beyond.

7.5 Training personnel may be provided by CXC, and resource personnel by UWI. On a very limited scale an exchange of personnel exists on a bilateral country-to-country basis within the Caribbean.

7.6 A number of institutions offer regional training facilities. They include the College of Arts, Science and Technology (CAST) in Jamaica, the John S Donaldson Technical Institute in Trinidad and Tobago, the Samuel Jackman Prescod Polytechnic in Barbados, the Technical Teacher's Training College in St Lucia, Antigua State College, the Barbados Community College, Cyril Potter College in Guyana and the Eastern Caribbean Institute of Agriculture and Forestry (ECIAF).

7.7 Information flows from and to CXC, CARICOM, the Caribbean Centre for Development Administration (CARICAD), the Caribbean Food and Nutrition Institute (CFNI), Development Finance Corporations and through professional organisations.

7.8 A research and evaluation role is played by CXC, CAST, the Vocational Training Development Institute (VTDI) in Jamaica, the Guyana Research Council and its counterpart in Jamaica.

7.9 There is no formal programme of student exchange in the Commonwealth Caribbean.

7.10 It was agreed that there is room for considerable improvement in regional co-operation. In particular, **the meeting recommended that governments should:**

- Give strong support to technical co-operation between developing countries in the field of technical and vocational education and training. This could include the exchange of teachers and students within and beyond the Commonwealth Caribbean, where this is perceived to be developmentally relevant. Other possibilities include the networking of training syllabuses, exchange of prototypes, attachments to ministries and institutions, and the development of professional associations.

7.11 This TCDC approach (Technical Co-operation among Developing Countries) would be enhanced by the formation of a regional association of technical colleges and institutions which would itself promote technical and vocational education in the Caribbean region. The meeting noted the establishment of the Commonwealth Association of Polytechnics in Africa (CAPA) and the recommendation of the Eighth Commonwealth Education Conference (8CEC) held in Sri Lanka, 1980:

> "... that the Commonwealth Secretariat should take appropriate steps to establish an association similar to the Commonwealth Association of Polytechnics in Africa in other regions after careful consideration of any special regional, national and institutional aspects."

The colleges are focal points for the provision of technical and vocational education and training and they exist in a region where isolation from new and significant information is a characteristic of many small countries. This type of institutional network would provide a framework for the exchange of information, prototypes and syllabuses and the movement of expert personnel. Such links could be strengthened within the association by the twinning of two or more colleges in neighbouring countries or with similar specialities (and not excluding twinning with institutions outside the region).

7.12 Additionally, existing regional agencies within the Caribbean, such as CARICOM, should be encouraged to play a greater role in furthering technical and vocational education in the region. For example, a technical education officer, attached to an agency such as CARICOM could actively promote and advise on the development of training facilities and programmes in members states. One task for such an officer or for a regional agency is the preparation of a directory of training needs, institutions and specialist personnel. The appointment of such an officer and the clearing house tasks which he or she would undertake were likely, in the view of the meeting, to require funding from outside the region but this would be a clear example of outside assistance, regional and beyond, promoting indigenous national training development. Similar funding support would also be needed to enable the movement of personnel within the region to take place.

7.13 The meeting considered that regional Caribbean support should be given to national institutions wishing to develop regional centres within their own countries which could offer services to the surrounding communities in the form of advisory expertise and training in such fields as agriculture, fishing, and housebuilding.

7.14 The meeting convened a sub-group which identified the main international sources of assistance for technical and vocational education and training from outside the Commonwealth Caribbean: These include:

1. Canadian International Development Agency (CIDA)

   - attachments (short-term) one to three year full time programmes
   - scholarships
   - funding
   - salaries for personnel

2. Overseas Development Administration, British Development Division (DEVDIV)

   - training of personnel through scholarships and fellowships
   - short attachments
   - provision of equipment

3. United States Aid (USAID)

   - provision of assistance for curriculum development
   - funding for experimental projects e.g. alternative energy

4. Commonwealth Fund for Technical Co-operation (CFTC) of the Commonwealth Secretariat

   - provision of experts, advisers and consultants on a short term or long term basis
   - support for study visits
   - finance to support regional meetings

