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EDUCATIONAL PLANNING IN JAMAICA: A SYSTEMS APPROACH FOR RESOURCE ALLOCATION IN THE NEW SECONDARY SCHOOLS

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# EDUCATIONAL PLANNING IN JAMAICA: A SYSTEMS APPROACH FOR RESOURCE ALLOCATION IN THE NEW SECONDARY SCHOOLS

By

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ABSTRACT

EDUCATIONAL PLANNING IN JAMAICA: A SYSTEMS APPROACH FOR RESOURCE ALLOCATION IN THE NEW SECONDARY SCHOOLS

By

Andrew Durrel Dunbar

Purpose of the Study

The major purpose of this study was to describe the current procedure of educational planning in Jamaica as it relates to resource allocation for the New Secondary Schools.

Design and Methodology

This research was a survey study and utilized the stratified random sampling technique for sample selection from a population of educators.

Interview and questionnaire techniques were used for data collection and incorporated fixed alternative items, open-ended items and scale items.

Focus of the Study

The areas of the educational system that were examined in the study were the following:

1. the factors of the demographic, economic, social, and political aspects of educational planning;

2. the communication network within the Ministry of Education and between the Ministry of Education and the New Secondary Schools;
3. informational links among specific organised bodies within the system;
4. strategies for evaluation and modification of the communication network; and
5. the linkage of programmes and curricula and the bases on which resource needs are identified and resources allocated.

## Assumptions of the Study

The study was based on the following six a priori assumptions:

1. that educational planning (in terms of resource allocation for New Secondary Schools) is currently biased toward the Social Demand Projections and Manpower forecasting approaches;
2. that it is crucial to identify determining factors and to know their interrelationships which are included in the (a) demographic, (b) economic, (c) social, and (d) political aspects of educational planning, and more important, consider them in terms of resource allocation;
3. that the stratified random sampling design, the sources of data, the data collection procedure, and analyses which are used in this study give a true picture of educational planning (in terms of perceptions) as it is now conceived and executed in relation to resource allocation for the New Secondary Schools;

4. that the systems approach to educational planning (specifically for resource allocation to the New Secondary Schools) could offer rational alternatives, which could be useful for decision-makers at the strategic, administrative, and operational levels of this subsystem;
5. that this systems approach model could have utility for other areas of educational planning within this subsystem in particular and the educational system in general; and
6. that the findings which result from the study may be useful for the building of an educational planning model.

Findings of the Study

The findings of the study included the following:

1. the economic and social aspects of educational planning were given the greatest degree of consideration in resource allocation, while the political aspect was given the least degree of consideration;
2. there was a strong central tendency regarding the usage of all channels of communication for information flow;
3. information flow was vertical--"top down" and horizontal information flow was inadequate;
4. there was no direct standardized feedback mechanism in the communication network within the Ministry of Education;
5. long-term and short-term planning were used to effect change and modification in the system. However, short-term/tactical planning generally precedes long-term/strategic planning; and

6. the organisational and structural links now existing between grades 7, 8, and 9; and 10 and 11 of the New Secondary Schools need improvement.

Recommendations

In terms of recommendations the findings were developed into a paradigm for the planning of resource allocation for the New Secondary Schools.

To my mother Lucene Lillian Dunbar

and the memory of my father

Luther Albert Dunbar

## ACKNOWLEDGMENTS

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# CHAPTER I

# INTRODUCTION

This study of educational planning focuses specifically on planning for New Secondary Schools--second level--in Jamaica. The aims of this initial chapter are the following:

1. to orient the reader to recent emphasis on educational planning;
2. to indicate the overall aims of the study;
3. to provide background information on recent Jamaican educational development;
4. to indicate the nature of this study's focus on the Jamaican New Secondary Schools; and
5. to indicate the specific nature of the problem to which this study was addressed, including the study's assumptions, purposes, definitions, significance, scope, and organisation.

