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Survey

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JAMAICA W. I.

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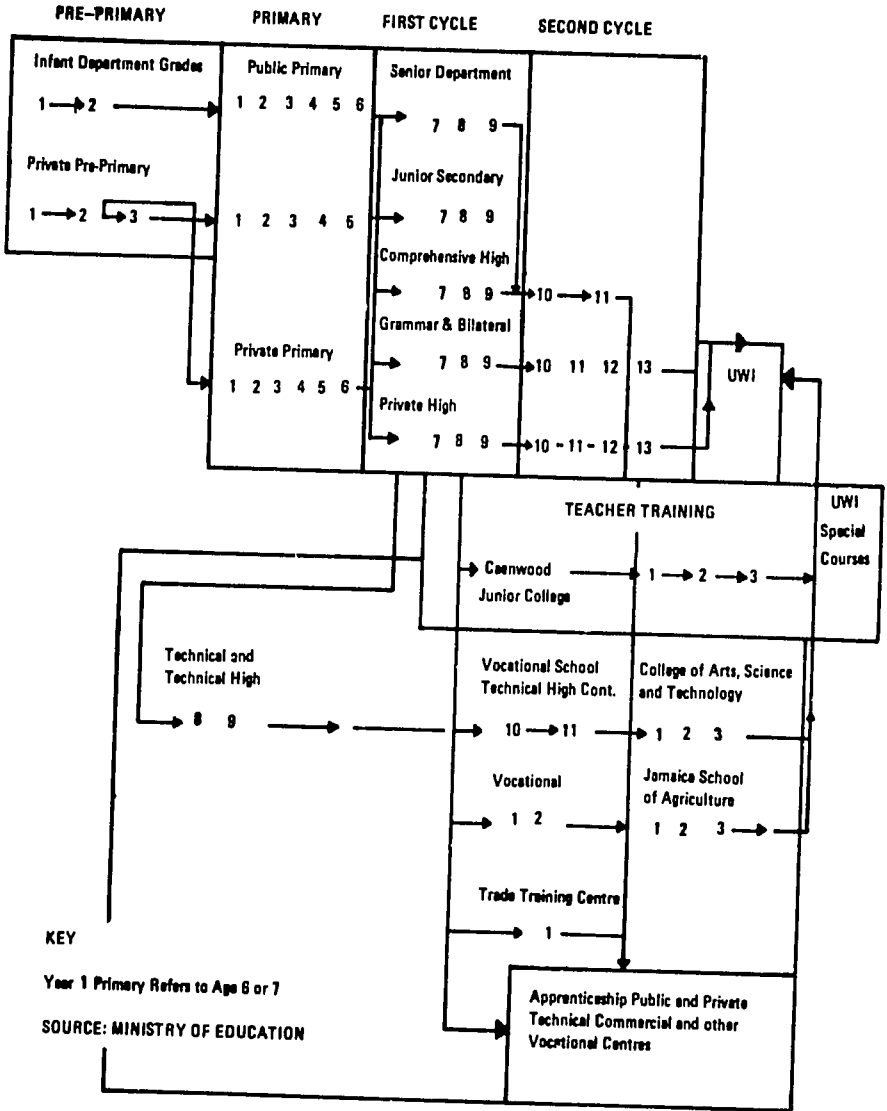
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THE EDUCATION SYSTEM (1972)

Secondary General



INTRODUCTION

1. Background

In the nine-year period between the initial phase of internal independence in 1953 and the granting of full independence in 1962, the basic statutory, institutional and operational patterns were set for the Jamaican education system. Much of this had its roots in the traditional British education system.

The first major post independence effort to review and reform education came in 1964 when a UNESCO team was invited into the country to evaluate the education system and prepare a preliminary education plan. The completed study became the basis of a plan and various programmes of the government as well as the framework for two major external assistance education programmes.

The first was an IBRD loan of US\$9.5 million made in 1966 to establish 50 junior secondary schools, to expand teacher education and agricultural, industrial and commercial training. This project, after some mutual delays, is now completed.

The other project precipitated by the UNESCO study was a CIDA (Canadian International Development Agency) loan of C\$1.55 million for the construction of or renovation of 128 primary schools. This project has also been completed.

The IBRD, in 1971, followed up with a US\$13.5 million loan, similar in scope to their first education loan. However the 1972 election intervened before the loan was disbursed and the newly elected government decided to review the purposes and targets of the loan prior to agreeing to its implementation. This has been done with some modifications to the targets set.

As a result of the 1972 elections there was the first change of the party in power since independence. One of the basic policies of the new government has been to put major emphasis on social development, in addition to economic development, and to implement a strategy and programme for the country's human resources development as its first priority.

The CIDA loan and the two IBRD loans have provided timely and significant assistance to key aspects of the education system. The educational needs still continue to grow and are major, but prior to seeking additional external help and expending increased domestic funds, the government decided, in late 1972, to make a comprehen-

sive study or evaluation of the educational sector as a basis for future comprehensive development in education.

The request for this assistance was directed to AID in September 1972 partly owing to AID's previous experience in sector loans and studies. The USAID agreed to co-operate and provide grant funding for the Sector Assessment Study. A preliminary Jamaican request for AID loan assistance to follow up on various recommendations coming out of the study was also made at that time.

The IBRD education consultant who had been working with Jamaica was also informed of the government interest in a Sector Assessment Study and he recommended to the IBRD and the USAID that the Bank consider participating in the AID study. After talks on the subject between AID/Washington and the IBRD, the Bank agreed in principle to participate and later, as the terms of reference for the study were drawn up, the Bank agreed to appoint a member of their staff to the team. Mr. Aurelio Cespedes, a Primary and Secondary Generalist was available to participate in the assessment study. AID assigned Mr. William Houston Miller, Education Planning Officer in the Agency, to handle implementation of the project.

Informal talks were held in February in Ottawa between Mr. Miller and Mr. John Lay, of CIDA's Caribbean Division. Mr. Lay and his staff evinced a great deal of interest in the assessment and also pointed out that CIDA was considering a new loan for primary school construction in Jamaica in the amount of C\$2.8 million. He said that a condition of the loan was that the Canadians had asked that the Jamaicans make a comprehensive study of the whole education system in order to determine the priorities and all of the other educational needs. Mr. Lay said that the planned AID/IBRD sector study would meet this requirement. He also expressed an interest in CIDA's participation in the study and suggested either the possibility of assigning their Teacher Training Advisor in Kingston, Mr. James Graham, or bringing someone down from Ottawa. Mr. Graham was subsequently designated to participate as far as his regular duties would permit.

During this same period the question of remaining team membership was discussed and the types of specialists required. Discussions on the nature of the study and general terms of reference took place in AID/Washington when Mr. Ross Murray (Chief Educational Planning Officer Jamaica) attended an OAS meeting there. Based on these talks, draft terms of reference for the team were prepared and subsequently discussed by AID and the Bank. Mr. Miller made a short visit to Jamaica the third week in February, for the purpose of reviewing the draft terms of reference with officials of the Ministry

of Education, the Inter-Ministerial Committee, the USAID, CIDA and the UNDP. Various changes were made and a mutually agreed-upon text was completed and approved.

2. Terms of Reference

The terms of reference for the Education Sector Assessment are as follows:

A. Arrangements

(1) The AID/IBRD Sector Assessment Team will visit Jamaica for approximately five weeks during March/April for the purpose of assisting in an assessment of the Jamaican Education Sector (formal and non-formal);

(2) The team will work co-operatively with Jamaican counterparts assigned for this purpose;

(3) The assessment and final report will be a co-operative Jamaican/AID/IBRD team effort;

(4) Every effort will be made to incorporate into the team for such periods as necessary, some of the locally based UNDP and bilateral (e.g. CIDA) specialists, in education and training;

(5) The current time-table is for the team to commence work in Washington on March 5 and in Kingston on March 12.

B. The Proposed General Terms of Reference are:

(1) To assess the education system of Jamaica, the educational policies, directions, and goals;

(2) To assess the capability of the education system, as conducted by the Ministry of Education and other ministries, to promote economic, social and cultural development;

(3) To identify the constraints, and to the extent possible, the causative factors which inhibit this development;

(4) To concentrate particular attention on the four areas of special interest to the GOJ as follows:

a. Problem of unequipped 15 year old terminal education (graduates of all-age schools);

b. Problem of untrained 15-19 year old drop-outs (graduates from secondary);

c. Extent that the present education system meets the country's economic requirements;

d. Teacher training needs.

(5) To evaluate the status of manpower planning, with particular reference to the question whether the composition and volume of skills and professional training in Jamaica are

adequate to meet the future employment demands of the **economy**;

(6) To recommend whenever necessary and possible, ways and strategies to improve the formal and non-formal education system so that it will achieve aims which are relevant both to the society and to the overall development of the country;

(7) To identify priority investments in education for domestic and external financing; relative to the latter provide the analytical framework within which future assistance from AID, IBRD and possible other international donors could be considered;

(8) To define the areas where further studies would have to be undertaken and work done prior to the development of projects;

(9) To provide a planning context for long-term development strategies from which programmes and alternative approaches could be derived;

(10) To make an 'end of Mission' joint team/counterpart report to the appropriate Jamaican Government officials relative to the following:

- a. Relevance of the education system (formal and non-formal) to the aims and objectives of the country's development efforts;
- b. Analysis in depth of the formal and non-formal education system content and structure;
- c. Analysis of the methodology/technology of the education system;
- d. Analysis of the planning, programming, management of the education system;
- e. Analysis of the costs and financing of the education system and its internal efficiency;
- f. Proposal for an action programme, with practical applications.

(11) To convey to AID, IBRD and other possible donors, on return to the U.S., analytical findings and project identification information for future consideration by these organisations.

3. Implementation of the Study

Three additional specialists were selected and added to the external group, through AID financing, resulting in a balanced and highly qualified team.

The final composition of the team was as follows:

- Wm. Houston Miller . . .AID, Educational Planner/Economist
(Team leader)
- Aurelio Cespedes. . . .IBRD, Primary/Secondary Generalist
- James D. GrahamCIDA, Teacher Training Advisor
(participating as available)
- Russell J. KleisProfessor, Michigan State University,
Non-formal/Continuing Education
Advisor
- Joshua M. Levine. . . .Consultant, formerly with the U.S.
Dept. of Labour, Manpower/Vocation-
al Training Advisor
- Howard D. Sprague. . . .Consultant, formerly with Pennsylvan-
ia State University, Agriculture/Rural
Education Advisor

The team began work in Washington on March 5 for a week of briefings prior to travelling to Jamaica. Meetings were held with AID and the IBRD. Meetings were also held with the IDB and the OAS and although they expressed an interest in assisting in the study, they indicated they were not in a position at the time to put a member on the team. All of the agencies requested that the team provide them with return briefings after the return from Jamaica especially relative to the preliminary findings and the areas where the donor agencies might be of greatest assistance. A telephone discussion on the forthcoming Jamaican sector study also took place between Mr. Miller and Dr. William Carmichael, Chief of the Caribbean and Latin American Division of the Ford Foundation. Dr. Carmichael expressed, on behalf of the Foundation, an interest in the team study and asked for a copy of the report or at least an appraisal with an indication of any projects that might be of interest to the Foundation.

Most of the team departed from Washington on March 12, arriving in Kingston later that day. Mr. Graham was already there and Mr. Cespedes arrived the following week.

The first meeting for the team was at the Ministry of Education with the Minister of Education, the Honourable Florizel Glasspole, C.D., M.P., and the Minister of State for Education, Senator the Honourable Eli Matalon. The meeting was one of welcome, a discussion of the team's Terms of Reference, and the team's work plan.

The Ministers discussed the implementation of a rolling educational plan for the country with the sector assessment as the base line or initial study on which the Ministry of Education could build. They anticipated, in addition, an in-depth review study, such as this one, approximately every three years with an external team participating

again with Jamaican team members in an updating and in-depth assessment of the education system, its problems and progress. Hopefully, according to the Ministers, that team would be a multi-agency team such as this one. The external members of the team also met with the Jamaican members of the team who were as follows:

Ross MurrayChief Education Planner

Eric BudhlallPrincipal Assistant Secretary (Planning)

Ian DeanAdministrative Officer (Planning)

Andrew DunbarEducation Officer (Agriculture)

Mrs. Joan McCallaAssistant Secretary (Statistics)

Patricia PattersonEducation Officer (Publications)

Thelma StewartSenior Education Officer (Home Economics)

George ThompsonSenior Education Officer (Technical)

The joint team was assigned to work as members of the Education Planning Unit in the first floor area of the Ministry of Education which was designated for the use of the reactivated Education Planning Unit.

The team immediately began a series of field visits to familiarise themselves with educational conditions and to hold discussions with education and other officials. Visits were made to rural and urban schools of all levels—basic schools, primary and all-age schools, junior secondary, high schools, private schools, vocational schools, youth and training centres, the Jamaica School of Agriculture, the College of Arts, Science and Technology, and the University of the West Indies. Visits were also made to the other ministries participating in the total human resources development field as well as the U.S. Embassy/AID, the Canadian High Commission/CIDA, the representatives of the UNDP, IDB and the OAS. A full list of these institutions and individuals is contained in Annex B. In some cases the whole team participated in the meetings; in other cases the meetings were attended by only those team members, e.g. agriculture, directly involved with a specialised area.

In all cases, with only very few exceptions due to scheduling overlaps, there was *both* a Jamaican and external counterpart team member participating in the decisions/meetings.

After some two weeks of mainly field visits the joint team began early morning working sessions on the outline and details of the assessment report. Much blackboard work, drafts and working sessions took place with the full joint participation of the external and Jamaican members of the team. A concerted effort was made not to follow any standardised previous pattern for a sector study and gradually a logical outline approach developed, and the details of each of the sections or chapters. This is outlined in the table of contents.

Assignments were made relative to the various chapters of this document and annexes and the field visits continued, **although on a more specialised basis, up until almost the last week.**

Throughout the whole period the combined team had frequent access to the various officials within the Ministry of Education and with the Minister of Education and the Minister of State for Education. The external members of the team spent approximately six weeks in Jamaica. They returned on April 25, carrying back an initial working draft of the Sector Study for discussions with the donor agencies and to return later to Jamaica to complete the report. The Jamaicans also retained a copy for the purpose of continuing the in-country analytical and statistical studies.

The external team members worked together in Washington until May 15 participating in a number of report briefing meetings with AID, IBRD, IDB and the OAS. The CIDA and UNDP discussions were held prior to departure from Kingston. Information was given to these external assistance agencies on the study findings and various projects identified for domestic as well as possible external financing. The external agencies also provided the team with an informal indication of their funding interests relative to Jamaican educational development. The report was also revised into an improved draft during this period.

The original plan for the report was that the team leader (AID) and the IBRD member would return to Jamaica at the end of June (with the CIDA member already there) to review jointly with the Jamaican team members, the results of the discussions which took place in Washington and to make any revisions necessary and put the report into its final version. However, on May 24 the Prime Minister, The Hon. Michael Manley announced the Hon. Florizel Glasspole, Minister of Education, was being appointed the Governor-General of Jamaica. This also meant that the Ministry of Education would have an interim Minister for a short period of time. By-elections were held on July 3 to fill Mr. Glasspole's seat in the Parliament, and Mr. Eli Matalon, the former Minister of State for Education, was elected and subsequently appointed the Minister of Education on July 5.

Mr. Miller, Dr. Sprague and Mr. Cespedes returned to Kingston in August for varying lengths of time to work co-operatively with the Jamaican members of the team on the final phase of the study. The Jamaican members of the team made the final inputs and the document was completed in November. The report was then presented to the Minister of Education, the Honourable Eli Matalon, for his review and use as the analytical base line document in the preparation of the new rolling National Education Plan.

SUMMARY

JAMAICA EDUCATION SECTOR ASSESSMENT

The following report is an assessment of the Jamaican Education Sector. It was prepared in mid-1973 by a joint team composed of members of the Planning Unit of the Ministry of Education and an external group of six consultants representing AID, the IBRD and CIDA. It was carried out within the terms of reference jointly established by the Ministry, representatives of the Inter-ministerial Committee, and representatives of the external agencies participating. The report is intended to be an analytical study of the Jamaican Education System and its major constraints, with recommendations as to various kinds of reform action which could be undertaken. It is not intended to be a plan but mainly a base line document for the country's new rolling education plan. A second general purpose is to serve as a descriptive and analytical document on Jamaican education for the use of the bilateral and multi-lateral external assistance agencies. The report is thus submitted to the Minister of Education in fulfilment of these two main objectives.

The report follows a logical sequence in assessing the education system. It begins with a discussion of Jamaica's current economic, social and demographic situation. The second chapter is a general review of the background and structure of the education system.

The first step in making the Sector Assessment was the review and restatement of the national goals and objectives of the education system in order to provide a basis against which analytical measurement could be made and targets identified. With this guideline, chapter IV proceeds with an educational systems analysis by reviewing sixty key components of the system. The subsequent chapter builds on this analysis to specifically identify and evaluate the major constraints in the current system which are inimical to the achieving of national and educational development needs and goals. These constraints as identified by the team are as follows:

1. **Need for physical improvement and expansion of the system.**
2. **Shortage of trained teachers and professionals.**
3. **Need for a relevant curriculum development programme.**
4. **Lack of adequate texts, teaching materials and media.**

5. **Absence of adequate student counselling and vocational guidance personnel and programmes.**
6. **Lack of appropriate pre-professional, vocational and pre-vocational programmes geared to the needs of youth, the community and the economy.**
7. **An examination system which is socially and academically dysfunctional.**
8. **The Ministry's lack of an adequate management, planning information system capability and a programme of inspection and supervision.**
9. **The absence of a National Human Resources Development Plan and lack of ministerial and other levels of co-ordination of total national Human Resources Education/Training objectives and efforts, including those of a non-formal nature.**
10. **Low internal and external efficiency of the current system.**
11. **Lack of adequate research, experimentation, evaluation and feedback for system improvement.**
12. **Need for a programme of continuing education including community involvement in, and support for, the educational process.**

Chapter VI discusses these twelve categories relative to a strategy of reform and the types of action which can be taken in each of the identified problem areas. Chapter VII translates reform proposals into a comprehensive grouping of projects recommended for implementation through domestic or external financing. The final chapter acknowledges the limitations of time, adequate data, pertinent policies, goals etc. and identifies further studies which need to be carried out in order to adequately document, plan and implement the necessary additional projects.

Appended to the report are various Annexes as follows:

- A. Economic and Educational Statistical Tables
- B. Institutions/Individuals consulted by Team during Sector Study and Bibliography of Reference Reports and Documents consulted during Sector Study
- C. Education in Support of Agriculture in Jamaica
- D. Education and Training Needs of Jamaica's Manpower

In more general terms the Sector Assessment Team concluded that although significant inputs into the system had been made in the ten years since independence and moderate advances have taken place in some of the areas of major need, others have received relatively little attention resulting in an imbalance and unevenness of development throughout the whole education system. Many of the problems are intensifying and the current response effort is generally a project directed only at a particular problem. There has been virtually no comprehensive educational planning dealing with various key

constraints or bottlenecks which keep the whole system from moving ahead in achieving the country's educational development goals.

In examining the various levels of the system, the junior secondary (grades 7, 8, 9) is by far the most adequate in terms of quality and nature of the facilities and the educational content. Quantitatively it still remains a bottleneck, as only 13% of the students who finish primary are able to go on to the secondary. Somewhat weaker is the upper secondary (grades 10, 11, 12) with generally less adequate facilities and conditions at the time when the graduates from the junior should be further developing an inquiring mind and cultural, scientific and technical interests and capabilities. Quantitatively only approximately 8% of the school leavers of the junior secondary schools are able to get through the shortage-of-facilities-bottleneck and go on to upper secondary. Similar problems also apply to the high schools, technical and vocational schools. Many of these students complete their education with no real skills or preparation for a career, contributing to the 24% unemployed in the country, mostly youths, while skilled job opportunities, at an estimated current level of 8% of employment, are unfilled.

The system, especially at the secondary level, is not meeting the country's development needs and the needs of its individuals.

However, the major weakness in the system is to be found in the generally neglected and poor-quality primary schools which have not received anywhere near the inputs provided at the secondary level over the past decade. The primary is the basis of the whole education system all the way up the line and it is just not providing the type and quality of primary education which will feed students into the secondary system anywhere near the level necessary to make the secondary level effective, or for that matter enable the whole educational process/system to be meaningful to the economic and social needs of the country. In fact, the secondary system has to address much of its resources to the serious problem of the deficiencies of those coming out of primary with inadequate preparation.

In short, the students are not entering the secondary system with the equivalent of a sixth-grade education. In addition to a shortage of adequate physical facilities and general lack of upkeep, there is a serious shortage of trained teachers which represents a key factor in the quality of the educational process.

Another constraint contributing heavily to the lack of system efficiency and effectiveness is the series of outmoded examinations which do not measure what needs to be measured and which are socially, economically and academically completely dysfunctional to the needs of the society and the individual.

The element of the system whose improvement is integral to the whole educational process is the Ministry of Education. There is a vital need for a greater Ministry capability in management, programming, budgeting, planning, statistics/research, personnel administration and the economics of education. Closely related to this is the need for better coordination of the activities of the various ministries dealing with education/training and a clearer delineation of Ministry responsibilities in this area; the need for a more definitive role for the National Planning Agency in formulating a National Human Resources Development plan; and a more active leadership role and establishment of the primacy of the Ministry of Education in this area.

Lastly, but first in priority, is the need for a series of policy decisions in a wide number of areas—programme, budgetary and administrative—before meaningful and systematic reform in education can take place.

It is the hope of the Sector Team in presenting the following report that it will provide a more adequate base for review and effective decision making, and a useful resource document for those charged with the preparation and implementation of the country's subsequent new Rolling Education Plan.

It has been heartening to the Team to observe a current concern for the education system relative to the needs of a new Jamaica, and that the general and extensive interest in examining and reforming the system is so widespread among educators, policy makers and the public. We have greatly appreciated the many open doors, the time spent in briefing us and discussing the issues, and the unstinting cooperation provided by so many Jamaicans who are interested in the future of their country.

The Education Sector Assessment Team
November, 1973.

REGIONAL POSITION



Chapter 1

JAMAICA – THE CURRENT ECONOMIC, SOCIAL AND DEMOGRAPHIC SITUATION

1. Geography

Jamaica enjoys a favourable location in relation to the western world. All the total land mass of the Americas, most of Europe and much of North and West Africa lie within a hemisphere centred on Jamaica. This hemisphere represents the major portion of the world's economic activity and markets. Almost all of Jamaica's cultural and economic associations are with countries in this hemisphere.

Within the Caribbean region, Jamaica possesses a central location with respect both to other Caribbean islands and the mainlands of North and South America. Cuba is some 90 miles north, Miami about 600 miles north-west, Hispaniola approximately 120 miles to the east, and Colombia about 500 miles to the south.

With about 4,000 square miles (2,815,000 acres) of land area, Jamaica is the third largest of the Caribbean islands. The country is 146 miles long, has a maximum width of 51 miles and possesses 550 miles of coastline. A mountain ridge runs from east to west separating the island into northern and southern coastal areas. The Blue Mountains in the east rise to 7,042 feet; the limestone hills and plateau of the central and western areas rise to a height of 3,000 feet. The coastal plains are widest on the south coast. Jamaica is in an earthquake area but the last serious earthquake was in 1907 when large parts of downtown Kingston were destroyed.

2. History

The earliest recorded people of Jamaica were the Siboneys, or 'rock dwellers', a primitive tribe who migrated from Florida to various parts of the Caribbean. These people were absorbed by the Arawak Indians who migrated up through the islands from the present-day Guyana/Surinam area arriving in Jamaica about 1000 A.D. The fierce Caribs in turn had begun to make inroads on the Arawaks by the time Columbus discovered the island for the Europeans in 1494.

Jamaica, which apparently comes from "Xaymaca", meaning the land of wood and water, the Arawak name for the island, was settled

by the Spanish during the early 16th century. In 1655 British forces occupied much of the island and later gained formal possession of it through the Treaty of Madrid. Initially the main English buccaneer base for the sacking of Spanish and other foreign ships in the Caribbean, the island's imported slaves and the sugar plantations later made Jamaica into one of the most valuable possessions in the world for more than 150 years. Sugar and slaves have thus been important elements in Jamaica's history and development. Although slavery was abolished in 1838, some years before emancipation occurred in other parts of the new world, many of the social and economic concepts of plantation agriculture persist to the present day.

In the 1930's, after a long period of direct British colonial rule, Jamaica began to achieve a semblance of local political control. This period of Jamaica's history was marked by social unrest and occasional violence. It was during this time that the groundwork for Jamaica's leading political parties was laid by Sir Alexander Bustamante (Jamaica Labour Party--JLP) and his cousin Norman Washington Manley (People's National Party--PNP).

These two political parties, having their roots in well-organised and powerful rival trade unions, have dominated the Jamaican political scene since the institution of universal adult suffrage in 1944. The JLP founded the first government under universal adult suffrage in 1945, and won again in the 1949 election, but it lost to the PNP in the 1955, 1959 and 1972 elections. Currently, the House of Representatives is made up of thirty-seven PNP members and fifteen JLP, along with one independent member.

In 1957 full internal autonomy was granted and the country set about the task of the final structuring of its own government and institutions. In 1958 Jamaica joined nine other British territories in the formation of the West Indies Federation but withdrew when, in a national referendum held in 1961, Jamaican voters rejected membership. Jamaica attained its independence from the United Kingdom on August 6, 1962, and chose to remain a member of the British Commonwealth of Nations.

3. Government, Religion, Language

The Jamaican Constitution, promulgated on August 6, 1962, established a British-type parliamentary system of government. Queen Elizabeth II, as the Chief of State, appoints the Governor-General as her Representative, on the advice of the Prime Minister.

Central Government functions through Parliament which is composed of an appointed Senate and an elected House of Representa-

tives. Thirteen of the Senate's twenty-one members are nominated on the advice of the Prime Minister. Legislators in both Houses serve a maximum term of five years. The fifty-three-member House of Representatives is elected by universal adult suffrage.

Local Government functions at the parish level through thirteen Parish Councils, whose members are elected.

Religion plays a significant role in the lives of most Jamaicans. The Anglican Church is the largest of the established churches, followed by several Baptist sects, the Roman Catholic Church and the Methodist Church. Evangelist and revivalist sects are particularly popular. There is a Jewish community as well as several Muslim and Hindu groups.

English is the official language and is understood everywhere although many people, especially in rural areas, use a Jamaican creole partly unintelligible to other English-speaking people. Official estimates put the literacy rate at 85%, although functional literacy is more probably in the area of 65%. Because of Jamaica's membership in the OAS and its proximity to the Spanish-speaking countries, governmental action is being taken at present to make Spanish a second compulsory language in the secondary schools. It is already being instituted in the secondary curriculum and efforts are under way to develop a Spanish Language Teacher/Training Centre.

4. Economy

Jamaica's 1970 gross national product (GNP), at current prices, was estimated at US\$1.2 billion, with per capita GNP at US\$616. This represented an annual increase of 8.3% GNP and 12.3% per capita over the previous year, but price increases of 7%—8% accounted for much of the gain.

Jamaica's main foreign exchange earners in 1970 were bauxite and alumina (\$224 million), tourism (\$102.5 million) and agriculture (\$67 million). Sugar production, however, dropped from 506,000 tons in 1965 to 368,000 tons in 1970. Agricultural imports resulted in a 1970 net \$5.3 million deficit in the all-agricultural trade balance. Bananas declined from 290,000 tons in 1965 to 150,000 tons in 1970.

Jamaica showed a \$144 million current account deficit in 1969. However, the overall balance of payments in 1970 showed a favourable balance of \$26.4 million, attributable to large inflows on capital account, and foreign reserves reached an all-time high of \$161 million in late 1971.

Government expenditure rose substantially in the decade ending in 1970. While some of the increase was due to higher salaries most was due to increased capital expenditure for school construction,

urban renewal, public works, and agricultural and food subsidies. Budgetary outlays expanded more rapidly than revenues during the decade, reaching \$200 million by 1970. In that year Jamaica's external debt reached \$100 million, of which public bonds accounted for \$68.4 million.

5. Industry and Agriculture

Manufacturing has contributed more to national income in the last decade than agriculture, accounting for 13.5% of GDP in 1970. Manufacturing is encouraged by a programme of tax and other incentives, with 192 of the 1,149 registered factories claiming these benefits. However, with the absence of indigenous natural resources, including energy, essential for an expanded industrial base, Jamaica's economic future lies only partially in manufacturing and this mainly in secondary rather than primary industries.

Agricultural production declined 15% between 1963 and 1970, while population increased 17.6%, resulting in a per capita agricultural decline of 28%. Agriculture thus contributed only 8% of GDP in 1970.

Jamaica has imported more food crops and livestock products than it has exported in recent years. The majority of these imports, except wheat, can be grown successfully in Jamaica.

Except for land used by the estates for sugar and bananas, about 80% of arable land is in the hands of small farmers, averaging less than 5 acres each. However, very limited use of modern agricultural technology is evident. Also the average age of Jamaican farmers is 55 years or older, indicating a forthcoming agricultural production problem unless younger people are trained and given the incentive and opportunities to work the land.

6. Population and Labour Force

Jamaica's 1972 population is estimated at 1.9 million featuring a young population with 46% under the age of 15 (1970); an annual birth rate of 3.34%; and a net population growth rate of 1.8%. Census data on population distribution shows approximately 65% classified as rural and 35% as urban, with one-third of the total population residing in the urban Kingston/St. Andrew area. More than 90% of the inhabitants are of African and mixed descent. Other nationality and minority groups are Chinese, East Indian, Middle Eastern and European.

Of Jamaica's population, some 755,000 or 40% are estimated to be economically active. The latest available labour force survey (April 1972) reported the total available work force at 822,000, of

which 203,000 or 24.7%, were unemployed. Rates of unemployment for ages under 20 averaged 40% (55% for women, 29% for men), while for those 20–24 years old, rates averaged 31% (44% for women, 19% for men). Unemployment is therefore most acute among the youth and especially affects young women desirous of entering the labour force in increasing numbers. About 50,000 people will reach age 15 each year of the early seventies; about 55,000 each year for the late seventies.

Emigration affects the labour force deeply, having reached an annual average of 23,000 in the years 1967-69, and estimated at no less than 20,000 annually since then. The emigration is heavily weighted with professional, skilled and educated workers and results in serious exacerbation of existing skill shortages.

Despite bauxite's position in the financial economy, it is an extractive and exporting activity with the refining and production of aluminium taking place abroad. It is capital intensive relative to employment absorption in that it employs less than 2% of the total employed. Despite the stagnation in agricultural output, agriculture remains the largest "employer", with 35% of total employment, and about 40% of the apparent labour force.

Shortages of skills are continuous; available vacancies for skills probably run at about 8% of employment, and employers estimate that about 25% of those employed need significant skill improvement.

N.B. Monetary references in this chapter are in U.S. dollars (J\$1.00 = US\$1.10).
The Economic Statistical Tables in Annex A are valued in Jamaican dollars.

Chapter 2

BACKGROUND AND CURRENT STRUCTURE OF THE EDUCATION SYSTEM

1. Background

The Jamaican (Constitution) Order in Council 1944 initiated the systematic process towards independence. In 1953 various Ministries of Government, including Education, were established as a part of the process of gradual internal autonomy.

A general national policy for education was then developed, covering the four levels of Infant, Primary, Post-Primary and Further Higher Education. This provided the basis for an expansion and a shift from British colonial policies and school programmes to those that were more Jamaican in their national orientation and also provided greater access to education for the general population. The statutory and administrative basis for the education system and a definition of the powers and responsibility of the Minister were developed also during this period.

Full Independence took place on August 6, 1962, but it was not until *The Education Act* was passed in 1965 that the basic consolidation of the statutory and operational aspects of the system took place. This legislation of the post-independence era attempted to meet the needs for a greater self-financing capability, a better definition of Jamaican educational goals, and the expansion of the system to meet both individual and national needs. Despite these changes, Jamaican education still resembled the parent British system to a large extent.

Before 1957, secondary education was extremely limited in quantity and range, and almost inaccessible to the poorer classes, especially in rural areas. Secondary education was largely concentrated in the urban Corporate Area of Kingston/St. Andrew. The various churches, some old Trusts and a few individuals had provided the initiative for establishing most secondary institutions.

Primary education was badly neglected. Little expansion had taken place in 50 years and the system suffered from lack of qualified teachers, overcrowding, derelict buildings and generally inadequate support services.

In an effort to deal more adequately with the educational development needs of the nation, during this period, the government in 1964 with the assistance of a UNESCO team, prepared an Education Development Plan on a three-phased basis up to 1980. As the initial blueprint for the education system, one of the major areas of concentration was the providing of greater post-primary opportunities for the population both in numbers and quality of institutions. Another aim of the plan was to provide a school place for every student at primary level. As a result of a loan from CIDA 128 primary schools with an enrolment of 300 or 400 each have been built.

With the objective of expanding the secondary system, a number of programmes were initiated. A major loan from the World Bank in 1966 provided for the construction of fifty junior secondary schools providing education in grades 7, 8 and 9. A second World Bank loan signed in 1970 will, on completion, emphasise the further expansion of second-cycle schools, including additional technical and vocational facilities.

The national election in February, 1972, brought about the first change of government since Independence. The new government identified education as the key aspect of its overall development policy. While emphasising a continual improvement in the secondary system (grades 7–13) it has recognised the need to bring the primary up to higher quantitative and qualitative levels to better meet the needs of the basic population and provide a better and substantial flow-through of students into secondary and higher education.

The Government, as a matter of policy, has been concerned also with a more thorough and systematic analysis of the problems and constraints in the education system as an empirical basis for planning programmes of educational change and development.

Within this context, the Ministry of Education in early 1973 invited a joint USAID, World Bank, CIDA Education Sector Assessment Team to work with the Educational Planning Unit of the Ministry in preparing a systematic analysis of the current problems in the country's total education/training system and to recommend project alternatives for consideration by the Minister and other key Jamaican policy-makers. The results of this study are incorporated throughout this report.

2. Current Structure of the Education System

The current structure of the educational system in Jamaica is set out in a table on the following page. The system is divided into the following levels, ages, grades and institutions for both public and private education:

Current Structure of the Education System

LEVELS	AGES	GRADES	INSTITUTIONS
(1) <i>Pre-primary</i>	4-5+	—	Infant Schools, Infant Departments; Basic Schools
(2) <i>Primary & All-Age</i>	6-11	1-6	Primary Schools
	6-14+	1-9	All-Age Schools
	6-14+	1-9	Special Schools (handicapped)
(3) <i>First-Cycle Secondary</i>	12-14+	7-9	Junior Secondary Schools
	12-14+	7-9	Comprehensive High Schools
	12-14+	7-9	High Schools
	13-15+	8-9	Technical High Schools
(4) <i>Second-Cycle Secondary</i>	15-19+	10-13	High Schools
	15-19+	10-11	Technical High Schools
	15-17+	10-11	Comprehensive High Schools
(5) <i>Vocational Education</i>	15+—17+		Vocational Schools
	15+—17+		Trade Training Centres
(6) <i>Teacher Training</i>	Entry at 17+		Teacher Training Colleges
	Entry at 17+	Pre-teacher training 12-week course	Caenwood Junior College
(7) <i>Further Education</i>	Entry at 17+		College of Arts, Science and Technology (C.A.S.T.)
	Entry at 17+		Jamaica School of Agriculture
	Entry at 17+		University of the West Indies

(a) **PRE-PRIMARY** 'Pre-school' or infant education in Jamaica begins at the age of 4 and is offered in both public and private institutions. The Van Leer Foundation in co-operation with the Ministry of Education and the University of the West Indies, has, since 1966, assisted the Government in training teachers and the design and supply of materials in this area of education. In 1971/72, there were 26 infant schools and 9 infant departments within the public sector with an enrolment of 9,705 and 1,983 respectively. There were also 672 basic schools with an estimated total average enrolment of 20,200, established by communities and religious bodies, which were given financial assistance by Government.

(b) **PRIMARY** At age 6 or 7 children enter public or private primary schools for 6 grades. After age 12 students who do not go on to junior secondary, technical high or comprehensive high schools continue their education in the usually terminal 7th, 8th and 9th grades of all-age schools.

Children who complete the 6th grade in public and private institutions take the Common Entrance Examination (at age 11+) to de-

termine who will gain admission to the government and government-aided high schools, within the public system. In addition each high school also conducts its own admission test to select an allotted approximate 2% of the total school intake at age 11+, and determines its own selection criteria for entrance of these students.

(c) **FIRST-CYCLE SECONDARY** First-Cycle Secondary Education consists of grades 7 to 9 and begins at age 11+ and continues through age 14+. Public education at this level is offered in junior secondary, and in the first three grades of comprehensive and high schools. Technical schools however start at grade 8.

Entry to the junior secondary and comprehensive high schools is based on a free transfer from the nearest 'feeder' primary schools. Students who have reached 13 in all-age and junior secondary schools can take another Common Entrance Examination in order to gain admission to technical high schools. Students may also transfer from high schools to technical high schools.

At the end of grade 9, pupils from junior secondary and all-age schools take the Grade Nine Achievement Test which is used to determine admission to second-cycle education in high, technical and vocational schools.

(d) **SECOND-CYCLE SECONDARY** Second-cycle secondary education is offered in grades 10–11 at technical and comprehensive high schools and in grades 10–13 of government and government-aided and private high schools. In grade 10, students usually take the Jamaica School Certificate (a local examination). In grade 11, they take the General Certificate of Education Examination at Ordinary level ('O' level). This is an external examination set by the Cambridge Local Examinations Syndicate and for private candidates the Schools Examinations Department of the University of London. Some are allowed to continue on to grade 13 at the end of which they sit the General Certificate of Education at Advanced level ('A') level.

(e) **VOCATIONAL** Vocational education, apart from that which is offered in technical high schools now takes place in four institutions, admission to which is by passing the Grade Nine Achievement Test. The duration of the vocational course varies from one to two years depending on the trade or level of skill required. One- or two-year courses are offered in carpentry, metalwork, plumbing, building, automechanics, home economics and commercial subjects. One vocational school, Carron Hall, is for girls only and offers training in home economics and related fields. Knockalva offers agricultural training for boys only.

(f) **TEACHER EDUCATION** There are six teacher training colleges which train teachers mainly for primary schools. Courses of training

for junior secondary school teachers are also provided. The course lasts for three years, of which the last is an internship in a school. In addition Caenwood Junior Teachers College offers a preliminary twelve-week pre-teacher training course. After graduation from Caenwood, students may enter any of the six teacher training colleges or seek employment as untrained teachers in primary schools.

Approximately 1,000 trained teachers graduate from the teacher training colleges annually. In September 1972, enrolment in the six colleges was 2,104. Teacher training for secondary level is offered in the School of Education at the University of the West Indies.

(g) **FURTHER EDUCATION** Further education is offered mainly at six teacher training colleges (already described above), the Jamaica School of Agriculture, the College of Arts, Science and Technology and the University of the West Indies. In general, successful completion of grade 11 qualifies students for entrance to the J.S.A., teacher training colleges and C.A.S.T.

(i) *The Jamaica School of Agriculture (J.S.A.)* is the main institution responsible for training in Agriculture. The physical facilities and educational programme of the school have been expanded and a two-tier education system established, i.e. courses leading to the Diploma or Associate Degree in Science respectively. The Diploma in Agriculture and Household Science is a two-year course, while the Associate Degree in Science and Agriculture or Consumer Education is a three-year course. The school is now offering training to both male and female students, and in 1971/72 there was a total enrolment of 192; 160 men and 32 women, with a graduating class of 84 students.

(ii) *The College of Arts, Science and Technology (C.A.S.T.)* provides training for technicians and middle-management personnel to meet the demands of industry and commerce. The College has six departments: mechanical and electrical engineering; building technology; science; business and commerce; institutional management; and teacher-training (technical). All courses are offered on a full-time, part-time or evening basis. In September, 1972, enrolment at C.A.S.T. was 2,162; 762 full-time students, 847 part-time day and 553 part-time evening.

(iii) *The University of the West Indies (U.W.I.)* which is a regional institution with the main campus at Mona, Jamaica, offers education at the baccalaureate and graduate levels. Entrance requirements may vary according to subject. Generally students are required to have successfully completed grade 13 in some subjects and grade 11 in others. Teacher education at university level is offered at the School of Education, for university graduates and experienced grad-

uates of teacher training colleges. The total student enrolment at the Mona campus in 1971/72 was 3,499 with a total graduating class of 655 (436 first degrees, 101 certificates, 92 diplomas and 26 higher degrees). In the same year 103 Jamaicans were enrolled in the School of Education and 69 graduated. University placement statistics indicate also that 40% of the students in Arts and Science, i.e. 60 in 1972, entered into teaching.

(h) PRIVATE SCHOOLS There are a number of private schools which offer secondary education. The better known ones are Champion College, The Priory School, DeCarteret College, Gaynstead High School, St. George's College Extension School and Excelsior Extension School. West Indies Training College offers both secondary and teacher education courses.

(i) EXAMINATIONS The practice of using formal examinations at fixed points in the education system is a basic characteristic of the Jamaican education system. A comprehensive list of these examinations is:

- (i) *The Common Entrance Examination (age 11+)* for pupils from primary and private preparatory schools for admission to high schools;
- (ii) *The Common Entrance Examination (age 13+)* for pupils from all-age, junior secondary and high schools for admission to technical high schools;
- (iii) *The Grade Nine Achievement Test Examination (age 14+)* for admission to high schools, technical high schools and vocational schools,
- (iv) *The Jamaica School Certificate Examination* (approximately grade 10). This is recognised for admission to the Police Force and Nursing Profession as well as minor private business enterprises;
- (v) *The London City and Guilds Examination, The Union of Lancashire and Cheshire Institutes Examination, The Associated Examining Board General Certificate of Education** These are all external examinations which are mainly for students of technical high schools;
- (vi) *The General Certificate of Education Examination, Ordinary level ('O' level)** for pupils enrolled in comprehensive schools, technical high schools and high schools;
- (vii) *The General Certificate of Education Examination Advanced level ('A' level)** for pupils in grade 13 of high schools.

*These are external examinations set by the Associated Examining Board, the Cambridge Local Examinations Syndicate and the Schools Examinations Department of the University of London.

3. Educational Provision

Education is provided free in primary (grades 1–6), all-age (grades 1–9), junior secondary (grades 7–9), comprehensive (grades 7–11) and technical high schools (grades 8–11). Beginning in September 1973 free tuition will be provided in all government-owned or -aided schools.

In 1971/72 within the formal Public Education System under the Ministry of Education there were 778 primary and all-age schools, 4 special schools (for the handicapped), 64 junior secondary schools and departments of high schools, 3 comprehensive, 40 high, 6 technical high, 4 vocational schools, 6 teacher training colleges and the College of Arts, Science and Technology. In addition there is the Jamaica School of Agriculture under the Ministry of Agriculture. Jamaica is represented on the Governing Council of the University of the West Indies by the Minister of Finance.

There is a great variation in the sizes of the schools at each level of education. Primary schools vary greatly, with approximately 70% ranging between an enrolment of 300 and 1,000 students; junior secondary schools' enrolments range from 405 to 1,200, with approximately 40% falling in the median range of 800; high schools' enrolments vary between 325 and 1,506.

The following table shows the number of Public Institutions by level and type and the enrolment by age group for 1971/72.

PUBLIC EDUCATIONAL INSTITUTIONS

Type of Institution	No. of Institutions	Age Group	Total Enrolment
Primary	229	6–11	323,565
	549		323,565
All-Age	see above	12–14+	60,000
Special (Handicapped)	4	4–16	377
Junior Secondary	64	12–14+	44,737
Comprehensive	3	12–14+	1,386
High	40	12–14+	15,120
Technical High	6	13–15	720
			<u>122,340</u>
High School	see above	15–18	11,681
Comprehensive	see above	15–18	1,125
Technical High	see above	15–18	2,883
Vocational	4	15–18	527
			<u>16,216</u>
Sum Total		6–18	462,121

In addition as indicated earlier there were 672 government or government-assisted basic schools (pre 6 year olds) with a total enrolment of 20,200.

It is estimated that in 1970/71 the percentage enrolment in schools was 88.5% of ages 6–11; 83.1% of ages 12–14; and 10% of ages 15–18. For all school-ages about 69.6% of the registered students were in government schools and the remainder attended private institutions. However, the quality of private school education is highly variable.

4. Specialised and Non-Formal/Continuing Education

Out-of-school education is available from a wide variety of sources, including farmers' training centres, youth camps, trade training centres and specialised institutions.

The extension service of the Ministry of Agriculture is responsible for farmers' training programmes and operates a permanent centre at Twickenham Park with three other centres being operated on a temporary basis. The total enrolment for the various weekly courses was 1,192 in 1970/71.

The Ministry of Labour operates trade training centres which offer courses lasting from six to twelve months in such trades as pipe-fitting, electrical installation, machine fitting, automobile repair, carpentry and the like. In 1971 there were nine such centres with a total enrolment of 973 students.

The Ministry of Youth and Community Development operates Youth Camps/Centres—enrolling a maximum of 1,700 youths of both sexes, aged 15–19 in five resident camp locations. A wide variety of low-level and pre-vocational skills are taught, with stress on work attitude development. This Ministry is also in the process of establishing several non-residential Youth Training Centres.

Other specialised training programmes in 1970/71 include training for nursing (343 enrolled at Kingston Public Hospital, plus 343 attending the University of the West Indies), courses provided by the Dental Auxiliary Training School (20 enrolled), Jamaica Hotel School (260 enrolled), Jamaica School of Art with an average enrolment of 97 full and part-time students, and the Jamaica School of Music (225 enrolled). Other privately supported special schools include Alpha Commercial College, Jamaica School of Fashion, Jamaica School of Theology, Kelly Lawson Training School, College of Accounting and Business, Duff's Business College, Jamaica Commercial Institute, Jamaica School of Business, Jamaica Theological Seminary and Kingston Commercial College.

Approved Schools are special schools established by the Government to which juveniles on Approved School Orders from the Juveniles Court are sent. Activities in the schools include full-time classroom education for children under fifteen years of age; those over fifteen receive part-time classroom education. In March 1973 there were six Approved Schools, four for boys with a total accommodation for 325; and two for girls with accommodation for 75.

A literacy programme was established in 1951 and in 1972 this was absorbed into the National Literacy Programme. There are currently about 40,000 students of all ages enrolled in literacy classes throughout the island. Radio and television media are used to some extent in literacy teaching.

Many other agencies, institutions or associations engage in some kind of non-formal/continuing education or training of significant numbers of Jamaicans. Without attempting to be exhaustive, the following list covers most of those with the greatest impact:

Craft Development Agency	Jamaica Youth Corps
Institute for School Leavers	National Literacy Board
Jamaica Industrial Development Corporation	National Volunteers' Organisation
Jamaica Institute of Management	Prisons Department
Jamaica Library Service	Sugar Industry Labour Welfare Board

Among the major additional institutions are:

All Island Cane Farmers Association	Jamaica Association for Mental Health
All Island Banana Growers Association	Jamaica Family Planning Association
Boys' Brigade	Jamaica Home Economics Association
Boy Scouts	Jamaica Livestock Association Limited
4-H Clubs	Jamaica National Dance Theatre Company
Friends Educational Council	Jamaica Social Aid Society
Girls' Brigade	Jamaica Society for the Blind
Girl Guides Association of Jamaica	Jamaica Youth Council
Institute of Engineers	National Consumers' League
Jamaica Agricultural Society	Things Jamaican Limited
Y.M.C.A.	Jamaica Association for the Deaf
	Y.W.C.A.

NATIONAL GOALS AND OBJECTIVES OF THE EDUCATION/TRAINING SYSTEM

1. General

The previous sections provide the background information useful to an analyst of the education system as well as to the general reader of this report. However, the point at which an assessment or analysis of the education sector begins is with the statement of the national and sectoral goals and objectives of the education system.

Any assessment of the current condition of an education system's objectives, priorities, and methods of reform has to be predicated on a system of values or goals reflective of the wishes and objectives of that society and against which measurement can be made. How well these objectives are institutionalised or even worded into official documents is the responsibility, and ultimately so, of the people and leaders of the country. This means a continuous, or living approach, as aspirations and value systems are continually changing in a healthy society. This also means a regular updating and restatement of goals and objectives, for a country's own development efforts, as well as to guide the adviser/consultant whether local or from abroad.

During the period of the Sector Study the Ministry of Education re-examined and restated the country's goals and objectives for the educational sector. This included broad national/societal goals relative to education; the long-range goals; the short-range goals including their quantification and priorities and a study of the statutory basis and laws relative to the functioning of the system. This review and restatement was used by the Sector Assessment Team in the preparation of this report.