5. Unesco

   - provision of experts
   - host for regional meetings

6. United Nations Development Programme (UNDP)

   - training of personnel through the provision of scholarships
   - funds for equipment
   - finance for joint projects
   - provision of advisers

7. Organisation of American States (OAS)

   - training of personnel through scholarships to member countries

8. International Labour Organisation (ILO)

   - provision of experts
   - organisation of short courses and services
   - translation of resource materials

9. Non-governmental organisations

   - college scholarships

- equipment

- training personnel for short courses

7.15 Whilst the provision of such aid is welcome, important needs remain unsatisfied. There is a particular need for financial assistance to support capital expenditure for technical and vocational education and training. The provision of basic equipment and building facilities is a priority requirement in most Island Developing and Other Specially Disadvantaged States.

7.16 In line with the recommendations on increased and improved regional and international co-operation (see paras 7.10 - 7.13 above) **the meeting recommended that the Commonwealth Secretariat should:**

- Provide expert assistance, through the mechanisms of the Commonwealth Fund for Technical Co-operation, to help with the promotion of technical and vocational education and training in the Commonwealth Caribbean. A consultant should be attached to an appropriate regional institution able to advise on the development of technical and vocational education and training in member states.

- Continue to gather and disseminate information on technical and vocational education and training programmes throughout the Commonwealth.

- Provide assistance with the formation of a regional association of technical colleges and institutions which would promote technical and vocational education in the Caribbean region.

Further, **the meeting recommended that the Commonwealth Secretariat and/or other agencies should:**

- Prepare directories of funding agencies and distribute these widely in order to assist governments to develop a meaningful dialogue with those external agencies concerned with the promotion of technical and vocational education and training.

- Increase the proportion of their expenditure which is devoted to the development of technical and vocational education and training.

- Provide assistance for the purpose of training manpower planners from Island Developing and Other Specially Disadvantaged States.

- Provide assistance for research into the effective and efficient development of technical and vocational education and training in Island Developing and Other Specially Disadvantaged States.

7.17 Whilst regional and wider international assistance is identified separately for ease of discussion they are rarely mutually exclusive. Invariably supportive regional programmes require outside assistance. For example,

it may be decided that a group of countries would benefit from the availability of a peripatetic training team. Regionally this would benefit from a TCDC approach with member countries contributing to the establishment and work of the team. When the team is in any one country that country would pay the costs. However, initially such a team may require the assistance of advisers and consultants from overseas for the training of the members of the peripatetic team. On many occasions sources of assistance are not linked in this way and individual countries suffer from a series of unrelated internationally assisted projects which do not result in the establishment of an indigenous training capability.

7.18 A recognition of existing forms of aid and of the potential which improved and increased assistance might bring to national training programmes provides a final stage in the sequential process of thought exemplified by the meeting in The Bahamas. Once a very specific development need has been identified and its appropriate training response established the role of outside assistance can be gauged, following an appreciation of existing training and managerial skills, and available financial and material resources.

COUNTRY PAPER EXTRACTS ON IMPROVING THE EFFECTIVENESS OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING THROUGH REGIONAL AND INTERNATIONAL CO-OPERATION

Commonwealth Caribbean

ANGUILLA

Anguilla is making every effort to establish contact with regional and international institutions and organisations to assist it develop a relevant and effective technical and vocational education and training programme and an appropriate crafts industry. So far we have received assistance from the British Development Division in the Caribbean (DEVDIV), Barbados and CIDA.

Our view is that there should be more co-operation among regional and international funding agencies to avoid duplication of assistance. Anguilla is restricted in getting certain training needs met because those funding organisations approached have similar terms of reference for training assistance. Our experience has shown that the kind of training requested by some small islands tend to be similar in nature. This in Anguilla's view reduces the quantum of funds that can be made available to any one island for meeting priority training needs.

ANTIGUA AND BARBUDA

In the provision of an effective and innovative programme of technical and vocational education in small countries such as Antigua and Barbuda there are some major factors that make co-operation at the regional and international level not only useful, but essential. Among those factors are:

1. The scarcity and cost of appropriately qualified, experienced, and creative personnel available for educational enterprise in competition with industry.