## Recent Emphasis on Educational Planning

The concept of educational planning is not new. As Coombs (1970, p. 17) observed:

> Today's educational planning can claim an unbroken ancestry running back to ancient times. Xenephon tells (in the Lacedaemonian Constitution) how the Spartans some 2,500 years ago planned their education to fit their well defined

> military, social and economic objectives. Plato in his Republic offered an education plan to serve the leadership needs and political purposes of Athens. . . . John Knox in the mid-16th Century proposed a plan for a national system of schools and colleges expressly designed to give the Scots a felicitous combination of spiritual salvation and material well-being.

These examples of educational planning clearly indicate a linking of society's goals to its educational systems. Coombs (1970) also points out that this linking characteristically happens during periods of social unrest which, in effect, change societies to fit new goals.

The work of Blaug (1967) points out that the concept of educational planning may be older than economic planning. Nevertheless, it is only in recent years that changing circumstances (for example, post-World War II independence of colonially held countries and the corresponding demand for more and better education) have caused a sharper focus on educational planning. Note also that in many countries this new emphasis on educational planning tends to remove much of the planning functions from the local to central government.

This demand for better and more education has been given greater emphasis by the people of developed and developing nations since 1950. The developing nations in particular have committed themselves fully to the concept that education can help eradicate the ills of the past and provide the basis for a more egalitarian society. Thus, governments of developing countries have been investing heavily in the educational enterprise, in terms of human, physical, and financial resources.

Recent studies have shown, however, that many of these investments are not giving the intended results. In attempting to explain the

discrepancies between the intended and actual outcomes, a number of investigations have been initiated. For example, Blaug (1967) and Coombs (1970) were concerned with the inherent weaknesses in the traditional approaches to educational planning. Rowley (1971) focused on the influence of development politics in terms of processes and responsibilities of educational planning.

Ruscoe (1969) emphasized the political and administrative aspects of educational planning. In his study, which utilized experiences from Latin America and elsewhere, he indicated that educational planning is generally handicapped by various constraints; for example, an unbalanced interplay among the political, technical, and administrative aspects of educational planning. That these constraints generally have led to retardation and wastage in the education systems of developing countries in particular, was evidenced in a study conducted by UNESCO (1970). According to the UNESCO survey, of the 19 countries which provided usable data on retardation and wastage: five countries showed less than 15% wastage, two countries showed 15 to 25%, three countries showed 26 to 35%, three countries showed 36 to 55%, four countries showed 56 to 80%, and two countries showed over 80%.

This situation has not dimmed the enthusiasm for education. Large sums of money are still being fed into educational systems. According to D'Aeth (1960) this is true for highly developed as well as developing and newly independent countries. Some of the reasons underlying the expenditure of such large sums of money were pointed out by Lyons (1962, p. 60) in the following excerpt:

> It is a striking fact that as countries develop they increase the proportion of their total national resources devoted to education, but the problem of financing public education adequately from national budgets is often a difficult one. There are many reasons for this difficulty. Total enrollments increase because of population growth and because of the increase in the length of education. The higher the level of education, the more the cost per pupil; teachers' salaries which account for three-quarters of total current costs are also higher since teachers must be better qualified. . . . Lastly, with growing wealth there is a tendency for classes to be smaller and for more "fringe benefits" such as swimming pools, gymnasia, etc. to be provided.

Budgetary exercise and educational planning of this sort are generally done within the framework of policy formation and programme implementation. However, it must be recognized that the methods which were used in the recent past to finance educational systems and allocate resources have shown serious limitations, and these impose constraints on the system. On the other hand, greater awareness of some of the essential features of good planning and the scarcity of material and human resources are pressuring responsible agents, ministries, and boards of education to engage in more systematic forms of planning, so that these currently large educational investments may pay higher dividends.