2. Broad National/Societal Goals Relative to Education

The rights and freedoms of the people are enshrined in the constitution and this includes the right of every individual to develop his potential through education, which is interpreted to mean that he has the opportunity to become a self-sufficient and well integrated

personality and a useful and responsible citizen of an independent country.

The social life and development of the people are of primary concern to the Government which also recognises the need for the provision of training for skills to meet the growing agricultural, commercial, industrial, management and cultural needs of the country.

The Government therefore intends that educational opportunities must be open to all in keeping with its economic and social policy based on the principles of egalitarianism, social justice, self-reliance, national pride and a deep respect for the rights of the individual, for the rights and freedoms of others, and for the public interest.

3. Long-Range Goals

In recognition of its basic philosophy and the goals established by the constitution and in line with the powers of the Minister embodied in *The Education Act* of 1965 wherein the Minister of Education is empowered:

- (a) to promote the education of the people of Jamaica and the progressive development of institutions devoted to that purpose;
- (b) to frame an educational policy, designed to provide a varied and comprehensive educational service in Jamaica;

the following long-range goals have been set:

- (1) To achieve Compulsory Universal Primary Education;
- (2) To provide an adequate teaching force to meet the needs of all levels and types of education;
- (3) To develop a coordinated education system which will ensure an even spread of education at all levels;
- (4) To provide the human resources for a sustained development of the education system and the country;
- (5) To help develop the cultural and aesthetic values, and to foster desirable civic attitudes;
- (6) To provide non-formal education to meet the needs not only of adults but also of school leavers and drop-outs;
- (7) To expand pre-primary education on a firm and structured basis;
- (8) To systematically expand medical health and school feeding services;
- (9) To provide adequate guidance and counselling services for the system;
- (10) To have a systematic evaluation of all components of the education system;
- (11) To expand library facilities throughout the system.

4. Short-Range Goals

In accord with this general policy the Government recognises the need to implement the following short-term objectives with the utmost vigour allowed by present limitations of finance, personnel and general administrative capacity:

- (1) Restructure and strengthen the organisation, staffing and operations of the Ministry of Education in order to improve its capacity to effect the goals and objectives of the system;
- (2) Develop the Planning Unit of the Ministry of Education so that it can provide a better basis for decision making at both the policy and operational levels; including research, review and evaluation, to sustain educational development;
- (3) Systematically expand and develop curriculum reform and educational methodology with initial emphasis on the needs of primary education;
- (4) To improve on a planned and structured basis the skills and competence of the untrained teaching force in Primary and Secondary Education by means of a continuing in-service programme;
- (5) To pay particular attention to the urgent need for teachers of languages, mathematics, science, agriculture and technical subjects;
- (6) To expand a fully qualified teaching service at all levels;
- (7) To expand, improve and update the preparation of teacher trainers and the curricula of the teacher training institutions;
- (8) To improve the qualifications of professionals and service staff throughout the system;
- (9) To improve the conditions and amenities for teachers and to provide better incentives and remuneration;
- (10) To pursue the development of new patterns of education for post 'O' level education, non-formal and continuing education in co-operation with other government agencies and the private sector;
- (11) To pursue the expansion and development of agricultural, technical and vocational education at all levels relevant to the needs of the society, and to foster and encourage the agricultural, commercial and industrial sectors to co-operate in the provision of skill training;
- (12) Register and supervise independent schools so that the State can assume its responsibility to ensure that the quality of education offered is of a satisfactory standard;

- (13) To renovate and improve primary and secondary facilities so as to improve the quality of education and the conditions of service for teachers;
- (14) Continue to support the efforts of the community in establishing pre-primary schools and to assist in upgrading teachers and facilities for these schools;
- (15) To encourage maximum community involvement in the educational process and the use of all schools as centres for continuing education;
- (16) To foster the development of Jamaican books with special emphasis on textbook writing, illustration, design and production, as well as the need for the expansion and development of audio-visual aids, materials and media with special attention to the use of educational television (ETV) and radio as important tools for curriculum development;
- (17) To foster appreciation and participation of students in the arts for the benefit of the individual and the cultural enrichment of the country;
- (18) To encourage an appreciation and concern for the country - its beauty and its ecology.

Chapter 4

REVIEW OF CURRENT CONDITION OF THE EDUCATION SYSTEM

A Systems Analysis

ELEMENT	STATUS
A. National Policies, Coordination, Planning and Resource Allocation	
A-1 National Goals stated in Socio-Economic Terms	Generally well stated in <i>The Constitution</i> in very broad socio-economic terms. Needs supplementary definition of role and function of education relative to national objectives and development issues. Need for full activation of National Human Resources Development Committee, better sector guidelines to be set by National Planning Agency; a more dynamic role to be taken by the Ministry of Education re the country's total educational needs and efforts; and better planning and evaluation as a basis for informed high-level policy decision making.
A-2 Long-Range Educational Goals	Also well stated, but needs strengthening and continual improvement based on rolling analysis/planning, more adequate and timely data and better definition of long-range targets including improved quantification; and more accurate assessment of long-range policy implications.
A-3 Short-Term Educational Goals	Incomplete, especially re sub-goals. Lacks adequate quantification of tar-

ELEMENT**STATUS**

- gets and qualitative and time-phased data.
- A-4 Centralised Policy Determination** Would be much more effective if decisions could be based on alternatives offered by better planning, evaluation and statistical, including costing, data.
- A-5 Utilisation of National Intellectual Resources in Policy Determination** Inadequate. Good resources exist but have only been partially utilised re policy, programmes, research, etc. Also Education Advisory Council, various Education Boards, etc., exist by Education Act provisions but expansion of roles and greater utilisation of member individuals necessary, including greater participation of interested community individuals at all social levels.
- A-6 Quality and Nature of Plans for Human Resources Development** Some excellent ideas and interest exist; although they are mainly economic/manpower oriented with greater need for inclusion of social/individual goals. High level of interest at the top policy level but newly designated Human Resources Development Committee not yet active and contributing. Major need for effective National Human Resources Plan and more central and active role for the Ministry of Education, and especially for inter-ministry co-ordination.
- A-7 Coordination of the Total National Education/Training Activity** Critical need for coordination, as the total education/training (human resources development) system is splintered, inefficient and ineffective. Need for greater effort by National Planning Agency, Human Resources Development Committee, Ministry of Education and other individual ministries dealing with education/training and top level policy decisions to this effect.

ELEMENT	STATUS
A-8 Participation of the Private Sector in Preparation for Training Needs	Private industrial sector has given some direct support to education/training with much greater potential. GOJ needs to better coordinate own education/training activities and explore possibilities of fuller utilisation of private industrial sector in vocational training activities.
A-9 The Role of the Independent Schools Relative to Individual and Overall Country Development Needs	Approximately 30% of total education is private, with fairly wide range in quality and no systematic government mechanism to ensure this quality; or even adequate data on the nature and extent of these schools. Private schools are of wide range and type—and some of them are of high quality and are among most innovative in the country.
A-10 Financial Support for the System	Education has the highest budgetary allocation, except for the Ministry of Finance, of all the ministries—reflective of governmental policies. Private sector inputs are relatively limited. Little development, direct or in-kind support of education at community level.
A-11 Proportion of National Budgetary/Growth Resources devoted to Education	Increasing budgetary emphasis being given to education/human resources, and willingness to commit government funds as counterpart to additional external lending assistance for education. Major problems are (1) the results obtained for the money allocated and (2) attrition loss of trained manpower from the system.
A-12 Modernisation of Programme Budgeting from the Point of View of its Flexibility	Needs modernising in conjunction with improved management practices. Currently lacks adequate flexibility and sufficient concern with costing aspects. This also is very dependent on

ELEMENT**STATUS****A-13 Coordination and Administration of External Assistance to Education**

clarification of system objectives and methodology.

Some has been well done, some not. There is need for increased effectiveness at the overall national level as well as in the education sector. Needed is an improved policy, procedure and management structure for more effective utilisation of external inputs; including improved role of National Planning Agency and training of personnel in development planning and project administration and budgeting. Also necessary is better role definition of Education as the primary ministry concerned with external assistance, planning and resource utilisation in the broad field of education and human resources development; this includes upgrading of management, planning, programming, evaluation capability of Ministry. Concurrently, another major problem is Jamaican need for greater assistance programming flexibility on the part of the external agencies to be more consistent with Jamaica's identified needs, programmes and priorities.

B. Management, Personnel, Programming, Budgeting and Operations of the System**B-14 Organisation and Efficiency of the Ministry**

Present structure/organisation not fully meeting educational development needs. Needed is clearer definition of overall and specific programme goals and objectives, general improvement in efficiency and morale, a comprehensive in-service training programme and a personnel programme which gives fuller recognition to capabilities/leadership, and an effective incentive plan.

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Recent reclassification study of the Ministry has resulted in reclassification of all professional personnel as 'programme managers': undermining the professionalism so greatly needed by the Ministry. De-professionalization trend has been going on for some time and problem needs special attention. Also needed, *inter alia*, is major improvement and upgrading of Education Planning Unit, Operations Unit, Buildings Unit, Registry Unit, Personnel Unit, Teacher recruitment, and establishment of an Information Unit as well as improved maintenance and utilisation of the Ministry building itself.

B-15 Preparation and Utilisation of Administrative Personnel — Personnel Selection, Guidance, Management Policies, and Programme

Inadequate. Ministry will need extensive upgrading and training with special attention to in-service training. The institution of modern personnel administration methods and systems of identifying and developing leadership capabilities, and systematic provision for career advancement need attention. There is critical need for classification including equitable salaries, permanent opportunities, job descriptions, and in-service training of non-professional staff including clerical in the Ministry.

B-16 Decentralisation of Administrative Functions

Education Act provides for every school to have its own Board of Management. Primary Boards not fully effective re administrative or operational functions although Secondary Boards exercise more power. Greater use should be made of District School Boards, authorized in the *Act*. There is major need for general decentralisation to the schools and communities, and the need to assess the advantages

ELEMENT	STATUS
B-17 Co-ordination and Administration of External Assistance to Education	<p>of a district type intermediate structure.</p> <p>Ministry of Education has suffered from lack of planning function/capability and is currently re-activating the Education Planning Unit; and has stated the intention of attaching major importance to it. There is urgent need for proper implementation of this unit by adequate assignment of staff and facilities, and protection against <i>ad hoc</i> diversions to other activities not properly identified as planning functions. Ministry has adopted and emphasised the rolling plan concept with in-depth sector assessment approximately every 3 years, of which this is the first or base study. Government has computer facilities with access time for various ministries, which is currently underutilised by the Ministry of Education.</p>
B-18 Capability for and Current Condition of Statistical Data	<p>Current data is inadequate for ministerial and national development purposes. A major shortcoming is that higher-level policy decisions and planning frequently have to be made based on inadequate data. This also applies to programme planning and operations. Present system for data collection, processing, analysis, etc. is generally cumbersome, slow, lacking in quality and not focussed on the pragmatic data needs, particularly the educational finance/costing data.</p>
B-19 System Personnel Records and Accounts	<p>Personnel record keeping is highly centralised, cumbersome and lacking in sufficient physical facilities for adequate information storage, accessibility and retrieval. All the teachers'</p>

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records for the country are kept in the Ministry with little essential information at the school level. At least some degree of decentralisation should be explored with the proper equipping and modernisation of the personnel records system. Similar decentralisation and modernisation should be undertaken for student record keeping. Staff needs upgrading/training in modern personnel record systems. However, progress has been made through computerising teacher payroll function, giving basis for further information/records modernisation action by the Ministry.

B-20 Education Information System

Need for greatly improved system within Ministry; with and between other ministries and units of government especially the National Planning Agency; also between Ministry and schools; among schools; with interest groups; with industry/private sector etc.; and with community. Needs better inputs into the Ministry from foreign and professional sources, upgrading of the Ministry information office, budget, equipment and staff. Needs closer linkage with school and public library systems and with the public information media. Ministry of Education could also make fuller use of computer access time available to them, to improve this function.

B-21 Teacher Duties and Benefits

Need for continual clarification of teacher duties and benefits and strengthening of teacher personnel supervisory/support function of the Ministry. Teacher Reclassification study which includes redefinition of teacher duties is currently under way.

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- and this together with activities of the Jamaica Teachers' Association could bring about some of the needed changes. Teachers' salary revision study has recently been completed and implemented, placing teachers in a very favourable position re other government employees.
- B-22 Teacher Classification** There is need for an equitable Teacher Classification system which provides for professional advancement and a salary scale that is based on preparation, experience and merit. Study is presently under way as indicated above. However, current classification effort concentrates mainly on teaching rather than the total learning process and excludes from classification counseling/guidance, librarian and other types of key educational personnel who come under no other classification category.
- B-23 Extent to which Provision is made for Adequate Housing and Amenities for Teachers, especially in Rural Areas, including Electricity, Water, Sanitation and some Type of Transportation Option** Teacher housing is acute problem in most of the rural areas with generally inadequate facilities. Provision is usually made for principals' housing but not for staff members. A major problem is that 40% of the primary schools, and related teacher housing are not electrified, making further intellectual, cultural and professional development difficult, and directly contributing to problems of placement and retention of teachers in these areas. Also there is a lack of public or any other kind of transportation in many areas, contributing to the rural teachers' isolation as well as a general lack of access to cultural amenities.
- B-24 Incentives in the System** It is expected that reclassification of Ministry personnel/functions current-

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- ly in process should provide a greater degree of salary and career incentives, commensurate with professional qualifications and responsibilities. Ministry of Education is aware of the need for educational incentives programme for Ministry including training opportunities, etc., also re major need for incentive programme to bring qualified teachers into the system and halt the high rate of teacher attrition. Additional studies in this area are planned.
- B-25 Use of Educational Specialists** System does make use of educational specialists, mainly from the ranks of expatriates, although some excellent Ministry officers, teachers and administrators have contributed to special committees, etc. Need is for more and better qualified Jamaicans, and incentives to serve. The U.W.I. represents an as yet not fully utilised resource in Jamaican development. There is also need for a clearer definition of objectives for these potential resource individuals and a better planning and statistical base. Also needed is fuller utilisation of resource individuals at the community level.
- B-26 Provision for Students with Special Problems** Very little in regular school system. Some efforts largely privately initiated. Much more attention required to diagnose early both those with learning handicaps and also those with physical retardation problems. Required is a special and concerted effort including a needs survey and intensive training.
- B-27 Educational Programmes and Human Resources Development** Total Human Resources Development activities are now dispersed to a number of ministries, of which Education is the major one. A significant weakness is the relative lack of coordina-

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- tion, or effective coordination mechanism and delineation of responsibilities between various ministries and ministry programmes and the inactivity of the new National Human Resources Development Committee. Also Human Resources Development should be viewed in social as well as traditional manpower/economic terms. It is also apparent that the Education Ministry should take a more leading and dynamic role relative to coordination with the programmes of the other ministries
- B-28 Non-formal/Continuing Education Activities/Programmes** Many types and much previous accomplishment are evident. Relatively little current attention to using the non-formal approach for and where it could be especially productive, i.e., producing significant change within the formal system, as much could be done non-formally to supplement the formal school. Much is also required to serve economic, vocational, civic, health, recreational, aesthetic and psychological needs of youth including basic and infant schools and those out of school, especially the 15- to 19-year-olds, and adults. Civic stability and economic and social advance of the country depends critically upon greater development in this area, especially at the school-related community level.

C. System Efficiency and Effectiveness

- C-29 Distribution of Education to the General Population** This has improved during the past decade with the programme of constructing primary schools with special attention to rural and population growth areas and the building of junior secondary schools dispersed throughout

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the island. However problem of quality at the primary level remains a major factor. Also there is extensive overcrowding at the primary level and a major bottleneck for student entry into the secondary. The restrictive examination system and the terminal 7-9th grade senior departments of all-age schools constitute blocks to full participation in the education system by all economic and social levels and areas. Rural schools generally offer less opportunity than urban schools because of the usually lower socio-economic status of the people of these areas, school siting, lack of electricity, poor roads and transportation, as well as lack of good teachers who will serve in this context. Government has stated the necessity for special effort in this area.

C-30 Access to Education

Improved distribution of educational institutions does not automatically assure access by the population and removal of barriers for the individual student and his family, especially at the lower income levels. In this context the situation has improved greatly over the past several years. Tuition and texts are free at the primary level, a nutritional lunch programme has begun in selected areas and school uniform materials are being provided starting this year with the early primary grades. At the secondary level tuition is free beginning in September 1973. The fees have also been eliminated for institutional boarding. Elimination of all miscellaneous fees for library, games, etc. has been announced for September 1974. Atten-

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dance at teachers colleges is free of tuition and boarding. This is exemplary development but inability to provide greater number of opportunities at secondary still represents barrier to those finishing primary, especially the rural and poor classes. Families still bear costs for disproportionately expensive secondary level texts and supplies; school uniforms at upper levels and transportation to widely dispersed schools in some areas. However, parents can apply to the Ministry for grants to cover the additional costs of the child's education where warranted.

C-31 Effectiveness of System Design

System greatly needs modernising and streamlining to common pattern especially re status of infant and basic schools' relationship to primary; ill-age senior departments which are terminal and a poor-quality parallel to the junior secondary; multiple types of upper secondary: high schools, comprehensive schools, etc. At present three main types exist: 6 years primary plus 5 secondary; 6 primary, 3 junior secondary and 2 years upper secondary; and 7 years primary followed by 4 years of technical education. Articulation is generally poor. There is also the issue of relationship with, and setting standards for, private school system. Government is in process of improving this latter aspect. Ministry classification of schools is outdated, based on quantification with no inclusion of quality factors such as capability of staff, facilities, control of educational process, achievements etc. Also weighted formula for secondary

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tends to discriminate greatly against primary in favour of secondary schools and effectively downgrades whole primary system—teachers, facilities, budgets, etc.

C-32 Pupil Health and Nutrition

There is need for greater recognition of pupil health and nutrition factors and their consequences for the educational process; the training of personnel; and the provision of adequate and equitable health/nutrition programmes for all geographical areas and levels of the education system; including expansion of school luncheon programme, now operating in the Kingston/St. Andrew (Corporate Area) to the rest of the country.

C-33 Literacy Levels

Officially stated levels are high but functional literacy is a major problem in the country including primary non-completers and drop-outs who slip back; also those in post-primary level where low quality of education in many cases has produced an individual whose lack of literacy skill (and basic math and science) disqualifies him for meaningful employment. Current literacy campaign is just under way but this is only limited and temporary measure as problem is broad and long-range, also involving improved quality of the schools/curriculum, development of extensive non-formal programmes and the involvement of the community in the educational process.

C-34 Need for Students' Personal and Cultural Development

There is uneven and inadequate opportunity for artistic expression by students in the broad field of arts,

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- and an incentive programme for the development of these skills for the benefit of the individual and the contribution it will make to the country's artistic achievement and cultural enrichment.
- C-35 School Overcrowding and Pupil-Teacher Ratios** Varied. Ranges from high ratio density in primary to overly low in secondary, with impossible loads on most primary teachers and some secondary. Others are teaching one and a half shifts. By contrast six students per teacher is frequent in the top secondary level. There is a somewhat wasteful allocation of teacher resources throughout the system. More intensive attention should be given to organisation and personnel management and training since adequate numbers of people could be available but the system does not function well to enlist, prepare, organise and support their efforts. On student side low and irregular attendance are an additional factor.
- C-36 Role and Costs of Expatriates in the Education System** This is an important problem related to the lack and attrition of trained Jamaican teachers at the secondary level. Government has to put significant amounts of money into overseas recruitment missions etc., which with travel and other emoluments results in an expatriate teacher cost of two and a half to three times as much as a Jamaican teacher. Current expatriate recruitment target for this year was 200 in addition to external volunteer programmes. Government needs to make a policy decision and develop a long-range plan for replacement by

- qualified Jamaicans to meet the acute shortage of teachers for secondary schools, especially in languages, mathematics and science and to avoid the necessity of recruiting high-cost expatriates.
- C-37 Losses of Educational Manpower to the System, Attrition, Transfers, Emigration, etc. Major manpower problem for education (and other sectors). High turnover/attrition rate of teachers averaging 18% annually; from losses to private industry for better pay and career opportunities; losses from rural areas due to harsh conditions and relative cultural poverty; losses to the nation through emigration which is greatest at skilled/professional manpower level with more trained professional people leaving the island than are turned out by the post-secondary education system. This results in recruitment of expatriates to fill gaps especially at the secondary teacher level and intensifies Ministry of Education's teacher and administrative personnel problems.
- C-38 Internal Efficiency of the System—Rates of Completion, Retention, Repetition, and Drop-out; Unit and Achievement Costs per Student Generally low with incomplete attainment of internal system objectives although much of this problem is in the redefinition of functional and realistic goals/objectives and the improvement of planning evaluation and programme operations capabilities. Also, cost efficiency per unit and by completion rates is low, but biggest single factor in this area is the lack of adequate accurate data and systematic assessments available to make a cost efficiency analysis and recommendations for improvement. Ministry of Finance has stated full support for improvement in this area.

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- C-39 External Efficiency of the System— Identification and Meeting of National Manpower Needs— Extent to which the Composition and Volume of Skills and Professional Training in Jamaica is Adequate to Meet the Future Employment Demands of the Economy
- System not producing sufficient trained people to meet skills needs of employers, especially trainable youth of an educable quality, who can be further trained by the employer. In spite of high level of unemployment of youth there are significant numbers of skilled and semi-skilled job openings which are not being filled. Better manpower needs projections data/analysis necessary and articulation of education/training system with economic sector's growth needs. Major inefficiency factor is the considerable loss of manpower skills through emigration. Much of the desired efficiency in this area also has to do with the rational improvement of the Jamaican economy and the close coordination of all the ministries involved in education/training youths. Currently inadequate recognition of importance of revitalised and diversified agriculture to Jamaican economy. Improved efficiency can also be obtained by vocational training and pre-employment/career guidance programmes.
- C-40 Education and Employment/Income Distribution
- Education (in the schools and elsewhere) is not adequately serving stated objectives and is at odds with many of the goals of the new nation. Although some progress has slowly been made the system generally operates on several class levels and in the long run tends to be a negative income distribution device. In general, the poor and rural get mostly to primary where the conditions are crowded, harsh and most ill-taught; the few who get to secondary tend to get there in spite of

the primary system or probably because their home environments are more enriched, and the secondary is the least crowded and best taught. The antiquated examination system (Common Entrance 11+, etc.) arbitrarily assigns the socially and culturally poorer to a terminal upper primary school. The few who can most afford it get to post-secondary schools and the opportunity to enter higher paying jobs while the mass face lesser opportunities or unemployment. Finally those who acquire most education tend to leave the country passing the educational cost burden on to all the people.

D. Curriculum, Methodology, Materials and Technology (of the System)

D-41 Provision for Curriculum Development

First post-independence curriculum revision began in 1965 at secondary level concomitant with programme of expanding secondary system. Related programme for reforming and bringing primary into line formulated, but incompletely implemented. There is current need for evaluation/reform throughout system (already recognised by Ministry as a constraint to educational development), which needs modernisation and Jamaicanisation at all levels. A 'Curriculum Development Thrust' project is currently in process involving a large committee of teachers with impetus coming from the Ministry. Initial target for curriculum revision at primary level already established. Needs more support for a professional, systematic and operational curriculum unit within the Min-

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- istry which would also closely coordinate with a text, materials and media development unit; a teacher and professional upgrading unit; other functional units of the Ministry, and the teacher training colleges/U.W.I. Needs experimental school access, evaluation capacity, better internal coordination within the Ministry and increased budgetary allotment. Also needs external professional and technical expertise both to assist in curriculum design and to train professional staff for Ministry unit.
- D-42 Provision for Texts and Instructional Materials
- Very limited and inadequate at the primary level, improves at junior secondary and upper secondary. This inadequacy is multiplied by large numbers of untrained teachers in the system. Curriculum Thrust will not be effective until specific effort made in closely related Jamaican texts, materials and media on an integrated basis. Needs more attention to reference, resource, and non-traditional educational materials. Weakness also due to restricted budgetary allocation for this area and extent this presently considered important. Needs more creativity, better production resources, handling and distribution methods, technical assistance, staff training and policy decision whether Publications Branch is to have mainly distributive function as at present, or is to be professionalised.
- D-43 Use of Modern Communications Media/Technologies
- Limited use made of various media possibilities. Whole area needs major upgrading beginning with concepts and methods. Needs major training effort in methodologies, programming

and equipment use and maintenance. Also interrelates with training of new teachers and upgrading, training of teachers in service re media/technologies so that full potential can be realised at the school end. Also with large number of untrained teachers in the system there is critical need to evaluate use of ETV/Radio/etc. for general teacher upgrading and qualification programme. Currently a beginning Educational TV programme with some promise but needs to be more closely integrated within the curriculum development programme, and to include built-in evaluation. Also many rural primary schools (40%) have no electricity, which greatly reduces cost/benefit and effectiveness of present and projected ETV programme.

E. Teaching/Support Personnel for the System

- E-44 Preparation and Utilisation of Teaching Personnel
- Inadequate in both quality and quantity. Critical shortage of trained teachers, with resultant hiring of approximately 50% of unqualified teachers each year to make up shortage. This has been exacerbated with the inclusion of approximately 800 untrained national volunteer teachers into the system in September 1973 in what will apparently be a permanent untrained teacher recruitment programme with little attention to the high unit cost. The system also requires recruitment of qualified expatriate teaching personnel. Needs improvement in quality and professionalisation of teaching personnel and elimination of high teacher attrition rate of approximately 18% per year, although further

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training opportunities account for some of this loss. Utilisation, supervision, general support need a complete redesign as well as major improvement and concern for teacher conditions and career opportunities. Also requires greater coordination of teaching function with curriculum development, and guidance programmes and greater relevance to needs of system, and more comprehensive, integrated and well-planned upgrading programme for under-qualified teachers. Also needs evaluation of role and function of teacher training colleges re current needs of system including relationship to schools, staff, community, the Ministry of Education and the U.W.I. Also evaluation role of Joint Board of Teacher Education in defining teacher training re current problems and reform efforts in the Jamaican Education System.

E-45 Inspection/Supervision of Personnel

Inadequate guidance/supervision/management of teaching personnel relative to their personal and professional needs, and the qualitative, quantitative and evaluative needs of the system. Need for expansion of this function with more qualified inspection/supervision officers as well as more in-training, and continuous upgrading of officers if they are to adequately perform this function. Requires an identifiable qualified unit within the Ministry for the purpose. Ministry should effectively decentralise to parish level both the inspection and supervision functions. Also needs a classification recognition of these personnel as professionals in the teaching/learning process.

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E-46 Preparation and Utilisation of School Guidance Personnel	Major need through the system and especially as it relates to unemployed and out-of-school youth. Virtual absence of either personal guidance or career/vocational guidance. Particularly needed is student guidance at the primary and secondary level re job possibilities and world of work. Guidance training needed in teacher training curricula, and cadre of trained guidance officers needed in the system as well as a trained unit in the Ministry. Also need to think of guidance in non-formal areas and for those out of school, youths and adults. Professional external assistance needed for training Jamaican guidance and counselling personnel.
E-47 In-service Training for Teachers and Administrators	There is a major need for in-service training programmes to upgrade the some 50% unqualified teachers in the system, and also to keep all teachers and other administrator/professionals abreast of, and qualified for, the reforms which are to take place throughout the system. Also needed is separate functional unit in the Ministry charged with these responsibilities. Current beginnings in upgrading and proposals by C.A.S.T., J.S.A., U.W.I. and the Ministry are encouraging and should be selectively implemented. Teacher training colleges should become continuously and systematically involved; and all types of non-formal upgrading/training possibilities should be utilised including new approaches such as ETV/Radio/etc. programmed especially for teacher upgrading.
E-48 Gender Roles in the Educational Process	Role of women in social development has greatly improved since indepen-

dence. However, unemployment statistics show an imbalance against women. Need for greater opportunity for participation of women in economic and professional life of the country especially through provision of adequate opportunity for diverse types of education and training for women—a lost resource if not fully utilised. Within the education/training system women predominate at the primary and other levels, generally with male supervisors/principals. There is need for a greater proportion of male teachers, especially at primary level for role identification needs, teaching of physical education etc. Relatively few women occupy important places in the Ministry.

E-49 Teacher Unions and Professional Associations in the Educational Process and Systems Reform

Teachers' union (J.T.A.) moderately strong and effective in supporting teachers' rights, salaries and working conditions. The teachers' union and other subject-oriented professional organisations carry responsibility for professionalisation of the teaching force. They have also shown active interest in programmes re the nature of the learning process and the problems in the system.

F. Systems Facilities and Maintenance

F-50 Condition, Adequacy and Utilisation of Physical Facilities

There is need for additional schools at the primary level to meet universal education goals already set by the Ministry. The major need at the primary level is the renovation or replacement of a large number of existing schools whose harsh conditions are central factors in lack of student learning, attrition of teachers and non-

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participation of the community in the education process. The new junior secondary schools are in better physical condition and additional numbers are scheduled to be built under IBRD loan. The quality drops off drastically for upper secondary and there is need for renovation, new equipment and more schools. Additional and improved facilities are also needed in agricultural and other types of vocational education and the teachers colleges.

F-51 Provision for School Design, Engineering and Construction

Some recent schools at the primary level are good but most are unsuited to the needs. Most also lack adequate facilities for teachers and for community education. Schools generally lack flexibility and modular construction concepts which provide for expansion. Design of junior secondary is generally too rigid for system's needs. Secondary schools need better planning and design for modern education functions. Architecture/engineering capability in Jamaica is generally good as is construction, if given an adequate design.

F-52 Provision for Adequate School Maintenance

Maintenance is grossly inadequate or non-existent throughout most of the system and this is usually the first budget item to be cut when other needs develop. School maintenance budget does not usually last beyond middle of fiscal year and after that emergency funds have to be appropriated to repair leaking roofs, plumbing etc. At present maintenance budget does not exceed 1/3 of 1% of capital cost of school per annum compared with internationally accepted base level of 2%. In addition to limited

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funds there is lack of personnel trained in systems maintenance, inventory, distribution and custodial services. Individual schools have little flexibility re replacement of light bulbs, etc. and schools are sometimes closed due to sheer lack of maintenance. Need for policy determination, staff training, adequate funding at about 2% of school cost p.a., unit in Ministry charged with this responsibility and full understanding, especially at upper levels, of the concept of preventive maintenance.

F-53 Libraries/Learning Resources Centres

National library system is well run, with good procedures and fairly well-trained and dedicated staff. Major need is for additional community library facilities, mobile units, and more books, especially in the rural areas, to aid in individual advancement and to prevent back-sliding into functional illiteracy. In the schools, libraries at the primary level are virtually non-existent and need to be included in new school design. Also need for school library improvement at the secondary and teacher-college level. Librarianship training course at the University has to be upgraded including provision for in-service training and greater numbers of librarians trained and a classification recognition of a librarian as a professional in the learning process.

G. Experimentation, Innovation, Research, Evaluation and Feed-back

G-54 Provision for Educational Research

Almost non-existent in the Ministry and the school system. U.W.I. has done some, but generally not directly related to Jamaica's problems. Ministry now seems well aware of the need

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for research into the causative factors of the educational constraints, and as a basis for improved planning, education and decision making. There is need for research data, and the need to build a research capability in the country. Re-establishment of Ministry of Education's Planning Unit, and interest of U.W.I., teachers colleges, J.T.A., etc., in cooperation and activity in this area offer promise.

G-55 Provision for Experimentation, Innovation, Evaluation and Feed-back; Use of New Technologies

Very little. Experimentation and innovation take place mainly through interest of various individuals in the system. No policy or integrated programme of the Ministry in this area. A comprehensive systematic overall programme needs to be developed by the Ministry with special emphasis on feed-back for reprogramming and as a basis for policy revision. Also there is urgent need for provision of experimental schools (including trained staff and adequate equipment) which in the real professional sense of the term do not exist.

G-56 Capacity to Evaluate the Instructional Programme

Little evidence that the general programme is really evaluated either in the planning and preparation stage or in terms of final results. The almost total reliance upon the old pattern of external examination does not really evaluate the instructional programme or the really significant learning which should result. In the overall aspect there is some, although mainly uncoordinated, effort by various principals to do their own evaluations. Ministry needs to develop a policy and a capability in this area, and will need ex-

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- tensive technical assistance and an effective in-service training programme.
- G-57 Evaluation of the Output of the Various Programmes and Facilities**
- Apparently little systematic and formal evaluation, but much informal, incomplete, and sometimes biased efforts which give an incomplete overall picture. Ministry needs to focus on this area and better determine how well the educational objectives are being attained and the extent to which facilities and methods are both efficient and effective. There is currently no meaningful or valid system of evaluating schools other than quantitatively by number of pupils enrolled. Major attention should also be paid to educational finance, and to the cost/benefit of programmes and facilities.
- G-58 Examinations—Achievement Testing/Evaluation**
- The current examination system is both academically and socially dysfunctional to the needs of the individual and the society and is perhaps the single most serious weakness in the education system. Having examinations prepared and graded abroad also represents an unnecessary foreign administrative and cost factor. The examination system may have had some usefulness for institutional continuity in the immediate post-independence period, but now is in need of Jamaicanisation and modernisation. Present system needs study and replacement by a system of achievement testing/evaluation more relevant to needs, especially as a continuing aid to students and a guide to teachers. Will involve Government decisions, technical assistance and extensive training for effective implementation. Recent-

ELEMENT**STATUS**

ly organised Caribbean Examinations Council can be helpful, if it goes beyond its original mandate to shift administration to the region, and focuses on what the examinations/evaluation are supposed to measure and how effectively the current examination system meets these needs.

H. Community Participation in the Educational Process

- H-59 Participation of the Community in the Educational Process** Uneven spread. Welcomed as a policy by the Ministry but there is no comprehensive programme of encouragement or support in this area. Depends largely on initiative taken by local leadership, and only in a few places is a concerted effort made to effectively utilise the resources of personnel and potential support which surround most schools. An improved community education support programme is essential to the new country's community institution building and the decentralisation of some of the educational responsibilities to the community. An objective is to have the community provide support and guidance to the school, the educational process and the student; to provide for non-formal educational opportunities to interested members of the community; and to make the facilities of the school available as an institution for development in the community.
- H-60 Familial/Social Factors as Incentives/Deterrents to Educational Achievement** Varied. Middle and upper class families most supportive of children's work in school and are better able to cope with the system as it presently exists. Many lower class families, for a variety of reasons, including social deprivation, general poor economic condition,

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nature of the family structure, and lack of faith in the system, are either non-supportive or outright hostile. Problems are also more pronounced in rural, as compared to urban, areas. A major factor in low attendance and achievement by many students is the social/psychological implications of the 'one-parent family'. Analytical social studies are vitally needed in this area. Also helpful in role identity of the young male student would be greater proportion of male teachers at the primary levels, which at present time is about 10%. Major results could be realised from greater use of male educational instructors, and adult volunteers at the community level. Needed is greater community involvement in and support for the educational process. Government is concerned re key social/familial factors and has recently taken action to make education tuition fees etc. completely free throughout the system; in rapidly expanding the child-feeding/nutrition and clothing programmes; and in the development of programmes of continuing education/community development.

Chapter 5

IDENTIFICATION OF THE MAJOR CONSTRAINTS IN THE SYSTEM

General

The basic purpose of this chapter is to identify and describe the major constraints or problems in the Jamaican Education System. Chapter III set forth the goals and objectives of the education system against which measurements of educational conditions and achievements can be made. The nature of chapter IV was a total or systems review of education broken into some 60 major components of the Jamaican Education System. Negative as well as positive aspects of the current system were briefly presented. This chapter in turn focuses on those areas where the major constraints or bottlenecks exist and which are key to the improvement of the total education system. The constraints have been organised into some 12 groupings to serve the purpose of the analysis and to flow readily into the types of reform option discussed in chapter VI and the projects recommended for implementation in chapter VII.

These groupings are not intended to obscure the very important fact that all of the weaknesses are so inter-related, inter-dependent and part of an integral system that any reforms which may be attempted must also be synchronised and coordinated. Failure to do so may result in further and even worse imbalances in the system. It must be stressed that one glaring defect in the current situation—itsself the result of prior imbalances in reforms—is the key to understanding and weighing the identified constraints. It is that the vast majority of students passing to junior secondary schools are not scholastically ready for seventh-grade education and the vast majority of those completing the ninth grade have not in fact achieved nine grades of education. The delayed repercussions of this are felt throughout the subsequent levels of the educational process and the loss is not only at the level of each individual but to the Jamaican society as a whole. There can thus be no equivocation concerning the priority needs of the primary school system.

It is instructive to note the IBRD reform strategy in arriving at the extant situation in its first loan for the building of the junior second-

ary schools, was not merely to create sizeable additional school plant facilities which were virtually non-existent at that level, but also to create new standards. This starkly revealed the inadequacies of the primary system and resulted in the current ferment and readiness for change.

The Canadians were also aware of this need at the primary level in responding to the Jamaican Government's request for assistance in the construction of primary schools. Consequently, as a major condition to the second loan request to them, CIDA asked that the Jamaicans make a comprehensive study of the problems and needs of the whole system, so as to be better informed on the current nature of the primary system, which they believed to be in need of other inputs supplementary to school construction.

Also, on the part of the Jamaicans themselves, it appears that the past ten years since independence have seen meaningful change. Advances have taken place in various areas which were seen as most in need, with little or no development in others so that there has been a general unevenness to the system as a whole. In essence it has served an interim purpose between pre-independence education systems and methods and a new modern Jamaican education system. It is heartening to observe that this current concern with the education system relative to the needs of a new Jamaica, and the general and extensive interest in examining and reforming the system is so widespread among educators, policy makers and the public. The following observations are made for the purpose of further assisting and systematising this process.

1. Need for Physical Improvement and Expansion of the System

A. PRIMARY AND ALL-AGE SCHOOLS

The problems at the primary level are demonstrably the most acute of all the various levels of the education system. A major constraint to the functioning and development of the primary level is the lack of adequate school facilities. This is both qualitative and quantitative, involving a direct shortage of physical space, and present buildings whose conditions often have a decidedly negative effect on the educational process.

There are currently 229 primary schools in the Jamaican education system covering grades 1–6 only. There are 549 additional primary schools classified as all-age schools with senior departments for grades 7–9 added on to the primary programme. These upper three grades serve those students who do not pass the eleven-plus examination, open to all children at about that age, the age of 11-12 years, and which selects children for a five- or seven-year secondary opportunity. The all-age school provides terminal education for the most

part, although it is basically, in curricular terms, an extension of the primary school; neither does it have effective vocational preparation opportunities and thus is the source of many out-of-school unemployed 15–19-year-olds. (The causes and effects of this are dealt with in greater detail later in the report.)

(i) *Shortage of Facilities.* The space shortage for students within these age groups is currently estimated at an over-enrolment of 80,000 children* not now in regular places. In addition, there is a shortage of 30,000 places for youths not enrolled in any school. Since the social demand for education approximates this 30,000 gap and the government policy is to move toward universal primary education as quickly as is practicable, this over-enrolment and net lack of school places (110,000) represents a major constraint to achieving stated educational objectives. In equivalent terms, it represents the construction of approximately 160 new schools of median size.

Inter-related with the sheer lack of student places is the problem of over-crowding of those places currently available. The Ministry estimates this to be 1.46 students for each student place, which is accommodated only through the poor attendance levels. The student/classroom ratio at the primary level is approximately 72 students per classroom, a situation which is unmanageable both in terms of physical facilities and the effectiveness of the teacher. New funding arrangements have been made with CIDA for 12,575 new places in primary/all-age schools; and 4,225 replacement places.

The government at the present time has only a very small primary school construction programme apart from the Canadian-built schools, since the government construction funds have been directed mainly toward the secondary system bottleneck needs, especially the upper secondary, where little external assistance has been provided.

Allowing for the proposed CIDA construction of new primary facilities there is still a current net overall student place shortage of approximately 100,000. With population growth curve greatest at the pre-primary years and the average compound increase of 3.0 a year during ages 1–7, it is certain that the net shortage of places will increase over the next seven years unless there is a substantial follow-up in primary school construction.

Another important factor is that the above figures represent averages which do not portray the rural situation in its true perspective. Generally there are proportionately more primary places available per urban student than is the case in the rural areas and the schools and school places are most essential in rural areas for the attaining

* *Survey of Primary and All-Age Schools*, Education Planning Unit, Ministry of Education 1973.

and retention of functional literacy. This produces a drift into the urban areas.

(ii) *Qualitative Conditions.* A second major physical facilities problem in the primary system is the generally poor, even harsh, physical conditions. It is evident that many of the present schools are badly in need of rehabilitation and modernisation.

In many of the schools existing physical conditions impede progress, and are not conducive to the learning process. Many schools are essentially long sheds, and moveable blackboards are used as partial partitions. Ventilation generally is poor and in some instances it is evident that the direction of the prevailing winds was not taken into account in the siting of the buildings. There is also a general lack of roofing insulation against the heat of the tropical sun. The classes are over-crowded and noisy, with the students in the back seats hearing the teacher in the class behind them better than their own teacher. The schools are deficient in water supply, toilets, secure storage spaces for teaching materials, work desks (for teachers), space for counselling students or remedial teaching, and library space.

In addition to student learning, this type of physical condition, including non-electrification of some 40% of the primary schools, is not conducive to recruiting or keeping teachers, especially in the rural areas where there are fewer amenities in general. These conditions also do not permit or encourage the full participation of the community in the educational process which is essential to a total education system, and the full utilisation of the school as an active institution for community development.

(iii) *School Equipment and Furniture.* A third physical problem area is the matter of sufficiency of adequate school furniture and equipment; the latter to include charts, maps, reference materials and school libraries. (These are dealt with as a separate item later in this report.) This lack of furniture and equipment is both quantitative in terms of student places, and qualitative in terms of what kinds of learning aids the students have, or teaching aids to improve the effectiveness of the teacher. (Equipment, media and technology are also dealt with in detail later in this report.)

B. JUNIOR SECONDARY SCHOOLS

The UNESCO report on Jamaica of 1966 identified the lack of the junior secondary school as the major bottleneck in the education system. World Bank Education Loan I (\$9.5 million—1966) was subsequently for the main purpose of creating student places at the junior secondary level (50 junior secondary schools—37,000 places.) Prior to this effort only about 9% of those Jamaican students completing the sixth grade were able to go on to a secondary school compared to

about 13% in 1973. At the present time there is a junior secondary enrolment of approximately 50,000 and an estimated shortage of 60,000 junior secondary places based on Ministry of Education projections of the present primary school leavers who are not now in school and who could continue on to secondary if they had unrestricted opportunity. At the moment there is little over-enrolment (some 7%) at the junior secondary level per student place. However with any increase in the size or output of the primary system this demand for junior secondary places would face a commensurate increase.

World Bank Education Loan II (\$13.5 million - 1971) is scheduled to provide 6,250 additional places, still leaving a shortfall of 53,750 places at the junior secondary level.

However, to be realistic, the current school population of the senior departments of all-age schools must be added to the secondary education shortfall figure. The all-age school appears mainly to be a mechanism or an institutional arrangement to look after, or keep out of the market place until age 15, some 60,000 youths for whom there are no secondary facilities. Although the senior departments of all-age schools were perhaps an institutional expediency during the interim period since independence, they are serving less and less of a useful function, demoralising for teacher and pupil and making no return to society. This applies to the individual who leaves school unprepared and unequipped for a vocation and for life; to the economy, for the sheer loss in manpower and potential skills and inputs to the country's growth; and to the society in general, where a two-class education system based on an arbitrary eleven-plus screening examination has both current and long-range political implications. The retention of this system is in reality a false economy.

A phasing out of the senior departments would have a positive effect in releasing some 60,000 places to the primary system and would represent almost half the current shortfall there. This would mean that the gap at the primary level would be much more manageable relative to the CIDA subsequent Jamaican Government construction programmes.

World Bank Education Loan II, even with the contribution it will make at the junior secondary level when construction is completed, will still not be sufficient nor fast enough to meet student demand up to the level endorsed as an objective by the Government. The World Bank has, in this context, indicated its willingness to enter into a third educational loan for this purpose, possibly in Fiscal Year '75 or '76.

C. UPPER AND OTHER TYPES OF SECONDARY SCHOOLS

Only about 10% of the students in the age group 15–19 inclusive are now in senior secondary schools of all types. The remainder are, for the most part, out of school, unemployed, untrained, and without having received guidance in preparing to enter the work force, or preparation for life careers. (This is dealt with more extensively under Guidance.)

The senior secondary population also currently represents approximately 32.5% of the graduates of junior secondary, or a total of 1,300 student places available at the upper secondary level, rather than any shortage of students who wish to enter. At this level, up to the present, there has been relatively little external assistance inputs for facilities and equipment and apart from the evident shortage of schools and spaces the quality of the facilities and equipment is not anywhere near matching that found in the junior secondary schools. The whole education system's facilities are unevenly balanced, with the poorest quality of facilities by far found at the primary level, the highest quality by contrast at the junior secondary, and a dropping off beyond the junior secondary at a time when the system should be stimulating the enquiring mind and preparing students for a career and the full development of life-long learning attitudes. In general the upper secondary schools are very much in need of renovation and modernisation of physical facilities and equipment if they are to function effectively in response to Jamaica's educational development needs. (See section 6 of this chapter.)

Along with this problem of relative lack of quality of facilities at the upper secondary level is the additional problem of the flood gates from the junior secondary, as more junior secondary schools are constructed and as the Government contemplates a double shifting at the junior secondary level. This would mean that there would be a need for an active construction and renovation programme at the upper secondary level, as well as possible double shifting which would require a critical dependence upon an adequate supply of trained teachers to achieve the objective successfully. Another option in reducing the pressures on upper secondary facilities would be to extend the current 65 (7–9th grade) junior secondary schools by one grade to grades 7–10, carrying a double shift to bear the major load in the expansion of the upper secondary level. Although this might tend to lessen the pressure for new upper secondary construction it would at the same time water down the present quality of junior secondary education with negative results to the individual and the policy objective of upgrading the quality of the system. The course content would of necessity have to be limited to general education for many

or all and at best it would be an emergency short-term solution to the problem. If the Ministry still had the flexibility to redesign some of the about-to-be-constructed junior secondary schools as full secondary schools this 'stretching' approach to junior secondary might be much more feasible. A more beneficial approach would be to concentrate more effort on the renovation, expansion and modernisation of the current upper secondary schools.

This whole area also brings up the question of simplifying the complex system existing at present. In fact, one of the issues to which the Government will have to address itself, as identified in chapter IV, is the question of system design at the secondary level, and whether the various kinds and types of secondary schools should be simplified into a common type or variations on a common type.

The junior secondary is fulfilling an important role in breaking the post-primary bottleneck, but when the bottleneck shifts in turn to the post-junior secondary level this raises the issue of the appropriate design of the whole secondary level. The junior/upper secondary design should be re-examined for articulation, objectives, systems efficiency, and effectiveness. An evaluation should be made of a common secondary system design with provision for flexibility adequate to the country's present and future development needs.

At present there are 53 upper secondary (including vocational) schools in operation, and World Bank II will provide *inter alia* for 12,800 new places. Although this is a significant contribution, the major solution undoubtedly has to come through a combination of approaches, some of which are outlined above; all of which will need further examination and evaluation and the making of policy decisions by the Ministry.

D. EXPERIMENTAL SCHOOLS

There is also a vital need for at least eight experimental primary schools, which in the full sense of the concept do not currently exist in Jamaica.

This would require the construction of these new institutions designed specifically as experimental and providing them with the necessary equipment. (This is covered in more detail in section 11 of this chapter.) There is also need for the designation, and in some cases, the construction of demonstration schools readily adjacent to each of the teachers colleges.

There should also be at least four secondary schools designated as being experimental in nature. It is possible that World Bank Loan II could be slightly modified to construct these schools with the qualifications and equipment of experimental schools. As many as possible

of the proposed new experimental primary schools should be located in close proximity to the secondary experimental schools.

E. PHYSICAL FACILITIES FOR SPECIALISED AND HIGHER EDUCATION INSTITUTIONS

There are a number of specialised secondary and post-secondary institutions which have, among other objectives, the training of teachers for the Jamaican school system. Knockalva Agricultural Training Centre is the only institution of its kind in Jamaica. It provides a two-year practical programme for boys who have completed the 9th grade. Some graduates find employment as headmen, or assistant agricultural education teachers, and others in agriculture and agro-industry, while some go on to the Jamaica School of Agriculture. Since the programme currently has a very small component of general education, and little opportunity for acquiring expertise in modern agriculture it should be replaced by a fully developed high school for agriculture, forestry, home and community development. In fact, as discussed more fully in section 6 of this chapter, there is a need for the construction and equipping of two additional agricultural high schools in Jamaica, one in the north-east and one in the south-central area.