2. The value of sharing experiences and avoiding serious mistakes with far-reaching consequences; notwithstanding the fact that "events are not repeatable" from one country to another in any activity involving human beings, there are some common lessons to be learned not only from various attempts to build bridges but to build institutions in similar physical and social environments.

3. The value of the opportunity provided, to test and improve new sets of ideas by applying them, with the necessary modifications, in different settings, since a given social innovation cannot be manipulated or modified at will in a single environment.

Regional and international co-operation can be usefully developed in the following areas:

1. The exchange of strategic personnel to gain first hand experience of alternative systems.

2. The attachment of leadership staff on specific short-term assignments.

3. The provision of training opportunities in existing institutions to nationals of countries where the separate establishment of such institutions would not prove feasible.

4. Promotion of regional and international seminars on particular innovative practices and ideas, in countries where relevant field experiences could be provided.

5. The organisation and conduct of joint research and evaluation projects.

6. The organisation of financial assistance for joint or individual projects. While the emphasis should always be on self-reliance and maximum utilisation of local resources, some measure of external assistance is indispensable in the context of prevailing social and economic conditions in small countries.

THE BAHAMAS

Regionalism with strong local flavouring; internationalism with high regional overtones and strong local flavouring, are the prescriptions for successful partnerships.

Any form of co-operation, regional or international, must conform with the educational, social, cultural, political and legal conditions prevailing in a community. Usually close attention is given to the legal and political conditions but normally educational, social and cultural factors are ignored, the results being more destruction than construction.

Anecdote Some time ago, a team of consultants from the agricultural department of a metropolitan country visited a country in the Mid-East. When they observed that the farmers were using ploughing systems powered by human and animal effort, they criticised the process and suggested that they use modern machinery which would dig deeper furrows and relieve them of the burdensome chore. The people, putting full faith in the advisers because after all they were "experts", followed their instructions. The seeds which were planted never emerged beyond the seedling stage. The deep plough of the machinery exposed too much of the soil and what moisture was contained therein was evaporated by the desert sun.

BARBADOS

Under the Commonwealth Fund for Technical Co-operation (CFTC) many Commonwealth Caribbean countries have benefited in technical and vocational education and training. Also, there has been for many years

close collaboration between Caribbean countries in the sharing of technical services. For example, CARICOM nationals recommended by their governments are admitted into technical programmes at both the Barbados Community College and the Samuel Jackman Prescod Polytechnic. There are agreements with some governments for free admission of students while nominal fees, not representing the true economic cost, are paid by the non-national students.

In some of the territories there are some technical and vocational institutions which have made great impact on the development programmes of these and other countries. There are also very successful innovative programmes, for example, the Skills Training Programme of Barbados. However, most of these institutions and programmes have concentrated on solving national problems.

There is now a need for these institutions to collaborate in examining regional problems and finding solutions for them. Areas in which there is much scope for co-operation are:

1. Examinations. Many countries still use the City and Guilds of London syllabuses and take examinations set by this examining body despite the fact that some aspects of the syllabuses are not relevant for the region. Regional institutions could therefore co-operate in writing more appropriate syllabuses and work towards the setting up of regional examinations in technical and vocational education and training.

2. Training of technical and vocational teachers. There is still a shortage of trained teachers of technical and vocational subjects. This shortage is likely to continue for a long time since there is a lack of teacher trainers in this field and the skills cover a wide range. There is need for greater regional discussion on this matter, a greater dissemination of information, and a pooling of resources to alleviate the problem.

The two main areas of regional co-operation referred to above would require international funding for maximum success to be achieved. It is after regional bodies have discussed the problems and prepared a plan of action that international organisations could be requested to assist through funding and technical expertise. International funding could be chanelled through an existing regional organisation such as CARICOM.

BRITISH VIRGIN ISLANDS

In the formal sector it is envisaged that international agencies could assist technical and vocational education and training in the British Virgin Islands in three areas:

1. Training of technical and vocational education teachers

2. Assisting in the construction of classrooms, workshops and laboratories

3. Providing equipment for such classrooms, workshops and laboratories.

In the non-formal sector assistance would be welcomed in:

1. Providing experts in specific areas for varying periods. These could assist in training British Virgin Islanders in a manner similar to the existing Batik Project.