Fuller (1976, p. 65) underscored this point when he noted that "in a culture where expansive growth, food, energy, and confidence in social and political institutions are in abundance, few people are terribly concerned about planning." In contrast, however,

> a society characterized by crises, due to acute shortages of material goods, quantitative growth, or confidence in its institutions, greatly values planning. Planners search for ways to improve inadequate services for the future and

> attempt to ensure that society has a future. Planning processes must mediate between diverse and conflicting values and confront difficult political realities. (p. 66)

To put the argument another way, as the demand for education increases, decisions regarding the use of financial resources to meet this demand become increasingly difficult. Hayman (1974) also showed that educational planning and management must improve so that scarce resources will be used effectively and efficiently. Secondly, according to the UNESCO World Survey of Education (1971, p. 14):

> Education is taking on the character of a continuing activity and influence. . . . In all countries, in fact, concern is now felt for the development of human beings throughout the whole of their lives. . . . The general aims all lead in the direction of building the "educative society" whose underlying purpose is the nurturing of human beings to their full stature and among whose most important means is a school system freely available to all at all ages and for all kinds of aptitudes and abilities.

With the emphasis which is now being placed on education (the consequent pressures--endogenous and exogenous--with which educational systems must cope), societies are now recognizing that 'education' must be holistic in concept and practice, in order that capacities and abilities may be fully developed so that individuals can realize their existential potentials.

Those societies where the goal is toward developing more democratic social systems are now busily engaged in democratizing education, thus, rejecting the nineteenth century concept of education, which according to the UNESCO, World Survey of Education (1971, p. 14) aimed primarily at:

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> developing the basic skills of literacy and computing and those moral virtues that would fit workers to play a productive part in a developing industrial society on whose direction of growth and on whose government and control they were expected to have little influence.

Since World War II the nineteenth century concept of education as an instrument of industrialisation has been replaced by a concept of education as an instrument of personal development for everyone.

## General Aim of the Present Study

The present study aims at using the findings of this investigation along with pertinent concepts of educational planning, which are discussed in Chapter II of this dissertation, to assist in developing a systems approach paradigm for educational planning.

This model may find utility in monitoring and redirecting the process of changing educational planning procedures for resource allocation for the New Secondary Schools of Jamaica.

## The Jamaican Educational Development

At this point it is important to record some of the incidents which helped to initiate and shape the process of change in the education system of Jamaica. A brief historical perspective of this development is essential to appreciating and understanding current educational trends in Jamaica.

The introduction of an educational system there dates back to the seventeenth century when Christian churches undertook to establish schools mainly to provide a basic literacy education (An Official Handbook of Jamaica, 1971).

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The development of an educational system in Jamaica can be divided into five periods: Early English, 1663-1865; Church and Government, 1866-1899; Comparative Stagnation, 1900-1938; Pre-Independence, 1938-1962; Post-Independence, 1962 to present. In the Early English period, i.e., 1663-1865, the number of schools were few, and they were privately owned. Clergymen formed the teaching cadre. An excerpt from the Annual Report of the Education Department (1954, p. 1) shows that:

> Education was not a major concern. . . . The view of education here then, was that prevailing in England, the education of a child was the business of its parents, supplemented by charity. . . . Moreover, unlike the New England Puritans, the English settlers in Jamaica were driven not by religious but economic motives.

In 1865 social unrests culminating in the Morant Bay Rebellion provoked among other things the initiation of an educational system which was more in keeping with the times. According to the Annual Report of the Education Department (1954, p. 1):

> In the re-organization which took place, the entire scheme of education was placed under a Supervising Inspector of Schools, and the system of grants put on a clearer basis, the form which was inspired by the Robert Lowe system invented in England a few years before.

In terms of the 1866 organisational structure for the administration of education, Figure 1 depicts a centralized system, but the following observation puts the situation in a truer perspective.