A key type of institution with a need for expansion of capacity is the teacher training colleges. Currently there are six with a total of 2,001 places, graduating a total of 1,000 per year. (The teachers colleges basically prepare teachers for the primary and junior secondary levels.) A seventh teachers college providing for an additional 300 places is projected in World Bank Loan II although a reprogramming for 500 places would be possible and more appropriate.

One of the most critical problems facing the entire education system is the shortage of trained teachers. (This is discussed in further detail later in this chapter and quantified into specific needs per year in chapter VI of the *Survey*.)

This requires that each of the teacher training colleges expand its capacity and facility to prepare new teachers and provide for upgrading the 5,000 untrained teachers and in-service training programme for the entire teaching force. The teachers colleges are strained to capacity at the present; and to meet an expanded programme need, would require new multiple-purpose classroom/library/counselling centre facilities at anywhere from three to six of these institutions, as well as corresponding dormitory facilities, depending on the emphasis placed on particular institutions and geographical requirements. All of the teacher training colleges are in need of reference materials, equipment and furniture.

There is a growing and demonstrated need to provide for community college level educational opportunities in Jamaica, as discussed in more detail later in this chapter and in chapter VI.

In the Corporate Area the College of Arts, Science and Technology is developing in this direction in meeting educational needs above the secondary level which are not a normal part of the university curriculum. To some extent, Excelsior Education Centre is also beginning to provide for some of these specialised post-secondary educational needs. Community college opportunities should also be made available in at least two other parts of the island at present: one in the Montego Bay/western area and the other in the Mandeville/central area. This would mean constructing and equipping two new community colleges, with the one in the Mandeville/St. Elizabeth area including industrial/petroleum/mining technology in its curriculum.

The Jamaica School of Agriculture (administered by the Ministry of Agriculture) provides education from upper secondary through two years of college, and prepares skilled technicians and extension workers for agriculture and agro-industry. It also conducts limited research and with the introduction of the Agricultural Education Teacher Training Option, will be the main source of agricultural education teachers. J.S.A. is currently expanding its subject areas and plans to increase the number of graduates (84 in 1971/72) to help meet the present demand. The physical facilities are apparently adequate for the present and the expansion needs are in other categories, as is described later in this paper.

The other Jamaican educational institution at upper secondary junior college level is the College of Arts, Science and Technology (C.A.S.T.) which receives 82.1% of its funding from the Ministry's budget. C.A.S.T. provides technical training mainly for industry and business careers and although it has plans to expand to meet various kinds of country developmental training needs, such as medical technologists, where there is no current source of training in Jamaica, C.A.S.T. would require an expansion of physical facilities and the provision of equipment in order to meet these needs.

A new, but important, function of C.A.S.T. is to offer teacher training in vocational and science areas as well as to participate with teacher training colleges in upgrading in-service training programmes in these areas. CIDA is currently providing the new facilities and equipment to meet this expansion. Construction has started and when completed will provide for 300 new places for technical teacher education.

The University of the West Indies represents another key educational institution relative to Jamaica's needs for trained teachers and

professionals. The U.W.I., although a regional university, has one of its main campuses (including the School of Education) at Mona, Jamaica. The U.W.I. trains teachers for the upper secondary level, in special subject areas.

It also provides training for school librarians, upgrading and training for teachers and school administrators in the system and could provide training for Ministry professionals. The U.W.I. is attempting to expand to meet a wide variety of Caribbean regional needs but does not currently have the physical space to provide for a greatly augmented programme of Jamaican secondary teacher training as well as upgrading and in-service programmes.

The Inter-American Development Bank (IDB) is currently discussing loan assistance to the U.W.I., but up to the present time this has not included the School of Education. This paper in a later section of this chapter discusses the need to develop the U.W.I. educational curriculum into a full four-year programme and the development of a graduate programme in education, that would include extensive applied research. Additional physical facilities and equipment would probably be required in order to achieve this, possibly through one of the forthcoming External Agency loans to U.W.I.

These various needs are not going to be met by the university with the present physical facilities. An analysis should be made on the basis of the amount and type of facilities and equipment which the university would require to perform this task for the Jamaican education system. A multi-purpose classroom/reference/research building would seem to be an appropriate point of departure in evaluating the programme and the contribution which could be made by the U.W.I. (Chapter VI deals with this in more specific detail.)

On the professional training level there is a need for a nationally centralised training facility under the direction of the Ministry which can be used for short-term professional upgrading/training, including the personnel in the Ministry of Education.

F. IMPROVED MAINTENANCE OF FACILITIES AND EQUIPMENT

A greatly improved and systematic programme of facilities and equipment maintenance is absolutely critical to the efficiency and effectiveness of the educational process in Jamaica. In fact, so important and urgent is this need that all of the above comments and possible related inputs will be of only marginal value, if a serious effort is not undertaken by the Government to implement such a programme.

In general, and with few exceptions, the physical condition of primary/all-age schools is deplorable. They are often dirty, insanitary, unsightly, and a disgrace to the community. Doors, windows, drain-

pipes, fixtures etc. become loose and fall off for want of a few screws or nails, or even the timely application of a screwdriver or hammer. This situation even reaches the point where schools are closed down because of lack of windows or doors, broken-down sanitary facilities or leaking roofs. Sanitary problems and leaking roofs are usually fixed eventually through emergency budget intervention from Kingston but the other categories of maintenance problems are mostly not given attention. One of the problems is the low importance given to the concept of maintenance and the low budget provided for this purpose.

This budget at the present time approximates one-third of one per cent of the capital cost as compared with an internationally accepted standard of two per cent. However, adding to this difficult situation is that there is not a fixed line item for this purpose and the limited funds available are among the first to be diverted to provide for the expansion of other programmes.

Generally the school maintenance funds are all gone by the mid-point in the fiscal year and only the most critical needs can then be met, i.e., plumbing and leaking roofs, from emergency budget sources. School equipment and furniture suffers much the same fate. It is not unusual for teachers to buy and take their own light bulbs back and forth to school with them.

Schools with poor physical facilities will certainly not arouse community support for, and participation in, the education process. They are also a hindrance to the learning process on the part of the child, and act as a deterrent to the recruiting and keeping of good teachers. There is also an absence of instructions or manuals on levels and types of maintenance and standards; a lack of specifically assigned responsibility other than that falling generally to the principal; as well as training in custodial repair and preventive maintenance at the school level. There is an inadequacy of tools, replacement supplies, storage facilities, inventory and re-ordering procedures at the school level. There is a lack of a viable fixed and unassailable budget and of a periodic school inspection system. There is no unit in the Ministry sufficiently trained in system maintenance. Lastly, there is clear need for the necessary policy determinations to be made at higher levels.

2. Shortage of Trained Teachers and Professionals

This constitutes a major and continuing problem throughout the entire school system. More than 50% of the teachers in primary and all-age schools are not trained to accepted pedagogical standards. Also the wide use of these untrained teachers together with the generally unsatisfactory physical conditions of schools, irrelevant curri-

culum and other short-comings in the system, such as inadequate teaching materials, and a completely dysfunctional examination system, has serious and demonstrable adverse effects on the entire educational process. Much of the same situation applies to secondary and various specialised types of instructional personnel.

One of the major problems in this area is that of terminology. The concept of trained and untrained teacher is a pay-rolling classification and is not completely descriptive of a teacher's level of qualification and/or certification

At present the six teachers training colleges are the source of trained teachers for the primary, all-age and junior secondary schools. The upper secondary teachers are drawn from U.W.I. graduates as are teacher librarians and, for the future, counselling and guidance personnel. The Jamaica School of Agriculture prepares a limited number of agricultural education personnel and the College of Arts, Science and Technology prepares various types of technical teachers and has recently initiated a programme with CIDA assistance for the preparation of mathematics and science teachers for the junior secondary schools.

A significant aspect of all this teacher training is that insufficient numbers are being produced to meet the country's needs for teacher replacements, or new places due to the expansion of the system. At present the annual recruitment need for the primary and all-age schools approximates 1,500. This year only 900 qualified teachers were produced to fill these openings. In view of the employment market in Jamaica there are always underqualified individuals who are available to take the remaining positions and bring additional untrained teachers into the system on a continuing basis.

Again the same set of circumstances applies to the university graduates who come into the upper secondary part of the system. This year there were 400 openings and only 240 new graduate teachers entered the system leaving a shortfall of 160 teacher places (N.B.: approximately 40% of the Education and Arts and Sciences graduates of the U.W.I. enter the teaching profession).

The shortfall at the secondary level is made up to some extent by unqualified teachers entering but also to a greater extent through the recruitment abroad of foreign teachers and, as far as possible, qualified expatriate Jamaicans living abroad. Even this is an effort as each year a recruitment team is sent to the U.K., Canada and the U.S. with less than complete success. For those foreign teachers who are recruited the cost to Jamaica is two and a half to three times the cost of a local Jamaican teacher.

The need for specialised types of teachers such as in agriculture are outlined in greater detail in Annex C on Agricultural Education.

There is an over-riding and obvious need for the preparation or production of additional teachers at all levels. Based on projected current trends and setting a 1980 target for the recruitment of all qualified teachers into the system by that year there is the need to increase the annual output of teacher college graduates by 600 a year and U.W.I. graduates by 100 a year.

As changes in policy are made relative to the organisation of the secondary system and the percentage enrolment targets for secondary schools this annual number will vary accordingly. Thus a realistic projection of overall shortfall and for each year can only be done in the national education plan after the relative policy decisions have been made. In any case there will still be a shortfall in the immediate future relative to the production of the required number of qualified teachers.

The production shortfall would not be nearly as serious to overcome but for the high annual attrition rate of trained teachers from the system. This averages about 20% for untrained teachers in primary schools and 10% for trained teachers in these schools or the equivalent of a complete teacher force turnover every five years. Besides being physically difficult to compensate for, it is also extremely costly to the country. However, not much is known about the reasons why trained teachers leave the system, or do not enter teaching in the first place. There have been no tracer studies or in-depth interviews/studies on the socio-economic condition of the Jamaican teacher especially relative to the rural areas with their usual lack of physical and cultural amenities, electricity, transportation, harsh teaching conditions etc. Other factors such as lack of career opportunities, professionalisation opportunities, morale factors, incentives, etc., are often absent. Yet this is a major training/replacement, as well as economic, problem; and it demands a great deal of careful attention and investigation into the causative factors so that positive remedial programmes can be developed based on hard empirical data.

To the extent that improvement is achieved in conditions causing high rates of attrition, the burden for producing new teachers for the present schools will be proportionately lightened. It is clear, however, that the supply of primary teachers should be markedly increased to keep pace with normally growing school needs and for the secondary to keep pace with planned expansion and the reduction in numbers of relatively high-cost foreign expatriate teachers required.

Present plans for the expansion of teacher training clearly do not meet apparent or currently projected needs. Expansion is necessary.

It is also possible that innovative and radically different methods of teacher training will be required or at least given consideration. Some experimentation on procedures for teacher training including non-formal methods for the training and upgrading of teachers and their effective placement and utilisation in the system seems warranted.

There are currently some 5,000 untrained teachers and 1,000 interns in the primary and all-age schools and junior secondary schools in contrast to about 5,600 trained teachers in these categories. Although the 1,000 interns eventually become qualified as trained teachers they are always replaced by another 1,000 or so interns who are relatively unqualified as practising teachers and who for the most part are catapulted directly into a teaching situation following two years of teachers college. In fact as the teacher college programme is designed now the student teacher attends for two years after which he is placed out on an 'internship' for a third year, at the end of which time he/she receives the teaching certificate. The internship year is an exceedingly weak and insufficiently administered aspect of the training programme and it often depends on the extent of personal interest and attention given the intern by the principal and various staff members of the school to which he is assigned. The parent teacher college role is minimal and with the current role of the Board of Teacher Training in overseeing the process, the Ministry of Education does not place itself in a strong position to improve the intern year training programme.

Another large group of unqualified teaching personnel in the system is the recently initiated national volunteer teachers programme. One of the primary objectives of this programme is to assist the system by bringing in more personnel (who are relatively untrained) to assist with the teaching load. Although this report does not pretend to judge the positive or negative aspects of the work of the volunteers themselves, the major issue to be raised here is that it represents a permanent influx of a significant number of untrained personnel which runs counter to the objectives of gradually reducing the number of unqualified teachers with a target objective of all qualified teachers in the system.

At the end of this initial year there should be a thorough evaluation of the teacher volunteer and consideration also given to the problem of reducing the number of unqualified teachers in the system. Alternate uses of volunteers in education including teachers' aides, physical education, craft education assistants etc. need to be explored.

With the large numbers of untrained teachers in the system with no immediate possibilities of replacing them with trained teachers a major emphasis must be placed on programmes of in-service training

for this group. While the trained teachers need continuing upgrading and an improved information service to fully understand the country's educational objectives, utilise revised curricula and new educational material, the massive task of in-service training lies with the some 6,000 untrained teachers. Although in-service and upgrading programmes for teachers currently exist in the system they are of a limited nature and do not offer all untrained teachers the opportunity to progress toward becoming fully trained or certified. Certainly the present programme and facilities are not equal to the situation nor is there sufficient quality, flexibility or innovation for a fully effective programme in this area. Unconventional and non-formal education upgrading programmes for teachers need to be fully explored and utilised including the use of new technologies. These programmes are essential for teachers, specialised educational personnel, principals and others in the system. Also needed is a continuing programme of upgrading trained teachers as described above to keep them more fully informed and educationally competent.

The Government's decision to construct additional junior secondary schools increases the requirement for additional trained teachers who must come largely from teachers training colleges, C.A.S.T. and J.S.A. The recent movement toward double shifting and the proposed programme for adding 10th and 11th grade instruction to most of the junior secondary schools, as a transition measure for enlarging educational opportunities at senior secondary level, has introduced demands for additional teachers in considerable numbers.

The long-range programme of greatly enlarging and broadening the upper secondary level through technical and other types of high schools, will precipitate a greatly increased need for trained teachers in specific subjects. The production of such teachers will fall on C.A.S.T., the Jamaica School of Agriculture, and the School of Education of the University of the West Indies. Early planning to anticipate the need for such teachers by two or three years, so that they may be available when new schools have been constructed, is an obvious requirement.

Special emphasis needs to be given to the teachers colleges since they are the source of the majority of the teachers needed by the system. There is a problem of inadequacy of physical facilities and the proper maintenance of these facilities. There is a problem in the inadequacy of the curriculum of these institutions especially as they would be prepared to promulgate the educational reforms planned for the system. Also lacking are standards for the training and qualifying of teacher trainers.

Another area in question is the role and function of the Board of

Teacher Education which has the responsibility for the curricula and programmes of the teachers colleges. There is currently no educational planning input from the Ministry which would enable the Board to effectively respond to the teacher training needs relative to comprehensive education reform throughout the system. There is a need for a re-evaluation of the role of the Board and also a re-evaluation of the role of the Ministry in this respect and the kinds of educational planning inputs needed by the teacher training programme.

This also highlights the current weakness of the teacher education function within the Ministry and the need for the strengthening, upgrading and revitalisation of the Teacher Education Unit in the Ministry.

3. Need for a Relevant Curriculum Development Programme

Curriculum is the core of the whole educational process and as such, careful planning and attention to curriculum development is essential to meaningful educational reform. In Jamaica a Curriculum Planning Committee was first established in 1965. The advent of the World Bank Junior Secondary construction loan presented an excellent opportunity to initiate the curriculum revision that was so urgently needed. As a result the first meaningful post-independence curriculum revision began which was to create significant changes at the junior secondary level. The plans at that time were to extend reform to the primary level as well.

Within this context, and in accordance with *The Education Act 1965*, the National Curriculum Development Committee was established in 1968 to continue and expand the work started by the earlier Curriculum Planning Committee. The basic objectives were to advise the Minister on the educational (curriculum) development which should take place at all levels of the system consistent with educational goals; to advise on the content of courses, the method of dealing with the content of courses, and the related necessary educational materials; and to advise on examinations and measurement of achievement.

The committee operated through a standing committee of seven members and thirteen curriculum sub-committees in the following areas: Agriculture, Art and Craft, Business Education, English, Home Economics, Industrial and Technical Subjects, Mathematics, Music, Physical and Health Education, Religious Education, Science, Social Studies and Spanish.

The N.C.D.C. and the sub-committees made a number of significant achievements particularly in some areas of curriculum change and the preparation of related texts. When curriculum reform got under-

way it became apparent that curriculum revision at the junior secondary level had to be complemented by changes at other levels, especially primary, to ensure an academic articulation with the junior secondary. The initial work of the sub-committees on the revision of the primary curriculum had just begun when they were superseded by the Curriculum Development Thrust project so that apart from drafting syllabi, its overall accomplishments at the primary level have been minimal, particularly in language and science.

Although the N.C.D.C. was not extended after the change of government in 1972 many of the sub-committees have continued to function up to the present. The Industrial and Technical sub-committee for example has just completed a series of curriculum reform packages in Industrial/Technical, Home Economics, Business and Agricultural Education and is in the process of issuing the corresponding syllabi between now and March 1974.

The major reason why the N.C.D.C. was not more effective was recognised by them in their reports. This was the voluntary nature of the service rendered by the committee members since they all had substantive jobs and they subsequently recommended that there be sufficient qualified curriculum personnel on a full-time basis on the Ministry establishment in more of an advisory and review role. This, however, should be tempered with a judicious addition of forward-thinking practising teachers in each subject area.

Responsibility for programmes of implementation subsequently gravitated back to the Ministry which essentially was without a professional unit to deal with the reform effort until the Curriculum Development Thrust project was initiated. Although there is a small professional core this is an impact programme of limited duration (four years) with a large committee of teachers reviewing the current curriculum and areas in need of reform, again on a voluntary basis. This is where the situation rests at the present time and it is further weakened by the fact that the Publications Branch which would normally be a professional unit supporting curriculum reform programmes still continues without a clear definition of its role in relation to the Curriculum Development Thrust. A number of the National Curriculum Development Committee sub-committees still continue to operate, apparently without any connection with the Curriculum Thrust programme. In addition the Curriculum Thrust programme has absorbed other activities such as In-Service Teacher Training, some aspects of Texts and Materials, and the National Teacher Volunteer Programme.

In view of the complex, highly specialised functions and broad spectrum of curriculum development, the present organisation is

gravely understaffed not only in numbers but also in terms of qualified and professional leadership.

It is obvious that the curriculum situation is splintered; encompasses other non-curriculum activities; and is badly in need of a definition of policy and a reorganisation consistent with this policy.

With the Government committed to a comprehensive educational reform, it is absolutely necessary to re-assess, at the very beginning, the nature of the Ministry's whole curriculum development objectives, planning, budget, programme and means for successfully carrying this out.

4. Lack of Adequate Texts, Teaching Materials and Media

The Educational Materials and Aids Division consists of the Publications Branch, the Correspondence Courses Section and the Educational Broadcasting Services (E.B.S.) for radio and television. The Division is in need of a redefinition of policy and responsibilities in order to fulfil a more professional support service to the curriculum development effort and the educational process as a whole.

A. THE PUBLICATIONS BRANCH

The Publications Branch is charged with selection, purchasing and/or production of texts and materials and their distribution. In actual terms its main responsibility is the administration of the book and materials warehouse. The Branch orders and stores books coming from various sources, mainly publishers, and distributes them to infant, primary, all-age and junior secondary schools. In some instances distribution is made to high, comprehensive and technical schools, and teacher training colleges. The book distribution approximates half a million volumes a year. These text books are provided free for in-school use at the infant, primary and all-age levels. The present distribution rate of text books is one book for two pupils enrolled for grades 1-3, and one book for three pupils enrolled for grades 4-9 in each of the following subject areas.

Grades 1-3 Readers, Supplementary Readers and Mathematics books

Grades 4-6 English Language, English Literature, Social Studies, Mathematics*

Grades 7-9 English Literature, Social Studies

(It is interesting to note that there are no science text books at any level of the primary and there is no mathematics text for grades 7-9 of all-age schools).

Text books are expected to have a two- to three-year life. As enrolments increase this ratio will become even more unfavourable. Teach-

* Distribution is not yet island-wide and will eventually extend to grades 7-9.

ers' guides are generally provided along with text books if they are published in conjunction with them, otherwise no guide is prepared or distributed.

At the secondary level text books are not provided on the same free basis but are the responsibility of the student. Most secondary schools have a book rental scheme but in the case of the junior secondary schools, the Branch administers a book rental scheme. In those areas where commercial book shops are not readily accessible, the school operates a book shop for the convenience of the pupils.

The Publications Branch also provides maps and charts, and distributes games, science and home economics equipment. In some cases curriculum guides are available and are included in the distribution but in most cases these are not available.

Recently a system of inventory orders and distribution was established, although for books only. No comparable inventory/record system exists for the various kinds of teaching materials; and the range of items available in the materials category is very limited. There has been no determination of what constitutes the basic lists of either reference materials, resource materials or school library materials. This is necessary and should be closely integrated with the curriculum development programme.

Text book selection is officially entrusted to committees selected for this purpose although this system is not fully functional, and the ultimate responsibility for the selection decision often falls to the staff of the Publications Branch. This tends to result in extra official pressure being put on the Publications staff by publishers, as well as by employees of the education system who have themselves written texts. While some of these texts might be the best ones to use, others might not. It is the curriculum need that should determine the text rather than curriculum following the texts which are made available.

Currently the Publications Branch is hard pressed to efficiently conduct the text and materials warehousing, inventory, distribution and other related responsibilities with the present staff and equipment. The Branch occupies a part of a converted primary school with two building units of two storeys each. There is one fork-lift for loading the vehicles and it is used to raise boxes of texts to the upper floor level whereas a small freight elevator would be much safer. Even better in this case would be single floor operation with a graded loading dock.

The vehicles are not adequate for the distribution task, the space is not sufficient, there is need for modern business methods and equipment to handle the inventory, distribution, and re-ordering process; and an increase, and upgrading of staff relative to the expanding

needs of the system. Also there is a tendency, prevalent throughout the system, to arbitrarily commandeer personnel, equipment vehicles etc. for other unrelated purposes. In the case of the Publications Branch, book distribution for the students often waits while the two vehicles are otherwise deployed.

The major problem in this general area is one of concept. The Publications Branch at present is essentially a book store operation as compared to the concept of materials and media unit as being an integral part of the educational process. An educational materials and media section should, to make an effective contribution, be concerned with the whole range of content, methodologies and technologies as they can best support the curriculum and other aspects of the system. This includes utilising texts, educational materials of many kinds, the full use of media equipment of all types, the evaluation and utilisation of new technologies and techniques.

In addition, there is the responsibility jointly with the review panels for the evaluation of current curriculum needs of Jamaica and the extent to which the examples, illustrations etc. in the text are relative to the Jamaican child. There is the responsibility for developing teams of writers for the preparation of essential texts and in other cases being able to outline and convey to potential publishers the types of new text books required. There is the need for materials/media professionals who will work closely with both the schools and the other units in the Ministry. In fact all the above activities have to be closely planned in conjunction with the needs and activities of the curriculum development section as they relate to the ongoing educational process.

It is out of the question to expect the curriculum unit to carry out the responsibility for curriculum development, its implementation and evaluation and at the same time be specialists who can devote the necessary efforts in the area of texts, materials, media and new technologies. It is also illogical to deploy the specialist and professional services of those qualified in texts, materials, media and new technologies development to service mainly the operation of a book store/warehouse.

B. THE CORRESPONDENCE COURSES SECTION

The Correspondence Section provides courses in eight subjects leading to the Jamaica School Certificate examination. The major emphasis is on helping prepare individuals to pass the J.S.C. examination. (See chapter II and section 7 of this chapter.) Passing the J.S.C. is essential to enter various levels of government and other jobs such as the Police Force, Nursing etc. In this context it is undoubtedly

useful although there have been no correlative evaluation studies made relative to taking correspondence courses and the passing of the examination. The basic question is: how meaningful in turn is the correspondence course programme?

Correspondence course programmes if properly conceptualised and professionally executed can be a very useful supplement to the educational process. The main question here is whether a reassessment of both the concept and the manner of carrying out the programme is not needed at this time, in order to make a more viable contribution to the total youth-and-adult educational programme.

C. THE EDUCATIONAL BROADCASTING SERVICE

The Educational Broadcasting Service (E.B.S.) has the responsibility for television and radio programming and broadcasting. Currently they are situated in rented premises on the upper floor of the Jamaica Broadcasting Corporation Radio and TV facility. The educational TV and radio broadcasts are prepared exclusively for the 12–15-year-old age group who constitute the senior department of all-age schools and the junior secondary.

There are currently 594 TV receivers in 394 schools which means that less than 50% can make any use of the Educational Television Service (ETV) such as it is. A significant number of problems relative to the effective use of ETV are physical/mechanical, one of the major ones being that approximately 40% of the schools do not have electricity which automatically cuts maximum possible efficiency in this medium to almost half. There are also problems of transmission to remote areas, adequate maintenance of sets and periodic power failures or 'outages' which in each local case means a missing of that lesson sequence. ETV is programmed at present to be consistent with the curriculum and to supplement it. Lessons and teachers' guides are sent out to the teachers prior to the transmission but they do not always arrive in time to be of use. In some subject areas the lessons are excellent and in other areas they are deficient, being of uneven nature.

There is need for additional training for the staff, and greater familiarity with the pros and cons of ETV methods, and experiences in other countries. Especially needed is fuller information on the capabilities and limitations of ETV. There is need for much more integrated relationship with the curriculum and the professional upgrading of the Curriculum Section in concert with ETV activity. In fact there needs to be a more complete integration of ETV with the total education system and an exploration of other uses not now fully employed such as programmes directed at the upgrading of teachers around the country, many of whom cannot attend regularly teacher

upgrading centres or workshops; and the area of continuing education for both youth and adults in a wide variety of fields including literacy, arts, crafts, vocational etc. through the school-based Continuing Education Programmes.

The most serious immediate problem faced by ETV is the lack of adequate budgetary provision for the approved programme of ETV transmission to the schools for the September–December term, especially in view of rising costs currently being passed on to ETV by the JBC. The ETV director has been told to cut the programmes, as costs increase, and stay within the fixed budget. The ETV programme is already in debt according to the Director, and unless a directive on budgeting and programming is forthcoming from the Ministry of Education the transmission and programming will gradually be closed down.

Educational radio appears to be greatly overshadowed by its later sibling ETV. At present the programme is very limited with a single officer using for the most part BBC educational recordings. There is no attempt to explore its full potential relative to Jamaica especially in continuing education type programmes for adults. A variation on this medium is the experimentation with the preparation and utilisation of cassettes in mathematics both for student and teacher programmes.

In summary, relative to the three areas outlined above, there is relatively little direct coordination between the three sections of the division.

5. Absence of Student Counselling and Vocational Guidance Personnel and Programmes

Qualified professionals and systematic programmes of student counselling and vocational guidance are most essential to the secondary level of an education system. It is during this period that the student begins to attain an independent maturity, to sort out consciously or unconsciously who he is and what he wants to do with his life. It is during this period that he makes his early decisions and begins to qualify himself for a vocation or a profession.

Secondary education in pre-independence Jamaica was restricted to a few and was mainly concentrated in all-encompassing academic/classical courses of study, even for those children who did not go on to higher education. The coming of independence brought new economic/social/technical/scientific demands on the young nation and the subsequent development of an expanded system of secondary education to meet these needs. No longer was the emphasis only

upon the academic/classical but increasingly on a whole array of new technical/commercial/developmental educational fields.

This is the process which has happened to Jamaica. But one of the major weaknesses in an expanding and increasingly technologically oriented education system is that student counselling and guidance are virtually non-existent. This is not only the case at secondary/vocational level but also in the all-age and junior secondary schools where pre-vocational guidance is likewise essential. There is the need also for personal guidance all through the system from the primary on up.

There is now a clear and growing necessity to provide adequate facilities, teachers and courses to meet these needs and to assist, guide and counsel the students relative to the life choices which have to be made; especially in relation to the special educational preparation through skills or vocational options, and the kinds of work opportunities and careers that might be pursued. Many of the children come from family situations which because of social, financial, nutritional, or emotional factors create problems for educational achievement.

At present there are only an estimated fifteen to twenty Jamaicans who have had some university training in counselling and guidance and all are not currently in the education system, nor are all of these currently working in a counselling and guidance capacity. The training in this field for the most part has been obtained abroad. At the present time there are no courses specifically on counselling and guidance offered either at the U.W.I. or in the teachers colleges, although its importance is recognised in the course work and efforts made at a child psychology/counselling and guidance overview.

Within the educational process itself there are very few teaching or administrative personnel in the schools with primary responsibilities in student counselling and guidance. Further the recently prepared job classification of teachers' duties omits any reference to this proficiency and responsibility.

Within the Ministry itself insufficient recognition has been given to the importance of a well qualified and staffed counselling and guidance unit and an active ongoing programme with outreach to the schools, with teachers having this qualification and/or full-time counselling/guidance officers in the schools. However, the major constraint has been the lack of sufficient personnel with specialised professional training in this field. This needs possible improvement action as discussed in chapter VI.

Finally, apart from the problems of personnel, programmes and their administration, the examination system as it exists at present is virtually useless in providing the kind of ongoing achievement evalu-

ation in such a way that it can be a meaningful guidance and remedial instrument for the trained teacher in affecting greater student achievement.

The following section (6) deals with the programmes of education/technical training which are needed by youth, the community and the economy. In the course of discussing the programme needs the section also deals with course content relative to economic/employment needs and various areas where pre-work counselling, attitudinal training, etc. are desirable.

6. Lack of Appropriate Pre-professional, Vocational and Pre-vocational Programmes geared to the needs of Youth, the Community and the Economy.

With the advent of independence came the need for Jamaica to develop a new and viable economy no longer based on plantation agriculture and the marketing of a few main crops. In the process of diversifying the economy and preparing products for the world market there has also been the need to produce for an increasing domestic market, as Jamaicans themselves become greater consumers and seek to improve their standard of living and opportunities.

The past decade has seen the development of the extractive industries; secondary and tertiary industries in production, assembly, etc.; tourism; transportation and communications; refining; service industries, etc. Agriculture has had greatly increasing food demands placed upon it by domestic consumption needs but has tended to backslide with a 28% decrease in production per capita in the past ten years. This has happened in spite of the fact that Jamaica can produce for nearly all of its agricultural needs except wheat and even this can be substituted in blend up to 20% by manioc, etc. World agricultural markets are expanding in areas well suited for Jamaica's agricultural products.

Although economic policy decisions, capital inputs and market research are important, the critical constraint in most cases is the shortage of adequately trained skilled manpower in all of the technical/industrial, agricultural, extractive and services aspect of the economy.

In order to redress some of these needs, Jamaica, over the past ten years, has made significant capital investment in providing schools and facilities for the expansion of technical and vocational education. This includes six technical high schools, three comprehensive high schools, two technical institutes and a girls' vocational school. In addition, workshop blocks and technical training rooms have been added to more than thirty second-cycle schools to provide the opportunity for various technical programmes. It is estimated that there

are approximately 16,000 full-time students and 5,000 part-time students presently enrolled in the technical courses which are offered. World Bank Education Loan II plans to add about 9,000 additional training places in this field possibly by 1975.

Post-secondary courses for technicians are offered at C.A.S.T. where at present there are approximately 650 full-time students, 700 part-time students and 350 evening school students registered in five different technologies.

Despite these established programmes and the projected IBRD inputs, the number of technical student places available represents only a small percentage of (1) the present and projected skills needs of the overall economy and (2) the demand upon the system for technical training by students who will increasingly enter the secondary system in the immediate future. Also at C.A.S.T. there is a constant demand for new training courses and facilities. A modest expansion is taking place yet there is a great need for a more comprehensive development of this centre, especially if it is to keep abreast of the heavy demands for skilled personnel to staff the positions opening up as a result of industrial development and an increasingly complex expanding Jamaican society. For example there is no current source of training in the country for medical technologies which are vital to the paramedical, medical and public health programmes of the country. What is now being done in technical/vocational education is only the beginning of a continuous development need in this area which will expand over the next several decades and with which education will have to keep pace if the economy and the society are to continue to grow.

At the present time the age cohort leaving the sixth grade of primary approximates 55,000 with about a 6% annual increase projected. Allowing for the small percentage who go on to the university and professional fields there is a current annual vocational/technical training shortage in the schools of approximately 20,000 to 25,000 student places.

This shortage is accentuated by the currently large number of youths especially in the 15–19-year age range who are out of school, untrained and unemployed. In fact the relatively high national unemployment figures are mainly due to the youths, i.e. 40% of young people under 20 are unemployed. Within these figures there is a 55% of total unemployment among young women. By contrast an estimated 8% of the openings on the job market are unfilled due to lack of skills, and a great many other jobs have to be filled by untrained individuals.

Relative to the economic demand factors there is no complete and

adequate manpower training needs data available at the present time. The skill training needs are well established through statements by employers, the Ministry of Labour, manufacturers' associations, advertisements in the newspaper etc. A Training Needs Survey was conducted during January–March 1972 by the Ministries of Labour, Youth and Community Development and the National Planning Agency. The results were encouraging, in that actual experience was obtained in training needs analysis and the information obtained is useful for the planning of training programmes. However, the sample was limited, in that it covered only 20% of the larger employers of Jamaica who in turn employed 6% of the total labour force. The survey concentrated on firms employing between 25 and 400 (non-random sample). Firms employing 25 or fewer people were not included except in a few cases where the inclusion was incidental.

The bulk of employment in the country is with the small firm of less than 25 employees. However, even small farm agriculture is not included. Also, the larger firms are in a better position to provide for in-plant training programmes and generally offer better wage incentives, which in many cases tend to attract employees away from the small shop: once a certain level of on-the-job experience is acquired. An increased level of vocational/technical training would improve this job transfer problem as greater numbers would be available to both the larger and smaller firms.

The public sector (government employment) was also excluded on the basis that this category was already under study by the Classification Unit of the Ministry of Finance. Further, a number of occupational categories in the private sector were excluded, such as the professional, technical and managerial groups. This training was viewed in the study as long-term, and therefore not of direct interest to the two Ministries conducting the Survey, since their major concentration is on those skilled and semi-skilled workers/categories for whom training is short-term. The report thus has limited validity for the overall human resources/education training needs of the economy.

However, it must be acknowledged that the Survey has been useful as a pilot study, and as a base-line approach for further more extensive studies of national education/training needs.

A number of general comments made to the interviewers during the study also provided some guidelines for needs in technical/vocational training* which could serve as some interim guidelines for the planning of technical/vocational educational programmes:

(i) In general, the shortages most often mentioned were for fully

* *Training Needs Survey*. Ministry of Youth and Community Development; Ministry of Labour and Employment; National Planning Agency; Jamaica 1972.

skilled craftsmen, qualified office workers, managers and administrators;

- (ii) One of the major shortcomings identified was that few trainees were familiar with industrial power tools, and some employers indicated a willingness to make their equipment available to the training authorities during idle periods on evenings and weekends;
- (iii) An interest was expressed by employers in the development of standardised battery of easy-to-administer and thoroughly Jamaicanised aptitude tests which would be made available to employers as well as training institutions;
- (iv) Various employers mentioned that they considered 'proper work attitudes' often more important than skill training, and several of the larger employers, especially in hotels and manufacturing, preferred to do their own skill training;
- (v) Many of the employers felt that in addition to acquiring the 'proper work attitudes', young employees should:
 - (a) have a good command of English;
 - (b) have a knowledge of basic mathematics;
 - (c) have a knowledge of science (where there is some direct relevance to the job);
 - (d) know where and how to apply for a job;
 - (e) know how to fill out an application form, and how to take an entry or qualifying exam;
 - (f) know how to present themselves for an interview;
 - (g) know more about the jobs they are seeking or the sector or industry they are trying to enter.

From the above it is clear that there is a major need in the education/training system for pre-vocational training and opportunities for entry into the world of work, as well as more specific technical/vocational guidance relevant to education and skills acquisitions. (This is treated in more detail under section 5 of this chapter.)

It is also evident that there is a basic need, relative to employment, for greater proficiency in language skills, mathematics, and science, as part of the general education provided in the school system. Other reports on employment in Jamaica have also borne this out and stressed that employment is greatly dependent upon an improved general education, especially in languages, mathematics and science; improved counselling and guidance and education for a work ethic. In fact, many employers, at this stage, have expressed a wish for trainable young people with a good basic qualitative education and they would be prepared to provide the specialised skills training.

At present there is the need for a more comprehensive education/

training needs survey in order to provide better indicators for the training institutions and ministries to meet the education/training needs of the economy and of young people seeking work. There is a critical need to improve the content, quality and relevance of the existing programmes of technical/vocational education as a result of a thorough study of what is needed in terms of content and the required testing and evaluation prior to general implementation.

This is especially applicable to the areas of industry, business, home economics and agriculture. It is particularly pertinent to the field of home economics or more accurately to the fields of women's work, since the increases of unemployment among the under-20-year-old age group have been primarily due to the greater numbers of young women coming into the labour market and unable to find acceptable work opportunities. Although women should eventually receive the training and be qualified to do almost any type of work a man can do, a developing society usually follows a more traditional path in first providing opportunities in areas such as home economics, child welfare, and general social development.

Thus a comprehensive education/training needs survey will of necessity pay special attention to increasing employment opportunities for women. This is consistent with the country's overall need to prepare a plan for total national human resources development.

Within this context of employment need the Sector Team was relatively more successful with agricultural data and the education/training needs in the field of agriculture.

One of the major economic problems of the country is the need to develop the agricultural sector and its component personnel. (This is discussed more extensively in Annex C.) The current programme of agricultural education is not presently in a position to meet increased national goals on food production and to increase export commodities. The development of the agricultural sector is a key factor in assuring reduction of unemployment and underemployment, and improving income distribution throughout the population. Agriculture has been stagnant for a decade, and the ineffectual use of natural resources calls for an intensive educational input in the schools, as well as in non-formal education programmes.

At present, in the senior department of the all-age schools (grades 7-9), agriculture is offered by only 14 schools that have agricultural teachers out of a total of 549 such schools, leaving a total of 535 of these schools, many in rural areas, and most of them providing terminal education for young Jamaicans.

The secondary system is provided with agricultural teachers in some 40 schools out of a total of approximately 60 which have exist-

ing or potential facilities for agriculture. In most cases only one or two agricultural teachers are available and assigned to a large secondary institution. There is but a single inadequate and outdated agricultural vocational school at Knockalva, which produces some 50 students yearly. The demand by the economy for agriculture/vocationally trained youth is many times greater than currently available (see Annex C) and a major increase and upgrading of agricultural vocational education is not only necessary but demands to be treated as a matter of the utmost urgency.

If there is to be truly pragmatic and successful planning to provide the solution for this very serious problem then highly qualified agricultural specialists must be used since it is apparent that much of the stagnation seems to be caused through inadequate knowledge and understanding of agricultural inputs and the use of non-specialists in key positions.

At a somewhat higher academic level the Jamaica School of Agriculture is having difficulty expanding its student body to meet professional needs because of the related problem of finding adequate qualified vocationally trained entrants.

In short, the agricultural vocational training is much too weak, inadequate and lacking in quality to meet Jamaica's increasing agricultural economic needs and potential.

There is a pressing need for a clearer delineation of the vocational/technical education and training responsibilities of the various ministries and agencies working in this area. This is discussed in more detail in section 9 of this chapter.

7. An Examination System which is Socially and Academically Dysfunctional

The present system of examinations is counter-productive to Jamaica's overall economic and social needs, to the career needs of Jamaican youth, and the effectiveness of the education system.

A basic characteristic of the education system is the practice of using formal examinations at fixed points in the educational process. In some cases the examination was established for a quite different objective than it is now attempting to fulfil and in other cases the examinations have been imported intact from abroad. The main examinations are:

- (i) *The Common Entrance Examination (age 11+)* for pupils from primary and private preparatory schools for admission to high schools; (U.K. examination)
- (ii) *The Common Entrance Examination (age 13+)* for pupils

- from all-age, junior secondary and high schools for admission to technical high schools; (U.K. examination)
- (iii) *The Grade Nine Achievement Test* examination for pupils from all-age and junior secondary schools for admission to high schools, technical high schools and vocational schools; (Jamaican local examination)
 - (iv) *The Jamaica School Certificate Examination* (approximately grade 10). This is recognised for admission to the Police Force, Nursing Profession as well as minor private business enterprises; (Jamaican local examination)
 - (v) *The London City and Guilds Examination, The Royal Society of Arts Examination, The Union of Lancashire and Cheshire Institutes Examination, The Associated Examining Board General Certificate Examination*, mainly for students of technical schools; (U.K. examinations)
 - (vi) *The General Certificate of Education Examination, Ordinary level ('O' level)* external examinations set by the Universities of Cambridge and London) for pupils enrolled in comprehensive, technical and high schools; (U.K. examinations)
 - (vii) *The General Certificate of Education Examination, Advanced level ('A' level)* (external examinations set by the Universities of Cambridge and London) for pupils in grade 13 of high schools; (U.K. examinations)

The basic questions to be raised regarding the Jamaican examination system are (a) How well do they measure what they are supposed to measure? (b) Is what they need to measure what is actually being measured? (c) To what extent are the examinations helping to make the education system more effective? (d) To what extent are the examinations meeting Jamaica's needs, both for the individual and the society at large?

There is a policy of automatic promotion through the six grades of primary school, toward the end of which an examination is administered at approximately the age of eleven-plus. There is no regular system of interim examinations/evaluations during the early years to measure progress or achievement on the way through the primary, and there is thus no organised method of identifying student aptitudes and interests on the one hand or differences and needs for remedial action on the other.

The first Common Entrance Examination (C.E.E.) at eleven-plus is the basis for entry into high school and passing of the examination is determined directly by the number of secondary places available. In such case it is an admissions control gate examination, more than any academic measure of aptitudes or achievement in a range of fields.

This examination has been interlocked with poor conditions of teaching and curriculum etc. and for the majority a lack of a literate, stable and culturally enriched family setting. However, apart from these problems, the eleven-plus examination is not an accurate measure of learning what a child needs to know in Jamaica in 1973.

Also the passing or failing of the eleven-plus examination has life-long implications which should not be made at that age. Those who pass have the opportunity to go on to the high schools (grammar schools) for the traditional classical white-collar education and the chance to go on to the university. Those who fail are quite permanently slotted to blue-collar technical training with passing of the second C.E.E. or dropped out of the education system, untrained and unequipped for life and the world of work. Research in other countries indicates that this is much too early to force children into a 'one-shot' life-determinant examination.

The second Common Entrance Examination is usually administered at about age thirteen-plus. This is mainly for the child who has not passed the one at eleven-plus and it offers the opportunity to go on to a technical high school with the alternate option of being dropped out of the school system after the 9th grade of all-age or junior secondary school, except for the little opportunity provided by the Grade Nine Achievement Test (G.N.A.T.) dealt with later in this section. This C.E.E. essentially attempts to pick up the pieces relative to the dysfunctional eleven-plus examination and represents almost the last option before the child is shunted out of the school system.

There is little concept of aptitude and mental maturity of the Jamaican child and the age at which he is given a life-binding examination. It is evident that a concern supplemented by research would indicate that a relatively high percentage of children are 'late bloomers' especially given the poor quality of the primary soil which is entrusted with nurturing them for six years.

The Grade Nine Achievement Test is basically a control gate examination to determine which of the students completing that level will be selected to go on to the approximately 1,300 places at the upper secondary. It is basically not an evaluation of any standard level of aptitude, achievement or capabilities. The three examinations outlined above have no distinction beyond failing to measure educational achievement, and have the net result of assessing what will be the ability of the majority of the school leavers for the rest of their natural lives. This is quite a presumption for any one of these examinations to measure and determine.

The Jamaica School Certificate is probably the most utilitarian of all the examinations in that it fills certain functional needs in a certi-

ificate-oriented society. It originated as the Pupil Teachers Examinations in the final quarter of the last century.

At that time there was a substantial medium of teacher recruitment, and holders of the Second, Third and Fourth Pupil Teachers Examinations Certificates taught for small salaries as unregistered teachers. Those who passed the Fourth Examination, or the Third after the examinations had been reduced to three, became eligible to sit the entrance examination to teacher training colleges. Before the end of the century there was such a demand for grammar school education and so few opportunities for providing it, that the senior sections of all-age schools began to send a large number of pupils for the examinations as 'volunteer' candidates for a watered-down substitute for secondary education. The number of pupil teachers diminished as rapidly as the number of 'volunteers' increased. During the 1930s the name *Pupil Teachers Examination* was changed to *Jamaica Local Examination*. This was replaced by the *Jamaica School Certificate of Education* and subsequently by the *Jamaica School Certificate*. The examinations were of particular value in the rural parts of Jamaica, however, where there was little opportunity for adolescent girls and boys, on leaving primary schools, to receive education beyond the level of the senior grades of all-age schools or qualify for satisfactory employment. Therefore they went out on the streets to join the ranks of the unemployed unless primary school teachers got hold of them and influenced them to return for private lessons towards sitting the Jamaica Local Examinations.

The examination was in three stages over 12–16 years of age. There was a wide spread of purely academic subjects, which included general science and arithmetic, but no practical subjects. The three Jamaican Local Examinations (grades I, II and III) and the Jamaica Certificate of Education were abolished some years ago and replaced by the Jamaica School Certificate. This examination is used for entry to Nursing, the Jamaica School of Agriculture and the Police Force. Its standard is much below that of the old Cambridge School Certificate or the present G.C.E. 'O' level, and all the institutions and services which have used it in the past are now demanding a higher standard of entry with greater relevance to the demands of a changing Jamaica.

Although the content of the syllabus has been modified, the range of subjects increased and a fairly modern system of examining introduced, the Jamaica School Certificate has been under severe criticism on several counts both by the general public and by the Jamaica Teachers Association itself. The time has long come when an examination which is relevant to the needs of the young people, and also of an ac-

ceptable standard, should replace the Jamaica School Certificate Examination. The main criticisms are as follows:

- (a) Teaching for this examination takes place for the most part at evening classes when pupils are tired and hungry. The methods are chiefly cramming and regurgitation.
- (b) Standards set for passing have been extremely low, and quite often some amount of accommodation of weak candidates has taken place.
- (c) These examinations do not enjoy the respect of the employing public; yet the majority of our young people who are compelled to work at age 16 or 17 have no other opportunity of getting anything of greater value.
- (d) The examination has lost credibility through the use of it as a standard for the weaker students in high schools, a purpose for which it was never intended.

The London City and Guilds and the various other technical examinations mentioned above have been useful to the various technical schools and institutes in measuring how much a student has learned about a particular technical field. Its weakness is not adequately measuring the students' applied technical capability or skill in the subject. There is also the question of bringing and keeping up-to-date new technical fields and developments especially as they relate to the level and type of Jamaican needs. In fact, as mentioned in greater detail in section 6 of this chapter Jamaican employers are generally requesting that these examinations be replaced by a specially designed standardised series of Jamaican technical skills examinations and ratings more closely related to the country's technical needs and which would be more of an acceptable and understandable set of criteria for Jamaican employers.

The General Certificate of Education, Ordinary level ('O' level) is more than being dysfunctional; it represents a gross disservice to the young students. Mr. William Demas, Secretary-General of the Caribbean Community Secretariat, very recently assessed the present 'O' level examination by saying in his paper on *The World of School and the World of Work**—relative to the major problems in West Indian education that

'there is a major need for all students at the secondary level of education—whether they are doing a three-year or a five-year course—to study Mathematics and Science on a compulsory and, if necessary, examinable basis. This is part of a wider

* William Demas, Secretary-General of the Caribbean Community Secretariat, Paper delivered to the students of the Government Training College for Teachers in Georgetown, Guyana, June 1973.

point—namely that the present 'O' level system tends to encourage premature specialisation to a degree which is educationally, economically and socially unsound. For a child to spend five years in a West Indian secondary school ending up with two 'O' levels in Scripture and Hygiene and without an elementary grasp of Mathematics and Science, as so many of them do, and unable to construct proper English sentences is not education. It is merely a waste of the country's scarce resources. It is a waste of his or her time. It is really an abomination.'

Mr. Demas has touched upon the problem of many students who do not prepare for a combination of 'O' level subjects which can give them a general and integrated secondary education; nor prepare them with basic qualification for employment nor, as it is often realised too late, the prerequisite qualifications for entry into university. This weakness of the 'O' levels is also interlocked with the almost complete absence of student counselling and vocational guidance or an earlier level introduction to pre-vocational guidance relative to the world of work.

The 'A' level examination is mainly a high-level academic examination and primarily designates students for admission to a university. In fact, it is the English university entrance examination and is oriented towards honours degree programmes in fields such as English Literature, History, Pure Science and Mathematics, etc.

It is much more valid and meaningful than the 'O' level examination in that it does attempt to evaluate the student's intellectual and academic achievement in a variety of areas relative to the student's capability to successfully pursue a university course of study.