2. Making available grants to projects which will train young people for employment.

CAYMAN ISLANDS

Heads of department from technical and vocational schools meet at international level once per year. Heads of training schools visit regional institutions to assess and evaluate similar needs, advantages and disadvantages. The Technical College is to be an extension of, and aligned with the University of the West Indies.

DOMINICA

Though organisations such as OAS, Inter-American Centre for Research and Documentation on Vocational Training (Cinterfor), Rotary, CIDA, Unesco, and ILO have been working independently, there is evidence of a willingness to co-operate in the area of technical and vocational education and training. The Government of Dominica is fully supportive of this trend. CARICOM has indicated a willingness to act as a co-ordinator of the activities of these funding agencies.

The Middle Income Developing Countries (MDC's) seem to have been fairly successful in establishing technical and vocational training institutions at various levels; for example, Papine and CAST in Jamaica; Samuel Jackman Prescod Polytechnic in Barbados; the John S Donaldson Institute in Trinidad and Tobago. These institutions have expressed a willingness to allocate places to LDC students.

JAMAICA

University of the West Indies (UWI). This institution now has faculties on two of its campuses that offer technical education in the areas of agriculture and engineering. These faculties besides supporting research in general, provide scope for experimentation and investigation relating to crop and animal sciences.

Caribbean Examinations Council (CXC). A regional examination body that has concerned itself not only with administering examinations but developing curricula to include both general, technical and vocational education. It serves 14 territories and employs practicing educators to assist in the development of curricula, the marking of examination scripts and the preparation of instructional materials.

CARICOM. Trade is an outcome of industrialisation. CARICOM assists in maintaining regional trade. As the demand for industrialised goods in the region increases, so will the range and quality of goods produced. Innovation in design and marketing strategies are likely outcomes.

International organisations. Jamaica has established working relationships with a number of international organisations and institutions. These links provide further scope for co-operation. To date a number of grants, scholarships and loans have been extended to assist in the development of technical and vocational programmes.

MONTSERRAT

If, on the whole, technical and vocational education and training programmes in Montserrat are to be improved, regional and international help will be needed in two main areas:

1. Provision of skilled personnel to conduct training. From the people trained, Montserrat should be able, eventually, to provide its own trainers for the major formal and non-formal technical and vocational areas.

2. Provision of financial assistance to improve the infra-structure necessary for training.

ST CHRISTOPHER-NEVIS

It has been well said, "It is more blessed to give than to receive". St Christopher-Nevis is willing to give the widow's mite:

1. To share the results of experimentation especially in the use of solar energy, agricultural diversification and crop experimentation.

2. To make available on a short term basis the services of material specialists in such fields as teacher education, technical and vocational education, curriculum, and administration and planning.

3. To host educational seminars, workshops and meetings.

4. To provide a limited number of places for students from sister islands to pursue courses in air conditioning and refrigeration or the construction trades.

Co-operation required from regional and international sources:

1. To provide facilities, materials and equipment to update and expand the existing resources in the Technical College and the Secondary School.

2. To construct and equip a multi-purpose working building for technical and vocational education, and adult and continuing education for both pupils and adults in such fields as construction skills, metal work, basic electricity, basic mechanical skills and home economics.

3. To make available fellowships - about two each year:

a. At technician level

b. At graduate level - until at least 15 persons are trained.

4. To provide funds for persons to have various short term attachments to other third world and even developed countries that have successful projects utilising indigenous resources.

ST LUCIA

Developing a territorial capability for the documenting, regular dissemination, and evaluation research of innovative programmes.

Promotion of regional meetings for the pooling of national experiences, for developing strategies for introducing innovative programmes in developing countries, and for identifying implementation obstacles.

Provision of fellowships for the study of relevant innovative programmes.

Exchange of experts involved in innovative programmes.

TURKS AND CAICOS

The scattered nature of the Turks and Caicos Islands and its location make it unique in many aspects and hence the need for co-operation at regional level. This should include the following:

1. Exchange of data. Because of the number of participants involved in training programmes it is essential that workshops in technical education should be on a regional basis. Use should be made of regional institutions which offer courses of this nature.