> Training Colleges had their own separate administration and control, and so did the Practical Training Centres (i.e., Vocational Schools). Whenever additions were made to the scope of education they were separately provided for in the administrative scheme, while the Director of Education remained executor-in-chief. The centralized direction was more apparent than real, however, and did

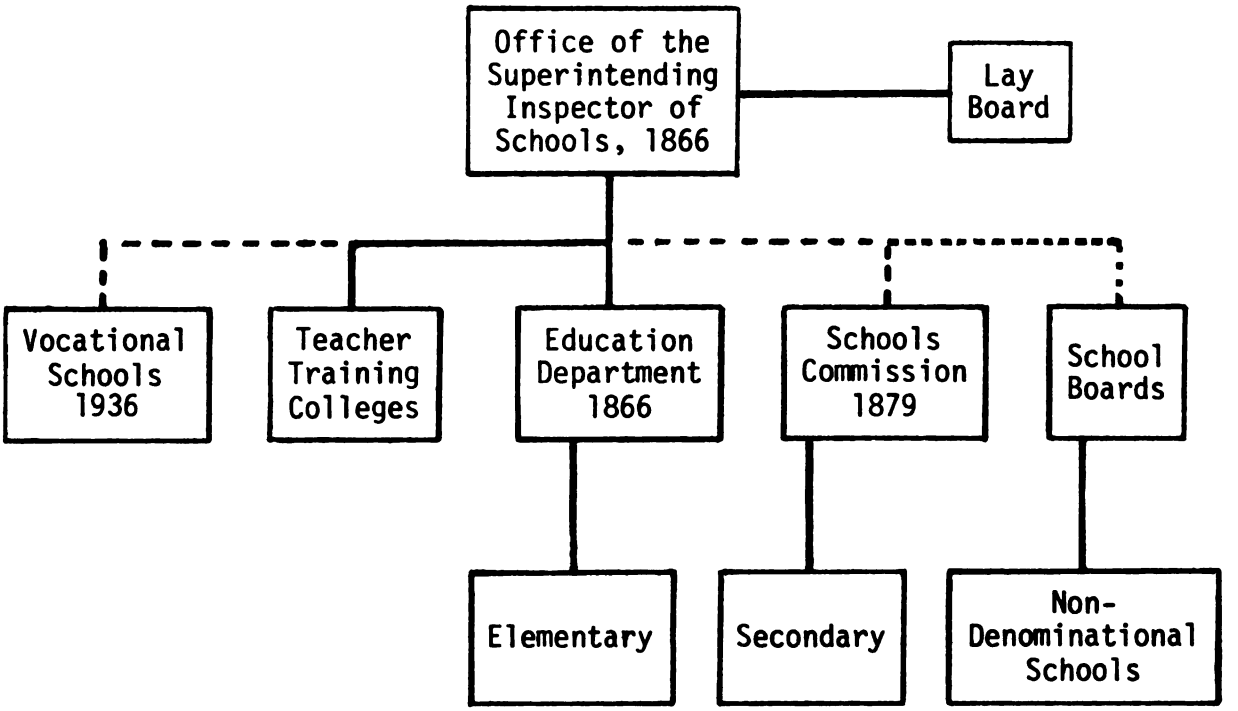


Figure 1. Organisational structure of the Department of Education initiated in 1866. (Note: Various components were added as it became necessary to do so. See broken lines.)

*(Source: Jamaica Annual Report of the Education Department for the year ended 31 December 1954, p. 4.)*

> not necessarily involve an integrated policy for education as a whole. (Annual Report of the Education Department, 1954, p. 4)

In keeping with the more vigorous educational philosophy of the Jamaica of that period, it can be said that the reorganised administrative structure was actively engaged in pursuing the development of an educational system. However, the period spanning the years 1900-1938 did not see much progress. This was a result of the fact that nearing the end of the nineteenth century Jamaica was in an unfavorable financial position, and this dictated a reduction in governmental expenditure on social services. As a consequence, further development of the educational system was retarded. The Annual Report of the Education Department (1954, p. 3) noted that the adverse financial situation prompted the Lumb Commission of 1898 to recommend among other things that "annual educational expenditure should be kept below a fixed sum."