The examinations are not directly concerned with technological applied science, economics, engineering and other fields of direct concern to a new nation striving to develop its economy and infrastructure. A key factor related to the relevance of the 'A' level examination is the weakness of the secondary curriculum both in quality and breadth and the lack of highly qualified staff in the relatively high level of failures of Jamaican youths.

In addition to secondary upgrading what is needed is the development of a new university admissions examination or even criteria related to Jamaica and the other West Indian examinations concerned. The relevance and effectiveness of the various examinations has in reality been under question for some time as measures of a student's ability and potential.

As long ago as 1938 the Spens Committee in a report on English secondary education with special reference to grammar schools and technical high schools had the following to say about the School Cer-

tificate examination which was the predecessor* of the present examination with little change:

We have said nothing so far about one of the gravest results of the present system, the danger, well recognised by teachers, that the (school certificate) examination should be regarded alike by parents and children as the main, or even the sole, objective of the education given in the grammar school. 'The modern mania for examination results', one of our witnesses said, 'renders many recipients of the School Certificate less cultured and efficient than they might have been without it.' As a curriculum comes into being which may be thought of 'in terms of activity and experience rather than of knowledge to be acquired and facts to be stored' we may be sure that children will increasingly find a value in what they are studying for its own sake, and form interests quite unrelated to any extraneous objective or resultant advantage. The more closely, however, the work of a school approximates to that idea the less likely will it be that any single external examination can test adequately the knowledge that children have assimilated, the skills that they have acquired, and the powers of originating, persevering and enjoying that they have developed. The ablest children will continue to pass such an examination, and the least able will continue to fail. But at least those who are the border-line between success and failure, the estimate will be more just if it takes into full account the knowledge and experience of those who have watched them at different stages of their growth, who know something of their home conditions, and have seen them working in the ordinary conditions of school life.

From another point of view it should be noted that the 'O' and 'A' level examinations are prepared abroad and represent an unnecessary external administrative and cost factor. The examination forms are prepared in the U.K., shipped to Jamaica, shipped back by air, graded at J\$10 a unit and shipped back again by air.

The lapse of time between when the student takes the examination and when the results are published is usually about six or eight weeks and with the pressure placed on the child by family, the society in general, etc., this long period of anxiety certainly has its psychological repercussions. The overall annual cost for the administering and processing of the 'O' level examination approximates J\$100,000 most of it involving foreign exchange costs. It also represents an equivalency of 31 employees abroad. Clearly there is a case for import substitution in the education sector.

*** *Secondary Education with Special Reference to Grammar Schools and Technical High Schools*. Chap. viii, p. 226. H.M.S.O., London, 1938.**

Since one of the major goals of the education system is to develop a student's full potential through education so that he becomes a self-sufficient, competent and well integrated personality as well as a useful and responsible citizen of an independent country, then the system of examinations, which by the very nature of their design and lack of relevance, will defeat this goal. It is vital that an early decision be taken to further evaluate the situation and find a more appropriate alternative. This applies equally as well to the overall manpower needs so vital to the country's economic growth and societal well-being.

The Sector Team found a widespread dissatisfaction among school principals, teachers, and other educational professionals with the antiquated and dysfunctional educational examinations. Some of these individuals told how they were circumventing or supplementing these examinations to provide for a much more improved indication of student progress, achievement and potential remedial-needs areas. There is an extensive interest in this type of reform and it makes it necessary for the Ministry of Education to take leadership in the making of the necessary policy determination and implementing a programme of reform in this area which is absolutely vital to the educational process.

As a partial effort to deal with the problems of examination the Caribbean Examinations Council was recently established to function on a regional West Indian basis. However, the constitutional mandate for the organisation is to deal with *improving the administration* of the examination with the implication of shifting examination administration from abroad to the West Indies. However, the Caribbean Examinations Council is not at this point mandated in their terms of reference to examine the examinations as to whether they are relevant to individual and societal needs and effectively measure what they are supposed to measure. The Caribbean Examinations Council should be concerned with this aspect of examination as well.

8. Ministry Lack of an Adequate Management, Planning Information Systems Capability and a Programme of Inspection and Supervision

At this point in Jamaica's development there is a pressing need for reform throughout the whole of the education system. The nature of the problems in the system and the kinds of reform efforts needed are dealt with in the balance of this report. The success and direction of the whole reform effort, however, is directly dependent upon the extent to which the Ministry of Education has or can develop the necessary capability to manage an education system in all of its many aspects and especially to plan and execute the programmes of reform.

The present organisation of the Ministry of Education is currently faced with inadequacies and need for reform in the following key areas:

(a) It was apparent to the Jamaican Government even prior to the Sector Study Team that the weaknesses in the organisational structure of the Ministry of Education were a major factor in the inadequacies of the country's whole education system. In addition to the organisational shortcomings the manner in which the various activities were managed or implemented also was seen as less than fully effective and not very responsive to many of the actual educational and training needs of the country.

Consequently, during the latter part of 1972 a survey was undertaken by the Organisation and Methods Division of the Ministry of Finance at the request of the Permanent Secretary of the Ministry of Education. The report*, which was published in November of 1972, was based on interviews with senior managerial staff of the Ministry and the discussions which took place on the various aspects of the organisation. The O&M group also studied various papers on the role of education in Jamaica which were prepared by various education officers.

From the information received from interviews, etc., the O&M study came to the conclusion that the Ministry was not achieving its main objective of providing a suitable education system for the country. This failure, they concluded, was partially due to weaknesses in the present organisational structure of the Ministry. They found, for instance, that the division of work did not facilitate coordination of related services, or sufficiently emphasise certain important functions.

Authority/responsibility in some areas was not clearly defined. In addition there were instances where the range of activities supervised by some officers was so varied that insufficient attention was given in a number of other areas where they held responsibility.

The O&M report recommended that specific efforts be made to correct the identified weaknesses in the present organisational structure. Essentially it recommended that the educational functions, for which the Chief Education Officer was responsible, be organised into two divisions, namely Educational Planning and Educational Operations, and that these functions be coordinated directly by the Permanent Secretary. The study also recommended that separate branches for Curriculum Development, and Teacher Training and Scholarships be created in the Educational Operations Division. A separate division for School Services and another for Building were also pro-

* Ministry of Education—Review of the Top Organisation Structure, O&M Division, Ministry of Finance & Planning, November 1972.

posed to provide schools with all services, except curriculum.

At the present time these recommendations have been accepted and are finally in various stages of implementation. The Sector Team after studying the Ministry situation at some length, and after extensive consultation with various levels and types of Ministry personnel has a number of observations to make relative to the quality of the organisation and methods of the Ministry:

It is obvious to the professional educator that the study came up with positive recommendations relative to O&M principles and in this context tended to treat the Ministry as an institutional entity. The major weakness is that the O&M study did not sufficiently take into consideration the Ministry's role or what should be its role in the management of a total education system, and the need to structure the Ministry relative to the educational process in all of its many and complex aspects rather than improvements related to the functioning of the Ministry *per se*. What is really needed is a new O&M study by educators who also have O&M competencies, otherwise the present changes will probably result in the improved management of a sub-standard educational process to the detriment of the children, the economy, and the society in general. There is a need for a greater degree of decision making to be put back in the hands of competent professional educators and thus facilitate the Ministry's communication with, and improvement of the educational process.

(b) A second and related point pursuant to the Ministry O&M study is that the Ministry was also viewed in the general context of the total education system as it has existed and not in terms of the reforms in the Ministry which would have to take place in conjunction with, and to enable the comprehensive and major educational reforms needed by the system. The O&M report is already outdated if the constraints and reforms dealt with in this document are dealt with to any great degree.

(c) A third, but very major point, is the apparent lack of clear definition at the Ministry level and within the Ministry of the basic purpose and objectives of the educational process and system. This pertains equally to the various subfunctions and programmes. If this is not clearly understood and set forth as a mandate little positive accomplishments are going to take place no matter how ideal is the O&M structure.

(d) Another area where clarification is necessary is in the internal decision making process in the Ministry both in terms of achieving objectives and in setting the proper priorities. There is an obvious need for further review and study by education O&M specialists of the internal institutional arrangements for the future decision making needs of the Ministry.

(e) Another problem within the Ministry and directly affecting the education system as a whole is the present classification system based on a recent classification study. The concepts for the study were those employed in the early industrialisation era when the methodology was to depend on the individual to describe his role relative to the institution rather than to ascertain how the individual should contribute to ongoing objectives and processes, or even a combination of the two approaches. Nevertheless the Ministry and the personnel system are not sufficiently Jamaican education development oriented nor is it oriented as to how best it can utilise the promising, competent and especially the younger staff members of the Ministry.

Also, staff members of the Ministry formerly classified as professionals are now classified as programme managers and are disadvantaged both relative to the profession and in salary terms compared to the similar levels of professionals in the other ministries. This has raised a question of morale as well as an apparent reluctance of those out in the schools, such as principals, to take positions with the Ministry due to the accompanying professional and salary downgrading.

The Ministry is badly in need of a modern personnel classification and career development service. The recruitment of qualified personnel to staff the Ministry is severely hampered by the anomalous policies and uncertain status of employees. An example is the overly long period in which many employees at both professional and clerical levels are kept in the classification of non-permanent with the clerical staff drawing much lower salary levels than if they performed the job as permanent employees. Also, when permanent status is finally granted sometime after seven or eight years, none of this service is apparently applicable to the individual's retirement. There is need for a revision of personnel policies and a reclassification which should deal with professional, subprofessional, and service categories with special attention to the present inequities in the system, the improving of morale and conditions of service, including the development of career opportunities concepts. There is some rationalisation that the above is really the responsibility of the new Ministry of Public Service but the situation as it currently exists directly affects the functioning of the Ministry of Education and it is the Ministry's responsibility to do something about it or to see that something is done about it.

(f) A present inadequacy in the Ministry is the lack of an organised and systematic programme of in-service training and upgrading of all employees both professional and service (clerical). There is a need for programmers of this nature either in the Ministry, at the University, Teachers Colleges, skills schools, etc. or at a National Education Cen-

tre that would provide facilities for conferences, workshops and seminars for such groups as middle-level managers in the Ministry, principals and school administrators, professional groups (teachers), sub-professionals, labour and service superintendents and other groups with common educational problems. This centre could be used in summer for teacher training. It should be centrally located for easy accessibility, but sufficiently isolated to avoid undue distractions. There should be a primary school nearby to serve as a demonstration school.

(g) The Ministry lacks an effective Information Service to provide more effective communications between the Ministry and the some 800 schools, as well as within the Ministry, and to keep parents, communities and the public informed on significant educational matters. This unit should also have a special focus on the youth of the country many of whom are not in the formal school system and who could be encouraged to participate in the community/continuing education programme.

The Ministry is seriously in need of a statistical and data control centre, to serve the Ministry and schools in collecting, collating and interpreting data from the school system as an aid in efficient administration and management and planning. Additional and adequate equipment is needed to serve such a centre which can make use of the central government computer which makes access time available to the various ministries. This unit should be an integral part of the Education Planning Unit.

The Ministry should crystallise the present *ad hoc* Planning Unit to function on a permanent basis. A fully qualified staff should be designated to carry out educational planning as a continuing function including sector studies; preparation of the basic National Education Plan and co-operation on a National Human Resources Development Plan; also special planning projects as required.

There are problems associated with the setting of standards and criteria for school management. There are great differences in the quality of education offered in the various regions and types of schools throughout Jamaica. A strong central programme is needed to move toward equal educational opportunity in all parts of the country. The basic educational standards and criteria should be provided for all schools, school principals, and the local school boards to guide the essential operations and functions of the school system. The Ministry should establish procedures for communications that will facilitate prompt and responsible handling of problems as they arise and to provide progressive movement toward national equality in education.

At the present time in the system there is inadequate guidance, supervision and management of teaching personnel, schools and educational methodologies and the qualitative, quantitative and evaluative needs of the system. There is a need for the expansion of this function with more qualified inspection and supervision personnel as well as more in-training and continuous upgrading of officers if they are to adequately perform this function. There is a need for revitalisation and upgrading of the present unit within the Ministry and a re-identification of its purpose and functions. At present it is badly in need of greater professionalisation especially if it is going to provide quality leadership to the rest of the system. It also must be concerned with the improvement and re-setting of educational standards as mentioned above. There is also the need for the Ministry to evaluate the decentralisation to the parish level of both the inspection and supervision functions.

9. The Absence of a National Human Resources Development Plan and Lack of Ministerial and Other Levels of Total National Human Resources Education/Training Objectives and Efforts including Those of a Non-Formal Nature

Development of the total human resources of Jamaica and the education and training of all segments of the population to more fully meet human needs and aspirations, as well as to support the economic and social development of the country, are highly fragmented at present.

Formal education is the responsibility of the Ministry of Education for ages up to 19 but only 10% of the 15–19 age group are in formal schools. Supplemental education by special schools or non-formal methods are of general concern to many other governmental agencies, but they are largely uncoordinated on a national scale.

At present there are seven ministries and various agencies actively involved in the total national human resources effort in Jamaica; These include: the Ministry of Education, the Ministry of Labour and Employment, the National Industrial Training Board, the Ministry of Agriculture, the Ministry of Youth and Community Development, the Ministry of Health and Environmental Control, the Ministry of Industry and Tourism, the Ministry of Finance, and the National Planning Agency in the Prime Minister's Office.

The majority of the ministries have a small budget for within-ministry in-service training needs. Although the Ministry of the Civil Service has normal responsibility for coordinating this type of training activity, including the setting of criteria and standards for identifica-

tion of training need, solution, training methodologies and programmes, it is not yet fully effective.

A major constraint to the achievement of the country's development regulations is the almost complete lack of coordination of education/training activities among the seven ministries and various agencies mentioned above. The overall human resources development effort is splintered, inefficient and ineffective.

There is the paradox of a monumental status of unemployment and underemployment (20% to 40% of the population), in contrast to a great shortage of trained or skilled manpower with no clear and coordinated focus on the problem at the ministerial level.

Although an inter-ministerial committee of representatives from these ministries and other agencies has been designated, there is as yet little or no evidence of a well thought-out and coordinated effort to deal with the country's collective issues of human resources development needs at the national level, and no visible effort to formulate a national Human Resources Development Plan.

The National Planning Agency logically has a major responsibility for the preparation of an overall human resources plan as an integral part of a National Development Plan. It also has the responsibility for establishing sector guidelines for the various ministries and agencies of government including Education and those others directly involved in education and training. This has not yet been effected. Although the National Planning Agency has taken action to appoint a high level Human Resource Committee and Sub-Committees for this purpose, this group has not been fully utilised nor have clear directives been set for the functioning of this group.

The Ministry of Education which has primacy over the other ministries in the overall area of education and training, has not exercised sufficient leadership in this area nor has it been active in developing education to meet individual or national needs on the level of overall national development. Whole areas normally the responsibility of an Education Ministry, such as technical and vocational training have been absorbed by the Ministry of Labour with no question as to whether they are catering for students of school age or post-school age. The Ministry of Youth and Community Development has taken over much of the area of non-formal and remedial education and at the present time is even entering into general education in order to make up for the past 'failures of the education system to provide basic education and technological orientation'* irrespective of what that Ministry might be doing or planning to do at present. The Jam-

* National Youth Service Programme. Report of the Inter-Agency Review Mission, p. 16. Kingston, Jamaica, June 1973.

Jamaica School of Agriculture is under the auspices of the Ministry of Agriculture although clearly the function of the institution is education and the subject matter is agriculture. Similar overlap problems exist among many of the other ministries and agencies.

The root problem is that there appears to be none or few ground rules or formal delimitation of responsibilities of the various ministries in the field of education and training. There is apparently no firm set of guidelines and mandate to the National Planning Agency and no impetus behind the development of a National Human Resources Development Plan.

It is also not clear at this time as to the current role of the National Planning Agency in national human resources planning. There are indications that current policy means going beyond coordinating and the setting of sector guidelines for each of the ministries/agencies to do their own planning within that context. The National Planning Agency apparently sees the need to do all of the planning for education and the other ministries/agencies involved in the national human resources effort. Whether they can do this more effectively than the educational planners, educational economists, and other professionals in the Ministry of Education is open to question. However, if they intend to take this approach it will first be necessary for them to determine the role intended for education in the Jamaican society and concurrently its relationship and coordination with the education/training functions prescribed for each of the other ministries.

There is the need for a redefinition of the scope of the educational process as it relates to the Ministry of Education and a policy level decision on the various areas of activity of the other ministries involved in education and training; a coordination mechanism with some force behind it and a re-thinking of the role of the National Planning Agency and the Human Resources Committees as it relates to education and to national human resources development.

There is a major and pressing need for a coordinated approach to national human resources development and mutual responsibilities for carrying out designated portions of a comprehensive plan. Jamaica is in a state where a national plan is urgently needed. Major attention must be given to the needs and role of youth in the development of the economy and the society. Special and serious attention must be paid to the role and potential of women which up to the present constitutes a generally overlooked and wasted human resource.

There is another critical area, which might be regarded as quasi-governmental, where closer and greatly improved coordination is vitally necessary. This is the relationship with the regionally constituted University of the West Indies.

Although the Governing Council of the University is autonomous

the institution does not possess financial independence, being directly dependent upon the member states of the region for the budgetary support.

At present there is little planning or coordination relative to the future directions of the University on the one hand and the planning and developments of the education system of Jamaica on the other. A case in point is the Multi-Media Centre which is planned (with external German funds) for the Mona Campus while at the same time a new Jamaican Government curriculum Media Centre, including ETV, is scheduled to be established in 1975 with World Bank and other domestic budgetary financing. Given the budgetary and trained staff constraints in Jamaica it is illogical, especially from a financial cost viewpoint, to proceed with these two centres without some degree of direct coordination and assessment of the two parallel centres.

Also, from a Jamaican budgetary point of view although the U.W.I. centre is apparently planned for external financing, the continued operation, equipping, and expansion of this centre would involve an increased prorated budgetary sharing by the Government of Jamaica—at the same time that the Government would be allocating funding for its own Curriculum/Media/ETV Centre. Consequently, the Government of Jamaica has a valid right and an obligation to request that there be improved planning and coordination between U.W.I. and the Jamaican Education/Human Resources Development Programmes.

10. Low Internal and External Efficiency of the Current System

In any assessment of the internal and external efficiency of the current education system it is evident at the outset that Jamaica is in need of a better definition of the country's basic educational objectives and goals against which these measurements can be made. This type of statement is set forth in chapter III of this document in an improved and more comprehensive way than existed prior to the work on the sector assessment. But goals and objectives must be continually reviewed and updated, and in this case more complete long-range goals and more specific short-range goals need to be established, especially for the sake of measuring what is being accomplished and at what cost in resources.

A key factor in this area is the current lack of concepts and capability on the part of the Ministry relative to the assessment of the internal and external efficiency of the education system. There is a need to provide the appropriate training and capability at the functional level in the Ministry and to convey at the policy decision level the basic concepts and the importance of educational efficiency to the system.

However, an even more basic factor at present is the lack of cur-

rent, pertinent and accurate data. This is one of the most fundamental problems relative to the whole education system and the reform efforts of the Ministry. It constitutes a basic weakness for measurement as well as research, planning, evaluation and feedback. In fact, this lack of qualitative educational data can be categorised in itself as a system inefficiency.

A programme of statistical collection does exist in the Ministry of Education although the various tables have been 'added on' over time without a review of the whole data collection effort in terms of system data needs including that of cost analysis. The Ministry data is supplemented in more general statistical terms by the Central Statistical office whose data is also weak. The Ministry is also dependent upon the ten-year census for demographic data and trends, although, for example, the 1970 national census has not been officially released. Thus data collection in general in Jamaica is weak and in need of comprehensive and systematic upgrading.

The Ministry of Education's interpretation of the statistics coming from routine reporting on service of teachers, attendance at schools, enrolment and similar matters, does not normally occur unless some urgent problems crop up. Most of the interpretations have been done when necessary to comply with criteria established by external loan agencies. A third main factor constituting inefficiency is the issue of cost both in terms of physical and human resources as well as those that can be expressed in direct budgetary terms.

Although the Jamaican education budget has been characterised by increased budgetary inputs annually for the past decade and more, the demands on the national budget for pressing social welfare, economic development, etc., needs are such that the education budgetary increments will become relatively smaller. The needs of educational and other sectors are continuing to expand with insufficient budgetary resources unless there is a greater degree of cost consciousness relative to the country's rapid growth needs.

It has been apparent in the sector study that there is little concern or attention in the country at present for the cost benefit factors in the country's educational programmes. With budget pressures mounting and system costs increasing, the country of necessity will have to turn to a greater cost consciousness and make use of cost analysis in planning and implementing educational development programmes. This is especially the case in the current promulgating of various short- and long-range 'emergency' programmes which are generally viewed as being outside the realm of cost responsibilities and in most cases the unit costing factors of these activities are generally very high.

Unit costs as computed for the school system by the schools and the Ministry are comparable with other countries in similar stages of development. There is a marginal understanding of educational cost analysis in the Ministry. Also unit cost information provided by individual schools is computed in a number of ways with various types of budgetary inputs not included. Unit cost, however, is a static measurement. Unit output cost (achievement cost) on the other hand measures the results of the *process* more accurately. In Jamaica although there is currently little accurate data it is apparently excessively high relative to the objectives anticipated by the education system and/or the needs of the society/economy as a whole. Again there is a proficiency weakness in the concepts and calculation of unit output (achievement) cost in education.

The following table is drawn from the best current data available.

**ESTIMATED COSTS PER STUDENT BASED ON BEST AVAILABLE DATA FROM
MINED STATISTICAL UNIT AND EDUCATIONAL INSTITUTIONS**

Level	Yearly	By Periods	Cumulative
Primary (grades 1 - 6)	\$ 35	\$ 230 (6 yrs.)	\$ 230 (1 - 6 yrs.)
Jr. Secondary (7 - 9)	85	285 (3 yrs.)	515 (1 - 9)
High School (10+)	130	425 (2 - 3 yrs.)	940 (1 - 1½)
Tech. High	450	1,450 (2 - 3 yrs.)	1,965 (1 - 1½)
Teacher Training	1,000	2,100 (2 - 3 yrs.)	3,000 (1 - 13+)
CAST	2,000	6,100 (3 yrs.)	8,065 (1 - 13+)
J. S. A.	3,000	9,100 (3 yrs.)	10,040 (1 - 13+)
U. W. I.	3,000	9,100 (3 yrs.)	12,100 (1 + 16)

There are major areas of inefficiencies throughout the system, and this chapter, and the previous one, cover many of the constraints which create inefficiencies in the system relative to the objectives, resource inputs and achievement realised.

Among these school attendance is one factor. There is an alarmingly low average rate of 65% attendance in primary and all-age schools. Attendance is higher than 90% in other schools. Students who are irregular in attendance are not likely to progress satisfactorily in learning. Chronic irregular attendance probably is associated with the low achievement reported in the eleven-plus examination given to 6th grade students.

Careful studies have not been made on the various causes of irregular student attendance, nor of the effects such attendance has on learning, although teachers generally believe that regular attendance is necessary to assure satisfactory student achievement. Since there is scant justification for passing students through the schools with automatic yearly advancement by age groups without regard to individual achievement, it is essential that all students have maximum ex-

posure to the learning process. Students who do not come from homes with an educated parent are largely dependent on schools for education, and this does not only mean schooling or preparing them to pass examinations but also a broader gauge 'life' education.

Students who do not develop emotionally, socially and aesthetically as well as acquire a working proficiency in reading, writing speaking, mathematics, and understand the world in which they live, are not capable of profiting by further education nor of entering the work force of the nation in a meaningful way. This is the essence of efficiency in education both internal and external and all of the many elements of an education system should contribute in an optimum way.

The crucial information on levels of student achievement produced by these expenditures in these areas is not known. As previously indicated advancement of students from grade to grade through grade 9 is not generally based on student achievement. Students are advanced by age irrespective of progress in learning at primary level in particular. Remedial instruction of students with learning problems is usually not undertaken since there is no adequately designed and continuous programme of assessment and evaluation of student progress applied regularly at all levels of the system. Apparent deficiencies of students become evident only when standing for the eleven-plus examination upon completion of grade 6, or in the other examinations taken at grades 9, 11 and 13. Remedial instruction is not an integral part of the formal education system. External tutoring to pass Common Entrance Examinations for admission to secondary/technical schools is limited to students who can pay these charges.

The contribution of various types and categories of teaching materials has not been measured. Evaluation of the benefits from such high-cost aids as ETV and radio broadcasts under Jamaican conditions has not been attempted. Comparison with such visual aids as books, charts, maps, film strips, cassettes, etc., have not been made directly. Decisions on choice of materials has largely been based on experience in other countries.

The poor conditions in rural schools as compared with those in urban areas place rural students at a disadvantage in the learning process. The level of development of students, the hearing and lighting conditions of classrooms, as well as the substance of the information offered are believed to effect the end results with students. In view of the reported low levels of progress being made by sizeable proportions of students, the inherent values of different materials and modes of presentation is pertinent.

Other factors contributing to loss of efficiency in the system,

which should be the subject of further in-depth analysis are: overcrowding; lack of space; inadequate physical conditions; building design shortcomings; outmoded curriculum; lack of adequate trained teachers and professionals; lack of almost any kind of student counselling and guidance programmes; need for improved vocational programmes; and the many other constraints identified in this chapter and in chapter IV. In need of particular attention is the poor design of the education system—especially in respect of the senior departments of all-age schools and the secondary system. A well-planned cohesive and integrated system should be regarded as of major importance since the present disjointed system is a severe constraint against an effective flow upwards of the educational process, as well as imposing heavy wastage in terms of both capital and recurrent costs. Without taking into account the inadequate design of the system the true cost cannot be given.

Another matter of special concern is the management competence of the Ministry which must be the pivotal point for the development and maintenance of an educational process intended to meet both the needs of the individual and those of the country with the maximum efficiency in output for every dollar invested.

The system is not producing the right kind and numbers of skilled manpower re jobs, as the education system is not oriented towards the country's technological economic needs (both for the system and the economy). Other serious problems are the poor coordination of human resources plans and programmes, teacher attrition, migration of teachers and other categories of educational professionals, and the need to import costly expatriate teachers.

As a factor of major importance, emigration from Jamaica vitiates all the hard-won accomplishments of the formal education system. Jamaica 'exported' one and one-half times as many high-level workers in 1966, 1967, 1968 and 1969 as were graduated from all its post-secondary institutions in those years. It also 'exported' more clerical, sales and skilled workers than were 'graduated' from all its secondary institutions. In effect, every dollar which Jamaicans spend on education past the junior secondary level represents approximately half a dollar of the human resource investment lost to the country.

Other external aspects of major importance and which are not adequately met are access to education; distribution of education to the general population; the extent to which education contributes directly to income distribution among the general population.

There is specifically a need for greater competence in the concepts and costing of system efficiency by the Ministry's Education Plan-

ning Unit and a greater utilisation of them in the ongoing educational planning and operations process.

11. Lack of Adequate Research, Experimentation Evaluation and Feedback for System Improvement

There is no existing and adequate base for educational planning and development in the country or even for the justification of current educational practices. As an immediate consequence of the lack of research there is practically no adequately designed programme of evaluation or innovation in new educational methods, thus there is no adequate feedback assessment system which is critical to a modern education system and essential to prevent wastage in a situation where every cent should be gainfully used.

Effective educational planning is dependent upon a base of comprehensive empirical data in readily usable form. It is also dependent upon a systematised programme of educational research as well as an acquired capability for conducting research and evaluating and utilising the research findings.

Although educational data has been collected in the system for many years, statistical reporting has not been sufficiently accurate and comprehensive, nor has there been much of an attempt to systematically collect data essential to the kinds of research which the country needs or meaningfully analyse the information which is available. For example, although much has been said about the problem created by the large numbers of untrained teachers in the system this was based on partial data and accepted as a proven generalisation until the Sector Team asked for precise qualitative and quantitative data in terms of levels, absolute numbers and percentages.

At that point an effort was made to obtain the specific data essential for further research on the causative effects of untrained teachers on the learning achievement process, and consequently more accurate projections on the extent of teacher upgrading needs.

Among the problems in this general area are the lack of a definition of national educational data needs; a lack of standardisation of statistical concepts relative to international standards or even those established within the country; a lack of information on international standards, i.e., school maintenance budget levels as a reference point of measurement for Jamaica; a virtually complete absence of information on educational finance, economics and costing, and an almost complete lack of concern for this in the various education programmes, especially in the 'Thrusts' and emergency programmes which are often much above the unit costs of either the conventional

approaches or the approaches that have the benefit of a planning/costing effort.

The newly activated Educational Planning Unit is faced with the need for improved professional skills in this area, although consultant professionals are already actively participating in assisting with the upgrading of the Unit's capabilities. The Unit is also faced with the problem of the adequate and necessary budgetary resources, and sufficient equipment, which often has to be faced by newly established units.

The Educational Planning Unit has already identified a major number of areas where research is needed on the causative factors of the problems in the education system. The Unit has also begun the process of identifying the types of data needed by the system, and the obtaining of more qualitative statistical information. As their research capabilities and budget improve the Educational Planning Unit should be generally responsible for the application of research to Education Planning in the country especially as it relates to Jamaica's education system.

Also as previously indicated in section 8 of this chapter there is a critical need for a centralised data collection processing and analysis programme within the Ministry of Education. Although there is a central government computer with time available for each of the ministries this opportunity is, to date, greatly underutilised by the Ministry of Education. There is need for a computer terminal within the Ministry that can store, retrieve, etc. all of the pertinent educational statistical data as well as make use of the central government's own data bank.

The University of the West Indies conducts some research activities in education but since this is an institution with regional responsibilities its activities in this area are only partially directed at Jamaica and the research is generally not oriented towards the problem of the educational process but rather towards 'traditional literacy fields'. Part of this shortcoming is that the University, because of its nature and budgetary structure, would be better able to conduct, on a contract basis, applied practical research for Jamaica. Another shortcoming at the U.W.I. is that there is no developed system of post-graduate studies in the School of Education which could maintain a continuous programme of educational research relevant to the needs of Jamaica, and this lack of a graduate division or school is a limiting factor to the conduct of adequate and continuous educational research.

Experimentation in education is not adequately recognised nor utilised in Jamaica. With educational reform forthcoming, the period

of change requires testing of innovations to determine their value and the most effective methods of implementation.

Although there are a few schools which employ some experimentation in their teaching process, experimental schools in the modern sense do not exist in Jamaica. There is a need for a substantial number of these schools at the primary level as well as several at the secondary level.

There is also a need to plan, design and supervise construction and equipping of experimental schools and training in the proper methodologies for these institutions. Although there are various efforts at evaluation in the Jamaican education system they are mainly at the single project or programme level. As discussed to some extent in section 8 there is no systematic evaluation either of the system as a whole, of the individual schools, courses, students, teachers, achievement levels, costs, physical facilities, tests and media, curriculum, methods, teachers colleges or the Ministry itself. Finally, as stated earlier, an adequate feedback system for planning and programme improvement does not exist and the establishment of such a system needs to be negotiated as an urgent priority.

12. Need for a Programme of Continuing Education including Community Involvement in, and Support for, the Education System

Jamaica, as a newly independent country, has a major need to utilise and develop all of the basic institutions contributing to the country's social development. The education system and at the local level, the school, is an essential, if not the key institution for the social (as well as the economic) development needs of the country. In Jamaica the school at present is basically a conveyor of an educational curriculum as it currently exists.

Its wider potential in the development of the community and the nation is being barely touched as is the opportunity for non-formal/continuing education for youths and adults.

An expanded role of the school in the community is welcomed by the Ministry of Education but there is no comprehensive policy, strategy, programme of encouragement or support in this area. What has been done thus far has depended largely on the initiative taken by local leadership, and even within this group only in a few places has a concerted effort been made to effectively utilise the resources of personnel and potential support for youth and community which surrounds most schools.

Much of this relates to the pattern of community life and institutions in pre-independence Jamaica wherein almost all institutions and

communities were tied on a direct umbilical line to the detailed decisions and policies to be made in the Capital. The policy of the current government is essentially to build a more representative and democratic societal base than existed with absolute centralisation of authority and responsibilities in Kingston while the hundreds of communities are tied in as satellite dependencies. The current objective is to build the involvement and assuming of community level responsibilities by those individuals and institutions in the communities throughout the island. Jamaica has to be a nation of communities and individuals in order to survive current problems and further develop as a nation. As indicated earlier the key community institution integrated to this process is the school. An improved community and continuing education support programme is thus essential to the new country's community institution building and the decentralisation of some of the educational responsibilities to the community.

There is need for a continuing education/community development programme in the following areas:

- (a) Community support and guidance for the school, the educational process and the student. This direct involvement is generally lacking at present although there are some examples where a community has provided this support with very positive results. This type of community participation and support essential to the success of the school in the community and the system is welcomed as a policy by the Ministry of Education but at present there is no comprehensive organised programme of support by the Ministry in this area. At present it depends mainly on the degree of initiative taken by local leadership and only in a few places is a concerted effort being made to effectively utilize the resources of personnel and potential support which surround most schools. This type of community support and involvement is essential to the guidance and upgrading of the schools through (i) wider participation in the school board, special committee, PTA-type organisation; (ii) school physical improvement, maintenance and appearance; (iii) generally more positive community attitudes; (iv) reduction of absenteeism; (v) support of the efforts of principals and teachers.
- (b) Another important aspect is the need and opportunity to provide non-formal/continuing educational opportunities to all interested members of the community and especially programmes directed toward out-of-school youth who are in need of remedial and general education and vocational training. Also important in this area would be the need to make available arts and crafts; activities of various kinds such as music, dance etc., literacy upgrading, history, current events, civics, child care, family

planning etc. courses. Jamaica needs an educated and informed citizenry at the community level to more effectively achieve its development objectives.

- (c) The school represents a permanently established physical institution in every community in the country. Its purpose for the social/educational development of the youth is also a well established and universally accepted concept. In most of the communities, especially in rural areas, the school is the only institutional facility for social development which operates at both the community and national level. Also since a physical facility or centre is essential to the interests and efforts of the community in this area there is both a need and an opportunity to make the facilities of the school available as an institution for development in the community. The schools have facilities over a good part of the day that could readily be made available to interested communities throughout the country. This type of school utilisation together with the concepts of (a) and (b) above of community support for the school and a programme of continuing/non-formal education would, together with the formal education process, give the school a very high total utilisation ratio as well as achieving various essential objectives.
- (d) An area where the combined activities noted above in (a), (b) and (c) is vitally essential is with the untrained teenager as well as those youths of 15–19 years who have dropped out or have been forced out of school and where make-up, remedial and continuing education and training are essential to the social and economic welfare of the individual and the community. In a more general sense there is the need which can be helped through this type of multiple use of the school to make life in the communities more attractive, interesting and enriching, which is essential to the building of a better Jamaica.
- (e) A negative factor in achieving the above objective is the generally poor quality of many of the schools which do not presently make them conducive to full utilisation in the above activities. The physical deficiencies of the schools have already been discussed under section I of this chapter it would be expected that improvement and renovation of the schools for formal education purposes would also improve their usefulness in this wider continuing education/community development aspect as well. A most critical need especially if the schools are to have a fuller (including evening) use by the community is the absence of electrification in some 40% of the schools of the country. Early and complete electrification of *all* the schools of the

country either through power utility sources or portable generators is absolutely imperative for community/continuing education as well as the formal education process, the reception of educational television etc. There is also the need, in those cases where school renovation is to be undertaken, to provide a community-education-oriented area (craft workshop, meeting room), equipment, storage facilities etc. This should also be the practice in the planning and building of new educational facilities.

Chapter 6

IMPLEMENTATION OF EDUCATION REFORM

General

As indicated in chapter 11, considerable efforts have been made to modernise the education/training system in Jamaica, since the country was granted full independence in 1962. From that time a major national education development policy began to emerge covering the infant, primary, secondary and higher education levels. A main goal of such development policy was to shift from the British colonial regulations and school programmes to those that were better suited to the new Jamaican socio-economic structure. Consistent with this *The Education Act, 1965*, was passed. It set the basic statutory, institutional and operational patterns of the system. In 1966 a plan, *New Deal for Education in Independent Jamaica*, proposed a major education breakthrough to be achieved by 1980. Education development objectives included:

- (a) compulsory free education to all youths up to age 14;
- (b) expanded and improved secondary and higher education; and
- (c) improved education administration and planning.

The *New Deal for Education in Independent Jamaica* (outlined in chapter II) had been only partially achieved by 1973. Despite the expansion in secondary and primary facilities educational opportunities especially in the rural areas are still limited. Opportunities for students to enrol in upper secondary programmes also have been limited mainly because of shortages of qualified teachers, rigid student-evaluation procedures and lack of physical facilities. Measures to properly train the large group of unskilled, not well educated 15–19-year youths have been hindered because of a lack of proper planning and administration. Finally, it appears that the national education plan as structured, without sufficient emphasis on the teacher and improving the educational methodology, faced considerable opposition from various sources.

Although significant progress was made during the period 1966-72, it was for the most part uneven leaving certain areas in critical need of improvement while providing for moderate reform in other areas. By 1972 there was an imbalance which greatly affected the efficiency

and effectiveness of the whole education system and the attainment of the objectives outlined in *The New Deal for Education*.

Given the magnitude of the current educational needs and the rapidly changing economic and social demands being made upon the nation it is essential that decisive, systematic and comprehensive attention and inputs be made into the Jamaican education system as soon as possible. A series of piecemeal projects without a systematic and analytical information base will tend to dissipate resources without effectively achieving the desired results. If objectives are to be attained the government will have to make the commitment to provide resources both of funds and staff and the necessary policy to make the programmes possible.

With so many needs to be met it is imperative that the government, in planning and implementing the reform effort, pay serious attention to educational finance and more specifically to the economics of education. The internal and external efficiencies of the system as a whole and its various component activities must be included relative to the possible alternatives and the costs to the Jamaican people.

The Minister of Education has assured the Sector Team that the government is currently prepared to provide for a specific and clear focus on the need and to undertake the necessary commitments.

It is also obvious that extensive external assistance, both in funding and technical assistance, with priorities defined by government and at its request, will be necessary to achieve the comprehensive total reform objectives which are envisioned.

A related critical factor is the current Jamaican lack of an in-depth capability to deal with stated objectives such as are set forth in *The New Deal for Education* and more recently in *The Education Thrust of the 70s* of May 1973, and to provide for the necessary project planning and implementation. This is an essential area wherein major external assistance (in project planning/budgeting/implementation) will be necessary until such time as sufficient numbers of Jamaicans are trained and experienced in this capability.

It is clearly apparent, through decisions taken, parliamentary debate, issues publicly presented, and initiation of various actions, that the present government has committed itself to a redefinition of education policy and development strategy, and to the early implementation of a programme of educational reform. To support this effort the government during late 1972 established various *ad hoc* committees and solicited the assistance of an external team of education specialists, whose work in mid-1973, jointly with a team of Jamaican counterparts, resulted in this sector study. Through the efforts of the recent Minister of Education, and now Governor-General, His Excel-

lency the Most Honourable F. A. Glasspole, O.N., C.D., *The Education Thrust of the 70s* was published by the Ministry reflecting the government's interest in making the education system more closely responsive to the country's economic and social development needs. The document also made use of analytical data and certain preliminary recommendations of the *Sector Survey*.

The Education Thrust calls for a comprehensive approach to solve education problems with emphasis given to: (a) implementing on a continuing basis, a rolling three-year development plan aimed at qualitative and quantitative improvements of the whole system; (b) establishing free and compulsory education to all youths up to the age of 14+; (c) reorganising the school examination system in conjunction with the establishment of the Caribbean Examinations Council; (d) improving planning and administrative procedures through a complete reorganisation of the Ministry of Education and the system as a whole; and (e) establishing an 'Education National Service Corps of Graduates' by which the services of all graduates and school leavers who have been educated at government expense, will be required for approximately a two-year period to work on social development activities including education, and on essential civil works programmes. This programme would also have the added objective of preparing the individual for a future which includes some type of meaningful employment.

Part of the strategy to implement these objectives includes the physical expansion of the school system, particularly in the rural areas; and assistance of this nature is already being provided by CIDA at the primary level and the IBRD at the secondary. *The Education Thrust* document also envisions that, *inter alia*, new approaches to teacher training, student evaluation techniques, and curriculum development will be introduced. Moreover, the government, according to *The Education Thrust* document, intends to intensify the use of radio and television (ERTV) for the formal and non-formal education training programmes.

Various other specific programmes have also been announced in *The Education Thrust of the 70s*: (a) secondary education (grades 7-12) is to be completely free of tuition beginning September 1973, which means that students in government-aided schools will no longer have to pay a tuition fee calculated at 50% of the cost; (b) grades 10 and 11 will be added to the existing junior secondary schools (grades 7-9) by 1975 (through a stretching of current facilities); and (c) school uniform materials will be ultimately provided by the government free of charge to all students beginning with those in grades 1 and 2 in primary schools in September 1973.

The objective of *The Education Thrust* document is mainly to set broad strategy objectives for educational reform. It does not deal with the detailed analysis, planning and financing, and implementation of the programme areas identified. It is the task of the new Minister, the Hon. Eli Matalon, and his staff to formulate the new Rolling Education Plan which should provide the basis for decision making, planning, budgeting, implementation and management of the educational reform projects.

In addition to the government's own education budget which projects increased Jamaican budgetary inputs over the next several years, external assistance from CIDA and the IBRD is already forthcoming. The IDB is currently providing for the student (educational credit) loan fund; the UNDP is presently evaluating an expanded programme in vocational training, and the OAS had indicated support for Jamaica through fellowships and technical assistance. USAID has already indicated to the government its willingness to provide an education sector loan which would be based mainly on the findings of the *Sector Survey*.

As an instrument or base line for education reform this *Sector Survey* goes considerably beyond *The Education Thrust* document. The *Sector Survey* also provides an analytic review of the condition of all the major components of the total education/learning system (chapter IV) and then on the basis of those objectives and strategies identified by the government in *The Education Thrust* document and in *Annual Reports* of the Ministry, sets down the major constraints/reform needs of the system (chapter V).

In moving from the analysis of the constraints presented in chapter V to a discussion on what kinds of reform efforts would most effectively alleviate these problems the Sector Team found it advisable to also deal with the currently stated general objectives and strategies in long- and short-term educational development plans and projects. This involved both quantification and qualification on the kinds and numbers of inputs required under both the short- and long-term time-tables, the three-year cycle, and to 1980-85. Essentially this includes the nature of the programming for budgetary staff, teachers, equipment, materials, facilities, training, technical assistance and other needs.

In summary, basic educational strategy for reform has already been set in *The Education Thrust of the 70s* and related documents. In line with the government's commitment to rolling education planning, the strategy will undoubtedly be refined and revised based upon the analysis and recommendations of the *Sector Survey*. It should also be further refined in the course of additional analytical

studies, experience and a better information/statistical evaluation base for future decision making.

Consistent with this approach the remaining sections of this chapter follow the twelve constraints identified and discussed in the previous chapter. It also constitutes an effort to identify types of activities designed to alleviate or correct constraints in the education system, that may be suitable for specific projects. Certain of these may be of interest to external funding agencies, and others are believed to be of sufficient importance to warrant Ministry of Education action with its own budget. All of these projects appear to have high priority, but this judgment must rest with the Ministry of Education, since they are the ultimate centre of educational reform decisions and since these decisions will also involve the commitment of Jamaican resources, both material and human.

The discussions set forth in these twelve constraint areas are based on visits to a considerable number of schools and conferences with many professional and other responsible people and the review of existing reference documents and studies (See Annex B).

Although the Sector Team included participants from external agencies as well as members of the Education Planning Unit, the presentation is basically an analytical document to be used in planning and therefore does not imply prior commitment of either the Ministry of Education or the external agencies to the implementation of the proposals as presented.

1. Need for Physical Improvement and Expansion of the System

REFORM STRATEGY

(1) An early policy consideration and decision must be made by the Government of Jamaica on attaining quality universal primary education. This is a stated objective of the current government which has not yet been reached. As indicated in chapter V there are approximately 30,000 primary age children eligible for school who are not in any school. In addition there is an over-enrolment of 80,000 students in the primary system at present or a net shortage of 110,000 student places. The issue is whether to close this gap consistent with national educational goals and by what date. This policy decision should be made for the primary with clear terms of reference on the primary enrolment gap and the time-table for its closure.

(2) Another key policy decision will have to be made soon regarding the concept of the primary and the all-age schools with their senior department, grades 7, 8 and 9. The issue is whether to phase out these general terminal-examination, poor-quality extensions to the

primary school in favour of an organisational improvement (or streamlining) into a single junior secondary type (grades 7, 8, 9,) institution. As indicated in chapter V, this decision would in turn shift more of the physical facilities shortage problems over to the existing and forthcoming (under World Bank II) junior secondary schools. This action would phase out the 'two-class' intermediate education system and help further to eliminate the problem of out-of-school, out-of-work, untrained 15-year-olds. It would also mean that 60,000 all-age school places could be released on a phased basis for primary students and would reduce the construction gap for primary schools after the CIDA inputs to approximately 40,000 places or some 60 schools of medium size. This would be a construction programme which is much more attainable with Government of Jamaica funds and human resources and limited external assistance, than an attempt to provide the total of the 110,000 student place shortage which exists at the present time at primary level. If the decision is made to phase out the poor quality all-age schools it should be done on a planned, phased basis, closely coordinated with the construction of new junior secondary schools and/or the possible double shifting of existing junior secondary schools. This policy decision for the primary also, of necessity, interlocks with a policy decision on the maximum utilisation of junior secondary and high schools.

(3) A third main policy decision area directly affecting school construction needs and schedules is (a) the entrance age for primary and (b) the status and role of the pre-primary/basic schools. With the current school entering age between 6 and 7, the mostly non-governmental pre-primary schools provide initial education for children between the ages of 4½ and 6. The pre-primary schools have been growing in numbers mainly with private/community support but also with direct requests being made to the government for the funding of new pre-primary institutions. Even with community-sponsored school construction there are needs for additional support services from the government including teacher training, curriculum, setting of standards, etc. Also pending is the question of lowering the school entering age for the primary, to say 5 years of age which would greatly affect enrolment in the pre-primary schools as well as augment the enrolment levels and the need for additional school places at the primary level. There is a need for a better articulation between pre-primary and primary and a need for a policy decision and long-range planning re the status and interrelationship between pre-primary and primary.

(4) Another important policy decision is that dealing with what percentage of the junior secondary and upper secondary cohorts will

be firmly targeted to go on to those respective levels of the system. Specific percentage goals have to be set for at least the next ten years so there will be a clear idea of the extent of the school facilities needed to meet the targets and subsequently the time-table for either new school construction, renovation, or other 'stretching' approaches, double shifting, year-round schools, etc.

(5) Essential to the development and modernisation of the whole secondary system is the issue of reorganising and streamlining the system, especially the secondary where there are some half a dozen different types of secondary schools. The duplications are for the most part wasteful and difficult to manage. It would also be especially wasteful to put in new funding prior to thinking through consolidations of the system for greater efficiency and effectiveness.

(6) Prior to any construction, renovation of physical facilities activity there needs to be a physical facilities survey or inventory. Even with early policy decisions in the areas mentioned immediately above there is no sufficiently adequate physical facilities data base to enable the policy decisions to be followed up with meaningful plans or programmes of implementation. This would mean the work of one or more teams made up to include a systems engineer, architect, general educator, sociologist/educator, or other combinations of professionals, who would be in a position to determine the status of facilities from an educational, social, architectural and engineering point of view. It would also be necessary to analyse the detailed needs of these institutions and what action should be taken, including the decision, as necessary, that a school is not worth renovating and should be replaced on a priority basis.

(7) There is need for a construction programme to provide adequate primary school space, depending upon the nature of the policy decision made under (3) above. According to the way that the decision is made the new school construction needs would be for a maximum of 110,000 student places or approximately 160 new schools of medium size. If the decision is made to put a major priority on the phasing out or phasing over of the senior departments of the all-age schools this will mean that all of the shortage of current student places can be basically taken care of by those student places released by the senior department students as they are shifted over to the junior secondary. As further and complete phasing over takes place the current primary overcrowding will be reduced by about half. This will also mean that there will be a reduced need for new construction at the primary level, probably limited to new schools in population growth areas which are not currently being serviced by schools, and need to be; or in the cases where current primary schools

are so obsolete, as determined by the survey inventory team, that they will need to be replaced.

(8) Chapter V discussed in some detail the poor quality of many of the primary facilities, problems of overcrowding, water, sanitary facilities, electricity and generally harsh conditions. It would be expected that the survey inventory team would be able to ascertain the exact status of the lack of quality in the school facilities at the primary level and would make appropriate recommendations to alleviate these conditions. In some cases there would need to be a fairly adequate programme and investment for renovation of the schools to bring them up to a standard which should be established by the survey team and the Ministry and endorsed as a policy decision by the Ministry of Education. In some cases it would be more feasible and cost-efficient to replace the schools and the policy decision should also include this mandate.