2. Participation in workshops. This could be done both at Ministry level and on a school-to-school basis. Islands having similar economic backgrounds could benefit from our skill in craft, and we from their knowledge.

3. Exchange of personnel. For many reasons it is impossible for persons to take advantage of training overseas. Exchange of teachers whether on a long-term or short-term basis would greatly enhance the growth of technical education, and serve to correlate it throughout the region.

Commonwealth Pacific/Indian Ocean

FIJI

Consideration should be given to the following points which offer scope for improved co-operation to maximise the effectiveness of technical and vocational education in the region:

1. Staff: It may not be incorrect to say that most developing countries of the region do not have well qualified and experienced local teachers in sufficient numbers to staff technical institutes. No doubt efforts are being made to improve the situation but it would be some time before the countries could become self-sufficient in the area of staffing.

   It is therefore suggested that:

   a. Where possible specialist advisers should be made available to the countries needing the services of such people.

   b. Consideration should be given to providing teaching staff to countries which are yet to become self-sufficient.

   c. A teacher exchange scheme should be considered. This will help teachers appreciate each others problems and will also open new avenues for the flow of information.

   d. Short term attachments for teachers to technical institutes and colleges of higher learning in developed nations should be considered.

   e. More scholarships under bilateral aid programmes and third country award schemes should be made available to improve qualifications and training.

2. Curriculum: Where possible there should be more opportunities for countries to exchange curriculum and course prescriptions, thus enabling the regional countries to use the information available for developing courses relevant to their needs. Where necessary countries which do not have the means to conduct their own local examinations should be encouraged to use facilities available in other countries of the region. Countries which do not have the means to conduct their own local examinations should be encouraged to use facilities available in other countries of the region.

3. Students: Countries which do not have adequate facilities for technical and vocational education and training should be rendered assistance by the well-to-do nations by making available their facilities for such training. Where possible students should be given scholarships either by their own governments or by foreign agencies.

4. Finance: It is needless to mention that technical and vocational eduction and training is an expensive business for the countries of the region. Because of financial constraints facing the regional countries, it is not possible for them to provide the desired level of technical education and training to the people engaged in various sectors of industry and commerce.

5. Consideration should also be given to providing financial assistance for capital projects.

KIRIBATI

Continuing severe financial constraints during the 1980s will necessitate greater participation and interaction at both the international and regional levels to avoid duplication of effort and to make training more cost effective, certainly in small and remote developing islands. Many small island states will be looking towards a significant input from a variety of international agencies to set up efficient information networks and supply expertise in specific areas of technical and vocational education and training. Conferences, seminars and workshops are, within the Pacific context, vital forums for exchange of information and interaction of people within the region.

Whilst there is considerable activity taking place within the region there exists no real co-ordination or machinery for the transfer of ideas, training material development, and information to the many and remote island states. Certainly from our point of view we would welcome focal points being established in each island state, such focal points being specifically identified with the training function and responsible for dissemination and distribution of information on technical and vocational education and training. We in Kiribati feel that technical institutions in particular should have a far broader and more innovative role to play in the overall development process.

MAURITIUS

One Industrial Trade Training Centre was the pilot project of the United Nations Development Programme (UNDP) which was set up in 1968 and was executed by the International Labour Office (ILO). It was handed over to the Government of Mauritius in 1973 and has since been run by an entirely Mauritian staff under the control of the Ministry of Education and Cultural Affairs.

The second Industrial Trade Training Centre was financed partially by the Government of India. We still have two Indian experts who are expected to leave by June 1982.

The Lycee Polytechnique has been totally financed by the French Government. We have five French advisers with local counterparts.

APPENDIX A

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APPENDIX B

LIST OF DOCUMENTS

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Kiribati	CP/2
St Christopher-Nevis	CP/3
Guyana	CP/4
Cayman Islands	CP/5
Barbados	CP/6
St Vincent and the Grenadines	CP/7
St Lucia	CP/8
Turks and Caicos Islands	CP/9
Dominica	CP/10
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Montserrat	CP/12
Jamaica	CP/13
The Bahamas	CP/14
Bermuda	CP/15
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