The effects of this recommendation were evidenced in nonadvancement of the education sector. As cited in the Annual Report of the Education Department (1954, p. 3),

> By 1938 the need for education to be more closely related to living conditions had become more chronic despite frequent declarations of that need since the turn of the century.

A Royal Commission was appointed to study the situation. Out of the deliberations and recommendations of this Commission grew the Colonial Development and Welfare Acts, and a promise of a new deal for Jamaica (Annual Report of the Education Department, 1954).

All these changes which worked to transform the social, educational, financial, and political structure of Jamaica were hastened along with the change of the Jamaican political constitution in 1944. This new Constitution initiated the movement toward independence from England.

As outgrowths of this development, several Ministries of Government, including the Ministry of Education, were established in 1953. This meant that the Ministry of Education gained internal autonomy for the then four levels of education: (1) Infant, (2) Primary, (3) Post-Primary, and (4) Further (Higher Education).

These legislative advances, coupled with actual independence in 1962 were together primarily responsible for putting into motion the change from the British colonial policies in the school programmes to the "Jamaicanization" of the educational system, aiming at providing an education for all its citizens. Independence ushered in the post-independence epoch in the development of an educational system in Jamaica.

The system was further strengthened by the enactment of the Jamaican Education Act of 1965. This legislation sought to consolidate the statutory and operational aspects of the educational system, to provide precise statements of goals, and to promote the expansion of the system for the benefit of the individual and the nation (Ministry of Education and USAID, Jamaica Education Sector Study, 1973).

The precise statement of goals in terms of present and long-term educational development programmes were enunciated in the Ministry Paper No. 73 of 1966, "New Deal for Education in Independent Jamaica." The

educational policy emanating from this document stated: "that opportunity for the best education that the country can afford must be open to every child, because all children are equally important" (An Official Handbook of Jamaica, 1971, p. 127).

On this basis, the Ministry of Education, acting on the behalf of the Government, entered into consultation with the International Bank of Reconstruction and Development (IBRD) regarding the expansion of the education system.

The major expansion effort was focused on the second level of the education system with strong emphasis on secondary education, because during the colonial period, the British type 'Secondary School System' catered only to a relatively few privileged students. By 1968 there was a significant increase in the number of physical plants (Junior Secondary Schools--grades 7 to 9) in which secondary education was offered.

Following on this expansion and reorganisation, the Government has pointed out further that education is to be considered an important element in nation building. The excerpt which follows from Jamaica Education Sector Study (1973, pp. 27-28) underscores this point.

> 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. . . . The social life and the development of the people are of primary concern to the Government. . . . The Government therefore intends that educational opportunity 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.

To make this statement a reality in the drive towards democratizing education in Jamaica, successive Post-Independence Administrations have been allocating large sums of money to the education sector.

This enlarged allocation is reflected in the "Budgetary Provisions for the Ministry of Education 1962/63 to 1976/77--Original Estimates." For the fiscal year 1974/75, J$111.6 million went towards developing human resources and education. The 1975-76 educational budget was J$154.8 million, an increase of J$43.3 million over the 1974-75 allocation. The 1976/77 allocation of J$163.5 million reflects an increase of J$8.70 million over the 1975/76 allocation. It is important to note that the allocations include both recurrent and capital expenditures. In terms of percentage of the total national budget, the allocation for the education sector 1974/75 was 19.40%, for fiscal year 1975/76 it was 16.99%, and for 1976/77, 16.13%, showing slight decreases of 2.27% and 0.86% (Ministry of Education, "Original Estimates," 1962/63 to 1976/77).