(9) As discussed in chapter V there is a need for the construction and 'stretching out' of additional junior secondary schools inasmuch as currently (1973) only 13% of Jamaican students completing the sixth grade are able to go on to a secondary school. At the present time there is a junior secondary enrolment of approximately 50,000 and an estimated shortage of 60,000 junior secondary places based on Ministry of Education projections of the present primary school leavers who are not now in school and who would continue on to secondary if they had unrestricted opportunity. World Bank Education Loan II is scheduled to provide 6,250 additional places, still leaving a shortfall, relative to the above figure, of 53,750 places at the junior secondary if junior secondary enrolments are established within the above context. This would be reduced as a lesser percentage enrolment target policy would be established.

(10) Also as previously mentioned some 60,000 students would be shifted over to the junior secondary schools if the decision is made to phase over the senior departments of the all-age schools. This would practically double the shortfall in the junior secondary although undoubtedly it would be on a phased basis. World Bank Loan II even with the contribution it will make at the junior secondary level when construction is completed, will still not be sufficient, nor fast enough to meet student demand as discussed above, even without the issue of the phase-over of senior department students. The World Bank has in this general context indicated its willingness to enter into a third education loan for this purpose possibly in the financial year 1975 or 1976.

This additional junior secondary construction is advocated but the specifics of the numbers of places, schools and locations will have to

await basic policy decisions and should then be developed in precise detail and cost in the new National Education Plan. These decisions should also take into account the other options which are available such as double shifting of some junior secondary schools and the possibility of year-round schools which would provide approximately a third more educational opportunities for little more than the per place cost of the current school year system. This concept is also discussed in other sections of this chapter.

(11) The upper secondary level admits a total of 1,300 students from junior secondary schools. Even with this small number there has been relatively little recent domestic or external assistance inputs for either new capital investment or for upgrading the quality of facilities and equipment. Even in relative terms the schools with upper secondary levels do not come anywhere near matching inputs which have been made at the junior secondary level.

In general, as discussed in chapter V, the upper secondary schools are very much in need of reconstruction and modernisation of physical facilities and equipment if they are to function effectively as a follow-on (for the student) to relatively good-quality junior secondary schools, and in response to Jamaica's overall educational development needs.

Thus a physical survey inventory should be made along the same lines proposed for the primary, including the establishment, together with the Ministry, of standards of construction and facilities.

(12) As the junior secondary level expands and/or is double-shifted this will in turn place an additional demand upon the current upper secondary, making an expansion and improvement in quality even more necessary. A major problem in this approach is the lack of trained teachers to adequately enable a double shifting which would retain quality and at the same time successfully achieve educational objectives. The section on teacher training examines this in more detail inasmuch as a 'pragmatic solution' would be the recruitment of untrained teachers, which would in turn greatly reduce the quality of the upper secondary. It is essential here and in other reform proposals that the double shifting be planned in close conjunction with teacher training and supply, curriculum development and other related reform activities.

(13) Another option in reducing the present and forthcoming pressures on the upper secondary is the proposal put forth in *The Educational Thrust for the 70s*. This would be to extend the current (grades 7-9) junior secondary schools by one grade to include grades 7-10 beginning in September 1974. Although this would tend to lessen the pressure for the expansion of an upgrading of the upper

secondary it would at the same time tend to dilute the quality of the junior secondary unless it were carefully planned in concert with teacher training etc. as discussed relative to double shifting.

There have also been the proposal and subsequent discussions by the Ministry on the possibility of 'stretching' the junior secondary schools into a second year (grade 11) and thus, by phases, converting junior secondary into full secondary schools. Although this too raises problems regarding the availability of teachers and the straining of facilities, it does have a positive side in breaking the enrolment bottleneck which has now shifted to the upper secondary and in practical terms would make more student places available. This action also relates directly to a policy decision on whether to simplify the currently overlapping half a dozen different types of secondary schools. (See chapter IV, C-31.) It would seem advisable that the Education Planning Unit together with appropriate external technical assistance should make a survey evaluation of these alternate options and help provide a thorough decision. External assistance with planning/project implementation follow-up to the decision would also be advisable.

Likewise, the concept of the year-round school relative to increased place needs and the concomitant cost efficiencies should be explored by the Educational Planning Unit with appropriate external technical assistance.

While this evaluation of costs and options is in process it would seem that major efforts should be concentrated on the renovation, expansion and modernisation of the current upper secondary so as to provide it with a quality of facilities commensurate with that of the junior secondary in anticipation of any further revised role for the upper secondary.

There is the related need, as indicated above, for a clear policy decision on enrolment target levels for upper secondary over the short- and long-range.

(14) As dealt with above and discussed in greater detail in section 10 of this chapter and in chapter IV, there is a vital need for improvement and streamlining of systems design especially at the secondary level, where there is a complex of different types of school organisations. This also includes the concept of eliminating the senior departments of the all-age schools.

This issue should be reviewed by the Education Planning Unit with possible co-opted Jamaican professionals and appropriate external technical assistance.

(15) As the policy decision is made regarding the future organisational structure of the system and the need to simplify or streamline

the secondary, a new type of secondary school must be developed, both in concept and structure, that will more fully meet Jamaican needs. Adequate information exists at present to enable the making of the decision with the time phasing of the forthcoming National Education Plan. To make it more conclusive the Educational Planning Unit could prepare a cost/benefit/effective analysis of the present organisation versus a more streamlined secondary school organisation. It is also possible that the Ministry might want, and benefit from, a more in-depth survey study of the situation which would include external technical assistance.

At this point, and as background for the decision, the Sector Team felt that serious attention should be given to a modern high school which would encompass all of the secondary grades. A number of these especially in population concentration areas might be established as technical high schools to include technical/vocational specialisations in one or more main fields and minor options in several others.

If this takes place there would be the need for both operational and physical design of the school followed by a two-phased programme of construction of new full secondary schools and the conversion of various existing schools over to the new concept.

(16) In order to make the schools more fully functional there is a priority need to provide adequate water, sanitary and other service facilities including a 100% electrification of all schools. New schools should have these provisions included in the architectural and engineering plans and a much more adequate programme of maintenance which the Sector Survey also endorses. Already existing schools should be surveyed in the physical inventory study as already discussed, and basic standards established and maintained through the upgraded programme of school services and maintenance.

At the present time 40% of the schools, mainly rural, are not electrified. The Sector Team felt that immediate electrification of all these schools is a high priority. Since there are generally no nearby power source lines, the team recommends that portable generators be installed in all of the non-electrified schools where connections cannot be readily made without waiting until general electrification fully catches up with those areas, which might be a number of years. In many instances electrification is vital to a number of different educational activities such as educational television; continuing/community education programmes; the options for double shifting which would go into early morning and late hours when lighting would be essential; possibilities of hot nutritional lunches, etc. This approach to the electrification gap should be included in the physical inventory survey and maintenance upgrading follow-up programme since adequate

provision must also be made for fuel and maintenance of the portable generators.

2. Shortage of Trained Teachers and Professionals

(1) There is an initial need for the definition of what constitutes a trained and an untrained teacher inasmuch as a clear-cut definition does not exist at present. Information is collected annually on the number of trained and untrained teachers and professionals and the current definition is not sufficiently precise to enable accurate educational planning for the purpose of closing the unqualified teacher gap. It is also important that this should not be a classification for salary purposes so as to avoid the likelihood of extensive negotiations on the subject. The decision can and should be made by the Ministry with perhaps some advisory assistance from teacher college principals and other qualified professionals.

The Sector Team felt that both 'qualified and non-qualified' and 'certified and non-certified' were better terminologies than 'trained and untrained', although other possibilities should be explored.

(2) Once this decision/definition has been made there should be an up-to-date survey of the actual personnel in these newly defined classifications. This will provide a better statistical base line for dealing with the problems relative to the preparation and upgrading of qualified teachers and other professionals.

(3) Teacher interns, as they currently exist in the programme, are not meeting stated objectives either in terms meaningful to the individual intern, the school and the children, or the teacher training colleges. There needs to be a fresh evaluation and accordingly, a quantitative restructuring of the intern programme, a new type of programme or a phasing out. This review can be carried out by the Education Planning Unit in co-operation with co-opted teacher education professionals. A short-term teacher education external consultant would also make a vital contribution. It is important that this evaluation and restructuring be done in concert with overall teacher training, upgrading, evaluation and reform efforts.

(4) There is need for an evaluation of the current teacher volunteer programme and, based on the findings, a restructuring and/or recommendations regarding the coming academic year's programme, including other alternatives such as the service being classified as in a teacher's aide category etc. The emphasis during the initial year appears to be mainly on the individual growth needs and it is the opinion of the Sector Team that greater emphasis must be placed on the needs and objectives of the system as well as the needs of the students. Also, in

this context special attention must be paid to the unit cost of the programme, which is not the case at the present time where the unit cost of volunteer exceeds that of a student in a teachers college.

(5) The Sector Team recommends that definite time targets be set for upgrading the teaching qualification level of the system. A suggested time target would be to systematically upgrade so that only qualified teachers would be hired into the system by 1980 and that *all* teachers would either be upgraded or out of the system by 1985. The setting of time targets would in turn enable the education planners to do yearly programming of teacher preparation and upgrading programmes to meet these targets. In order to achieve a fully qualified teaching force it would be necessary, as mentioned above, to eliminate the volunteers as a permanent source of untrained teachers, and perhaps utilise them in a closely related way such as in the role of non-professional teacher aides.

(6) There is need for a similar time targeting approach for the upgrading of principals, senior staff and other professionals in the system.

(7) There is need for a continual upgrading of all instructional personnel in the system regarding new concepts, methodologies and professional educational developments. This would also include, on a periodic basis, all qualified/certified teachers in the system. This could be provided for in the summer upgrading programmes, regular workshops, by non-formal methods—ETV, etc. or in a combination of approaches.

(8) To assist on a permanent basis with achieving the objectives stated in (7) above, there is need for an educational information system to continually keep educational personnel informed and abreast of current educational developments. (This is discussed in more detail under section 8 of this chapter).

(9) In view of the various reforms which are in the process of taking place throughout the system there is need for a re-evaluation of the curricula of the teacher training colleges. This should be carried out by a Ministry-organised evaluation group with the assistance of external technical assistance advisers in teacher education. The study should be made in liaison with the Board of Teacher Education and the final report/recommendations should also be discussed with them. There is a definite need to set new standards for the teacher.

(10) There is need to set up a systematised approach to the training and certification of teacher trainers and to revise the programme/curriculum for their training/qualification and to continue to review and revise it every year or every two years at the least. This can be dealt with in a manner similar to the above with a group of Jamaican

professionals mandated by the Ministry and, initially at least, with external technical assistance.

(11) It is recommended that there be a re-examination of the role of the Board of Teacher Education to ascertain whether its present structure and function are best meeting Jamaica's educational needs, with special attention to how it could contribute to the extensive reform needs and programmes of the system and how it could respond to the current planning effort. It is obvious that there is a need for the Board to be linked more directly to the educational planning function of the Ministry. This re-evaluation should be carried out by delegated members of the Board representing both the University of the West Indies and teachers colleges; representatives of the Ministry of Education; and external technical assistance specialists in teacher education. The Board should also be in a position to provide consultative assistance to the Ministry of Education relative to the planning and programming of teacher training and on any and all other aspects of the education system as requested by the Ministry.

(12) There is need to evaluate the curriculum of the teacher training colleges relative to current needs and the planning of reform programmes for the system. This should be made jointly by Jamaican professionals and external technical assistance specialists in teacher education.

(13) There is need for a complete inventory survey of the teacher training colleges relative to the physical needs and the training objectives of the colleges, including summer and other types of upgrading programmes. It is possible that this could be done in conjunction with the physical inventory of primary and secondary facilities (including maintenance) utilising at least some of the same team, including technical assistance.

(14) There is the need for a re-evaluation, restructuring and upgrading of an improved teacher education function within the Ministry. This should be reviewed by Ministry administrators, professionals and other teacher education personnel, with the co-operation and assistance of an external organisation and methods adviser and a teacher education specialist.

(15) There is need for the upgrading of the Ministry field staff and officers relative to inspection, supervision, counselling and guidance; improvement of morale and career opportunities and improvement of the physical conditions of service. External technical assistance could assist Jamaican professionals in this evaluation.

(16) There is the need to set targets for trained and upgraded teachers at the secondary level with the special objective of gradually

phasing out the relatively large number of expatriate teachers with their current overly-high cost to the system at this level.

(17) There is the need for the initiation, training and upgrading of programmes and full establishment of the professional status of personnel in counselling and vocational guidance in the system (Also see section 5 of this chapter).

(18) There is a need for the upgrading of teacher-librarians, their more extensive utilisation in the schools as an integral part of the instructional effort, and the full establishment of their professional status.

(19) There is the need for a continuing and systematic upgrading of professionals in the system who are not included in the categories above, including those in special education fields.

(20) There is need for the development of the concept and the programmes of a National Education Development Centre which would be the focus for the upgrading of all teachers and professionals in the system, including the personnel of the Ministry of Education. This would include demonstration programmes, workshops, seminars and ongoing summer and specialised programmes of various kinds. These activities should have a training and upgrading section to plan and carry out these developmental programmes, and assist, as appropriate, with related programmes to be carried out at other locations in the country. The section, composed of a director and staff under the Ministry, could be located at the National Education Development Centre if it is agreed to establish such a centre. As an alternative it could be set up in conjunction with one of the teacher training colleges slated for physical upgrading and an experimental/developmental role. A third alternative is to establish this activity in the Ministry with the programmes carried out at a designated central location as well as at other centres in the island. Technical assistance could be appropriately utilised here to assist the unit director in developing the concepts and carrying out the programmes.

(21) There is a vital need for an improved relationship and dialogue between the Ministry and the U.W.I. so as to provide a better basis for the provision of qualified teachers especially for upper secondary and specialised need areas of the country's education system. These discussions should be instituted at the top level with follow-through meetings on a working level held on an organised and periodic basis. The Ministry should be in a position to provide more direct support to the education programmes of the U.W.I., which in turn should be in a position to provide greater consultative/professional assistance to the Ministry.

(22) There is a need for more detailed and comprehensive research on general conditions of teacher service (see section 11), so as to provide a better empirical socio-economic basis for decisions by the Ministry, relative to the needs for improvement of the country's teaching force and the retention of teachers in the system.

(23) There should be an improvement of teacher personnel record keeping, qualifications, accounting, classification, pay-rolling and other types of documentation and personnel actions (see section 8). Appropriate external technical assistance would help the Ministry to achieve these objectives.

(24) There is a need to provide for generally better conditions of service and career opportunities; and an interrelating of teacher upgrading achievements with career advancement incentives and adequate incremental salary incentives directly related to these achievements.

(25) There is a major need to provide for meaningful incentives within the system including a possible credit fund which would be flexible and multi-purpose, directed mainly at teachers, but which could also be utilised for other eligible educational professionals. The fund could provide virtually interest-free credit (loans) to be repaid out of pay-roll deductions in order to help teachers with improving basic amenities and transportation needs with special attention to the rural areas. There could also be repatriation inducement credits, (or even exemptions if the issue could be raised at the governmental level) to enable qualified Jamaicans now residing abroad to return to teaching or other professional educational positions (including the Ministry) in Jamaica. This specifically would assist in the shipment of an already acquired car and household effects essential to re-establishing a home in Jamaica, inasmuch as at present the shipment and landing costs of these items often constitute an insurmountable factor in the decision of a trained Jamaican to return to his country. The Jamaica Teachers Association currently operates a small and under-capitalised emergency-type loan fund for teachers in temporary need of financial assistance. Rather than have two funds, it is proposed that the incentive credit fund be entrusted to the J.T.A. for administration with the appropriate audit, etc. safeguards and with clear and comprehensive terms of reference worked out by the Ministry with the accord of the J.T.A.

3. Need for a Relevant Curriculum Development Programme

(1) A basic need in this area is for a number of policy decisions to be made relative to curriculum reform before any additional current

curriculum reform oriented projects are undertaken. It is necessary that the curriculum reform take place within a total planned effort based on the proper policy decisions and the necessary technical assistance inputs, both Jamaican and external.

(2) There is a pressing need for a national curriculum policy setting forth the goals and modes of curriculum in the country's education system. A national curriculum policy and advisory group should be constituted to assist the Minister in developing the policy and advising on reforms and their implementation.

(3) The current government must therefore clarify the status of the National Curriculum Council (and sub-committees), discussed in chapter V, which has in the past endeavoured to fulfil this role. It has neither been phased out nor been utilised for the past year and a half, although a number of the sub-committees are still functioning without any new directions,

(4) It would appear much more rational to entrust this responsibility to a top-level professional/lay group. The Sector Team feels that the country's education system needs a re-activation of the National Curriculum Council and subject area sub-committees headed by top professional educators or a closely approaching modification of the Council/sub-committees geared to current reform needs.

(5) There is need for a restructuring and a special emphasis to be placed on the vocational education sub-committee. Closely related to this is the need to make fuller use of the informal Committee of Principals of Technical Schools which has been meeting periodically for the last several years. This currently constitutes the country's best source of expertise in this area and is an excellent advisory group, which could be given a more official status for addressing the problems of vocational/technical training relative to the needs of youth, the education system and the economy.

(6) With the reconstitution of a curriculum advisory group/National Curriculum Council, a first priority would be an evaluation of the current curriculum reform oriented activities and a re-definition of curriculum policy relevant to the current and planned educational targets. The group should also provide advisory assistance on a re-organisation/reform consistent with this policy. With the government committed to comprehensive educational reform, it is essential to reassess, at the very beginning, the nature of the Ministry's whole curriculum development objectives, planning, budget, programmes and means for successfully carrying these out. This advisory group would also greatly benefit from appropriate qualified technical assistance in the broad area of curriculum reform and implementation.

(7) Closely related to the above, a major priority would be the establishment of a properly constituted, qualified and mandated curriculum unit within the Ministry.

With special reference to vocational education insufficient attention has been paid by the Ministry to the findings and recommendations of the Canadian (CIDA) technical and vocational experts' study and report on the needs for technical and vocational education in Jamaica. The Sector Team was impressed with many of their findings and recommendations. While the acceptance and decision to implement the recommendations of the CIDA report would in itself constitute a policy decision by the Ministry, the Sector Team can state emphatically that the Ministry should, at the top level, make a careful review of the CIDA technicians' report and take the necessary action on those recommendations vital to the improvement of Jamaica's vocational/technical education. One of the key CIDA recommendations is for the upgrading and revitalisation of the technical/vocational training unit within the Ministry of Education. The Sector Team felt that direct technical assistance should be provided for this unit for a period of time.

(8) Revision of curriculum for teachers colleges has a high priority since increased capacity has been authorised and improvement in the competence of newly trained teachers requires updating subject matter concepts and methodologies to be employed by teachers in public schools. (See parallel recommendations made under section 2 on teacher training in this chapter.)

(9) There is a need for training of Jamaicans in curriculum development through periods of study here in Jamaica and in other countries (U.K., U.S.A., Canada, etc.). Attendance at international conferences, seminars and workshops, should be utilised to develop Jamaican competence for the continuing task of curriculum improvement.

(10) As a part of the overall curriculum policy formulation, there needs to be a definition of the inter-relationship between curriculum revision and the current and future activities of the Educational Media Centre programme. As discussed in chapters V and VI, section 4, the Media Centre will make a more effective contribution to curriculum if it is given a policy directive, is professionally constituted, and has a more dynamic and complementary role to undertake in support of the curriculum.

(11) There needs to be a statement of policy defining the inter-relationship between curriculum and the concept and programmes of experimentation and experimental schools. It is apparent that external technical assistance will be essential in helping to define this interrelationship, in implementing the concepts and development of

the experimental schools and their programmes of experimentation. External technical assistance would be essential to successfully developing this area.

(12) Similarly, the overall Ministry programme in educational research, which is recommended under section 11 of this chapter, should include significant and appropriate research on curriculum and interrelated areas.

(13) There is a need for special attention to the role of student evaluation/examinations in the curriculum process and for curriculum reform to take into consideration and help to assess the possible changes in testing, examination, evaluation, etc., in planning for comprehensive curriculum reform.

(14) It is critically important that an evaluation feedback process be instituted to assess the positive and negative aspects of current curriculum and future change so that the more positive aspects can be re-enforced and the negative ones modified or discarded. It is apparent that external technical assistance would be needed to help implement this process effectively.

(15) There is need for a direct and improved linkage between curriculum and inspection/supervision. This is treated in further detail under section 8 of this chapter.

(16) In the course of developing a curriculum reform strategy and programme, full attention should be given to the possibilities offered by non-formal education concepts and programmes. This will involve external technical assistance which will provide information and expertise on programmes, etc., which have proven effective elsewhere and assist in the introduction of the concepts and their modifications in the development of programmes in Jamaica.

(17) There needs to be a more active and participatory role of the school boards and the community in discussing and supporting the various curriculum reform approaches such as mentioned above.

(18) If the decision is made to implement the Community/Continuing Education Programme discussed in section 12 of this chapter, there will be a need for a special curriculum input effort which will directly support that programme. In light of this and the other non-formal curricular development needs of evening and related programmes, there is the need for a special unit in the Ministry which would be responsible for the development of all of the various aspects of non-formal education and their implementation and evaluation. External technical assistance would be essential.

(19) Complementary to curriculum reform and implementation there need to be qualified teachers, well grounded in curricular concepts and in the objectives and methodology of the educational re-

forms to be instituted. (This is dealt with in detail under section 2 on teacher training in this chapter.)

(20) The poorest curriculum in the whole system is found in the senior department of the all-age schools. This report strongly endorses the phasing out, as soon as possible, of these senior departments and the institution of a common 7th, 8th and 9th grade curriculum. In the interim until this action is complete there should be an effort to salvage the young people currently in these schools by designing a special programme more geared to their actual needs, the development of work/citizenship attitudes, counselling on the world of work and preparation as far as possible for post-school employment which will most likely be in the rural areas. This programme should be temporary because the real solution is the phasing out of the senior departments and their current curriculum as soon as possible.

(21) Curriculum reform should also be innovative, in exploring and evaluating all of the other organisational alternatives to the standard academic year concept. This would include year-round school, double shifting, staggered school days, work-school programmes, continuing education and other non-formal inputs, learning resource centres, the applications of educational technology and other innovations such as the open school concept, applied to the public (especially secondary) schools.

(22) There should be an exploration of the possibilities of developing non-formal teaching methods and techniques for the upgrading of teachers, especially those which would be meaningful to teachers in the rural and remote areas, such as the use of ERTV with curriculum and programme transmissions especially geared to teachers, supplemented by once a month or so convening in a sub-area for pacing, discussion and review. Special curriculum and methodologies would have to be developed. External technical assistance in non-formal education, teacher/training and ERTV would be required.

(23) The summer upgrading programmes, workshops, etc., for teachers (described under section 2) should give major attention to curriculum needs, methodologies, evaluation, etc., and especially preparation for the reforms which are to be undertaken.

(24) There is need for a more systematic programme of demonstration schools for all the teachers colleges and the University with major emphasis on developing a rurally oriented curriculum. This will mean designating current schools, or programming schools which are about to be built, as demonstration community schools. External technical assistance would be advisable relative to the concepts and the optimum use of these schools.

(25) Important to curriculum reform and implementation and to

preparation of the teachers and type of curricula provided in the teachers colleges is the future role of the Board of Teacher Education. This is dealt with more extensively in section 2.

(26) As the curriculum reform effort is implemented there will need to be a commensurate involvement and modification by the University in its teacher training programmes especially at primary level which is the foundation for the whole system. There should be a re-examination of the role of the University, relative to Jamaican education reform needs and efforts.

(27) The Ministry has concrete plans for a new curriculum centre. This will feature curriculum supported by ERTV, media/technology and other closely related areas. Thus far there has been no clear thinking out of the organisational or programme side of the centre. It is imperative that this be spelled out well in advance and that qualified external technical assistance be utilised to assist with this.

4. Lack of Adequate Texts, Teaching Materials and Media

(1) There is an initial need for a policy decision conceptualising the function and purpose of the Educational Materials and Aids Division. The issues are already discussed in chapter V, section 4. The Publications Branch is essentially a bookstore/warehouse operation at present compared to the concept of a modern materials and media unit as an integral and innovative part of the educational process. In the longer term this is also applicable to the role of the Publications Branch within the planned new curriculum centre.

(2) If a decision is made regarding these basic concepts, the Educational Materials and Media Division should be enabled to make an effective contribution within a whole range of learning tools, materials, text and media. External technical assistance should work with the Publications Branch in this development and in the training of Jamaican personnel.

(3) This should be preceded by a survey type of review on the activities which should be undertaken and training equipment and other needs. This would benefit from external technical assistance for the survey as well as for specific activities/capabilities which are to be developed.

(4) There is a need to work jointly with the curriculum policy group (discussed under section 3) whether it remains the National Curriculum Development Committee (N.C.D.C.) or some new equivalent. There is also need to work directly with the subject area committees of the N.C.D.C. or their revised equivalents and to work

jointly with them on the selection and/or development of texts, curriculum guides, reference materials and teaching aids.

(5) Concomitantly there is the responsibility to develop teams of Jamaican writers and other specialists with the necessary expertise.

(6) There should be a more meaningful and organised outreach to the schools in this area and the development of materials/media extension type professionals who would work closely with both schools and other units in the Ministry in the fuller utilisation of materials/media potential relative to curriculum reform needs and general educational development.

(7) Special and early attention should be paid to the existing vital gaps in areas where there are no or inadequate texts, for example primary science texts and mathematics texts for grades 7–9 of the all-age schools.

(8) A survey should be made of the need for resource and reference materials including inadequacy of teachers guides and curriculum guides. Standardised listings of reference and resource materials have to be developed for schools of all different levels.

(9) External technical assistance will be vital for the achievement of the above in both the survey phase and the development of specific programmes and capabilities.

(10) There should be a careful matching of equipment, media and technologies to the indigenous Jamaican situation and to the country's financial and staff resources.

(11) There is a need for the implementation of modern business methods and equipment relative to the distribution responsibilities of the branch and the procurement of essential equipment after a cost/benefit assessment of a more modern approach as compared to the current procedures has been made. This should include the possibility of computerising the inventory, ordering and distribution function. Technical assistance will be essential in this area as well.

(12) Priority should be given to the types of printed matter, including materials and aids that have the widest usefulness. Special attention should be given to schools with inadequate facilities. The more sophisticated media such as film strips, films, cassette tapes, records, radio and television programmes should be utilised where such methods can be effectively used and where the maintenance of equipment is dependable. Cost/effectiveness of each type of media, including the number of students that can be served, should be a guide in choosing the types of materials and media. To do otherwise would in fact be supporting machines rather than the furthering of student education.

(13) External assistance through qualified short-term consultants

will expedite the process of selecting appropriate training materials and equipment for the various types of schools in the system with special attention paid to the materials/media needs of the teachers colleges.

(14) It is necessary for a survey to be made of training needs relative to the utilisation of materials/media and a time-phased provision for education/training for personnel in this field through domestic and external study, workshops, seminars and upgrading programmes, and visits to countries where similar programmes are underway.

(15) For the Correspondence Section there needs to be a decision about the concept as to whether it should be a supplementary programme to enable individuals to pass qualifying examinations, as at present, or whether it should provide substantial educational knowledge and skill to support specific areas of need. There should be technical assistance which will provide information on all kinds of correspondence programmes in other places and an assessment of which models would be most meaningful for Jamaica.

(16) Correspondence course programmes, if properly conceptualised and professionally executed, can be a very useful supplement to the educational process. Thus an assessment of both the concept and manner of carrying out the programme is needed at this time.

(17) Inasmuch as a significant number of problems relative to the effective use of ERTV are physical/mechanical, there is need for a programme directed toward this specific problem. Technical assistance inputs would be a major help in training and redeveloping an operations/maintenance systems procedure.

(18) Complete electrification is essential to the fuller use of ERTV if the decision is made. There is need for immediate electrification of all schools and where necessary through the use of portable generators.

(19) Problems of power outages and missing of ERTV transmissions create problems as some programmes are essential for going on to the next lesson. There should be a study on the various alternatives of coping with these problems: tandem transmissions, repeat transmissions, substitution, written lessons sent out in adequate time, etc., as well as the special problems of transmissions to remote and difficult terrain areas.

(20) There is the need for improved maintenance of vehicles in the Education Materials and Aids Division.

(21) There is urgent need for experimentation/research on media technology, etc.

(22) The need for close coordination with and utilisation of experimental schools re materials/media/technology is essential.

(23) The possibility of a regional text book programme should be explored, for example the Central American AID Regional Office for Central America and Panama programme.

(24) The possibility of using newspaper text books supplements and other non-traditional media methods should also be explored as a matter of priority.

(25) There is the pressing need to redress the budget problem currently faced by ERTV in view of the paradoxical mandate to expand and improve programmes while cutting costs.

(26) Vital to the utilisation of the whole ERTV activity is a cost/benefit analysis of the overall programme and of each of the component activities present or proposed. External technical assistance is essential to initiating this undertaking.

(27) There has been little attempt to explore the full potential of educational radio and this should be done. Special attention should also be paid to the cost/benefit aspects, as compared to ETV. This will call for external technical assistance. Adequate expansion, training, and development of staff would need to follow.

(28) There needs to be a greatly improved coordination between the three sections of the Division as it is currently structured or in any new type of structuring.

(29) There is a need for exploration of the possible uses of ERTV for skills training.

(30) There is also a need to explore the possible uses of ERTV for remedial education and teacher upgrading programmes.

(31) There is a similar need to explore the possible uses of ERTV for non-formal/continuing education and the community-centred education programmes.

(32) There is a need for additional training of ERTV staff and greater familiarity with the pros and cons—capabilities and practical limitations of ERTV.

(33) There is a need for a more integrated relationship with the curriculum and the Curriculum Development Unit of the Ministry.

5. Absence of Adequate Student Counselling and Vocational Guidance Personnel and Programmes

(1) The Ministry must first make a policy decision as to the essential nature of programmes of student counselling and vocational guidance relative to the Jamaican education system and its future directions.

(2) With this decision in hand a survey study of Jamaican needs in this area must be made so as to provide a more detailed blueprint or

set of guidelines for programme development, planning and training of personnel. This would involve external technical assistance working with Jamaican counterparts.

(3) With the making of a positive policy decision there would also be the need to include this subject area in the curriculum of the teacher training colleges and the U.W.I.

(4) There would also be the need to establish or classify trained counselling and guidance personnel as having full professional status along with teaching personnel in the teachers classification system.

(5) The study proposed above must also address itself to the strategy of implementation of the programme, whether to begin training of full-time professionals for the schools starting perhaps with the secondary level, or on the other hand providing for a gradual introduction to counselling and guidance on the part of almost all teachers, until such time as the system can move toward the full use of full-time professionals in the system.

(6) There would also be the need to incorporate this area in the various summer workshops and other teacher upgrading programmes.

(7) If both the short- and long-range approaches are agreed upon there will have to be adequate longer-range plans for full-time guidance personnel and provision for their training either through newly developed in-country programmes or through training abroad.

(8) Consistent with this areas must be identified where counselling and guidance are serving different needs—such as student counselling needs for the primary level and world-of-work specific job identification needs at the secondary.

(9) A newly mandated counselling and guidance programme must develop and work in close relationship with the examinations/testing/evaluation unit in the Ministry as many of the activities of both are mutually re-enforcing.

(10) The student counselling and vocational guidance programmes, as they are developed, must pay attention to the special nature of the needs and opportunities relative to non-formal/continuing education programmes.

(11) The student counselling and vocational guidance unit must pay special and serious attention to the guidance and counselling needs of out-of-school youth of school age and the development of programmes which will effectively address themselves to, and assist with, the needs of this youth group.

(12) There must be a close working relationship between the counselling and guidance unit in the Ministry and the programmes of the Ministry of Youth and Community Development and the Ministry of Labour and Employment. However, the primary responsibility for the

counselling and guidance of youth should rest with the Ministry of Education. A major reason is that counselling and guidance directly pertain to all levels of the education system while they relate only to selective programmes of the other two ministries and the country should not attempt to have three separate programmes of training, counselling and guidance staff for school-age youth. The possibility of joint counselling and guidance programmes with the other ministries or at least common education/training programmes for all could be explored.

(13) The counselling and guidance unit must in terms of vocational guidance responsibilities have adequate job market/employment needs statistics available to it. This especially involves close co-operation with the Employment Statistics Division of the Ministry of Labour and Employment. As necessary, the unit should assist that Division to improve its employment/unemployment data and, as advisable, should co-operate in the conducting of improved manpower/employment needs surveys.

(14) There is also the closely related need to work with the Employment Services programme of the Ministry of Labour.

(15) There needs to be a regular and periodic evaluation of the counselling and guidance programmes of the Ministry and, as far as possible, the development of joint programmes of evaluation with other ministries, and revisions based on feedback so as to improve the effectiveness of these programmes relative to the country's human resource development needs.

(16) There is the need to reorganise, upgrade and expand a fully qualified counselling and guidance unit in the Ministry with outreach to the schools. In doing this attention should be paid to the recommendations on vocational guidance contained in the Canadian (CIDA) experts' report on vocational training needs in Jamaica. These CIDA advisers should also be utilised further in the development of the counselling and guidance unit.

(17) Indication of proficiencies in counselling and guidance should also be required in future job classification statements on teachers' duties.

(18) Attention must be paid by the counselling and guidance unit to the areas of special education, education of the handicapped, retarded, etc. External technical assistance would be advisable.

(19) Greater attention and programmes of pre-vocational counselling on the world-of-work, job opportunities, etc. should be directed at the upper primary and early secondary levels as well as more specific technical/vocation guidance relevant to education and skills ac-

quisition. Counselling relative to life choices is appropriate at this level.

(20) The student counselling aspect of the programme should be broad, non-traditional and be concerned with such factors as the child's welfare and educational achievement as well as nutrition, psychological adjustment, familial and socio-economic factors. The counselling and guidance unit should work closely with the Educational Planning Unit in developing and carrying out programmes of applied research in this area.

(21) Special attention must be paid to the examination system as it exists at present, as it is virtually useless in providing the kind of ongoing achievement evaluation in a way that can give a meaningful guidance and be a remedial instrument for the trained teacher in effecting greater student achievement.

6. Lack of Appropriate Pre-professional Vocational and Pre-vocational Programmes Geared to the Needs of Youth, the Community and the Economy

(1) It is essential that there be a much improved and thought-out focus on vocational training programme needs in Jamaica as there are presently no clearly stated objectives, programmes of implementation or coordination among the various activities which currently exist. There is a critical need for a policy decision which will at least give due importance to this area and lay down the necessary terms of reference relative to national objectives and provide a mandate for the development of effective programmes.

(2) There also needs to be a clear delineation of the responsibilities, relative to the programmes in this general area, of the Ministry of Education and those of other ministries. The currently overlapping programmes bordering on competition are wasteful and counter-productive, at a time when all the country's institutions must pull together to help solve the serious problems of unemployment and lack of adequate training among youths. This effort should be an integral part of a National Human Resources Development Plan for the country shared in by all the ministries and specialised agencies.

(3) Within this broader context there is a need to define the role of the Ministry of Education in vocational/technical training. The relationship of this unit to the other units and programmes of the Ministry is also of vital importance. Special attention should be paid in this respect to the *CIDA Report on Technical/Vocational Education Section, Ministry of Education*.

(4) There is need for a Board of Vocational/Technical Training to

help set policy in this area and to advise on the planning and implementation of subsequent programmes. A possible core group is the presently informally constituted Committee of Principals of Technical High Schools.

(5) There is need for better statistics from the Labour Ministry concerning employment/unemployment/underemployment. There is also a need for better training needs surveys as indicators for the types of training which should be provided for youth.

(6) There also needs to be an evaluation of the extent to which the U.W.I. can meet the advanced technical professional needs of the country and a closer and more systematic dialogue developed between the University and the Ministry of Education. This action should include, *inter alia*, the National Planning Agency and the Educational Planning Unit of the Ministry of Education.

(7) As discussed in chapter V section 6 and in Annex C there is a need for additional technical high schools (or conversions) with various main and sub-specialisations.

(8) There is a need for a minimum of three community colleges, regionally spaced to help meet Jamaica's middle manpower and pre-professional needs (as discussed in chapter V section 6).

(9) Emphasis needs to be placed on youth and young women in particular since they compose the largest group and the greatest increase among the unemployed.

(10) Special attention must be paid to the needs of women relative to employment, the society and the economy; and to define and broaden job opportunities available to women in order to provide greater equality of employment opportunity and preparatory training.

(11) There is need for a Total National Human Resources Development Plan (see section 9) and, within this context, a broadly based human resources education/training needs survey.

(12) Greater provision should be made for the higher technical needs of the country, especially those which are of an advanced technical nature as compared to the professional programmes of the U.W.I. There should be a re-evaluation of the role which C.A.S.T. and J.S.A. can play in this development.

(13) There is a need for a technical/vocational section within the Ministry of Education with a clear definition of the functions of the section and the staff requirements.

(14) There is need for a professional upgrading programme to serve all of the various specialists in vocational and technical education.

(15) There is need for regular programmes of education and training in this area including provision for seminars, workshops etc. and opportunities for training abroad.

(16) There should be a close liaison with the Ministries of Youth and Community Development and Labour relative to the manpower needs and the employment potential in the public sector and joint investigations of the in-service manpower training needs of Government.

(17) There needs to be a programme of applied research relative to vocational/technical training needs of Jamaica and a related programming/feedback to assist in the improvement of the technical/vocational educational programmes.

(18) There is need for extensive and various types of external technical assistance to help the Jamaican professionals in the design and development of the proposed activities mentioned above.

7. An Examination System which is Socially and Academically Dysfunctional

(1) The Jamaican examination system is clearly not meeting the needs of the education system and in fact is socially and academically dysfunctional to the individual educational and country manpower needs. There is a pressing need for a policy decision which recognises this state of affairs and provides a mandate for a change in this broad area based on experimentation and studies and evaluation of current methods employed as compared to modern methods of testing and evaluation. Qualified external technical assistance would be essential to this reform effort.

(2) There needs to be an evaluation of each of the currently administered examinations relative to how well it is measuring what it is supposed to measure and also whether the purpose of the examination is actually what is needed in each particular case.

(3) As experimentation opportunities permit there could be a comparative application of both the present and the revised evaluation methods in selected schools, or in experimental schools as they are available, in order to provide a more empirical and definitive basis for the programme of examination reform.

(4) In addition there is a need to Jamaicanise the examination system so that it is directly relevant to Jamaican needs, youth, the education system and the economy.

(5) A modern system should be developed that will provide a continuing assessment of student achievement, beginning with the first grade, so that learning deficiencies may be identified promptly and corrected before advancement to a higher grade. This system should be one that also measures teaching effectiveness in every grade. It should aid in identifying individual student aptitudes, assist in direct-

ing students to follow aptitudes and opportunities, and in awakening student interests in various types of employment and career activities. It should provide a meaningful record of student achievement at each stage of education. This approach should not be subverted to serve as an entrance examination or control gate for other institutions relative to the places available at any one point in time. External technical assistance is important to this development.

(6) Tertiary/higher learning institutions should develop their own unique criteria and their own evaluation on the qualifications of applicants for entrance. Technical assistance would also be useful in this activity.

(7) There is a need to introduce modern evaluation and testing concepts into the curriculum of the teachers colleges and the U.W.I.

(8) There is a need to look into the unit cost and cost/benefit concepts of the present system of mainly external examinations relative to the advantages of completely Jamaicanising the student examination/evaluation process.

(9) There is a need to clarify and develop the relationship of the Jamaican education system and Ministry of Education with the Caribbean Examinations Council (C.X.C.) especially since the function of the C.X.C. appears mainly that of improving the *administration* of the current overseas-based examination system. There is need for a Jamaican policy on examinations and student evaluation relative to the activities of the C.X.C. There should be a Jamaican strategy on how the C.X.C. might best serve Jamaica's educational needs.

(10) Consideration should be given to the development of a new Jamaican testing/evaluation/assessment/examination programme with the possibility of some degree of regional integration.

(11) There is also the need for the development of other supplementary types of measurement - tests of aptitude, mental maturity, identification and assessment of students with learning handicaps of all kinds, for example, visual, auditory, mental, physical, emotional, nutritional, etc.

(12) There is a need for programmes of experimentation over the whole area of student testing, evaluation, etc. including extensive utilisation of experimental schools, the need for the development, application and assessing of alternative concepts and approaches, and the development of a meaningful feedback system.

(13) Relative to all of the points raised above there is a need for appropriate qualified external assistance and the training and upgrading of Jamaican testing/evaluation personnel.

8. Ministry Lack of an Adequate Management, Planning Information System Capability and a Programme of Inspection and Supervision

(1) Although a review of the structure and organisation of the Ministry was made by the Organisation and Methods Division of the Ministry of Finance, and a number of its recommendations are in the process of implementation, there is clear indication of need for a further review with special reference to the functions, professional services, organisation and structure of the Ministry.

(2) In view of the need for professional educational knowledge and inputs as distinct from public administration precepts in providing the basis for reform, technical educational assistance expertise should be sought for this purpose.

(3) A clear definition of the role and functions of the Ministry of Education in relation to the professional aspects of its work needs to be made, so that it can function efficiently and establish firmly its leadership in setting up a modern, progressive and effective education system for the nation.

(4) With the establishment of the professional criteria needed to delineate the aims and objectives of the educational process, the purpose and directions of the administrative mechanics necessary to serve and support the educational process will be better defined and a more effective system and organisation can be designed.

(5) Since the Ministry of Education is the constitutional, political and executive centre for national educational development it is essential that it has the professional, administrative and management capacity and capabilities to undertake and successfully carry out its responsibilities.

(6) There are some twenty-five specific areas in which the Ministry needs to develop its capabilities and it is clear that technical assistance will be needed in varying degrees in this implementation.

(7) The following areas need immediate attention on a priority basis:

- (a) Updating and modernising of educational statistics with the introduction of computerised data processing.
- (b) Staffing, equipping and developing the Planning Unit so that it can address itself to the following areas as quickly as possible.
 - (i) achieving a Ministry capability in educational economics, cost efficiency and educational finance;
 - (ii) designing and constructing of schools and facilities to meet broad educational needs;
 - (iii) evaluating the functioning of the system in order to better

- meet educational needs as they relate to national development objectives;
- (iv) preparing a rolling national education plan based on continuous assessment of the system.
- (c) Establishing a National Education Development Centre to provide facilities for conferences, demonstrations, workshops and seminars for such groups as:
 - (i) upper and middle level managers in the Ministry
 - (ii) principals and school administrators
 - (iii) professional groups, teachers, teacher-librarians, guidance counsellors, etc.
 - (iv) sub-professionals
 - (v) labour and service superintendents
- (d) Establishing an information and public relations service.
- (e) Establishing a modern personnel classification and career development service.
- (f) Setting of standards and criteria for school management.
- (g) Establishing of an adequately staffed and organised unit for guidance and counselling.
- (h) Undertaking a major programme with technical assistance to improve and upgrade the inspection and supervision personnel of the Ministry.
- (i) Further revitalising the Teacher Education Division of the Ministry of Education.
- (j) Redefining the concepts of a media centre and production of educational materials, texts etc., as well as redefining its relationship with the Curriculum Development Division.
- (k) Setting up a division of Continuing Education.
- (l) Setting up a division for Technical/Vocational Education.

9. The Absence of a National Human Resources Development Plan and Lack of Ministerial and Other Levels of Total National Human Resources Education/Training Objectives and Efforts including Those of a Non-Formal Nature

The severe problem exists for forward planning and decision making due to the lack of a National Human Resources Development Plan as well as the lack of coordination in government's overall activities in educational development and financing. (See chapter V section 9).

It cannot be too strongly stressed that the waste of money, energy, abilities and skills resulting from overlapping, inter-ministerial competition and budgetary shortfalls due to lack of planning is a severe

constraint on a developing country that is already very short of these resources.

Since there is evidence that the government has taken a decision to have coordinated planning by designating an inter-ministerial committee to coordinate the country's efforts in formulating plans for human resources development, it is necessary to stress the importance of the need for follow-through action.

All the evidence indicates that there is urgent need for a better understanding of the relationship of planning in the various relevant ministries with that of a National Planning Agency. An early decision needs to be taken as to whether the National Planning Agency is a coordinating agency setting guidelines to be followed by the various sectors or whether it intends to take on the functions of the Planning Units of each ministry, resulting in an ineffectual centralisation and further waste of energy, time and skills owing to the duplicative effort.

As the Ministry of Education is clearly the main ministry in planning for human resources development a decision needs to be taken which will validate this primacy, and a Human Resources Development Committee should be established under the leadership of the Ministry of Education.

As there is obviously a need for highly qualified professional advice in developing a Plan for Human Resources Planning, technical assistance both Jamaican and external should be made available as necessary to assist the work of the Committee.

The membership of the Committee should include all the ministries involved in education/training, the National Planning Agency, and appropriate representatives from agriculture, commerce, industry, etc.

At the same time a decision needs to be taken to designate precisely the areas of responsibility for executing portions of a comprehensive plan.

Either in relation to the Human Resources Development Committee or through a related organisation there is urgent need to secure the co-operation and participation of the University of the West Indies in the planning of human resources development for Jamaica. The role of the University in meeting the needs of Jamaica's future social, economic and political development is so important that its present peripheral and *ad hoc* position relative to Jamaica's future development needs is already a severe constraint; and further failure to assist in meeting the needs of the Jamaican society will be a very serious constraint to the country's development.

10. Low Internal and External Efficiency of the System

- (1) As indicated in chapter V section 10 there is a basic and immediate need for an improved data collection capability, methodology and reliable base data. The Ministry has to make the decision to begin immediate work on this deficiency. A lot can be done with the staff currently in the Education Planning Unit if the clear priority and mandate are given to them. External technical assistance in educational statistics is also needed as well as an organised programme of training and upgrading of Jamaican personnel.
- (2) There is a specific need to standardise many of the data category concepts, preferably on a Caribbean regional basis.
- (3) There is also the need for a decision at top levels in the Ministry in support of an educational management policy which places a major emphasis on cost efficiency/effectiveness and improved financial analysis relative to all of the educational activities under the responsibility of the Ministry as well as those shared in the national budget. There is also a need for a continually improved statement of system objectives against which measurements can be made.
- (4) There is a need for modern programme budgeting methods in the Ministry, a planning, programming, budgetary systems (PPBS) capability etc. The Ministry would benefit from technical assistance in this area.
- (5) There is consequently the need for the implementation of these concepts throughout the Ministry and into the system. A major in-service upgrading and training programme would be essential and should be backstopped jointly by the Education Planning Unit and the Finance Division of the Ministry. These two units should also share the follow-through responsibilities. Appropriate external technical assistance will also be necessary.
- (6) Special attention must be given to the extent and quality of the data for unit cost and unit output (achievement) cost throughout the system.
- (7) There is the need for improved conceptualisation and capability in dealing with efficiency and effectiveness throughout the education system. The development of these concepts/tools should be the responsibility of the Education Planning Unit of the Ministry. External technical assistance and the training/upgrading of Jamaican staff will be necessary in this area.
- (8) Beyond the general concepts, measurements on the contribution (and the unit output cost etc.) of the various components and methodologies of the education system should be carried out on the system under the direction of the Education Planning Unit. **There**

should be a continuing review of the major constraints (and others) identified in this report relative to their impact on systems efficiency and effectiveness. Among the twelve major constraints special attention must be paid to programmes of vocational training relative to the extent they are meeting and should meet the needs of the individual and the society in general.

(9) It would also be helpful to the longer-range development of these concepts relative to the education system if a course on educational economics, financing, costing efficiency and effectiveness could be introduced at the School of Education of the University both for courses and the conducting of workshops/seminars etc. for Ministry and other professionals in the system. Technical assistance for the preparation of the course outline, reference materials etc. would be essential.

(10) Finally there needs to be a greater use and application of the cost efficiency and cost effectiveness data as a basis for decision making and the planning of future educational reform.

11. Lack of Adequate Research, Experimentation, Evaluation and Feedback for System Improvement

(1) As discussed in chapter V section 11, the Jamaican education system is critically lacking in research, evaluation and feedback for purposes of system improvement. It is clear that a firm decision, fundamental to education planning and development, must be taken to establish the necessary organisation and funding to remedy this situation as early as possible.

(2) There is a primary and pressing need for improved data collection capabilities and programmes so that more adequate data will be available for the purposes of educational planning, finance and cost analysis and the projects and evaluations which are necessary to system improvement. There is an immediate need for external technical assistance in educational statistics collation and analysis. Extensive upgrading/training is also critical to this area.