A study of Table 1 indicates the magnitude of the expenditure on secondary education in general and on the New Secondary Schools in particular ("Estimates of Expenditures for Years Ending 31 March 1973 through March 1977"). For example, between the years 1972/73 and 1973/74 the ratio of expenditure between the then called Junior Secondary Schools (now renamed, New Secondary Schools) and all secondary schools was approximately 1:3. In terms of percentage of total allocation to all secondary schools these schools received 35% and 32%, respectively, for the stated years. In 1974/75 and 1975/76 the New Secondary Schools received 32% and 38% of the total expenditure on secondary education. In the 1976/77 financial year, the ratio was

Table 1

Estimates of Expenditure for Secondary Education (J$)

| Year | All secondary schools | New Secondary Schools | New Secondary School allocation as a percentage of total allocation to all secondary schools |
|---|---|---|---|
| 1972/73 | 14,324,961 | 5,019,000 | 35 |
| 1973/74 | 22,681,592 | 7,259,315 | 32 |
| 1974/75 | 32,799,985 | 10,572,841 | 32 |
| 1975/76 | 42,998,512 | 16,325,318 | 38 |
| 1976/77 | 48,458,918 | 22,525,063[a] | 46 |

[a]Revision of this allocation is proposed.

approximately 1:2. Stated as a percentage the New Secondary Schools were receiving 46% of the total financial allocation to secondary schools. To fully grasp the financial implication it must be understood that these allocative decisions were taken against a background of scarce physical, material, and financial resources. It must be appreciated also that the financial flow for education (Table 1) is, in terms of current prices and this fact prohibits a strict comparison of the financial allocations. However, an allocative trend is suggested.

The allocation of financial resources of the educational sector in 1974 and 1975 ushered in a further expansion of secondary education. Grades 10 and 11 were added to the existing grades 7 to 9 of the Junior Secondary Schools, thereby giving students attending these schools the benefit of five years of secondary education. Under this plan, the Junior Secondary Schools were officially renamed New Secondary Schools. This new innovation increased the number of New Secondary School students to 85,000 or 72% of all pupils who were pursuing a five-year secondary education course in 1975 (Ministry of Education, "The New Secondary Education," 1975).

## Current Organisational Structure of Education System

Before looking at the highlights of this new educational venture it would be useful to understand the structure of the entire system as it currently operates (see Figure 2).

The present study will be primarily concerned with education at the second level in general and the New Secondary Schools in particular. A study of the current organisational structure of the administrative machinery of the education system (Figure 2), in comparison to the organisational and administrative structure as it was conceived in 1866, helps to indicate the growth of the system. Secondly, the expanded chart may also show where potential management problems or "bottlenecks" may occur, resulting in constraints.

Structurally, the current education system embraces four levels: (1) Pre-Primary or Pre-School, (2) Primary, (3) Secondary, and (4) Further Education. A description of each level will be given in the following pages (see Figure 3).

Pre-Primary and Pre-School. This is the first level of the education structure. Students enter at the age of four and remain in these schools until five plus. The institutions at this level may be community or government sponsored and are generally known as Infant Departments, or Infant or Basic Schools.

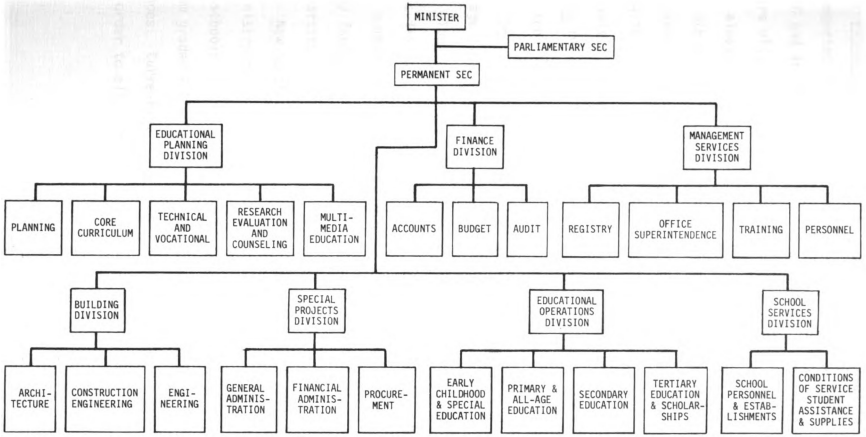


**Figure 2. Diagram of Ministry of Education organisational structure.**

Note: Each division is comprised of a number of units--for example, the EDUCATIONAL PLANNING DIVISION is comprised of five units; each unit consists of one or more sections.