(3) As indicated in chapter V, the Education Planning Unit should be provided with the necessary capabilities and budget to:

- (a) assist the Ministry in developing a research policy;
- (b) assist the Ministry in developing a research capability;
- (c) assist the Ministry in the management of research to carry out studies on its own as well as to arrange for some of the necessary research to be undertaken by the U.W.I. and other suitable organisations.

(4) Another critical area shortage is in the use of experimentation/

experimental schools to ascertain the value of new curricula, new techniques, new methodologies and the use of modern technology prior to introducing them generally. A decision needs to be taken to construct and/or remodel a number of primary and secondary schools specifically for these purposes along modern lines.

(5) The experimental schools could also be established in such areas that experiments could be made in new types of organisation such as work-study programmes, learning resources centres, year-round schools, and non-formal approaches.

(6) A policy should also be finally established to provide for a systematic evaluation of:

- (a) the system
- (b) individual schools
- (c) instruction
- (d) student performance and potential
- (e) teacher performance and capability
- (f) costs
- (g) physical facilities
- (h) text and media reference material
- (i) curricula
- (j) methods and techniques
- (k) articulation through the system
- (l) extent to which system is meeting societal needs

(7) Particular attention needs to be paid to the teachers colleges which presently appear to be peripheral rather than at the very centre of the system. A most careful and continuous evaluation should be made of teacher preparation, especially in terms of quality and achievements to the changing and developing needs of the system.

(8) The Ministry of Education should also have a system of critical evaluation, assessment, and feedback in its work and performance.

(9) The need for technical assistance in developing a comprehensive programme and system of research, evaluation and feedback is essential for the development of this important area which is vital to proper planning and development.

12. Need for a Programme of Continuing Education including Community Involvement in, and Support for the Educational Process

(1) A basic policy decision has to be made by the Ministry of Education on the need for a plan for continuing education with special emphasis on developing the inherent potential and productivity of rural areas educationally, economically, socially and politically.

(2) Inherent in such a policy decision should be the need to initiate and accept non-traditional and far-reaching changes in the system of education.

(3) At the present time some 10% of approximately 55,000 in the age group 15- 19 receive further education or skill training. The support and participation of the community is essential in addressing this socially and economically critical problem.

(4) The role of the schools as a nucleus for community development, especially in rural Jamaica, has tremendous potential and is a vitally needed development.

(5) There is a need for new and unconventional/non-traditional methods of education to develop the potential of youth and adults.

(6) There is the need for community support and involvement to develop the potential of the schools including:

- (a) agricultural and economic development
- (b) cultural and social growth
- (c) political and civic awareness
- (d) personal growth and development

(7) There is urgent need to introduce modern farming technology to small farms of the community (See Annex C).

(8) There is need for an intensive programme of non-formal education in agriculture to meet the needs of youth in the age group 15-19 (See Annex C).

(9) There is need for a general awakening of interest in the importance of agriculture to economic, social and political development (See Annex C).

(10) The development of a programme of arts and crafts is needed to underpin a viable crafts industry which could serve not only the growing national technology and personal development interests, but also the tourist industry. (See chapter V section 12.)

(11) A programme to foster interest in the development of the tourist industry as an important sector in the country's economic development is necessary.

(12) A programme of sports and games activities to stimulate and serve the large numbers of young people in the communities is needed. (See chapter V section 12.)

(13) Programmes of social, creative and cultural activities for personal development and to give cohesion to and create interest in community life as a whole are vital to the country's development. (See chapter V section 12.)

(14) Inculcation at the community and personal levels of concepts of self-reliance and positive work ethic attitudes is needed.

(15) There is a need to renovate sub-standard schools and to plan new schools in a way that will also provide the necessary physical amenities for continuing education programmes. (See chapter V section 12.)

Chapter 7

PROJECTS RECOMMENDED FOR IMPLEMENTATION

As indicated in chapter VI there are many areas where educational reforms are essential to development. In most cases the implementation of these reforms is dependent upon policy decisions which will have to be made by the Government of Jamaica.

Until these decisions are made it will not be possible to quantify or provide project implementation in specific terms. Therefore, the recommendations made in this chapter are in the form of project summary outlines of the proposals dealt with in chapter VI.

It is intended that the areas summarised in this outline can, in the light of the material reviewed in chapter VI, form the basis for project formulation and development by the Planning Unit of the Ministry of Education within the scope of a National Education Plan.

1. PHYSICAL IMPROVEMENT AND EXPANSION

A. *Primary Schools*

- (i) physical facilities inventory
- (ii) new construction and design
- (iii) modernisation including electrification of existing schools
- (iv) experimental school remodelling/construction
- (v) furniture and educational equipment
- (vi) school maintenance programmes
- (vii) upgrading for community educational usage

B. *Junior Secondary Schools*

- (i) physical facilities inventory
- (ii) new construction and design (especially in rural areas)
- (iii) remodelling for experimental school application
- (iv) furniture and educational equipment
- (v) school maintenance programme
- (vi) expansion to absorb all-age school students
- (vii) gradual conversion to full secondary schools
- (viii) upgrading for community educational usage

C. *High Schools*

- (i) In general these are similar to the items identified above under B. *Junior Secondary Schools*.

- (ii) new construction and general modernisation
- (iii) new construction (agricultural/vocational and specialised technical)

D. Teachers Colleges

- (i) modernisation and expansion (general)
- (ii) new construction including dormitory facilities and multi-purpose learning centres
- (iii) new design consistent with curriculum reform
- (iv) furniture, educational equipment and reference materials
- (v) expansion of U.W.I. School of Education
- (vi) provision for need for specialised training (also sub-sections A, B, C above)
- (vii) development of a continuous programme of research/evaluation in these areas (also sub-sections A, B, C, above)
- (viii) provision of technical assistance to help selectively with the above areas (also sub-sections A, B, C above)

2. MEETING TEACHER SHORTAGES:

A. Training Teachers and Professionals

- (i) primary teachers
- (ii) junior secondary teachers
- (iii) upper secondary teachers
- (iv) teacher training instructors
- (v) teacher-librarians
- (vi) professional librarians
- (vii) counselling and guidance professionals
- (viii) special education professionals
- (ix) vocational education teachers
- (x) inspector/supervisors

B. Upgrading Teachers and Professionals

- (i) primary teachers (especially pupil assessment and evaluation)
- (ii) junior secondary teachers (especially science and social studies)
- (iii) upper secondary teachers (especially mathematics and science)
- (iv) teacher training instructors
- (v) teacher-librarians
- (vi) professional librarians
- (vii) counselling and guidance professionals
- (viii) special education professionals

- (ix) vocational education teachers (including J.S.A. and C.A.S.T.)
- (x) school principals
- (xi) inspector/supervisors
- (xii) provision for need for specialised training (also sub-sections A and B above)
- (xiii) development of a continuous programme of research/evaluation in these areas (also sub-sections A and B above)
- (xiv) provision of technical assistance to help selectively with the above areas (also sub-sections A and B above)

3. DEVELOPING RELEVANT CURRICULA:

- (i) evaluate current texts and media
- (ii) re-design/develop curriculum
- (iii) institute curriculum research, evaluation, feedback
- (iv) utilise experimental schools
- (v) re-design and develop vocational curriculum and vocational guidance
- (vi) establish and develop Ministry of Education curriculum development and media centre
- (vii) provide for need for specialised training
- (viii) develop a continuous programme of research/evaluation in these areas
- (ix) provide technical assistance to help selectively with the above areas

4. DEVELOPING TEXTS, TEACHING MATERIALS AND MEDIA:

A. *Establish/Develop an Educational Materials Centre for:*

- (i) materials development/preparation and Jamaicanisation
- (ii) materials evaluation relative to curriculum re-design/development
- (iii) materials production
- (iv) materials distribution system
- (v) evaluation of possible new applications
- (vi) applications of instructional media

B. *Text and Teachers Guide Development and Distribution System*

- (i) textbook development and evaluation
- (ii) teachers guide development and evaluation
- (iii) development and supply of basic reference resource kits to schools

- (iv) improvement of storage, inventory, ordering and distribution systems

C. *Development and Usages of Instructional Technologies*

- (i) effective use of ETV including evaluation
- (ii) programming of ETV materials, etc.
- (iii) mechanical and physical aspects (including power)
- (iv) maintenance system in ETV
- (v) effective use of educational radio
- (vi) programming of educational radio materials
- (vii) mechanical and physical aspects including power
- (viii) maintenance system in educational radio
- (ix) role, use and effectiveness of correspondence programmes
- (x) provision for need for specialised training (also sub-sections A and B above)
- (xi) development of a continuous programme of research and evaluation in these areas (also sub-sections A and B above)
- (xii) provision of technical assistance to help selectively with the above areas (also sub-sections A and B above)

5. STUDENT COUNSELLING AND VOCATIONAL GUIDANCE PERSONNEL AND PROGRAMMES:

- (i) development of a strong unit within the Ministry of Education
- (ii) development of programmes in teachers colleges and U.W.I.
- (iii) development of programmes in personal and community self-reliance
- (iv) provision for need for specialised training
- (v) development of a continuous programme of research/evaluation in these areas
- (vi) provision of technical assistance to help selectively with the above areas

6. PRE-VOCATIONAL, VOCATIONAL AND PRE-EMPLOYMENT/CAREER GUIDANCE PROGRAMMES:

- (i) improvement of labour statistics and employment needs projections
- (ii) training programmes related to surveys on training needs and youth employment opportunities
- (iii) constitution of a Board of Vocational/Technical Training
- (iv) construction of three agricultural/vocational schools

- (v) development of other types of technical/vocational schools
- (vi) institution of programmes focussing on a work/study ethic especially in the context of rural development
- (vii) institution of programmes focussing on an understanding of the world of work as a basis for career development
- (viii) construction of three community colleges for meeting of Jamaica's middle manpower and pre-professional needs
- (ix) development of strategies for employment programmes and opportunities for women
- (x) development of a total national resources development plan in concert with other ministries having training responsibilities and with the National Planning Agency
- (xi) assisting the National Planning Agency and other ministries in developing an employment strategy for youth including programmes of employment generation, training, guidance and placement
- (xii) development of a Technical/Vocational Unit within the Ministry
- (xiii) provision for need for specialised training
- (xiv) development of a continuous programme of research/evaluation in these areas
- (xv) provision of technical assistance to help selectively with the above areas

7 EXAMINATIONS SYSTEM REFORM:

- (i) assess effectiveness of each of the current examinations
- (ii) ascertain needs for modern evaluation/testing methods
- (iii) develop experimentation programmes in student evaluation using proposed experimental schools
- (iv) develop criteria for evaluation of student achievement
- (v) develop a modern Jamaican system of assessment of student achievement
- (vi) maintain a meaningful (to Jamaica's needs) relationship with the Caribbean Examinations Council
- (vii) explore possibility of some type of regional coordination relative to student achievement evaluation programmes

- (viii) develop special evaluation programmes and testing for students with learning handicaps
- (ix) study the differences in individual evaluation needs of rural and urban children within the context of the regional needs of the communities
- (x) provide for training and upgrading programmes on student achievement evaluation and the incorporation of these concepts into the curricula of the teachers colleges and the U.W.I.
- (xi) provide for need for specialised training
- (xii) develop a continuous programme of research/evaluation in these areas
- (xiii) provide technical assistance to help selectively with the above areas

8. ADMINISTRATION AND MANAGEMENT (MINISTRY OF EDUCATION):

- (i) establish a computerised student record system
- (ii) improve the personnel record system
- (iii) fully staff and equip the Educational Planning Unit
- (iv) convert educational statistics to computerised data processing
- (v) equip the Education Planning Unit with data processing terminal which would be integrated with the Government's computer system
- (vi) update O&M study of the Ministry of Education using qualified educational management consultant group
- (vii) upgrade educational statistics capability
- (viii) upgrade educational planning capability
- (ix) institute a facilities/maintenance system—upgrade maintenance of Ministry of Education on a priority basis
- (x) upgrade inspection capability
- (xi) upgrade supervision capability
- (xii) establish a modern information system
- (xiii) establish a National Education Development Centre
- (xiv) institute modern personnel classification, career development and incentives programmes
- (xv) establish standards and criteria for school management
- (xvi) institute PPBS (a programme planning and budgeting system)
- (xvii) based on the *Sector Survey* develop a continuous programme of systems evaluation

- (xviii) develop comprehensive programme on educational research
- (xix) institute concepts of educational economics, cost efficiency and educational finance
- (xx) develop in-service and upgrading programmes for all levels of Ministry personnel
- (xxi) initiate programmes of modern registry and records keeping
- (xxii) plan and implement programmes of teacher training
- (xxiii) create and develop a vocational education division
- (xxiv) provide for the development of a schools services division
- (xxv) initiate programme for periodic objective evaluation of purchasing of Ministry of Education
- (xxvi) provide for greater emphasis on school design, engineering and maintenance
- (xxvii) decentralise administrative and managerial positions
- (xxviii) provide for need for specialised training in these areas
- (xxix) develop a continuous programme of research/evaluation in these areas
- (xxx) provide technical assistance to help selectively with the above areas

9. NATIONAL HUMAN RESOURCES DEVELOPMENT:

- (i) assist in establishing objectives, criteria and an information system for the Human Resources Development Committee
- (ii) assist in preparation of national Human Resources Development Plan
- (iii) make co-operative effort with National Planning Agency and other ministries to avoid duplication of activities
- (iv) develop training needs survey programme
- (v) develop programmes which pay special attention to the employment needs of youth
- (vi) provide for need for specialised training
- (vii) develop a continuous programme of research/evaluation in these areas
- (viii) provide technical assistance to help selectively with the above areas

10. INTERNAL AND EXTERNAL EFFICIENCY OF THE SYSTEM:

- (i) set up system of qualitative educational statistics and

- standardised concepts as a basis for improving the efficiency of the system
 - (ii) institute a modern planning programme budgeting systems approach
 - (iii) introduce concepts of efficiency and effectiveness through the Education Planning Unit
 - (iv) provide for need for specialised training
 - (v) develop a continuous programme of research/evaluation in these areas
 - (vi) provide technical assistance to help selectively with the above areas
- 11. RESEARCH, EXPERIMENTATION, EVALUATION AND FEEDBACK:
 - (i) undertake relevant research for the system with the assistance of the Education Planning Unit
 - (ii) plan and develop a system of contractual arrangements for educational research to be undertaken by universities, institutions, organisations etc.
 - (iii) organise experimentation in existing school plan and construct several new experimental schools, also design and organise a programme of experimentation in existing schools
 - (iv) establish educational norms and plan and design curricula, programmes, methodologies and curriculum development centres to support them
 - (v) establish a modern system of testing and evaluation and feedback for system improvement
 - (vi) assist in the general upgrading of teacher education
 - (vii) address the causative factors for constraints in the system (see chapter 8)
 - (viii) provide for need for specialised training in these areas
 - (ix) develop a continuous programme of research/evaluation in these areas
 - (x) provide technical assistance to help selectively with the above areas
- 12. CONTINUING/COMMUNITY EDUCATION PROGRAMME:
 - (i) set up a programme of non-formal and continuing community education
 - (ii) establish special programmes of community education in activities directed towards greater degree of individual and community self-reliance, with the school as the nucleus of the programme to develop

a greater degree of community participation in and support for the educational process

(iii) provide for need for specialised training

(iv) develop a continuous programme of research/evaluation in these areas

(v) provide technical assistance to help selectively with the above areas

IDENTIFICATION OF FURTHER STUDIES REQUIRED FOR PROJECT DEVELOPMENT

The major purpose of chapter VII was to identify projects for domestic and external financing and implementation which were essential to a meaningful and balanced programme of educational reform. It became apparent during this study that there were various reform activities which would be essential to a systems reform where there was insufficient data, expertise or empirical information on the causative factors on the problem or constraint.

With this acknowledgment the Team identified project areas where, in turn, additional work or systematic research and evaluation will have to be carried out before the problem can be fully understood or developed into a project for implementation.

Following is a list of these problem areas in which further research and evaluation should be carried out in order to support the educational reform effort, and contribute directly to the information base essential to a rolling development plan. The Sector Team recommends that these and related research areas be addressed by the Planning Unit in conjunction with the appropriate substantive sections of the Ministry.

1. Study of school drop-outs and force-outs by type of schools, location, grades completed, age and sex of students, the influence of examinations and environmental factors, to identify causes and possible remedial action.
2. Study of absenteeism/low school attendance by type of school, geographic location, physical facilities, age and sex of students, societal/familial and other factors, so that an interpretation might be made of causes and possible corrective action.
3. Study of distribution of students by grade, type of school, sex and age.
4. Study to determine future growth of enrolment by level.
5. Study to determine realistic measures of scholastic achievement.
6. Evaluation of the influence of regional and societal/familial factors on student learning/achievement and on the effectiveness of the school education system.

7. Study of the influence of geographical/regional factors on learning and individual achievement/school output.
8. Standardization of a test of mental maturity.
9. Development of a standardized battery of easy-to-administer and thoroughly Jamaicanised aptitude/skill tests which would be made available to employers as well as training institutions.
10. Study on the concepts, possible development and applications of a modern Jamaican system for student achievement, testing, evaluation as a basis for academic advancement.
11. Analysis of student testing and evaluation programmes relative to achievement with special reference to the distinctions between students in rural and urban areas.
12. Detailed cost studies per student unit, per output (achievement) unit, school unit, etc.
13. Study of educational level of the Jamaican people.
14. Study of educational level/composition of the active population.
15. Study of educational level/composition of the working population related to income level.
16. Assessment of educational demand/aspiration levels and categories for the population.
17. Study to determine educational demand for levels and categories of education/training by sector/industry.
18. Cost to the individual student of post-secondary education in Jamaica.
19. Analysis of post-secondary outputs at J.S.A., C.A.S.T., U.W.I.
20. Study of post-secondary drop-outs/force-outs completion rates and causes.
21. Selected tracer studies on school leavers/graduates from the school system.
22. Tracer studies on post-secondary school leavers/graduates.
23. Study of the integration of graduates/drop-outs of respective levels of education into useful and rewarding employment in terms of current situation and future possibilities.
24. Analysis of the structure, functioning, efficiency and cost effectiveness of technical/vocational education.
25. Comprehensive survey of education/training needs.
26. Study of available physical facilities, characteristics and conditions of the buildings, equipment, and teaching materials, maintenance and costs.
27. Evaluation of the degree of utilization of facilities including the distribution ratio of students to teacher/classroom/type of facility etc.

28. Analysis to determine average costs of the various types of physical facilities and average maintenance cost requirements.
29. Analysis of the socio-economic conditions experienced by Jamaican teachers.
30. Study of rates and causative factors of teacher attrition.
31. Study of import substitution possibilities for expatriate teachers and the potential effect on the education system.
32. Study on needs of educational professionals in Jamaica apart from classroom teachers.
33. Study of the definition and scope of education as a profession.
34. Assessment of the value of the present intern programme, the role of supervision and the methods of improving effectiveness.
35. Analysis of the supply and suitability of essential teaching materials, in the several learning stages and the feasibility of local and/or regional teaching materials development/production.
36. Study of the role of student counselling and guidance toward appropriate types of education at both the primary and secondary levels.
37. Study of Ministry of Education's procedures for personnel employed in the system including hiring/appointment, standards, qualifications, classification, promotions, upgrading/training and emoluments.
38. Study of the criteria and norms employed by the Ministry in the distribution of financial resources, procedures for the execution and control of expenditures, determination of budgetary sources and criteria for allocation.
39. Comparative study of resources and expenditures on programmes and services at each educational level.
40. Analysis and design of relevant base line data needs in order to improve the quality of data collection system.
41. Study on determinates for appropriate geographic siting of schools, based on density/population needs. etc.
42. Evaluation of the current status of utilisation/under-utilisation of existing school facilities with special attention to the problem of over-crowding.
43. Comparison of the quality of private and public schools at different levels of the education system.
44. Survey of nature, extent and effectiveness of non-formal education in Jamaica.

JAMAICA - BASIC DATA

General

Jamaica - Area (sq. miles)	4,411
Total Population (1972 estimate)	1,950
Total Population (Census 1970)	1,850
Urban Population (1970)	790
Rural Population (1970)	1,060
Urban as per cent of Total Population (1970)	42.7%
Rural as per cent of Total Population (1970)	57.3%
Total Population growth reflecting change from 1960 - 1970	250
Total Population growth rate reflecting change from 1960 - 1970	1.5%
Annual population growth rate (net) 1970 - 1971	2.2%

Economic

Gross Domestic Product (G.D.P.) at Current Factor Cost (1972)	J\$1,157,600
Major Components of G.D.P. 1972 :-	
Agriculture, Forestry and Fishing	9.1%
Mining	12.2%
Manufacturing	14.2%
Construction	11.3%
Distribution	13.9%
Central & Local Government	9.4%
Others	29.9%
G. D. P. Annual growth rate 1970/1971:-	
Current Prices	7.0%
Constant Prices (1960)	8.0%
National Income Per Capita (Preliminary figures 1972) (Current Prices)	J\$514.4
G. D. P. per capita (factor cost/current prices) Preliminary figures 1972	J\$599.8
Government Revenues as percentage of G. D. P. 1970/71	24.0%
Government Expenditure as percentage of G. D. P. 1970/71	24.8%

Education (1970 - 1971)*

Public Education Expenses as a percentage of G.D.P.	3.6%
Public Education Expenses as a percentage of Total Government Expenditure	14.5%
Percent of Population 4 & 5 years of age enrolled in Public Infant Schools	7.5%
Percent of Population 6 - 11 years of age enrolled in Public Primary and All-age Schools	88.5%
Percent of Population 12 - 14 years of age enrolled in Grades 7 - 9 of All-age Schools, Junior Secondary Schools, Comprehensive, High and Technical Schools	83.1%
Percent of Population 15 - 18 years of age enrolled in Secondary Schools	10.0%
Student Teacher Ratio Primary & All-Age Schools (Estimated)	46:1
Student Teacher Ratio Junior Secondary Schools	35:1
Student Teacher Ratio Secondary Schools	20:1

*Jamaican school year: September - June

N.B.: J\$1.00 = U.S.\$1.10

Source: *Economic Survey of Jamaica*; Department of Statistics and Ministry of Education

November, 1973

JAMAICA
GROSS DOMESTIC PRODUCT, NATIONAL INCOME AND G.D.P. PER CAPITA
(Current Prices, J\$)*

<u>Year</u>	<u>Gross Domestic Product</u> (J\$ millions)	<u>G. D. P. Per Capita</u> (J\$)	<u>Net National Product</u> (J\$ millions)	<u>National Income</u> (per capita, J\$)
1962	480.9	291.45	427.1	258.40
1963	511.6	306.34	452.9	270.20
1964	547.9	320.40	489.5	286.20
1965	594.3	341.55	529.8	503.40
1966	682.1	383.20	576.5	323.10
1967	723.1	399.50	618.8	341.10
1968	784.6	440.78	678.7	380.00
1969	868.9	474.80	749.3	408.40
1970	964.5	518.54	830.4	444.30
1971	1,061.2	558.52	904.6	475.50
1972**	1,157.6	599.79	994.6	514.40

* 1960 as base year

** Preliminary Figures

Source: *Economic Survey of Jamaica* and Department of Statistics.

November, 1973

JAMAICA

ANNEX A
TABLE A-3

GROSS DOMESTIC PRODUCT AT FACTOR COST BY
SECTOR OF ORIGIN 1962 - 1967
(Current Prices, J\$ million)

<u>Year</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972*</u>
Total	480.9	511.6	547.9	594.3	682.1	723.1	784.6	868.9	964.5	1,961.2	1,157.6
Agriculture	57.4	68.4	68.5	69.1	75.1	77.9	77.5	77.0	79.9	98.6	105.6
Mining, Quarrying and Refining	46.2	45.5	52.2	57.7	98.1	102.5	100.1	124.8	159.7	144.9	141.1
Manufacturing	65.8	78.8	84.3	89.4	99.2	103.3	115.4	121.4	128.8	148.6	165.5
Construction & Installation	52.0	52.1	58.1	63.6	69.2	72.9	94.8	105.2	114.0	123.0	130.9
Electricity, Gas & Water	5.8	6.3	7.1	8.0	9.0	9.1	10.1	12.9	14.0	16.3	18.9
Transportation, Storage and Communication	38.3	37.7	40.5	43.9	48.5	53.2	57.8	63.2	68.8	77.2	84.0
Distributive Trades	77.0	77.0	80.2	85.7	91.2	94.1	102.4	109.5	120.1	148.7	160.3
Financial Institutions	21.8	18.9	20.9	26.3	29.5	32.8	35.0	45.4	47.9	64.7	76.8
Ownership of Dwellings	15.9	17.2	18.9	20.5	21.9	22.4	22.8	24.8	25.1	29.3	31.7
Central Government (excluding enterprises)	28.1	30.5	33.6	36.5	41.2	50.7	59.2	70.1	83.0	74.1	92.1
Local Government	6.3	6.7	7.3	8.1	9.1	9.9	10.4	11.1	12.0	13.9	16.5
Miscellaneous Services	66.3	72.5	76.3	85.5	90.1	94.3	99.1	103.5	111.2	121.9	134.2

*Preliminary Figures

Source: *Economic Survey of Jamaica 1968 - 72*
National Income & Product 1970

November, 1973

JAMAICA
MINISTRY OF EDUCATION
SUMMARY OF EXPENDITURES 1962/63 -- 1972/73

<u>Fiscal Year *</u>	<u>Approved Estimates</u>		<u>Actual Expenditures</u>	
	<u>Recurrent</u>	<u>Capital</u>	<u>Recurrent</u>	<u>Capital</u>
	\$	\$	\$	\$
1962/63	11,743,964	1,899,504	11,421,990	1,694,884
1963/64	11,839,906	2,107,186	11,604,140	1,451,296
1964/65	13,784,856	1,632,484	13,412,726	1,647,300
1965/66	14,719,750	1,942,010	14,514,944	1,709,224
1966/67	15,777,228	2,664,246	15,224,270	2,102,834
1967/68	18,208,784	3,362,862	17,987,940	3,160,758
1968/69	20,111,376	8,437,700	20,145,227	6,809,908
1969/70	23,262,738	7,419,300	22,413,774	7,085,967
1970/71	28,920,674	9,093,512	28,753,079	8,400,312
1971/72	37,798,947	12,025,010	37,389,606	12,016,533
1972/73	45,244,799	7,085,899	45,889,487	7,085,899

* Jamaican Fiscal Year: April 1 – March 31

Source: *Estimates of the Ministry of Education.*

November, 1973

JAMAICA
MINISTRY OF EDUCATION BUDGET BY PROGRAMMES 1969/70 – 1973/74
 (JS '000s)

ANNEX A
 TABLE A-5

FISCAL YEAR	1969/70*		1970/71		1971/72*		1972/73**		1973/74***	
	Recurrent	Capital	Recurrent	Capital	Recurrent	Capital	Recurrent	Capital	Recurrent	Capital
Primary Education	10,758	906	12,949	2,847	18,094	5,590	19,619	3,826	26,145	4,496
Secondary Education	6,830	5,880	10,286	4,466	12,417	5,669	13,563	2,988	16,588	3,618
a) First Cycle	(1,640)	(5,610)	(3,114)	(3,748)	(4,452)	(4,289)	(4,807)	(2,100)	(5,851)	(1,744)
b) Second Cycle	(5,190)	(270)	(7,172)	(718)	(7,965)	(1,380)	(8,756)	(888)	(10,737)	(1,874)
Post Secondary Education (Further Education)	1,917	259	2,339	774	2,928	326	3,349	102	4,127	1,532
a) Teacher Training	(1,644)	(205)	(1,964)	(179)	(2,371)	(23)	(2,667)	(1)	(3,080)	810
b) College of Arts Science & Technology)	(205)	(54)	(270)	(595)	(412)	(303)	(499)	(101)	(648)	722
c) Other – Evening Institutes Correspondence Courses Scholarships To the Jamaica School of Agriculture	(68)	–	(105)	–	(145)	–	(183)	–	(399)	–
Higher Education	228	–	212	–	239	–	316	–	350	–
Public and School Libraries	469	3	631	50	823	88	1,160	59	1,200	224
Schools, Radio and Television on Broadcasts	54	–	179	–	181	–	201	–	237	70
Administration (including supervisory staff)	1,346	–	1,206	–	1,336	–	1,815	–	2,235	–
Publication Branch	112	–	88	–	198	–	258	–	205	–
Maintenance of School Buildings	397	–	774	–	1,020	–	2,535	–	1,939	–
Residential Accommodation for Teachers Capital Expenditure only)	–	38	–	263	–	343	–	111	–	507
Less Appropriations-in-Aid	127	–	123	–	148	–	124	–	170	35
Total Ministry of Education Expenditure	22,168	7,086	28,753	8,400	37,390	12,016	43,087	7,086	53,240	10,412
Total Ministry of Education Exp. as % of Central Govt. Recurrent & Capital Expenditure respectively	14.8%	12.7%	15.5%	11.5%	17.5%	14%	16.0%	6.8%	17.6%	8.1%
Total Ministry of Education Recurrent and Capital as % of Central Govt. Total Expenditure	14.3%		14.4%		16.5%		13.4%		14.8%	

* These figures are Actual Expenditures 1971/72 – 1973/74

** These figures are Revised Estimates 1973/74

*** These figures are Estimates 1973/74

Source: Jamaica Estimates of Expenditure 1971/72 - 1973/74

JAMAICA
CENTRAL GOVERNMENT REAL CAPITAL EXPENDITURES
(J\$ MILLION)

<u>Fiscal Year</u>	<u>Total Expenditures (Recurrent and Capital)</u>	<u>Total Real Investment (Capital)</u>	<u>Investments as % of total Expenditures</u>
1967/68	115.8 *	N.A.	N.A.
1968/69	180.6 *	46.3	25.6%
1969/70	219.0 **	65.2	29.8%
1970/71	256.5 *	73.0	28.5%
1971/72	310.0 ***	91.6	29.5%

* Revised Estimates

** Actual Expenditure

*** Latest Revised Estimates

Source: *Economic Survey Jamaica 1969 - 71* and Ministry of Education

November 1973

JAMAICA
COMPARISON OF ANNUAL BUDGET EXPENDITURES
OF THE VARIOUS MINISTRIES 1968 - 1972
(J\$ '000s)

ANNEX A
TABLE A-7

MINISTRIES	FISCAL YEARS				
	1967 - 68	1968 - 69	1969 - 70	1970 - 71	1971 - 72
H. E. Governor General and Staff	60	60	60	60	60
Audit	200	200	200	200	200
Houses of Parliament	700	700	700	800	800
Services	100	200	200	200	200
Office of P. M. and Departments	700	1,000	1,000	2,200	2,200
Defense	9,600	4,100	3,700	4,800	5,300
External Affairs	1,600	1,900	2,200	3,200	3,300
Finance & Planning & Departments	25,900	43,500	51,200	64,200	69,200
Agriculture and Departments	6,000	15,700	10,300	14,500	16,800
Mining and Natural Resources & Depts.	1,300	1,400	7,200	8,700	9,400
Health and Environmental Control & Depts.	14,600	17,700	19,900	23,700	30,600
Home Affairs and Justice and Depts.	9,900	10,700	13,000	13,400	15,300
Local Government	12,400	13,500	23,500	30,000	36,400
Public Utilities and Housing-Housing only	2,000	3,600	4,500	-	-
Public Utilities, Communications and Transport and Depts.	-	-	-	5,300	2,600
Youth and Community Development and Departments	-	-	-	7,000	8,900
Education	3,600	4,600	4,900	5,900	6,900
Industry, Tourism and Commerce and Departments	29,200	27,100	29,500	37,200	49,400
Labour and Employment	1,600	6,400	6,700	9,200	10,300
Communications and Works Works Only	1,400	1,700	2,300	2,900	3,400
Communications and Works Works Only	12,300	22,900	23,500	-	-
Pensions and Social Security	-	-	-	22,000	26,600
	-	-	-	-	80
TOTAL	127,160	176,960	204,560	255,460	297,950

N.B. Includes J\$47,393,000 of External Assistance inputs

Source: *Jamaica Estimates of Expenditure 1969/70 - 1973/74*, the Ministry of Education and the Sector Assessment Mission

JAMAICA
APPROVED MINISTRY BUDGETS FOR F/Y 1973 – 1974
(In J\$' 000s)

ANNEX A
TABLE A-8

	RECURRENT	CAPITAL	TOTAL
H. E. The Governor General & Staff	80	100	180
Audit	400	—	400
Houses of Parliament	900	—	900
Services Commissions	400	—	400
Office of the Prime Minister & Departments	6,770	—	6,770
Ministry of Defence	7,500	4,000	11,500
Ministry of External Affairs	4,500	100	4,600
Ministry of Finance	76,200	21,300	97,500
Ministry of Agriculture	14,400	18,400	32,800
Ministry of Mining & Natural — Resources	4,300	19,300	23,400
Ministry of Industry & Tourism	1,000	13,000	14,600
Ministry of Commerce & Consumer Protection	1,800	30	1,830
Ministry of Public Utilities, Comm. & Transport	13,400	5,600	19,000
Ministry of Works	14,400	15,500	29,900
Ministry of Housing	1,800	8,500	10,300
Ministry of Education	55,500	10,400	65,900
Ministry of Youth & Community Development	7,600	1,000	8,600
Ministry of Labour & Employment	2,700	800	3,500
Ministry of Health & Environmental Control	32,100	5,000	37,100
Ministry of Home Affairs & Justice	20,700	1,200	21,900
Ministry of Local Government	30,800	3,800	34,600
Ministry of Pensions & Social Security	4,400	—	4,400
TOTALS	302,050	128,030	430,080*

* Includes J\$67,000,000 estimated of External Assistance Inputs

Source: Ministry of Finance, *Estimates of Expenditure 1973 – 74*
November 1973

JAMAICA
CENTRAL GOVERNMENT FINANCES 1968 - 1972*
(J\$ '000s)

Fiscal Year	1967 - 68	1968 - 69	1969 - 70	1970 - 71	1971 - 72
GRAND TOTAL					
Total Revenue Estimates	129.0	141.2	163.8	206.6	249.3
ORDINARY REVENUE (Total)	(125.7)	(137.9)	(159.9)	(201.9)	(243.2)
(A) TAXATION					
Customs	31.1	34.5	34.2	41.8	46.5
Excise	33.1	35.0	37.4	41.1	47.4
Consumption Duty	1.4	1.4	1.8	2.0	2.2
Income Tax	41.6	44.5	54.6	82.0	104.0
Land Prop. Tax	1.0	1.8	1.7	1.7	1.7
Death Duties	0.8	0.04	0.1	0.1	.02
Stamp Duties	1.6	2.2	6.0	6.7	10.0
Motor Vehicle Licences	3.8	4.0	4.6	5.7	5.8
Other Licences	0.5	0.5	0.5	0.5	0.5
Entertainment Tax	0.8	0.9	1.1	1.6	1.6
Travel Tax	0.3	0.8	0.8	1.0	1.1
Tax de sejour		0.5	0.6	0.6	0.6
Betting Gaming Lotteries	0.8	1.2	1.1	1.9	2.1
Sub-Total	(116.8)	(127.3)	(144.5)	(186.7)	(223.5)
(B) NON-TAX REVENUE					
Post Office	3.1	3.4	3.7	4.1	3.9
Reimbursement Public					
Debit Charges	1.6	1.8	1.3	1.3	1.5
Dept. & other Misc.					
Revenue	4.2	5.4	10.4	9.8	14.3
Sub-Total	(8.9)	(10.6)	(15.4)	(15.2)	(19.7)
CAPITAL REVENUE (Total)	(3.3)	(3.3)	(3.9)	(4.7)	(6.1)
Royalties	2.2	2.4	2.6	3.0	3.2
Land Sales	0.1	0.2	0.2	0.1	0.1
Loan Repayments	0.8	0.7	1.1	1.6	2.8
Commonwealth Assistance					
Grants	-	-	-	-	-
Ordinary Receipts	-	-	-	-	-
Sale of Mechanical					
Implements	0.2	-	-	-	-
Surplus on Sinking Fund	-	-	-	-	-
Proceeds from Foreshore Dev.	-	-	-	-	-

* Includes Revenue from State Enterprises.

Source: Ministry of Finance, Estimates of Expenditure 1967 - 72.

November 1973

HUMAN RESOURCE DEVELOPMENT BUDGET
EDUCATION/TRAINING EXPENDITURES* FROM PUBLIC SOURCES 1969/70 - 1973/74 (J\$)

MINISTRIES	ACTUAL EXPENDITURE FISCAL YEAR	ACTUAL EXPENDITURE FISCAL YEAR	ACTUAL EXPENDITURE FISCAL YEAR	REVISED ESTIMATES FISCAL YEAR	ESTIMATES FISCAL YEAR
	1969/70	1970/71	1971/72	1972/73	1973/74
MINISTRY OF EDUCATION	29,300,000	37,200,000	49,406,000	52,975,000	62,652,000
PRIME MINISTER'S OFFICE					
Jamaica Cadet Force; National Literacy Board Grants for the Development of Art and Culture School of Music	55,965	33,513	72,817	222,210	2,303,090
MINISTRY OF INDUSTRY & TOURISM					
Hotel Training School Industrial Training Scheme	273,590	326,518	229,240	368,448	391,626
MINISTRY OF LABOUR					
Contribution to I.L.O.; Industrial Training; Training of Vocational Instructors: J.I.D.C.** Training Scheme within Industry	664,163	1,128,904	1,816,431	1,119,880	2,300,036
MINISTRY OF AGRICULTURE					
4-H Clubs; J.S.A.; Farmers Training School	482,292	614,707	767,070	881,582	1,105,955
MINISTRY OF HEALTH					
Training of Staff Nurses; Public Health Staff; In-Service Training; Health Education; Community Health Aides	60,468	480,647	714,303	1,613,387	1,899,955
MINISTRY OF YOUTH & COMMUNITY DEV.					
Social Development Commission, Private Social Service Organization, Approved Schools	1,944,793	1,908,769	2,287,696	2,382,644	2,432,644
MINISTRY OF HOME AFFAIRS & JUSTICE					
Professional Law School	-	-	6,905	66,420	204,834
MINISTRY OF EXTERNAL AFFAIRS					
Peace Corps Expenses	5,933	4,016	5,265	7,294	5,880
MINISTRY OF FINANCE					
Staff Training, U.W.I. S.R.L.*** Scholarship and Training	3,615,023	5,468,502	5,497,460	7,432,618	9,345,374
TOTAL	36,602,227	47,185,576	60,805,167	67,069,483	82,641,394

N.B.: * Recurrent and Capital
** Jamaica Industrial Development Corporation
*** Students Revolving Loan

Source: Ministry of Education/Planning Unit
November 1973

**ENROLMENTS AND TEACHER/PUPIL RATIOS BY TYPES AND LEVELS OF INSTITUTIONS 1967/68 – 1971/72
PUBLIC AND GOVERNMENT-AIDED EDUCATIONAL INSTITUTIONS UNDER THE MINISTRY OF EDUCATION**

TYPE OF INSTITUTIONS	ENROLMENT END OF ACADEMIC YEAR					TEACHER/PUPIL RATIO				
	1967/68	1968/69	1969/70	1970/71	1971/72	1967/68	1968/69	1969/70	1970/71	1971/72
Public Primary Education										
Infant Schools	9340	9494	9671	9662	9820	1:49	1:45	1:45	1:27)	
Primary Schools	44560	48585	86506	116003	126034	1:56	1:55	1:51))	1:45
All-Age Schools	307499	323245	287952	265724	271451	1:54	1:54	1:52)	1:46)	
TOTAL	361399	381324	384129	391389	407305	1:54	1:54	1:51	1:46	1:45
Secondary Education										
Junior Secondary Schools	14263	15306	33009	41524	47993	1:33	1:31	1:34	1:35	1:33
Secondary High Schools	22034	22724	23321	24038	26967	1:19	1:19	1:20	1:20	1:18
Comprehensive Schools	2273	2611	2702	3751	3679	1:29	1:26	1:28	1:24	1:25
Technical High Schools	3335	3308	3266	3262	4010	1:17	1:16	1:15	1:17	1:16
Vocational/Trade Schools	732	819	769	738	556	1:23	1:23	1:25	1:20	1:23
TOTAL	42637	44768	63067	73313	83205	1:22	1:22	1:25	1:26	1:25
Post Secondary Education										
Teacher Training Colleges	1813	1876	1998	2058	2973	1:12	1:13	1:14	1:13	
Caenwood Junior Teachers College*	267	321	325	365	280	1:14	1:14	1:14	1:13	1:16
C.A.S.T.**	1167	1326	1490	1750	1888	n.a.	n.a.	n.a.	n.a.	n.a.
J.S.A.***	251	149	213	213	244	1:16	1:16	1:9	1:9	
University (Jamaica Students only)	2234	2564	2687	2422		1:9	1:9	1:7		
TOTAL	5732	6236	6713	6808	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

N.B.: Jamaican Academic Year begins in September

* Caenwood Junior Teachers College offers three courses of three months duration a year

** C.A.S.T. – College of Arts, Science and Technology

*** J.S.A. – Jamaica School of Agriculture

Source: Statistics Section, Ministry of Education.

ANNEX A
TABLE B-1

TEACHERS COLLEGES
ENROLMENTS AND GRADUATES BY INSTITUTIONS 1967/68 – 1971/72*

TEACHERS COLLEGES	1967/68		1968/69		1969/70		1970/71		1971/72	
	Enrolment	Grads	Enrolment	Grads	Enrolment	Grads	Enrolment	Grads	Enrolment	Grads
BETHELEHEM	158	69	158	75	157	71	153	85	157	79
CHURCH	207	91	253	107	266	132	250	116	247	170
MICO	650	299	656	301	656	301	650	274	638	338
MONEAGUE	100	51	98	48	225	48	325	177	327	174
ST. JOSEPH'S	250	128	252	110	249	124	239	116	250	126
SHORTWOOD	448	188	459	242	450	190	441	200	454	225
TOTAL	1813	826	1876	883	2003	866	2058	968	2073	1112

* West Indies College, a privately owned institution is not included.

Source: Statistics Section, Ministry of Education.

JAMAICA

**TEACHERS COLLEGES: ACTUAL ENROLMENT AND GRADUATES (1965/66 – 1970/71);
PROJECTED ENROLMENT AND GRADUATES (1980/81)**

TEACHERS COLLEGES	ACTUAL				PROJECTED	
	1965/66		1970/71		1980/81	
	Enrolment	Graduates	Enrolment	Graduates	Enrolment	Graduates
Bethlehem	126	33	153	85	400	200
Church	77	—	250	116	450	225
Mico	492	127	650	274	700	350
Moneague	101	48	325	177	450	9
St. Joseph's	129	43	239	116	450	225
Shortwood	346	83	441	200	600	300
New College	—	—	—	—	500	250
Knockalva	—	—	—	—	225	100
TOTAL	1,271	334	2,058	968	3,775	1,875

Source: Government data and Sector Assessment Mission projections.

TEACHERS COLLEGES
ENROLMENTS AND INSTRUCTOR NEEDS PROJECTIONS 1971/72 – 1980/81*

ANNEX A
TABLE B-4

Teachers Colleges	Enrolments	1971/72		TARGETS Projected Enrolments	Assumed Ratio 1:15 Tutor Requirements
		Actual Tutor Population			
		Full-time	Part-time		
Bethlehem	157	14		400	27
Church	247	21		450	30
Mico	638	43	5	700	47
Moneague	327	22		450	30
St. Joseph's	250	17		450	30
Shortwood	454	35	7	600	40
New College**	—	—	—	500	—
Knockalva	—	—	—	225	15
	2,073	152	12	3,775	219

* West Indies Teachers College, a privately owned institution is not included.
 Tutor Attrition Rate of Colleges not known.

** Name of New College (IBRD financed) not yet decided.

Source: Ministry of Education and Sector Assessment Mission,
 November 1973

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ANNEX A TABLE B-5

UNIVERSITY OF THE WEST INDIES JAMAICAN STUDENT ENROLMENT & GRADUATES BY FIELD OF STUDY & LEVEL 1965/66 – 1970/71 (full time and part time)

Field of Study and Level	1965/66		1966/67		1967/68		1968/69		1969/70		1970/71	
	Enrol- ment	Grad- uates	Enrol- ment	Grad- uates	Enrol- ment	Grad- uates	Enrol- ment	Grad- uates	Enrol- ment	Grad- uates	Enrol- ment	Grad- uates
JAMAICA Enrolment (total)	(1474)	(220)	(1650)	(259)	(1,741)	(316)	(2,102)	(570)	(2,147)	(575)	(2,355)	(NA)
Undergraduate												
Degree Courses												
Agriculture	28	5	27	3	25	10	28	8	30	10	42	
Arts (Day and Evening)	392	61	438	72	469	102	501	88	505	82	167	
Education	-	-	11	9	7	17	6	4	7	7	45	
Engineering	49	8	60	11	90	7	101	25	100	26	115	
General Studies (Day & Evening)	-	-	-	-	-	-	-	-	-	-	-	455
Medicine	153	15	177	18	185	22	204	41	201	48	202	
Natural Sciences (Day & Evening)	281	50	305	45	348	52	385	70	397	32	770	
Social Sciences	145	33	167	51	171	52	198	47	227	72	305	
Sub-total	(1,048)	(170)	(1,185)	(209)	(1,295)	(262)	(1,423)	(281)	(1,423)	(297)	(2,099)	
Non-Degree Courses												
Certificate of Education	37	20	37	16	16	7	32	22	33	19		
Diploma in Education	37	18	-	14	37	16	42	23	58	11		
Certificate in Management Studies (Day & Evening)	-	-	-	-	-	-	-	-	65	1		
Diploma in Management Studies (Day & Evening)	11	-	33	1	10	1	32	-	73	1		
Diploma in International Relations	12	-	-	-	-	1	21	-	23	-		
Diploma in Public Administration (Day & Evening)	15	3	18	7	14	7	27	5	21	8		
Applied Social Studies	-	-	-	-	-	-	-	-	18	-		
Certificate in Social Work	21	5	28	3	33	6	44	13	40	13		
Diploma in Tropical Agriculture	19	-	14	-	21	-	7	1	10	-		
N.I. Courses	274	-	241	-	195	-	315	-	267	-		
Pre-Medical Courses	-	-	78	-	102	-	102	1	87	1		
Medical Microbiology Courses	-	-	-	-	-	-	5	-	2	-		
Certificate in Nursing	-	-	16	4	18	11	25	12	27	8		
Diploma in Community Nutrition	-	-	-	-	-	-	29	-	-	6		
Certificate in Advanced Studies	5	-	-	-	-	-	-	-	-	-		
Sub-Total	(426)	(46)	(465)	(45)	(446)	(49)	(679)	(77)	(724)	(68)		
Higher Degree Courses												
Doctorate	-	2	-	1	-	1	-	4	-	4		
M. A.	-	-	-	-	-	1	-	-	-	1		
M. Sc.	-	2	-	4	-	5	-	8	-	5		
Sub-total		(4)		(5)		(5)		(12)		(10)		

Source: Government of Jamaica Department of Statistics

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ANNEX A
TABLE B-6REQUIREMENTS AND SUPPLY OF PRIMARY AND SECONDARY SCHOOL
TEACHERS IN PUBLIC EDUCATION INSTITUTIONS, 1971/72 - 1980/81

Institutions	ACTUAL (1971/72)					PROJECTED (1980/81)						
	Student Enrolment	Teacher Population		Pupil/Teacher Ratio		Student Enrolment	Pupil/Teacher Ratio	Total ****	Teachers			Annual Net Upgrading Needs
		Total	Qualified	Pupil/ Qualified Teachers	Pupil/Un- qualified Teachers				Existing	Expatriates	(Cumulative) Needs	
Primary												
Primary Schools	126,054	3,393	1,650	76:1	37:1	347,800*	45:1	7,729*	4,629	NIL	3,100	400±
All-Age Schools	271,451	2,167	5,254	125:1	52:1	52,000**	35:1	1,485	1,040	NIL	445	50±
TOTAL	397,485	5,817	8,647	104:1	46:1	399,800		9,214	5,669	NIL	3,545	450±
Secondary Education												
Junior Secondary Schools												
TOTAL	47,993	1,071	1,424	49:1	34:1	68,000***	30:1	2,267	1,636	202	429	53
Secondary High Schools	26,967	1,392	1,488	19:1	18:1	39,967	20:1	1,998	1,485	283	250	29
Comprehensive Schools	3,679	129	137	28:1	27:1	3,900	20:1	195	149	28	18	2
Technical High Schools	4,010	243	255	16:1	16:1	6,740	20:1	337	283	54	NIL	
Trade and Vocational Schools	556	22	24	25:1	25:1	875	20:1	44	44	NIL	NIL	
TOTAL	35,212	1,786	1,904	20:1	18:1	51,482	20:1	2,574	1,961	365	248	31

* Primary only, based on projected consolidation of primary levels of primary and all-age schools.
Age 6 - 11+ = 98% of projected age-group population.

** Junior Secondary Departments only, age 12 - 14+ = 28.6% of projected age-group population.

*** Junior Secondary Schools age 12 - 14+ = 37.4% of projected age-group population.

Estimated that 9% of projected age-group population 12 - 14+ would be enrolled in lower departments of high schools (first-cycle), and 14.7% of projected age-group population 15 - 18+ enrolled in upper departments (second-cycle).

**** Include expansion needs based on enrolment projections to include replacement needs of about 20% to 1975 and 15% thereafter.
Rate of output of Teachers Colleges is estimated at 1,000 per annum to 1975 and 1,700 per annum thereafter - based on anticipated improved teacher training and upgrading programmes and efforts at reduction of trained teacher attrition.

Source: Annual Statistical Report, Ministry of Education.

November 1973

PRIMARY AND ALL-AGE SCHOOLS
TOTAL NUMBER OF SCHOOLS, CLASSROOMS, AND
STUDENT/CLASSROOM RATIO 1967/68 – 1971/72

ANNEX A
TABLE B-7

YEAR	TOTAL NO. OF SCHOOLS	TOTAL NO. OF CLASSROOMS	AVERAGE ENROLMENT	STUDENT/CLASSROOM RATIO
1967/68	752	5,259	362,412	69:1
1968/69	762	5,391	376,630	70:1
1969/70	763	5,395	378,490	70:1
1970/71	774	5,413	381,607	70:1
1971/72	779	5,467	394,854	72:1

Source: Ministry of Education Annual Statistical Reports 1967/68 – 1971/72

JAMAICA
TOTAL SECONDARY SCHOOLS BY TYPE AND STUDENT/CLASSROOM* RATIO
 1967/68 – 1971/72

ANNEX A
 TABLE B-8

Type of Schools	1968/69				1969/70				1971/72			
	No. of Schools	No. of Class-rooms	No. of Students	Student/Class-room Ratio	No. of Schools	No. of Class-rooms	No. of Students	Student/Class-room Ratio	No. of Schools	No. of Class-rooms	No. of Students	Student/Class-room Ratio
Junior Secondary	16	323	1,5306	47:1	40	750	33,009	44:1	56	1,059	44,737	42:1
Grammar	40	N.A.**	22,724	N.A.	40	800	23,321	29:1	40	807	25,873	32:1
Comprehensive***	2	58	2,611	45:1	2	58	2,702	47:1	3	73	3,654	50:1
Technical****	6	95	3,308	35:1	6	95	3,266	34:1	6	101	3,603	36:1
Vocational	5	45	819	18:1	5	45	769	17:1	4	37	527	14:1
Total	69	521	44,768		93	1,748	63,067		109	2,077	78,394	

* This definition of classroom does not take into account laboratories or Home Economics Departments, etc.

** N. A. = Not Available.

*** In 1970/71 Tivoli Gardens Junior Secondary School was upgraded to a Comprehensive High School.

**** In 1971/72 St. Andrew Trade Training Centre was merged with St. Andrew Technical High School.

Source: Ministry of Education Annual Statistical Reports 1967/68 – 1971/72.

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**EXPENDITURE AND ENROLMENT
YOUTH CAMPS/CENTERS UNDER THE
MINISTRY OF YOUTH AND COMMUNITY DEVELOPMENT**

By Location, Age & Sex
1970/71 - 1972/73

A. Youth Camps/Centers	Actual	Enrol-	Actual	Enrol-	Revised	Enrol-
	Expen- diture 1970/71	ment 1970/71	Expen- diture 1971/72	ment 1971/72	Estimates 1972/73	ment 1972/73
	J\$		J\$		J\$	
Cobbla (Boys)	230,875	640	251,089	640	254,907	640
Chestervale (Boys)	107,250	360	116,076	360	124,098	360
Kenilworth (Boys)	49,723	260	95,714	400	119,479	400
Lluidas Vale (Boys)	12,040	120	48,865	250	75,336	300
Cape Clear (Girls)	—	—	33,241	50	46,221	50
Braco	—	—	2,019	—	3,072	—
TOTAL A	399,888	1,380	547,004	1,700	623,708	1,750
B. Youth Rehabilitation/Training Centers						
Tredegar Park (Boys)		44		34		15
Stony Hill (Boys)	12	127		106		39
Lower Esher (Girls)		44		65		29
New Broughton (Boys)		56		59		29
Rio Cobre (Boys)		69		116		47
Armadale (Girls)		41		42		37
TOTAL B	297,923	381	313,937	422	330,992	196

FOOTNOTES:

1. Braco is not, strictly speaking, considered to be a Youth Camp. It is seen as a center for leadership training of young people.
2. The age range of the youth camps is now 15 - 19 years.
3. Since September 1973 these youth camps have been called Community Youth Centers and the following changes will be effected.
 - a) The age range will be changed to 16 - 20 years.
 - b) Chestervale will become coeducational and fully residential (i.e. boys and girls)
 - c) Cape Clear will become coeducational with girls in residence.
 - d) Cobbla will become coeducational with boys in residence.
 - e) Lluidas Vale will become coeducational and fully residential (i.e. boys and girls).
4. The following new centers will be established shortly:
 - a) Ambassador - Boys Town - coeducational and non-residential.
 - b) Albion - Montego Bay - coeducational and non-residential.
 - c) Passmore Town - Parade Gardens - coeducational and non-residential.

Source: Ministry of Youth and Community Development.

November 1973

INSTITUTIONS AND INDIVIDUALS CONSULTED

MINISTRY OF EDUCATION

Minister of Education	Hon. F. A. Glasspole, C.D., M.P. (Governor-General since June 24 1973).
Minister of State	Senator Hon. Eli Matalon (Minister of Education since July 5, 1973).
Permanent Secretary	Mr. P. W. C. Burke
<i>Planning Division</i>	
Chief Education Planner	Mr. Ross Murray
Principal Assistant Secretary	Mr. Eric Budhlall
<i>Operations Division</i>	
Chief Education Officer	Mr. S. W. Fagan
Agricultural Education Education Officers	Mr. Patrick Bennet Mr. Andrew Dunbar
Art and Crafts Education Officers	Mr. Harry Jutan Mr. Clifton Campbell
Child Guidance	
Senior Education Officer	Mrs. Trixie Somerville
Education Officer	Mrs. June O'Gilvie
Early Childhood Education	
Senior Education Officer	Mrs. Sybil Prescod
Education Broadcasting Service	
Senior Education Officer	Dr. Inez Grant
Education Officer	Mr. C. R. Smith
English	
Education Officers	Mrs. A. McLaren Miss Grace Wright
Examinations	
Senior Education Officer	Mrs. Trixie Somerville
Home Economics	
Senior Education Officer	Miss Thelma Stewart
Language Arts	
Education Officer	Miss Sybil James

Music	
Education Officer	Mrs. Ouida Tomlinson
Modern Languages	
Education Officer	Mrs. Gloria Astwood
Physical Education	
Education Officers	Mrs. Sheila Barnett Mr. Trevor Parchment Mrs. Cynthia Walters
Publications Branch	
Education Officer	Miss Patricia Patterson
Technical and Vocational Education	
Senior Education Officer	Mr. G. A. Thompson
Building Section	
Chief Architect	Mr. V. Patterson
Acting Chief Architect	Mr. C. Smart
Committee for In-Depth Study of Primary Education	
Chairman	Prof. R. N. Murray
Post 'O' Level Education Committee	
Chairman	Miss Shirley Gordon
JAMAICA LIBRARY SERVICES	
Director	Mrs. Joyce Robinson
Assistant Director	Miss Leila Thomas
JAMAICA TEACHERS' ASSOCIATION	
President	Mr. Clinton Muschette
Secretary General	Mr. W. B. C. Hawthorne
Training Officer	Mrs. C. Fuller-Phillips
Public Relations Officer	Mrs. Pat Robinson
SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS	
Morant Bay Primary	
Principal	Mr. C. Lewis (and staff)
Shortwood Practising All-Age	
Principal	Mrs. E. Jones (and staff)
Watermount All-Age	
Principal	Mrs. F. Sinclair (and staff)
Agriculture Teacher	Mr. E. Baker
Guy's Hill Junior Secondary	
Principal	Mrs. A. Osbourne
Chairman of School Board	Dr. A. R. Ebanks
Norman Manley Junior Secondary	
Principal	Mr. M. Griffiths

Port Antonio Junior Secondary Principal	Mr. C. Robinson (and staff)
Trinityville Junior Secondary Principal	Mr. E. V. Shephard (and staff)
Excelsior Principal	Mr. A. W. Powell (and staff)
Knox College Director Principal	Rev. Lewis Davidson Mr. George Scott (and staff)
Morant Bay High Principal	Mr. Stanlie Parkins
Holmwood Technical High Principal	Mr. R. A. Hamilton
Kingston Technical High Principal	Mr. E. Roper (and staff)
St. Andrew Technical High Principal	Mr. S. W. Isaac-Henry (and staff)
Vere Technical High Principal	Mr. S. B. Francis (and staff)
Knockalva Agricultural Training Centre Principal	Mr. G. M. Reid (and staff)
Girls' Town Vocational (Independent) Principal	Mrs. Odette Josephs
<i>COLLEGE OF ARTS, SCIENCE AND TECHNOLOGY</i> Principal	Dr. Alfred Sangster
<i>JAMAICA SCHOOL OF AGRICULTURE</i> Principal	Dr. A. S. Wood (and staff)
<i>TEACHERS COLLEGES</i>	
Mico Principal Former Principal	Dr. Errol Miller Hon. Glen Owen, P.C., O.D.
Moncague Principal	Dr. Ken Anderson
<i>UNIVERSITY OF THE WEST INDIES</i>	
Pro-Vice-Chancellor	Prof. L. R. B. Robinson
Caribbean Examinations Council Examinations Research Unit Chairman	Prof. R. N. Murray
Early Childhood Education Director	Mr. D. R. B. Grant

Extra-Mural Studies Director	Mr. Rex Nettleford
Institute of Social and Economic Research Director	Mr. A. McIntyre
School of Education Dean	Prof. R. N. Murray
Vice-Dean	Dr. A. S. Phillips
Senior Research Fellow	Dr. Phyllis McPherson
Senior Lecturer	Dr. L. H. E. Reid
Senior Lecturer	Dr. D. Craig
Lecturer	Mr. D. G. Wilson
Social Work Training Institute Director	Mrs. Sybil Francis
Trade Union Education Institute Director	Mr. Rex Nettleford
UNESCO Caribbean Teacher Training Project Director	Mr. Jim Hendry
OTHER MINISTRIES	
AGRICULTURE	
Chief Technical Officer	Dr. L. E. McLaren
Registrar of Co-operatives	Mr. James Kirlew
<i>Agricultural Development Corporation</i>	
Chairman	Mr. Hugh Miller
Supt. Livestock Division	Mr. J. S. Hendricks
<i>Bodles Animal Production Research Station</i>	
Director	Dr. J. A. Richards
Superintendent	Mr. D. T. McCorgie
<i>Crops & Soils Division</i>	
Director	Mr. C. W. Hewitt
<i>Division of Agricultural Extension Services</i>	
Director	Mr. C. J. Morrison
Director of Training	Mr. Dudley Phillips
Extension Specialist (Home Economics)	Mrs. Novlet Jones
Farmers' Training Centre	
<i>Grove Place Animal Production Research Station</i>	
Livestock Research	Dr. B. F. McLeod
Pasture Research	Dr. B. F. McLeod

Grass Specialist	Mr. Sam Motta
Horticulturist	Mr. E. Dawes
<i>Lawrence Field Research Station</i>	
(Fruit and Vegetable)	
Farm Manager	Mr. J. A. Cheddar
<i>Livestock Development</i>	
Director	Mr. D. Campbell
Agricultural Officer	Mr. R. Rowe
<i>Planning Division</i>	
(Planning and Marketing Unit)	Mr. Max Brown
JAMAICA AGRICULTURAL SOCIETY	
Acting Secretary	Mr. Ronald Webb
Acting Deputy Secretary	Mr. R. Rowe
4-H CLUBS	
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Annex B²

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Annex C

EDUCATION IN SUPPORT OF AGRICULTURE IN JAMAICA

Because of the importance of agriculture to the future economic and social development of Jamaica and the related importance of the education system to the development of Jamaican agriculture, this annex is intended to provide a more comprehensive treatment of agriculture/education than was dealt with in the main body of the *Sector Survey*.

The education system is entrusted with the job of awakening and guiding the interest of some of its students towards an agricultural career developing general and specific agricultural skills and building an agriculturally informed citizenry who will be able to understand and appreciate some of the problems and contributions of the farmer.

At the more technical level the educational and agricultural sectors of Jamaica are dependent on each other in many ways—schools, farms and agro-business communities will need to get most of their future qualified staff from the Jamaica School of Agriculture.

The present status of agriculture in Jamaica and its relation to the education system are indicated in the following statements:

1. Economic Status of Jamaican Agriculture and Agricultural Statistical Profile
2. Agricultural Education—Status and Needs
3. National Agricultural Goals and Objectives
4. The Implementation of an Educational Programme to Support Jamaica's Agricultural Goals and Objectives
5. Chart of Agricultural Education Needs to Support National Development
6. Adequacy of Agricultural Technology as a Base for Agricultural Education Programmes
7. National Agricultural Development Alternatives

1. Economic Status of Jamaican Agriculture and Agricultural Statistical Profile

When the agricultural sector's contribution to the Gross Domestic Product is compared with the contributions of some of the other

sectors, it is evident that there has been a relative stagnation in the agricultural production of the country for some time now.

Between 1942 and 1957, productivity per agricultural worker increased by merely 1%, and whereas growth rates of Gross Domestic Product at constant prices over the ten-year period ending in 1968 was 4.7%, the real growth in agriculture (growth at constant prices) over the same period was only 1.6%

According to statements in the *National Physical Plan for Jamaica*, the contribution of the agricultural sector to the Gross Domestic Product was 8.3% in 1970 compared to 11% in 1965. In terms of dollars the value of agricultural production in 1970 was in the region of \$79.0 million.* In 1972 the value of the Gross Domestic Product at factor cost (current prices) was \$105.6 million compared with \$98.6 million in 1971, thus giving an increase of 7.1%.

However, the percentage share of agricultural contribution to GDP was 9.1% in 1972 as against 9.3% in 1971. It is believed that the poor performance of agriculture in 1972 was due to the slow growth in the output of sugar, citrus, coffee and copra. In a general sense, however, the relative decline in agricultural production can be associated with poor crop and animal husbandry techniques, use of infertile and easily erosive lands, labour shortages, and other factors; and as a consequence the income of many farmers and farm-workers is not yet on par with the national average.

Based on past performance and established markets, agricultural exports can be increased. It is also believed that a great percentage of the country's food requirement can be met by local production. However, projecting the needs to 1980 for locally grown agricultural products, there must be an increase of approximately 35% in agricultural production to return to the domestic production/consumption ratio of 1963.

With the decline in production in certain sections of the agricultural sector, there has been an increase in food imports and foreign exchange outlay.

A study of Table I will show that between the years 1969 and 1972 importation of food increased, and in 1972 the amount imported was \$22.8 million more than in 1969 and this represents an increase of approximately 60% over the 1969 imports value.

*All monetary statements are in Jamaican dollars (J\$1.00--US\$1.10)

TABLE 1: Food Imports 1969–1972 (\$'000,000)

TYPES OF FOOD	1969	1970	1971	1972
Meat & Meat Preparations	9.1	11.9	12.9	16.3
Dairy Products	6.7	6.6	9.6	9.4
Fish & Fish Preparations	8.8	8.6	9.5	12.1
Cereal & Cereal Preparations	10.2	14.2	14.9	16.8
Fruits & Vegetables	3.3	4.6	4.5	6.3
	38.1	45.9	51.4	60.9

Source: *Economic Survey of Jamaica, 1972.*

On the other hand it can be clearly seen in Table 2 that the revenue from export of selected items has been at a relative standstill from 1969 to 1971. In 1972 however, there was a modest increase of \$4.5 million over the 1969 value of exports. This represents an increase of approximately 8% over the 1969 value of exports.

TABLE 2: Export by Type of Product (\$'000,000)

PRIMARY PRODUCTS	1969	1970	1971	1972
Citrus	0.6	0.6	0.8	0.6
Bananas	12.4	11.8	11.7	11.8
Coffee (not roasted)	0.5	0.9	1.2	1.2
Cocoa Beans	0.7	0.8	0.7	1.1
Pimento & Ginger	4.6	3.7	3.5	3.8
<i>Semi-Processed Products</i>				
Sugar (unrefined)	27.9	30.0	30.0	33.8
Molasses (in bulk)	2.4	2.2	1.7	1.1
<i>Manufactured Goods (Agricultural Base)</i>				
Citrus Products	4.8	4.0	3.1	3.1
Rum	1.8	1.5	2.4	2.9
Tobacco Products	2.0	1.6	2.0	2.8
	57.7	57.1	57.1	62.2

Source: *Economic Survey of Jamaica, 1972.*

In order to maintain export agriculture, there must be a constant and steady growth in the agricultural output.

A study of Table 3 reveals that this has not been the case. As a matter of fact, the production figures of Table 3 (for selected items) indicate that between 1968 and 1972 there has been either a decline or marginal increase in the output of these items. The production of

sugar, bananas, citrus and pimento in particular have shown marked decrease. Comparing the production of pimento in 1968 with that of 1972 it can be readily recognised that production fell by approximately 50%.

TABLE 3: Production

ITEMS	1968	1969	1970	1971	1972
Sugar ('000 tons)	445	383	370	379	373
Bananas ('000 tons)	153	151	134	126	127
Citrus ('000 boxes)	1404	1258	1067	1366	1102
Pimento (tons)	4210	3225	2205	1952	2032
Copra (tons)	16735	17217	17290	20653	17391
Cocoa (tons)	2344	1491	1794	1827	2333
Coffee ('000 boxes)	207	253	249	299	211
Ginger ('000 lbs)	673	614	671	718	766
Rum ('000 gal.)	2213	2853	3046	3296	4792
Molasses ('000 tons)	156	164	168	150	143

Source: *Economic Survey of Jamaica, 1968-72.*

In terms of meat production there has been some increase over the total production of 1968. Peak production (for the years under review) was in 1971, but there was a decrease of approximately 6.56 million lbs in 1972. In terms of overall production the production of meat from sheep and goats showed the greatest decline.

TABLE 4: Meat Production ('000,000 lbs) 1968-1972

ITEMS	1968	1969	1970	1971	1972
Cattle	28.56	30.25	27.40	25.78	27.11
Hogs	10.76	13.20	15.07	11.13	15.02
Goats	6.08	4.04	3.76	N.A.	N.A.
Sheep	0.09	0.06	0.05	0.06	0.04
Poultry	20.25	25.00	29.47	40.20	32.20
TOTAL	65.74	72.55	75.75	77.17	70.61

Source: *Planning Unit, Ministry of Agriculture*

Peak production of this segment of agriculture seems to centre around the years 1970 and 1971. In the case of fresh fish production

TABLE 5: Production—Fish, Eggs and Milk, 1968—1972

ITEMS	1968	1969	1970	1971	1972
Fish ('000,000 lbs)	35.00	31.00	32.00	38.00	40.00
Eggs ('000,000 eggs)	100.82	124.63	145.61	159.30	122.70
Milk ('000,000 quarts)	36.50	38.40	43.10	40.50	42.00

Source: *Economic Survey of Jamaica, 1968—1972*

a steady increase has been evidenced since 1969. The production of eggs, however, showed some decline over the previous year. Milk production in 1972 increased 5.5 million quarts over the 1968 production.

TABLE 6: Estimated Production of Selected Items of Root Crops, Fruits and Vegetables ('000,000 lbs), 1968—1972

ITEMS	1968	1969	1970	1971	1972
Root Crops *	228.0	238.0	304.0	429.0	425.0
Fruits & Vegetables **	106.0	105.0	149.0	208.0	218.0

* Potato, Yam, Cassava & Taro

** Peas (Gungo, Red), Cabbage, Carrot, Chayote (cho-cho), Cucumber, Lettuce, Pumpkin, Tomato, Escallion, Pineapple, Water-melon and Plantains

Source: *Economic Survey of Jamaica, 1968—1972*

According to the estimated production figures for the above items production increased between 1968 and 1972. The overall increases can be attributed to many factors but it is believed that chief among them was an increase in total acreage in production.

The production of rice has been experiencing a steady decline since 1968 and as can readily be seen from Table 7 production of milled rice declined by 1.85 million lb. in the 1971/72 fiscal year, when compared with the production of the 1967/68 fiscal year.

TABLE 7: Production of Rice ('000,000 lbs), 1967—1972

ITEMS	1967/68	1968/69	1969/70	1970/71	1971/72
Rice (paddy)	3.00	1.99	1.60	1.20	0.82
Rice (milled)	2.00	1.33	1.00	0.67	0.15

Sources: *Agricultural Development Corporation Reports, 1968—1972*

The production of corn has been somewhat erratic. Between 1968 and 1972 only 41.83 million lb. were produced, and the peak production was only 11.43 million lb. in 1971 and in 1972 a decline of 1.87 million lb. was experienced when compared to the 1971 yield.

TABLE 8: Jamaica Agricultural Statistical Profile

(1)	<i>Total Land Area</i>	2,750,000 acres
	(a) Crops in pure stand	360,000 ..
	(b) Crops in mixed stand	200,000 ..
	(c) Food Forest	25,000 ..
	(d) Improved & Natural Grassland	330,000 ..
	(e) Fallow	35,000 ..
	(f) Ruinate	220,000 ..
	(g) Woodland	200,000 ..
	(h) Other land	130,000 ..
(2)	<i>Total Farm Land</i>	1,500,000 ..

Sources: *Second Five-Year Plan, 1970-75, Vol.III*

The approximate total area in farm land is 1.5 million acres, which is nearly 55% of the total land area. It is interesting to note that farms of less than 5 acres account for 78% of the total number of farms.

A study of the topography of the country will reveal that 80% of the land is on hillsides. Generally these lands are less productive than the alluvial plains and are subject to erosion. Small farmers farm the greater portion of this type of land; however estimates show that these farmers produce over 90% of the food crops grown for local consumption, and to some extent a significant portion of the crops grown for export.

As was shown above, the total farm land area is approximately 1.5 million acres, and it is estimated that only 50% of the total acreage is farmed extensively while much of the remainder is underutilised.

Currently the rural population of Jamaica (which represents 66% of the total population) supplies the greater part of the agricultural labour force, and this constitutes many unskilled workers.

In recent years however, the Jamaican economy has undergone much diversification and as a consequence the total labour force engaged in agriculture has decreased. However, agriculture still remains the largest single employer of labour. The ILO Report (Table C3) shows the 1970 employed labour force at 607,700 persons, with employment in agriculture at 211,000 persons or 34.7% of total em-

ployment. Thus the education of the farming communities and youths in the school system appears indispensable to effect an increase in agricultural production.

The significance of agricultural education to the achievement of national agricultural goals is analysed in the following sections.

2. Agricultural Education—Status and Needs

The programme of agricultural education in the broadest sense should be substantially developed to meet national goals for food production and to increase export commodities both of which are critical to the foreign exchange situation of the country. It should also reduce unemployment and underemployment, and improve income distribution.

The ineffective utilisation of natural resources calls for an intensive formal and non-formal education programme, which will assist in putting the use of these resources in proper perspective

In 1969 a modern agricultural education programme was formulated by the Ministry of Education and is now offered in schools, from all-age through to high schools. Over a period of four years the number of schools where the restructured programme is offered has increased from 25 to 54. Correspondingly the number of teachers has increased from 22 to 84.

Consistent with agricultural productivity expansion requirements, there is an urgent need for an increase in the number of schools and teachers in the programme. The single agricultural vocational school at Knockalva currently graduates about 50 students yearly which is insufficient for present and future needs. Agricultural teachers should be provided for at least 100 additional rural schools for grades 7-9 with consummate speed. The curriculum for agriculture for grades 7-9 should be revised, and suitable teaching materials provided.

In this context it is recommended that Knockalva be reconstructed and expanded to facilitate the enrolment of approximately 300 men and 300 women yearly and aim at graduating 100 men and 100 women (Home Economics etc.) yearly, and that two additional agricultural high schools be established to serve the central and eastern regions of the island. It is envisaged that these schools will have a three-year curriculum. Graduates totalling 300 men and 300 women yearly from the three schools are estimated to meet about 50% of the apparent demand for agriculturally trained people with the level of training (see chart p. 211).

In addition, the more promising graduates from these schools will be encouraged to seek admission to the Jamaica School of Agriculture and this will help the school increase its annual output of graduates (from 84 at present to 350 yearly by 1980) to meet the demands for agricultural teachers, extension officers, home economists and agro-business personnel. (Also see chart p. 213).

An intensive programme of non-formal education in agriculture should be undertaken to meet the needs of youths (age 15–19) who do not have access to formal agricultural training, or to the limited spaces in youth development centres, government land settlement projects, or who cannot find employment opportunities in business and industries.

Non-formal education in agriculture may be needed for some 30% of the age group 15–19; this will help in some measure to modernise agriculture, increase productivity, and provide replacements for the over-age segment of the farming population. Transfer of updated technical information on agriculture through competent extension officers has shown that productivity of a typical farmer can be doubled (see study referenced on p. 214). It is proposed that new concepts of providing non-formal agricultural education be based on community/continuing education programmes (as discussed in greater detail in section 12 of chapters V and VI). This will be a mobilisation of effort within the national agricultural strategy and a supporting organisational structure with well defined goals.

All agriculturally oriented, private and government personnel within each geographic area would be solicited to co-operate in implementing these agricultural educational objectives. This programme should be expanded to serve educational needs of potential farmers in age group approximately 20–25 years. This programme should also be integrated with the government's agricultural extension services and the Jamaica Agricultural Society's educational programme to achieve early improvement in agricultural productivity by farmers now on the land.

3. National Agricultural Goals and Objectives

For agricultural education, formal or non-formal, to be meaningful to the individual and to society, it is important that this educational input reflects the aim and aspirations of the National Goals of Agriculture of the nation.

Before the educational input can reflect these goals, it is necessary to know what these goals are, hence below are set out the broad objectives of Agriculture (Forestry and Fisheries included) for the Plan period 1974–77.

- (1) Use to its fullest potential all agricultural land.
- (2) Improve the standards of living of the rural population which implies not only an increase in farm income but also the provision of adequate infrastructure and social amenities.
- (3) Establish appropriate and achievable income targets for existing and potential farmers, without which performance in the sector is unlikely to improve.
- (4) Produce as much food and raw materials for domestic consumption and export as is economically and technologically feasible.
- (5) Improve the 'climate' within which agriculture operates in order to attract greater and maintained private sector participation.
- (6) Structure production so as to reduce the growing reliance on imports, and reverse the adverse trade balance in agriculture.
- (7) The strategy for achieving stated goals includes:
 - (i) The achievement of a more equitable distribution of agricultural land consonant with the optimisation of social and economic goals.
 - (ii) Improved training and education and the development of skills among agricultural workers and farmers.
 - (iii) Improvement of extension services including a more effective coordination in the provision of these services.
 - (iv) The reorganisation and expansion of research activities.
 - (v) The introduction of new technologies in some areas and a wider application of existing and appropriate technologies.
 - (vi) The production of non-traditional export crops for markets which exist and can be exploited, e.g., avocados and mangoes.
 - (vii) The creation of a coordinated and efficient credit system capable of rendering the type of services required by the agricultural sector.
 - (viii) Improving the organisational structure and staffing of the Ministry of Agriculture and its agencies.

Source: *Green Paper on Agricultural Development Strategy, Ministry of Agriculture, November 1973.*

In order to reflect national agricultural goals the education system should seek to inculcate the following into the mainstream of society via its students:

- (i) That the agriculture of Jamaica is a major component of the

economic, social, and political structure of the nation; and that it is a basic resource demanding priority attention and development in conjunction with other sectors of national activity.

- (ii) That agriculture (including forestry) constitutes the major means of utilising the national renewable natural resources for the support of man. Prudent conservation, development and management of these resources (land, water and soils) vegetation and climate should be a major concern of government, private industry and business agricultural associations, and producers of agricultural commodities of the country.
- (iii) That the agricultural activities of Jamaica are highly diverse, offering many opportunities for choices of components to make up the farming systems. Hence it is essential that the total agriculture of Jamaica produces commodities directed toward current and future domestic and external market potentials, in the amounts and qualities required to serve the national economy. This includes greater applied research, improved skills and the use of methods and materials adapted to natural environmental conditions, so as to ensure economically viable unit costs, and permit maintenance of long-range productivity. Appropriate education of all persons concerned with agriculture is indispensable to the achievement of these national goals.
- (iv) That the diversity of Jamaican agriculture may provide insurance against catastrophic losses by distributing risks and providing alternative enterprises, adapted to environments and markets. The application of science and technology to achieve efficient production, permits and fosters wide choices in types of activities by individual farmers. Great concentration on single commodities should be the exception to the principle of diversity, acceptable only when it does not negate the principles of wide labour employment, generation and distribution of income among the rural population.
- (v) That on a national scale agricultural production should be adjusted to environmental potentials on the one hand, and to national economic needs on the other. Emphasis on education to implement adjustments, by providing suitably trained manpower and education of the consumer population on uses of commodities, should accompany the mapping of resources and planning for their effective management.
- (vi) National policies and programmes should undertake to halt

- the decline in agricultural production, and to increase productivity to keep pace with an increasing population.
- (vii) That Jamaica should try to produce efficiently some of the food-stuff now being imported. Those commodities which can be economically produced would replace some imports. Wheat is an exception, but flour from other crops (e.g. cassava) may replace some 20% of wheat flour.
 - (viii) That the nation should utilise the available resources of land, climate and vegetation more effectively, by choice of suitable commodities and improved production system, that provide for general application of modern agricultural science and technology. All land suitable for cropping should be brought into active production, and effective use made of other lands for pastures, tree crops and forestry.
 - (ix) That a massive system of non-formal education for farmers and agricultural workers be initiated so that currently available technology can be taught to them. It should plan and implement a parallel system of formal education in agriculture in the school system, beginning in the 7th grade and continuing through the secondary and post-secondary institutions, to train the coming generations of farmers and supporting rural groups in agricultural production, marketing, processing and utilisation of agricultural products.
 - (x) That agricultural development plans should give priority to labour-intensive systems of agriculture (as opposed to capital-intensive systems) as the method of applying modern science and technology to improve net incomes of the great majority of smaller farmers, and achieve better income distribution. Labour-intensive systems that employ modern science and technology in agricultural production are believed capable of supporting national production goals, as well as essential social goals of Jamaica.
 - (xi) Jamaica should provide for conservation and enhancement of agricultural productivity of all lands on a long-term basis, through government policies and programmes affecting the use of renewable natural resources.

4. The Implementation of an Educational Programme to Support Jamaican Agricultural Goals and Objectives

A. General

The programme of agricultural education in Jamaican schools

should be expanded as rapidly as possible with special emphasis on schools in the rural areas.

The greatest single problem facing the extension of the agricultural education programme is the lack of agricultural teachers. The following table indicates the seriousness of the problem (estimates 1972/73):

TABLE 9: Agricultural Education Teachers

Type of School	Total Number of Agricultural Education Teachers currently required	Present Number of Agricultural Education Teachers working in the schools	Shortfall
All-Age	114	14	100
Junior Secondary	88	60	28
High (including Technical, Grammar and Comprehensive)	22	10	12
	<hr/> 224	<hr/> 84	<hr/> 140

Source: *Planning Unit, Ministry of Education, 1972*

It is estimated that by 1976 the education system will need approximately 265 agricultural education teachers. It is also important to recognise that because Jamaica is an agriculturally oriented country, agricultural education instruction must expand in grades 7, 8 and 9 until all schools outside of Kingston and a few large towns are teaching the subject in a meaningful way to meet the needs of the society.

However, in considering a programme of agricultural education to meet the real needs of the country's development in this vital area, careful attention should be taken to avoid a superficial approach, which will result if the programme is developed without any realisation of the depth and breadth of knowledge that is required to produce agriculturists who can be effective in a meaningful agricultural education development programme.

B. The Need for Technical High Schools for Agriculture, Forestry, Home and Community Development

At the present time there is a major gap between agriculture offered in grades 7, 8 and 9 of the schools, and the level of competence required for employment in agricultural production in related industries. The Jamaica School of Agriculture is oriented towards pro-

fessional levels (grades 12, 13 and university levels); hence there is an urgent need to develop technical high schools (to provide education at 10th and 11th grade levels) with a strong bias in agriculture, forestry, home and community development.

It is proposed, therefore, that three such technical high schools should be established, one each for the western, central and eastern regions of Jamaica. The general plan is shown in the accompanying chart (see p. 213). Under this plan, the present agricultural training centre at Knockalva would be restructured to accommodate a total enrolment of 500 to 700 students, so that the ultimate capacity would be 100 boy and 100 girl graduates yearly. The other two technical high schools would have similar capacities. It is recognised that many youths who are grade 9 leavers will not be fully qualified to undertake grade 10 level training at these technical high schools.

For those youths who have shown interest and apparent aptitude, but have deficient educational achievement, remedial education would be provided for periods up to a full year on a *provisional* basis. Students incapable of correcting deficiencies in that period should be referred to some other training programme. The total enrolment of 500 to 700 per high school envisages a substantial cohort of youths engaged in upgrading their education, as well as the fully qualified enrollees.

Land required for these schools will total about 200 acres, of which 50 acres would serve programmes for crops and fruit trees, 50 acres would serve forage, pastures and livestock enterprises, and adjoining roughland would serve forestry programmes. The campus would require 50 acres.

The educational programmes in home economics, consumer education, and community development will require laboratories as well as classrooms. Dormitories and boarding facilities will be needed for the students.

It is estimated (see Annex D) that current employment demand for graduates from agricultural secondary schools exceeds 700 yearly in occupations in the agricultural extension service, agricultural teachers (for grades 7–9) in the school system, private farm operators, and other government programmes with an agricultural bias as well as agro-business and industries.

Apparent employment opportunities for female graduates of the home economics, consumer education and community development option of the agricultural high schools are estimated at 600 yearly (versus 300 graduates). The types of employment will include food processing, food services and catering, textiles, sewing and clothes

making, sales and marketing, medical aides and health services, agricultural business and industry, handicrafts and home making.

The programme of these high schools should have a component of common core subjects required of all students, so as to provide a 'general education' for youths entering the developing Jamaican society. Each technical high school also should provide options suited to those students who wish to progress toward academic or professional goals. However, the major options in their subject content should be oriented toward acquisition of specialised skills and knowledge relating to agriculture/forestry, or to home/community development. The proposed offerings in subject areas, from which students would select so as to achieve vocational competence, are indicated in the following list:

Three Technical High Schools for Agriculture, Home and Community Development (10th and 11th grade level)

Co-educational—equally for men and women)

Subject Matter Contents

COMMON CORE SUBJECTS

- a. English: writing and speaking
- b. Practical Mathematics
- c. History of the New World, with specific emphasis on the West Indies and Jamaica, in relation to the present-day world
- d. Government and Democracy
- e. Modern Society: education, business, industry, services, utilities, community activities, and home life
- f. Personal development and guidance: goals and career opportunities; education and acquisition of special knowledge and skills; personal attitudes and aptitudes and ethics
- g. Biology and Human Development
- h. Physical Education and Playground Supervision
- i. Food and Human Nutrition

ACADEMIC AND TEACHER EDUCATION OPTIONS

(to qualify for admission to Jamaica School of Agriculture or University of the West Indies following completion of the 12th grade in high school)

AGRICULTURE AND FORESTRY

Agriculture

- a. Land evaluation and capability classes

- b. Crop production and protection**
 - (i) Food crops
 - (ii) Industrial export crops
 - (iii) Feed and forage for livestock
- c. Soils**
 - (i) Soil and water management
 - (ii) Soil fertility and fertilizers
 - (iii) Soil conservation practices
- d. Livestock production and protection (Animal Husbandry)**
 - (i) Ruminants for meat and milk
 - (ii) Pigs and poultry
 - (iii) Animal nutrition
 - (iv) Animal health care
- e. Farm engineering**
 - (i) Machinery and equipment
 - (ii) Tractors and motors
 - (iii) Land drainage and irrigation
 - (iv) Farm structures
- f. Farm systems for conservation and profits**
- g. Farm management and record keeping**
- h. Storage and marketing of farm products**

Forestry

- a. Silviculture: development and care of forests
- b. Timber harvest; milling and marketing
- c. Wood utilization and wood industries
- d. Forestry economics in relation to effective use of land and income generation in association with agricultural production.

PROGRAMME FOR SPECIAL APPLICATION TO HOUSE AND COMMUNITY DEVELOPMENT

(In relation to Agriculture, Agro-business and Industry)

- a. Food production, preparation and preservation for home use
- b. Food nutrition—(human support)
- c. Food services and catering
- d. Extension agents (adults and youths), for home and agriculture
- e. Business skills and practices; typing, filing, records and accounts, stenography, modern office equipment and machines
- f. Marketing and commerce—sales and services (including credit banking, insurance etc.)

- g. Para-professional technicians; nurses' aides, laboratory technicians, child care, etc.
- h. Commercialized personal care services
- i. Practicums (throughout two years); on home mechanics, motors, autos, machines, and appliances
- j. Textiles, design and clothing
- k. Interior decorating and landscaping

The establishment of three technical high schools for agriculture will correct the very weak link, that now exists, in providing a complete education system to serve agriculture, from grades 7 through 11.

C. *Higher Education in Agriculture*

(i) JAMAICA SCHOOL OF AGRICULTURE

In 1971/72 J.S.A. graduated 84 students. There are now two programmes: the diploma programme for two years, and the Associate Degree in Science programme of three years. There is a companion programme in Consumer Education and Household Science. Plans for enrolment of sufficient students to produce 350 graduates yearly by 1980 should be firmly pursued, as this will undoubtedly give the agricultural sector the necessary boost. The urgent needs are to provide agricultural teachers for the school system, fully qualified extension officers in the agricultural extension programme, personnel to staff agricultural business and industries, and other ministries concerned with some aspects of agriculture.

(ii) THE UNIVERSITY OF THE WEST INDIES

The Faculty of Agriculture, U.W.I., is located at the St. Augustine campus in Trinidad. Before a student can register in the faculty he/she must satisfy the university matriculation requirements. Graduates of J.S.A. may qualify for admission to the Faculty of Agriculture (usually with advanced standing) to pursue the B.Sc. degree programme of studies.

D. *Non-formal Education in Agriculture*

In the recent past only limited provision was made for agricultural education in the formal school system. Consequently about one-third of the total age-group (15–19 years) who might logically be expected to enter the agricultural field, are, upon leaving the 9th grade, actually without any training to enter this field. This potential source of

trained agricultural personnel may total approximately 44,160 youths. This large group is now unemployed, and unattached to any type of useful activity. The next older group (20–24 years) appears to have made some progress in finding employment, but most have not elected, or found opportunity to enter jobs with an agricultural bias. Based on total estimated cohorts of the age group 15 through 19, with correction for those actually entering the upper secondary schools, there appear to be about 120,000 young people who are not exposed to substantial educational opportunities. Of this number, about 44,160 should normally be oriented toward agriculture, since 36.8% of the total population is now engaged in agriculture. For the 20–24 age group, totalling about 195,000, it is assumed that some 30,000 who should be oriented toward agriculture have not found a solid foothold in that industry.

Continuing education related to agriculture appears the most practical activity that will assist these two groups of young people to enter the employment stream and pass through the door to life careers in agricultural and related activities. Since 2/3 of the people in Jamaica live in rural areas, and 36.8% of the national labour force is engaged in agricultural activities, the present economic stagnation in agriculture is both economically and socially a very serious matter. The present average age of farmers is 55 years indicating an aging population that is not being rejuvenated normally by young replacements.

The principal means of transfer of knowledge to the people now engaged in farming is through the Agricultural Extension Service (Ministry of Agriculture) with co-operation from the Jamaica Agricultural Society. While such transfer of knowledge is apparently deficient, this type of non-formal education is an active element in the agricultural industry.

The industry suffers from the failure to provide education in agriculture for the on-coming generation (ages 15–24), and opportunities to gain a foothold in agricultural production. This gap in the education system should be filled by non-formal education until such time as the formal education system more nearly meets national needs. This may take a decade. The non-formal educational programme may be divided into three sectors: (1) ages 15–19; (2) ages 20–24; (3) adults actually engaged in farming.

It is proposed that the Ministry of Education accept full responsibility for the group of about 44,160 young people in group (1), the Ministry of Agriculture should assist the Ministry of Education in providing continuing education for group (2), and the Ministry of Agriculture should retain full responsibility for group (3).

(1) *Continuing Education for the Agricultural Youth Group
Ages 15–19 (Boys and Girls)*

This group should have the opportunity to repair deficiencies in their education that occurred during their passage from grades 1 through 9. This should be combined with practical instructions in various types of agricultural production and related matters, appropriate to the region in which the instruction is carried out. To the extent that school buildings are available, these facilities should be used in afternoon and evening periods. Instructional groups (classes) should be organised on an *ad hoc* basis, to meet the needs for remedial instruction, and to respond to the interests of youth in specific topics of agricultural production, household science and consumer education. Practical training projects should be developed as a means of providing supplementary experience and practice for youths. It would be important to undertake semi-commercial type projects that require carrying the activities through to completion, so that the effects of good or poor management may be evaluated.

Teachers for such continuing education classes should be fully trained where possible; but this corps should be supplemented by subject matter specialists (in the region being served) who are competent in agriculture and consumer education. Such specialists may be engaged in private agricultural and business enterprises, or come from the ranks of government agricultural officers operating in the area. The contacts with private enterprises may also be a means of placing students in temporary or part-time employment, as a supplement to classroom instruction.

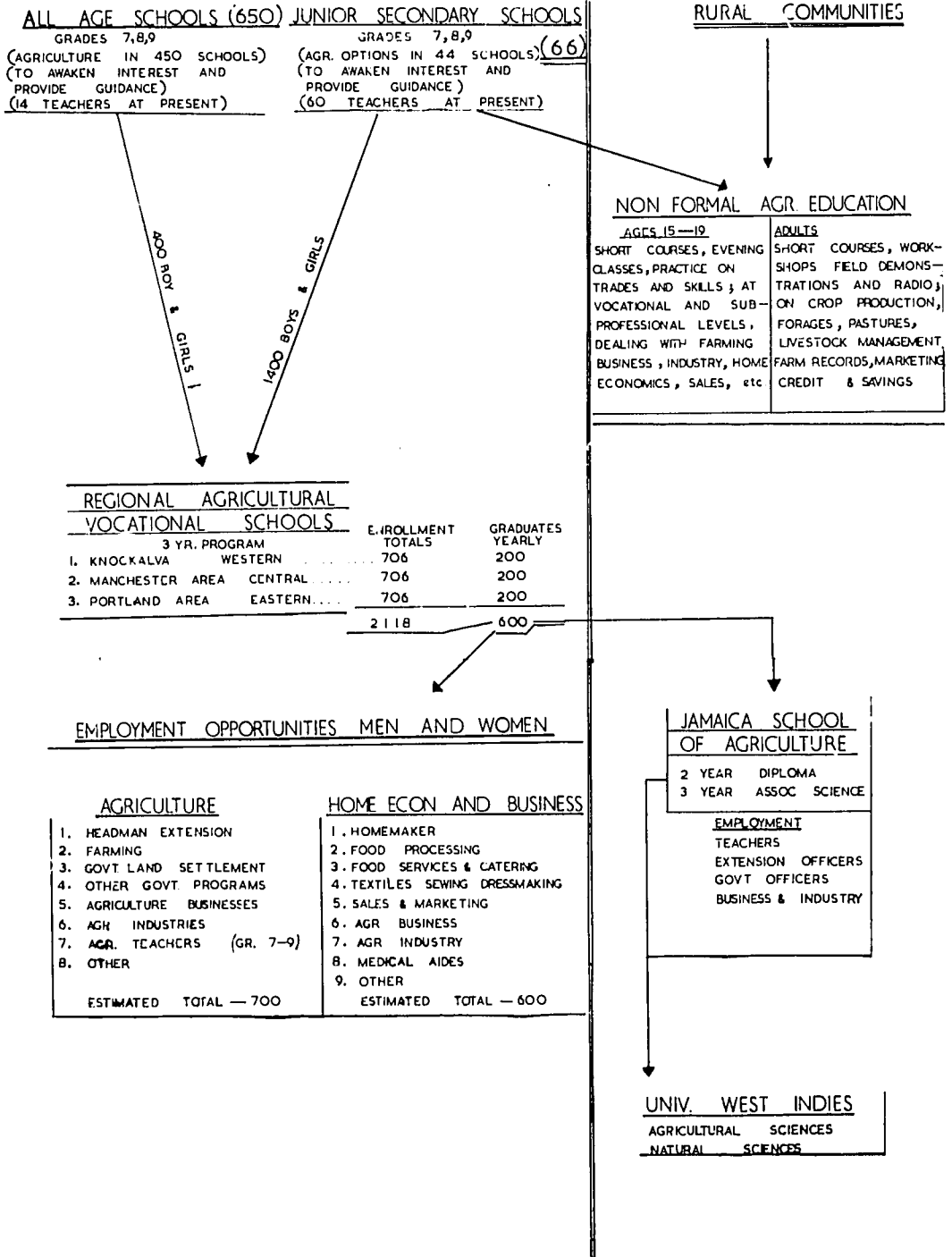
It will be useful to both instructors and students to make assessments of progress made by each student, for each class or package of instruction offered. Formal statements on completion of instructional units should be available to students, and be part of the record of the non-formal programme.

(2) *Continuing Education for the 20–24 Age Group*

Responsibility for continuing education of this group should be shared between the Ministry of Education and the Ministry of Agriculture, with the former serving as the leader up to the point when youths become fully employed. Employed youths should be the concern of the Ministry of Agriculture and be served by the Extension Service.

It is expected that the interest of this age group will focus more sharply on practical agriculture and related business, and on consumer education. The developing interests of youths should be recog-

AGRICULTURAL EDUCATION NEEDS TO SUPPORT NATIONAL DEVELOPMENT



nised (in groups such as the Jamaica Agricultural Society) and instruction in selected subjects or areas of learning given. The curriculum of the Jamaica School of Agriculture should provide guidelines for the organisation of subject matter that would be significant in preparing students to become participants in commercial agricultural and consumer enterprises.

While trained teachers should be used to contribute their expertise to effective methods of instruction, non-paid instructors recruited from private enterprise and various government agencies should be used whenever they are available, so that students will come to appreciate the requirements for economic success in both agriculture and business.

In so far as is feasible, youths of this age group should also be accommodated in their educational efforts in the areas in which they live.

Existing school buildings and other facilities should be used in the afternoons and evenings, to meet the needs of this type of instruction. It is expected that the junior secondary school buildings will be more generally available and suitable than those of primary or all-age schools.

(3) Continuing Education for Practising Farmers Age Group 25+

Instruction for practising farmers and for rural adults beyond age 24 should remain the responsibility of the Ministry of Agriculture's Extension Service.

6. Adequacy of Agricultural Technology as a Base for Agricultural Education Programmes

A recent survey of agricultural production on lands rented to tenants by Alcan Jamaica Limited indicated that the value of production was doubled (approximately) when farmers were given concentrated extension advice by their extension staff.

It appears that the present level of technology for production of certain crops is adequate for a substantial increase in yield, when counsel and guidance are provided by fully qualified extension specialists. However, further benefits will flow from the use of improved knowledge and a more extensive use of modern techniques and technology.

Below is a summary of the survey results:

*Report on a Sample Survey of the Agricultural Production on Land Holdings Rented to Tenants by Alcan Jamaica Limited, for the Period 1st July 1969 to 30th June 1970**

HIGHLIGHTS OF SURVEY RESULTS

1. The survey determined the approximate agricultural production of 4,178 tenants renting 13,225 cultivable acres from Alcan Jamaica Limited in the parishes of Manchester, St. Ann and St. Catherine during the period 1st July 1969 to 30th June 1970.
2. The total gross value of all agricultural products for the twelve-month period amounted to approximately \$1.28 million.
3. The overall average value of production per cultivable acre for tenants receiving the Company's concentrated extension advice was \$175.6, and \$92.4 for tenants not receiving such advice.
4. There was an inverse relationship between the size of the holding and the average value per cultivable acre, i.e., as the size of the holding increased, the average value per cultivable acre decreased.
5. The volume and value of production of the major crops and livestock were as follows:

Yams	2,524 short tons	\$237,165
Sweet Potatoes	1,708 " "	\$159,004
Peas and Beans	252 " "	\$89,705
Irish Potatoes	715 " "	\$74,162
Corn	490 " "	\$51,222
Cattle		\$239,182
Milk	2.54 million lb.	\$119,548
6. The average size of an Alcan holding amounted to 4.6 acres. Company land amounted to approximately 29% of the total acreage occupied by Alcan tenants.
7. Over 30,000 persons were receiving direct or indirect benefit from the farming of Alcan land. The 4,178 tenants had 26,796 dependents of whom 16,093 were under 21 years of age.
8. The average age of tenants was 53.5 years. 13.4% of the tenants were below 40 years of age while 31% were above 60 years of age.
9. Approximately 83% of Alcan tenants are full-time farmers.

In the same period the gross value of agricultural produce from the Company's *own* farming operations amounted to \$0.55 million from

*Survey of Agricultural Production on Holdings Farmed by Alcan Tennants.

a pasture acreage of 7,300 and citrus acreage of 370 acres. The total gross return of agricultural products from all Alcan lands for the twelve-month period therefore amounted to \$1.83 million.

7. National Agricultural Development Alternatives

A. Education for Agricultural Production Systems, Capital-Intensive (Mechanised) Systems Versus Labour-Intensive Systems

There is much public concern as to methods of increasing agricultural production, that are compatible with the needs of a developing nation in terms of providing employment to the rural population, and equitable income distribution to people engaged in agriculture. While universal or widely disseminated agricultural education is not a requirement for capital-intensive systems, such education is indispensable to the labour-intensive system. The Jamaican policy of assistance to small farmers as a means of improving their economic status is conditioned only by the need to meet national goals of agricultural production. There appears to be no serious conflict between labour-intensive systems and national attainment of economic goals, but the management of such systems involves carefully designed policies and practices. Both labour- and capital-intensive systems are highly dependent on the effective application of appropriate technology, improved crop varieties, planting materials and methods of production.

B. Comparison of Alternatives

The following analysis sets forth the essential elements:

(i) CAPITAL-INTENSIVE/MECHANISED SYSTEM

- (a) Increases total production of commodities, rapidly;
- (b) Facilitates adoption of improved technology;
- (c) Makes little contribution to regional employment or income distribution (e.g. plantations, corporate farms, state farms, etc.).

(ii) LABOUR-INTENSIVE SYSTEMS (SMALL FARMS)

- (a) Requires educational and technological services to a great number of small farmers in order to apply improved technology to agricultural production.
- (b) Requires group organisation (all-purpose co-operatives) to provide farmers with inputs such as seeds, fertilisers, pesticides, machine services etc., also provide channels of easy

credit, land facilities for the storage, processing and marketing of commodities.

(c) Requires:

- (1) trained manpower to provide education of farmers in the essentials of production;
- (2) trained manpower to operate all activities of farm co-operatives;
- (3) mobilisation of community interest and active support by many farmers.

The advantages are:

- (a) Utilisation of majority of available manpower, increasing net income of majority of workers; increasing greater total production, yet at the same time permitting diversity in production as a result of individual farmers' preferences and expertise in taking advantage of environmental influences and accessibility to markets.
- (b) Developing a broad-based agricultural sector, economically productive, that provides the balance to industrialisation and urbanisation, as well as for foreign trade.

C. Educational Support Requirements for Labour-Intensive Systems of Agricultural Development and Production

It should be recognised that the success of the labour-intensive operation depends on effective development of both formal and non-formal education in rural areas with the following implications:

(i) FORMAL EDUCATION

(a) Teaching of the modern techniques of agriculture in suitable secondary schools; and in the 549 all-age schools, at 7-9 grade levels, until these schools are phased out as recommended in this report.

(b) Agricultural teaching in technical high schools with agricultural bias as proposed in the foregoing section.

(c) Agricultural education teacher training at Jamaica School of Agriculture.

(ii) NON-FORMAL EDUCATION

(a) Adult education of farmers by Extension Services, Ministry of Agriculture. (190,582 farms of which 149,703 are less than 5 acres.)

(b) Special adult education by agricultural co-operatives, agricultural associations and private enterprises (including on-the-job training).

(c) Training youth through participation in government agricultural development projects and settlement of most promising young people on at least partially developed lands.

(d) Continuing education in agriculture through Community/Continuing Education Programmes as proposed in chapters V and VI, for 15–19-year-olds who are unemployed and out of school. This programme should involve up to one-third of this total age group, or 44,160 youths.

Annex D

EDUCATION AND TRAINING NEEDS OF JAMAICA'S MANPOWER

1. Summary

Available demographic, labour force and education data reveal several weaknesses in the preparation, distribution and utilisation of Jamaican manpower. It also reveals weaknesses in the information/data base itself. Imbalances occur at a number of points, but it is the purpose of this Annex to call attention to four major problem areas:

- . Unemployment is severe (22.5% in October 1972) but is most severe among youth (40.85% at ages 14-24; 24.13% at ages 25-34).
- . Despite heavy unemployment the economy's demands for skills are not being met, and the most severe skill shortage is in Agriculture.
- . Emigration is heavy, averaging 25,000 per year during 1969-72, but is most serious among occupational groups having most education and training.
- . Weaknesses exist in the information/data base itself pertinent to improved employment, analysis of training needs, manpower planning and the creation of relevant education and training programmes.

Following is a brief discussion of the four points raised above. In addition, this Annex recognizes that a great deal of additional study and effort will need to be addressed to the Human Resource Base so critically important to Jamaican development.

It will be observed from Table 1 that the unemployment rate is high, even for a developing economy, and much higher among youth. The severity of its impact on youth will be discussed more fully under Section 3: Skill Needs with Special Reference to Youth Employment.

Footnote on Basic Data: Before discussing the data and its meaning, it is necessary to point out that virtually all of Jamaica's official labour force data and much of its demographic data are based on household survey techniques. No employment index based on an official establishment survey exists. For this reason, any quantitative discussion of occupation is quite likely to have inaccuracies

2. Unemployment

A: General

TABLE 1: Basic Labour Force/Employment Data

	April 1972	October 1972
Total population	1,932, 900	1,949,600
Population, 14 years and over	1,094,400	1,104,300
Latter as % of population	56.6%	56.5%
Labour Force	792,700	808,300
Latter as % of population	41.0%	41.5%
Employment Labour Force	608,600	626,500
Unemployed Labour Force	184,100	181,800
Unemployed Rate	23.2%	22.5%
Unemployed Rate, (14-24 years)	41.3%	40.8%
Male Unemployed (14-24 years)	30.5%	30.1%
Female Unemployed (14-24 years)	55.1%	54.4%

Source: *The Labour Force*, Department of Statistics, 1972

Table 2 combines demographic, mortality and migration data for the years 1969-72. It provides the base for the more detailed discussion of migration which follows under Section 4 dealing with Emigration Attrition.

TABLE 2: Jamaica—Demographic, Mortality, Migration Data 1969–72

YEAR	POPULATION AT YEAR END	LIVE BIRTHS	DEATHS	NATURAL INCREASE	NET MIGRATION	NET INCREASE
1969	1,836,700	64,668	14,094	50,574	29,000	21,574
1970	1,890,700	64,375	14,352	50,023	29,000	27,023
1971	1,911,400	66,277	14,078	52,199	31,500	20,699
1972	1,953,472	66,219	13,970	52,249	18,034	34,215

Source: *Statistical Abstract*, Department of Statistics, 1972

and be unverifiable, since household surveys alone are not usually reliable sources of data concerning occupation or industrial/agricultural attachment.

The Department of Statistics is beginning, in early 1974, work toward the development and maintenance of a comprehensive establishment survey, which will provide the basis for a continuing employment index, and ultimately data on wages, turnover, and occupational information. It will be some time, however, before these goals are reached.

It is apparent that some short-term technical assistance would be invaluable in reaching these goals. Moreover, a long-term assistance programme needs to be set in place in order to establish a Jamaican occupational definition programme. Without it, no future Jamaican occupational data will be reliable or efficacious. This is discussed in further detail in Section 5 of this Annex.

While the primary purpose of Table 2 is to set the approximate dimensions of overall migration, it also serves to show the potential net annual increases to the labour force, as well as other pertinent relationships.

No single table is available to illustrate the demand/supply situation in Agricultural manpower, but the subject is treated in some detail under Section 3: B. Agricultural Skill Needs as well as in Annex C: Education in Support of Agriculture in Jamaica.

B. Education/Training of Women

Within the context of any skill needs analysis, training and placement programmes, there is a critical need to pay special attention to increasing employment opportunities for women. As stated relative to the unemployment data given in Table 1 there is approximately 55% total unemployment among young women.

Skill needs training/employment emphases for youth should include particular attention to the fields of women's work, since the increases of unemployment among the young (under 24) age groups have been primarily due to the greater numbers and percentage of young women coming on the labour market than previously and being unable to find acceptable work.

Although women should eventually receive the training and be qualified to do almost any type of work a man can do; a developing society usually follows a more traditional path in first providing opportunities in areas such as home economics, teaching, child welfare and general social development.

Thus a more intensive and comprehensive effort will have to be made in both the traditional and newer fields to provide increasing opportunities for women. This is also consistent with the country's objectives of achieving a greater degree of self-reliance and skills capabilities in all citizens consistent with a total national human resources development effort.

3. Skill Needs with Special Reference to Youth Employment

A Industrial Skill Needs

Table 1 indicates how much more serious is unemployment among youth (40.8%) than among the total labour force (24.5%). The Department of Statistics report, *The Labour Force, 1972*, provides much additional data showing that the heaviest toll of Jamaica's unemployment falls on youth. As indicated above, the October 1972 Survey showed 85,860 persons aged 14-24 unemployed, and an additional 41,435 aged 25-34 unemployed. In the face of this heavy surplus of

labour, one would assume that little or no demand for labour exists.

(i) *Demand* The paradox is that there is actually a continuing demand at a fairly high level, for workers at skill levels. The recent *Training Needs Survey* is the best available guide to the nature and extent of this demand. The *Training Needs Survey* covered 35,980 workers employed at about 20% of the larger firms, although the Survey coverage represented slightly less than 6% of the nation's total employment. Notably, it did not cover Jamaican Government employment which itself runs about one-sixth of all employment, nor the higher professional fields.

(ii) *A Possible Demand Model* Using the *Training Needs Survey* data, it is possible to build a projection model in which the annual labour force demand in the Jamaican economy would exceed the annual cohort of youth entering the economy. While the 'model' is admittedly speculative, the serious nature of the youth unemployment problem merits its presentation here.

The *Training Needs Survey* reported 1,787 vacancies among the 35,980 jobs covered. This is a ratio of almost exactly 5%. If we utilize the study as the best source available in applying the above against a total employed labour force of 619,900, the 5% vacancy rate would produce a current nation-wide vacancy total of slightly more than 30,000 jobs. From another different view, but essentially the same extrapolation, since the study covered about 6% of current employment, the 1,787 reported vacancies should, if the data is representative, represent 6% of all vacancies for a theoretical total of slightly less than 30,000 vacancies.

A major problem in further extrapolation is whether, if the survey were repeated some time later, new and different vacancies would be shown or the same 1,787 unfilled vacancies extending into a further period. There is ample experience in vacancy studies in the U.S. and elsewhere, (although this does not automatically follow for Jamaica) to believe that vacancies rarely continue unchanged for more than six months. On this basis, an annual demand of twice the study rate can reasonably be assumed. This would result in an annual rate of 60,000 vacancies, in excess of the 50,000 or 55,000 usually designated as an annual Jamaican age cohort.

(iii) *The Demand/Supply Mismatch* If we are given the foregoing, it can be said that the Jamaican economy already has within itself sufficient talent demand to meet the annual expansion in the labour force. Why does it not, so that we have the anomaly of 200,000 current unemployment in the face of an apparent annual demand of 60,000?

In the above context two cases immediately suggest themselves:

- a) The demand is for skills, the supply is largely unskilled. Referring again to the *Training Needs Survey* it showed that, after eliminating unskilled agricultural vacancies, 5.1% of the remainder were supervisor vacancies, and 27.5% semi-skilled. Only 7.6% of the non-agricultural vacancies were for unskilled. A 1968 *Labour Force Survey* showed 92% of the unemployed had no more than a primary education.
- b) The exodus of skills to other countries, in addition to the direct loss, also diminishes the ability of the economy to employ the unskilled. In any economy, it takes a certain number of technical, professional or supervisory workers in order for the skilled, semi-skilled, and unskilled workers to be effectively employed and as appropriate, trained on the job. (The *Training Needs Survey* showed this to be 6.8% in Jamaica). On the basis, for every 6.8 such 'leadership' personnel to leave the country, 93.2 others remain unutilised or under-utilised. In later sections of this Annex, some 6,389 such personnel are shown to have left Jamaica in the three years 1967-69. If we follow this reasoning, they left a potential 90,000 workers under-utilised.
- c) But there is a third aspect, probably more important, which is less apparent. One of the more useful elements of the *Training Needs Survey* was to state the frank views of employers of Jamaica's labour supply.* Out of these views comes this major assertion, repeated by many employers: *The great underlying, basic need of the labour force is for basic education.* The simple fact is that the schools are not preparing Jamaica's youth with the basic capabilities of reading, writing and arithmetic. Employers can and do use on-the-job training to create the vast bulk of the operational skills they need to carry on their business. But they must have some bare minimum competence to work with, and that minimum is functional literacy. If any significant percentage of his workers are barely literate, the result for the employer is wasted training, reduced productivity, and higher labour turnover. One may argue the employer's right to a free supply of skills, but surely he has a right to expect a supply of literate and therefore trainable labour from his country's education system. Moreover, employers stress the need for attitudes and competence which the schools could indeed inculcate. In the *Training Needs Survey*, the majority of responding Jamaican

* See also Chapter V Section b: Lack of Pre-professional Vocational and Pre-vocational Programmes geared to the needs of Youth, the Community and the Economy.

employers ask for the following 'proper work attitudes' in their newly hired employees: 'willingness to learn; willingness to work hard; reliability; punctuality; initiative; self-discipline; ability to take, understand and follow orders; ability to communicate; cleanliness and hygiene; safety consciousness; production and quality consciousness; respect for equipment and property; courtesy to the public; tolerance toward other workers and management; understanding worker/employer relationship; and understanding the role of labour in the economy.

These are concepts which the school, in conjunction with the family and the church and related institutions can teach. Some of these attitudes need to begin to be developed as early as primary school, and even before. But it is clear from employer relations in the *Training Needs Survey* that this is vitally necessary for the work force and that it is not being achieved. The *Training Needs Survey* stressed other important areas of preparation for employment *other than specific skills* and general attitudes which young workers should have before employment:

- . a good command of English;
- . a knowledge of basic mathematics and science;
- . to know how and where to apply for a job;
- . to know how to fill out an application form;
- . to know how to present themselves for an interview; and
- . to know more about the jobs they are seeking or the industries in which they are seeking employment.

(iv) *Supply* The central thrust of the foregoing is that Jamaica's labour force needs a basic, quality, primary education as much as, if not more than, it needs specific skill development. It needs to be pointed out that Jamaica does have skill development institutions, that many are doing a creditable job and that output volume approaches demonstrated needs (except for agricultural needs).

Table 3 helps to demonstrate the multiplicity of education and training activities carried on in formal institutions in Jamaica. (While the figures are only approximate, they do also serve to show how little of these activities are directed at agricultural skill needs.)

TABLE 3: Government-Sponsored Training (all data approximations)

Institutions	Agency	Subject Area	Enrolment
<i>I. Basic Vocational Training</i>			
A. Youth Camps	Ministry of Youth and Community Development	Pre-vocational and basic skills	1,600

Institutions.	Agency	Subject Area	Enrolment
B. Industrial Training Centres	Ministry of Labour and Employment	Entry level skills and semi-skilled workers	2,100
C. Technical High Schools	Ministry of Education	Pre-vocational and vocational training	6,100
D. Comprehensive High Schools	Ministry of Education	Pre-vocational training	3,750 t
E. Vocational Schools and Trade Centres	Ministry of Education	Specific trade training at the entry and semi-skilled level	730 t
<i>II. Skilled Training</i>			
A. Apprenticeship	Ministry of Labour	Training in specific trades	430
B. Apprenticeship	Ministry of Works	Specialised skill training	80
C. Hotel School	Ministry of Industry and Tourism	Hotel occupations, service and middle levels	76
D. Farmers Training Centre	Ministry of Agriculture	Pre-vocational training; Dairy training	98
<i>III. Technical & Middle Management Training</i>			
A. National Industrial Training	Ministry of Labour and Employment	Training of Instructors Upgrade skilled workers	20
B. Jamaica Industrial Development Corporation	Ministry of Industry and Tourism	Supervisory and Management Training Installation Mechanics Tool and Die makers	1,500
C. College of Arts, Science and Technology	Ministry of Education	Technologists, Technicians, Administrators, Managers	1,700
D. Jamaica School of Agriculture	Ministry of Education	Technical training in Agronomy and Agricultural Economics and related subjects	210

Institutions	Agency	Subject Area	Enrolment
E. Teachers Colleges	Ministry of Education	Primary Teacher Training	2,000
<i>IV. Professional Training</i>			
*A. University of the West Indies	International University	Professionals, Technologists, Administrators	2,500
TOTAL			22,894

* Estimate of Jamaican students in the University.

Source: *OAS Employment Generation Study, 1974.*

B Agricultural Skill Needs

(i) **GENERAL:** There is increasing evidence that Jamaica's need for developing agricultural skills is even greater than the need for industrial skills. Some of the indicators are:

- (a) The average age of Jamaican farmers is over 54* years. One of seven is below 40 years of age; three of 10 above 60.
- (b) Jamaica has suffered a net agricultural trade deficit for several years. In 1972, despite agricultural exports of \$57 million, the trade deficit in agriculture was over \$39 million, and may rise to \$75 million in 1973.
- (c) About 80% of farm land is in holdings averaging less than 5 acres, requiring high levels of agricultural skill for productivity.

The volume of need for agricultural skills is massive. While the exact extent is elusive, some measure of it is arrived at in the following rationale. It projects skills needs in the agricultural sector in Jamaica for the period 1975-1984. The approach used here is to look briefly at each main area of current and potential employment which might require or profitably use agricultural skills, knowledge, or experience; to discuss possible ways to qualify such skill needs and then to arrive at an estimate of the quantity.

Since little or no information is available on the educational level which exists in the active agricultural labour force, it is reasonable to assume on the basis of the present situation that no formal schooling will be provided the current work force, but that the needs will be met by non-formal sources alone, chiefly by agricultural extension

***Sociological Considerations in Planning for Agricultural Development**, paper delivered at Jamaica Agricultural Society Seminar on Planning for Agricultural Development, July 11-13, 1969, by Cedric S. McCulloch, B.Sc. Agronomy, M.A. Sociology, (Illinois).

services. The question then becomes, 'What needs are there for trained and educated new entrants to the agricultural labour force?'

Another consideration is the difference between 'needs' as determined from the point of view of economic desirability, and true demand, as determined by actual labour market openings for trained and educated agricultural workers. The estimates arrived at here are assumed needs, without an attempt to determine effective demand. It is worth noting that the *Training Needs Survey* while it visited only 52 farms, turned up a current demand for nine farm supervisors. There seems a reasonable hope that continued expansion service activity at the employed adult level, coupled with improved education of children and youth and possible adult non-formal/continuing education programmes, will help to meet demand approach need. Moreover, the gap between need and supply is so great that some of the gap has to be closed even if strong demand were absent.

(ii) FARMERS: Of the approximately 190,000 Jamaican farms, 40,000 are of more than 5 acres in size.* Of these, 964 are larger than 100 acres, and 295 larger than 500 acres. How many of these require the equivalent of a college level education, with a strong agricultural component? If it is assumed that most of those owning and working the larger farms (100-150 acres) require such training, that two per farm are needed for the largest farms (500+ acres), that one in ten operating farms of 5-25 acres require such training, and even if we chose to assume that no farmer of less than 5 acres requires such training, the result would be:

TABLE 4: Farm Size and Training Personnel Needs

Size of Farm	Number of Farms	Number of Trained Farmers Needed
500 acres up	295	590
100-500 acres	669	669
25-100 acres	3,004	300
5-25 acres	36,881	368
	Total	1,927

The 1,927, however, are in place, and their technical needs should be met by extension. How many will need to be replaced within ten years? A significant factor, as indicated above, is the age of Jamaican farmers, reported in 1972 as over 54 years on the average, with 31% over 60 years old. While these figures do not provide the median age, it seems reasonable to assume that beginning three years later (i.e. 1975-84) more than 50% will reach 65 by 1984, and will therefore

require 'replacements'. In other words, even to maintain the Agricultural Production *status quo* at least 963 will have to be replaced by trained or educated farmers during the projected period.

Needed (1975-84): 963

(iii) **GOVERNMENT EMPLOYMENT:** According to the *1973-74 Government of Jamaica Budget Estimates*, the various arms of the Ministry of Agriculture excluding the Extension Service and the Credit and Co-operatives activities, but including Forestry and Irrigation and the staffs of the several Corporation Boards, utilised 1,533 positions. Ministry of Agriculture official data indicated that about half are professional positions. An additional 169 positions are shown for Agricultural Credit and Co-operatives.

The Extension Service at present has 765 professional positions, of which 25% are reported vacant and 70% are reported as 'less than qualified', since they lack Jamaica School of Agriculture graduation, or the equivalent.

There are other government activities, such as Land Valuation, Beach and River Control and Park Service etc. which could use persons with Agricultural Training, but they have not been included in these estimates.

The following table conservatively assumes an annual attrition/turnover rate requiring replacement, at 3%. In addition, based on current qualifications, at least half of the 'less-than-qualified' current employment in the Extension Service will require training, and that 10% of professionals in other Jamaican Government Agricultural functions will also require training.

TABLE 5: Agricultural 'Replacement' Projections

	Employed	Professionals (Estimated)
Ministry of Agriculture, Boards etc.	1,533	766
Agricultural Credit and Co-ops.	169	84
Extension Service	—	765
Total		1,615
Replacement Needs per year (1,615 x .03)*		(48.45)
Ten-year Replacement needs		484.50
Immediate Training Needs		
Extension Service (765/2 x 0.7)**		268
Other GOJ Agricultural Areas (766 x 84 x 0.1)		85

* Estimated yearly attrition/replacement rate.

** Estimated percentage of 'less than qualified' personnel.

Needed: 887

(iv) **TEACHERS:** The preceding estimate of Government of Jamaica needs for agricultural skills excluded needs for teachers. Annex C, Table 9, compares the number of agricultural teachers working (84) with those currently required (224), showing a current shortfall of 140.

To arrive at the ten-year need, replacement needs must be added to the current shortfall. Jamaican teachers' turnover averages about 18% annually. Applying this to the current requirement level of 224 would produce a ten-year replacement need of 403 (at present levels of productivity). Together with current shortfall, there would be

Needed: 543

(v) **BAUXITE RECLAMATION:** Although there are seven major bauxite firms, the *National Physical Plan for Jamaica* shows five major mined sites. Reclamation for such sites for agricultural resettlement is required by law, but the process of meeting the legal requirement is in transition. While most companies have experimented with reclamation, no firm criteria have been established. Manpower requirements for the reclamation effort are therefore very difficult to estimate. They are based primarily on the assumption that experimentation is nearing completion, and wide-scale actual reclamation will begin during the 1975-78 period. Twenty professional positions for each of the five reclamation sites are estimated, of which 75% are assumed to be new positions. The result is the estimate of

Needed: 75

(vi) **FOOD PROCESSING ESTABLISHMENTS:** Processors of food or natural fibres are normally fairly heavy users of trained agriculturists, largely in insuring an adequate supply of the needed raw materials or crops. The food processors' field agents usually contract with farmers in advance for crops and will also supply technical advice and support to the farmer at every step of the way—on seeds, tilling, planting, insecticides, pests, weeding, fertilizing, harvesting, labour supply and other agricultural technology. The degree to which this practice is followed in Jamaica varies widely and is not fully known, but is assumed to be at a relatively low level. In addition, of course, food processors do use trained agricultural personnel in supervising the actual in-plant process.

The best available disaggregated data on Food Processing firms and employment in Jamaica is the Labour Ministry register on firms. It shows employment in firms of ten or more employees in 1972 as follows:

TABLE 6: Registered Firms, Food Processing—Jamaica 1972

	Number of Firms	Number of Employees	Average Employees per firm
Meat and dairy processing	33	1,488	45.0
Preserving fruits and vegs.	20	2,764	138.2
Grain mills	30	617	20.5
Bakery products	165	3,250	19.1
Sugar mills	15	4,562	304.0
Confectionery (Sugar, Cocoa, etc.)	12	579	48.0
Miscellaneous Food Preparation	37	1,144	31.0
Beverages	19	1,788	94.0
	<u>321</u>	<u>16,192</u>	<u>50.4</u>

While data by size of firm would have been preferable, the average derived above has been used as follows to estimate agricultural professional employment: (a) none assumed for bakery products; (b) one per firm of 40 or less; (c) two per firm of 40 to 100; (d) three for firms 100 to 300; (e) six for firms over 300. The net result is an employment total, among the 321 in the table of 345 agricultural professionals. Over the forecast period at current level of productivity there would be

Needed: 104

(vii) **OTHER USERS:** Among other users of trained agricultural personnel are: (a) agricultural sales and service (feed and seed); (b) agricultural equipment sales; (c) horticulturists; (d) landscapers; (e) timber and saw mill operators; (f) banks; and (g) real estate developers and appraisers. One professional has been assumed to be employed by each of (a) through (d) above, one in three of (e) and (f) and one in ten of (g). Based on this, the number of agricultural professionals employed would be 135. For replacements for the ten-year period, there would be 40. However, this does not include new forestry/forest products activities (re the afforestation programme); development of the potential market for flower growth/plant horticultural expansion/export activities.

(viii) **SUMMARY OF AGRICULTURAL SKILL NEEDS:** The foregoing rationale describes probable minimal needs for professional agricultural personnel i.e. post-secondary level, for Jamaica for the ten-year period 1975-84 for farmers (1,963), government (837), teachers (534), bauxite land reclamation (75), food processing (104), and other users (40), totalling 2,562.

Several delimitations need to be considered, for example, potential backlog needs have been discussed very little. Most are assumed to be met by extension service and other non-formal sources. Only a fraction of those now employed as agricultural extension agents are assumed to be a backlog, yet in view of the continuing decline in agricultural output, it could be argued that an even larger backlog need for training exists.

For another, no growth nor expansion has been assumed, with the minor exception of the bauxite reclamation effort. Resettlement requirements have not been included. Clearly, the numbers here could be very considerable. One approach by an agricultural economist set the resettlement acreage available at 80,000 acres and average farm size at 25 acres, leading to a trained farmer resettlement requirement of 3,200. At a ten-year resettlement rate, even if evenly phased, the annual training/education requirement would come to 320. In addition, recent severe drops in acreage under tillage coupled with government priority on agricultural growth and productivity needs, suggest that a growth in number of farmers should be assumed, quite aside from resettlement. While development experience in more advanced countries shows continuing declines in employment in agriculture as a normal part of the labour transfer from agriculture to industry, it also shows sharp increases in educational levels of farmers, so no decrease in agricultural needs can be assumed.

It will be observed that the foregoing approach is rather conservative, so that the estimate of 2,562 post-secondary agriculturists arrived at may safely be assumed to be minimum requirements.

Secondary level Trainees: What needs are there for training and education at the secondary level in agriculture? A modest ratio, suggested by educational levels in several countries, might be 3 to 1. On this basis, the ten-year 2,562 post-secondary requirement would need to be supported by 7,686 educated at the secondary level. Although the current need is in fact much higher, the average annual need for the ten-year period, from the above, would be 256 post-secondary and 769 secondary level graduates.

Alternative Estimates: The above might be considered by some as either devious, or tedious, or both so that a short-cut method might be preferred as a test. One way would be to assume that only 4% of the agricultural labour force, i.e. 1 in 25 requires post-secondary training. The actual ratio in the U.S. is far higher but the *Training Needs Survey* provides some evidence that it is also conservative for Jamaica. Of the 52 farms visited in the *Training Needs Survey*, total employment was 6,919, and the number of farm supervisors was 245, or 3.55%. This does not include of course, any farm services employ-

ment, or extension service, or any other professional agricultural jobs. Of the 1972 employed agricultural labour force of 211,000, the 1:25 ratio would lead to an annual requirement of 8,440. At the assumed replacement rate this would make for an annual requirement of 253 agricultural post-secondary graduates. By the same secondary-to-post-secondary ratio of 3:1 used above, the annual output requirement from the secondary level would be 759. It will be observed that this compares favourably with the more detailed rationale.

Another short-hand method might use a comparison with industry skill requirements. The ILO Study (Table 3) shows 34.7% of total employment engaged in agriculture, forestry and fishing. Using this relationship, slightly more than a third of all technical and higher education output should be directed to the agricultural sector. In a recent year, a total of 1,835 graduated from U.W.I. (375 Jamaicans), C.A.S.T. (160), Technical High Schools (400) and Labour Ministry Training Centres (900). Since all of the above are directed toward the non-agricultural sector, the number directed to the agricultural sector should be somewhat more than half (i.e. 37.7% related to 65.3%) or about 950. Yet, in fact, only two sources exist for this and their output in the same recent year came to 109; J.S.A. (59) and Knockalva (50). Note that the post-secondary (U.W.I. 375, C.A.S.T. 160, total: 535) proportion of the 1,835 non-agricultural graduates (535/1,835) is 29.1% of all graduates. If the same proportions are applied to the roughly estimated 'need' of 950 agricultural skills, the annual secondary need would be 674, both consistent with the alternate estimates already described.

Clearly, whatever method of projection of agricultural skill need is used, the current and future needs are great. They are being met only fractionally now, even if a quality output is assumed. The quantity of agricultural training now needed in Jamaica demands prompt and vigorous action on the part of the education system, as well as other sectors.

In summary then, the major imbalances in labour supply and demand are (a) the lack of a quality educational output in the primary school system; (b) insufficient agricultural education at all levels; and (c) the loss of non-agricultural skills through emigration while the labour market continues to demand skills.

4. Emigration Attrition

Discussion of the Human Resources Emigration or 'Brain Drain' as it is referred to in colloquial terms, is common in development literature. The problem does seem, however, to be unusually acute in Ja-

Jamaica. Buffenmeyer's study* of 'high level' migration, using 1968 world-wide data, showed Jamaica far in the lead with 789 per million population, followed by Trinidad with 500, Cuba 403 (although this included a political refugee factor), Israel 321, Phillipines 145, Greece 125. All others were less than 35.

Jamaica's own data Table 7 disaggregated by broad occupational groups** for those emigrating to the U.S. and to Canada shed further light.

A The High Quality Out-Flow

It will be observed from Table 7 that the categories of 'Professional Technical' represented 15.8%, 15.1%, 15.6% and 15.9% of total workers in each of the years 1969-72. It is enlightening to compare these populations with levels of education attained by Jamaica's population, as revealed by the 1970 census (Table 8).

TABLE 7: Population at Highest Education Level Attained, 1970

	Number	% of Total
University	9,642	0.53
Secondary	138,599	7.70
Primary	1,182,971	65.70
Other	14,947	0.83
None	326,504	18.14
Infant	118,675	6.57
Not stated	6,063	0.33
	1,797,401	100.00

Source: *Statistical Abstract*, Department of Statistics 1972.

In other words, those occupational groups generally believed to require secondary level of education or better, represented between 15% and 16% of emigrant workers each year for four consecutive years, while only 8.56% of the general population attained secondary level (including 'other') or better. Since the 15-16% drain is annual, a more direct comparison would be with annual school outputs. However, lacking output data, the *Statistical Abstract, 1972*, Table 33 shows enrolment of all 'secondary plus' at 10.3% in 1972. In this latter comparison, it becomes clearer that the emigrant is more educated, taking occupational groups as indicative of education, than the general population.

* Buffenmeyer, R.J., *Emigration of High-Level Manpower and its Effect on National Development*, University of Pittsburgh, 1970.

** *Statistical Abstract*, Department of Statistics 1972.

This point is made somewhat more sharply in Table 9 below, using a composite of sources, chiefly the Ministry of Education, for post-secondary graduate data; Buffenmeyer for 1966-1968 emigration; and the *Statistical Abstract, 1972*, for 1969-1972 emigration. It will be observed that the quality of Jamaican emigration, in terms of education or training required for the occupations emigrating, is of a very high level.

TABLE 8: Jamaican Post-Secondary Graduates & Emigrants

Post-Secondary Institutions	1966	1967	1968	1969	1970	1971	1972
University of the West Indies (Jamaican students only)	220	259	317	369	375	559	447
College of Arts, Science & Technology	67	168	84	119	160	93	88
Teacher Training Colleges	334	889	826	883	886	968	1,112
Jamaica School of Agriculture	40	50	48	43	57	84	91
TOTAL:	661	1,326	1,275	1,414	1,458	1,504	1,738
Professional, Technical and Managerial Emigrants to U.S.,	652	1,915	2,241	2,271	1,664	1,511	*1,004

*U.S. only; Canada & U.K. not available.

Source: *Economic Survey, Jamaica, 1972*.

The same pattern extends to lesser skills. Table 7 shows that in the three years 1969-71, some 18,132 emigrated claiming to be 'clerical, sales, craftsmen, or other skilled' personnel. In educational terms the equivalent level may be reasonably assumed to be the 'graduates' of the high schools, technical and trade schools. Absent the 'graduate' concept in Jamaica, and in order to maximise any comparable concept, all those enrolled in the 11th grade of these schools have been taken, despite the fact that relatively few (less than 30%) go on to the 12th grade. The total of all 11th grade enrollees for the years 1970-72, is 16,836, as compared with the 1969-71 middle-level emigration of 18,132.

It is clear that a very high proportion of educated Jamaicans are leaving Jamaica. Indeed one could argue that the more education, the more likelihood of departure. Given that the out-flow is of higher quality, the questions which might reasonably follow are 'Is it continuing? What about returnees? and Are there any mitigations?'

Decline in the out-flow? Table 9 gives some clue to the question of continued out-flow.

It will be observed that a case can be made for some decline in the annual out-flow. The sharp drop from the 1961 peak is due to

TABLE 9: Jamaicans Emigrating to the United Kingdom, Canada and the United States

Year	U.K.	Canada	U.S.A.	Total
1961	39,203	N.A.	1,283	40,486
1962	22,841	N.A.	1,573	24,414
1963	7,494	N.A.	1,880	9,374
1964	9,560	912	1,762	12,234
1965	9,510	1,214	1,837	12,561
1966	7,077	1,407	2,743	11,227
1967	3,420	3,459	10,483	22,362
1968	4,694	2,886	17,470	25,050
1969	2,699	3,889	16,947	23,535
1970	2,372	4,659	15,033	22,064
1971	1,759	3,903	14,571	20,233
1972	1,515	3,092	13,427	18,034

Source: Buffenmeyer p. 93, Table 10, for years 1961-68;
Department of Statistics Abstract, 1972 for years 1969-72.

changes in U.K. immigration laws: the numbers for the U.K. in more recent years being almost entirely dependent on those who left in prior years. The decline from the 1968 peak of 25,050 to the 1972 level of 18,034, however, seems to be slower but steady. If the decline continues unbroken, and at the same rate entirely, then theoretically, emigration could disappear entirely by 1983-84.

Unfortunately, the content of the out-flow continued to be of the highest level, as has been pointed out, being composed of 15.9% professional, technical and managerial in the last reported year, with only 30% unskilled in the same year.

The quantity of the flow is itself a clue to possible decline. While occupational data prior to 1969 seems not to be available, the consistency of content going to Canada and the U.S. during the four known years (Table 7) gives adequate reason to believe that it also characterized the out-flow in all years since at least 1964-65.

B. Returnees

There are no official sources of information on this aspect. However, as an example, recent Ministry of Education attempts, using positive recruitment methods, sent teams abroad to Canada, the U.S. and U.K. and managed to attract only 24 returnees for the three years 1970-72. In the absence of official data, no reliable estimate can be made.

C. The Real Cost of Emigration.

The high volume and relatively high quality of the emigrants from Jamaica and their failure to return are simplistic indications of the ultimate loss to Jamaica. A comprehensive statement of the cost of those Jamaicans who remain would require a long list of derivative losses to Jamaica such as the:

- (i) cost of education of the emigrants
- (ii) lost return on the investment
- (iii) return on the alternative investment which could have been made with those funds
- (iv) lost productivity of the emigrated workers
- (v) loss of wages and taxes of the emigrants
- (vi) cost of scholarships abroad in many cases
- (vii) cost of carrying debts, largely foreign financed, for education and training
- (viii) added cost of importing replacement skills, at a rate usually several multiples of the wage cost of a Jamaican
- (ix) reduced opportunity to unskilled when the skilled and educated leave (see previous discussion)
- (x) increased turnover in employment
- (xi) negative income distribution (see discussion which follows)
- (xii) loss to the cultural life of the nation
- (xiii) genetic loss to the nation

Items (ix) and (xi) perhaps merit some additional comment. All are key areas for possible future research. As was discussed in Section 1B relative to training needs, the degree to which the emigration abroad was weighed with high-level personnel does affect the degree to which middle-level and unskilled personnel can be effectively utilised. The current Jamaican labour force can demonstrate this relationship. The Department of Statistics report *The Labour Force 1972* shows that the total employed labour force of October 1972 was 626, 693, and of those the number of 'professional, technical, managerial, etc.' was 43,732, or 7%. In other words, in the Jamaican labour force, there is usually one such professional per 13 others. Of course the relationship is not casual but there is evidence from the *Training Needs Survey* that there is a significant Jamaica labour market demand for such 'leadership units'. If this thesis is followed through, the 11,258 Jamaican emigrants (Table 6) of this 'leadership unit' category who left during 1966-72 could have contributed, to fuller employment of 146,354. Granted this is a tenuous process, there is none-the-less the kernel of truth which relates to Jamaica's labour market and its 200,000 unemployed.

The heavy out-flow of educated and trained also acts as a negative

income distribution factor. In the ordinary situation, where all contribute to the education system, all gain from it as they can, and all remain to share their acquired skills in the economy, the income distribution factor may be deemed in balance. This is so even when a few gain far more from the system than others, because those few remain within the economy, and those who failed to gain all of the direct educational benefits finally gain the indirect service of the skilled persons who did, and thus finally gain a return on their proportionally larger investment. When, however, those who gain a disproportionately large share of the direct educational investment do not remain, they do not provide skills or services to the economy and thus deny to their less educated fellows the indirect benefit skill due them. So the poor tend to become the poorer in this process.

Pertinent to the discussion on the weaknesses in the preparation, distribution and utilisation of Jamaican manpower, especially youth, the following section addresses the problems relative to the manpower/employment information/data base and the follow-through programmes which will have to be developed if the weaknesses are to be effectively and adequately addressed.

5. Manpower Planning, Employment Information/Data Systems Major Information/Data Constraints

A. Background

Manpower planning, as a subset of human resources development in Jamaica, is at a very preliminary stage. Most lacking, of course, is basic occupational data. Neither the Ministry of Labour nor the Ministry of Pensions and Social Security believe their registers of employment by firm to be complete or comprehensive. No employment series exists. Occupational information is only of the grossest skill group type, with no true occupational breaks. As often pointed out by the National Planning Office, no accepted occupational classification scheme exists. No national nor industrial series on turnover (accessions, separations, new hires) exists. A quarterly household survey whose main objective is current employment/unemployment status does exist, but no household survey is a reliable source of occupational information, beyond the broadest categories.

Census data provide some of the above, but it is too thin occupationally to use in manpower planning. Absent these three bases and it is doubtful that manpower planning, in the sense recently 'traditionalised' by the Organisation for Economic Co-operation and Development (OECD) and other institutions, can be made effective in Jamaica for some time to come.

The situation, however, is not as negative as the above might lead one to believe, for these reasons: (a) experience with the OECD and related techniques have shown that, by and large, manpower plans usually have specified goals, targets, and needs far beyond the capacity of the developing nations to make use of them, quite aside from other serious technical weaknesses in manpower planning; (b) a more realistic, pragmatic approach is to make a relatively simple, but more diagnostic approach to manpower supply and demand, and to put these in the hands of an administrator. (Development experience indicates that many more plans fail for lack of an administrator, and an administrative capability than for lack of a plan); and (c) it is the considered judgment of the Sector Team that the ILO study *Employment and Unemployment in Jamaica*, May 1972, is the best single source of manpower information available in Jamaica beyond the bare unexplained data of the *Labour Force Surveys*. Also useful are the recent *Training Needs Survey*, June 1972, and a few other foreign manpower technician reports, notably the recent Labour Ministry series (supported by the OAS) and the Stanford Research Institute Study on Vocational Training. Coupled with the ILO study, they constitute a pragmatic approach to Jamaica's manpower problems. The Buffenmeyer report on out-migration is a necessary additional data tool, as well as the George Roberts (U.W.I.) demographic studies on the Caribbean.*

B. Information/Data Base

Most of the major weaknesses in Jamaica's manpower data base are described in (A) above. Additional major weaknesses are (a) the absence of a continuing wage and salary index; and (b) the existence of a monthly cost-price index generally accepted as unreliable and out-of-date.

The quarterly labour force survey and the cost-price index could be improved by technical assistance and training. The other major components would need to be restarted, almost from scratch. As a minimum one long-term technician and several overseas study grants would be required for each of the following:

- (a) Employment Index, establishment survey
- (b) Occupational classification system
- (c) Quarterly labour force survey, household survey
- (d) Turnover series, establishment survey
- (e) Wage and salary series, establishment survey
- (f) Cost-price index

Once these were in place, several indices, surveys, and series of a more sophisticated, more detailed, or more derivative nature are also

*See Bibliography in Annex B for full references.

possible. But no amount of technical assistance and training will serve unless the Government of Jamaica commits itself to the necessary long-term investment in personnel, non-personnel service costs, and the attendant legislative, regulatory, and/or administrative support.

C. Manpower Needs Situation

The extent to which Jamaica's manpower needs are being met by the current system is treated in some detail in the earlier sections of this annex. In brief summary:

- (a) If it were not for out-migration, much of the non-agricultural skill needs would be met by the current skill creation system.
- (b) A more exact count of supply/demand by occupation will not really be effective until something is done about the pre-vocational supply, whose quality has deteriorated as sharply as its quantity has increased.
- (c) By contrast with the 'in the ball park' balance in non-agricultural supply/demand, agricultural skill supply is far short of both economic need and effective demand.

D. Basic Educational Constraints

Probably the most important single thing Jamaica can do to make skill composition and volume adequate to future demand is to correct the serious inadequacies of pre-secondary education. If every graduate of Junior Secondary and All-Age Schools possessed an effective primary education, evidence indicates that the employing community would soon see that the remaining skill imbalances were put right.

From the point of view of external inefficiency, one option would be for Jamaica to combine all technical, trade and industrial skills training activities, i.e. all training towards a specific skill capability, (this includes the technical and trade schools as well as all the panopoly of non-Ministry of Education Schools) under an effective National Industrial Training Board, itself supported by a tax on employers. Agricultural education and training would be excluded. A related option would be to charge everybody for all education beyond the 9th grade, payable on a long-deferred basis and repayable by years of work/services, but certainly repayable before leaving the country. Anything short of the above would greatly diminish the external inefficiency of the system. Trying to prove the external efficiency of the relatively inexpensive primary grades, as is somewhat the case at present, while the door is left wide open to the very expensive post-primary systems, and to mass emigration of the educated, is directly negating the concept of external efficiency of the system.

E. Human Resources Development Strategy

The Sector Team had access to the draft version of the OAS *Employment Generation Study*. The Team had no information on the extent to which it will be implemented by the Government of Jamaica, although it was still 'being considered'. Basically, there seemed to be little startling or new; Jamaica already has a Jamaican Industrial Development Corporation (JIDC) whose policies are to a considerable degree identical with those in the OAS report; Jamaica has long since announced a farm resettlement scheme, farm credit, etc. We appreciated the point it made about bringing in food processing 'factories', since JIDC performance in this area has been weak to the present time (about 1 in 129 factories), and since this is an important counterpart of an increased stress on agricultural development. In any event, the basic Human Resource Development strategy expressed above responds as well to the OAS project as it does to current needs and problems.

F. Technical Assistance In-puts

The OAS has, since about January 1973, sponsored several short-term technicians to work with the Labour Ministry and/or National Pensions System on data collection and processing. One such technician offered the advice, for example, that N.P.S. not consider an unemployment insurance scheme until it got its present house in order. One offered advice on employment index development—very much needed, in the Team's view—but his tour was only three weeks or so, and the job needs staying with for six months to a year, preferably the latter, until one establishment survey is carried through and the base index well established. A third helped Labour with its existing establishment survey—admittedly weak—and also helped run a follow-up study on the output of Labour Ministry Training Schools. These tracer studies are very useful techniques, which ought to be applied immediately to all Ministry of Education and Ministry of Youth and Community Development activities which have teaching occupational skills as an objective. A fourth OAS man is now working with the Department of Statistics on census data.

UNDP/ILO did yeoman work on setting up the National Industrial Training Board (NITB) at Papine, but are now winding up their efforts. One ILO technician did a substantial amount of occupational analysis work setting up the training schemes, but was not assigned a Jamaican counterpart until his tour was about to end. This was doubly unfortunate because so much further occupational analysis work—probably at least a dozen man-years—is probably necessary before a meaningful occupational definition and classification system can be

set up in Jamaica, and it is itself a prerequisite to any 'manpower plan'. More important, training and education cannot progress without it, job evaluation schemes (and thereby, national wage and salary schemes) cannot operate without it and much more. The Sector Team recommended to the new regional ILO Adviser that occupational analysis and the employment index should have his priorities, but he has still to make his own assessment.

Canada has vigorously and successfully supported the Jamaican Government reclassification programme, but it is not probable that this can be easily transferred to private industry, where it is also needed. The occupational definition approach is more appropriate to the private sector. Another CIDA effort has been to supply a manpower adviser, to help develop a national manpower plan. Given the lack of basic occupational data, and lack of adequate supporting assistance, his efforts have been largely unfruitful. However, we owe the *Training Needs Survey* to him (and to a UNDP technician), so his time was not wasted. He is currently beginning a series of inter-agency manpower planning meetings, and the success will depend upon the interest and participation of a wide variety of participants.

G. Educational Priorities

The needs of the Primary School System and Agricultural Education are clearly over-riding priorities. The first cannot be done outside the formal school system to any major extent; the second can, but only if the quantity of formal preparatory and agricultural education is first increased very substantially.

H. Education/Training Output Evaluation

Specific output targets in the agricultural area have been identified in Annexes C and D as well as strategies and activities towards those targets. The needed improvement in the quality of the pre-secondary system output will require many evaluative devices, built into any implementation programme. The one most effective evaluation device for the proposed agricultural school outputs is a series of follow-up studies on each annual class output. A useable model has just been developed in the Labour Ministry, with OAS technical aid. It revealed that a startlingly low percentage (about 25%) of the Ministry of Labour industrial training school graduates are working in their 'trade' and a much larger percentage (almost 50%) reported themselves unemployed. As a pilot study on one school, it needs to be repeated on other Ministry of Labour schools. But, most important, the concept needs to be applied in all Ministry of Education and Ministry of Youth and Community Development trade and technical schools, and will need to be applied especially in the agricultural schools. No

other single device is as revealing of external efficiency—or inefficiency—and the basis for feedback/modifications as the follow-up or tracer study on graduates. The Sector Team also recommends a revised and improved *Training Needs Survey* also encompassing the governmental and professional categories and a wide sampling of the productive sector including agriculture. This would be an additional and effective instrument for manpower planning and feedback into the educational/training systems. It would also facilitate an improvement and inter-relating of the employment and placement services.

I. Additional Data Base Needs

In manpower terms, two additional data bodies need to be established, although they are not actually in the category of 'research'. They are the two identified earlier in items above:

- (a) The need for a continuing employment series, preferably monthly, at least quarterly, based on a repetitive establishment survey, with the sample reviewed annually. The Department of Statistics is anxious to do this, but has made a relatively weak start, clearly indicating the need for technical assistance, preferably long-term. The Labour Ministry and the Pensions Ministry, both of whom now have establishment data for operations, should be collaborators.
- (b) The need for an occupational definition and classification system based upon on-site industrial occupational analysis. While the International Standard Classification of Occupations (ISCO) definitions can be used as a starting point, they must be updated by Jamaican experience. In short, something like a National Dictionary of Occupational Titles (DOT) as exists in the U.S. and various other countries must be developed for Jamaica. While it is a necessary prerequisite for manpower planning, it has even more important value for skill training programmes and for industrial relations. It will require a firm commitment of staff and resources on the part of Jamaica, and an official locus in the Government, in addition to long-term technical assistance.