Primary and All Age. The schools at this level fall into two categories, public and private; the students enter them at the age of 6 and in theory should remain in these schools until they are 11 years old, thus covering six grades (i.e., 1-6). However, this is not always the case, as some students must continue their 7th, 8th, and 9th grade education at this level in schools referred to as All-Age. Ministry of Education--Education Statistics 1974/75 showed that in the 1974/75 school year there were 544 All-Age schools; and 231 Primary schools. In terms of enrollment, the recent Jamaica Education Sector Study (Ministry of Education and USAID, 1973) indicated that the All-Age schools enrolled 67% of the 6 to 11 year age cohort (Figure 3).

Secondary. Generally students enter the schools of this level at age 11 and remain there until they have reached the age of 18 or 19. There are five different categories of public institutions at this level, with varying curricula emphases and objectives. Therefore, the number of grades to which a student is exposed is dependent on many factors, including the point of entry in terms of age level for a particular institution.

New Secondary School. In the 1976/77 school year it was reported (Ministry of Education--Education Statistics 1976/77) that there were 68 schools in this category. These schools provide general education from grades 7-11, but have a strong vocational component in the higher grades. Currently, these schools are operated on a two-shift system in order to alleviate the shortage of school places. Primary Schools

within a prescribed radius from any New Secondary School provide for the clientele of that area. Education at this institution is free (Jamaica Education Sector Study, 1973).

The 1974/75 education statistics indicated that these schools have a total capacity for 47,558 students, and also that the total enrollment was 70,424 students, thus indicating an excess of 48% enrollment. However, with the initiation of the Shift System, the total capacity enrollment has been increased to approximately 83.8% greater than the former capacity (Ministry of Education--Education Statistics).

Secondary High School (Grant-Aided High School). In the 1974/75 Ministry of Education--Education Statistics, it was reported that there were 40 schools of this type in the nation with a total capacity for 26,510 students, but with a total enrollment of 31,786 (indicating an excess of 20%). Most of these schools were built by religious denominations; their educational programme tends to provide the British-type secondary education from grades 7-13. The government provides financial support in the form of current expenditures. Admission to this category of schools is based on the student's performance in the eleven plus Common Entrance Examination.

Technical High School. Nationwide, there are six schools in this category. They have a capacity for 4,615 students, but in 1974/75 had an enrollment of 4,742, thus showing an enrollment excess of only 3% (Ministry of Education--Education Statistics).

Entry point for these schools is grade 8 and the technical education which they provide continues through grade 11. In other words, these schools cater to the age cohort 14 to 18, and school places are awarded on the basis of a competitive examination which All-Age and Private schools' students take at age 13.

Comprehensive High School. In this category there are three schools and in the 1974/75 Ministry of Education--Education Statistics, it was reported that they have a total capacity for 3,820 students but total enrollment was 4,599 students or 20% in excess of capacity. These schools have the responsibility of providing a "comprehensive" type education for students within a prescribed area of the school.

Vocational School. According to the reports from the 1974/75 Ministry of Education--Education Statistics, there are three schools in this category at the second level of education. The education offered at these institutions are highly specialized courses in carpentry, metalwork, plumbing, building, auto mechanics, home economics, commercial, and agricultural subjects. Entry to these schools is based upon performance in the Grade Nine Achievement Test.

A summary of the secondary schools is presented in Table 2 because of the importance of this second level of education in general, and the New Secondary School in particular (institutions at the second level of education).

Table 2

Summary of Secondary Schools (1974/75)

| Secondary schools educational institutions (at second level of education) | Number of institutions | Total capacity | Total enrollment | Enrollment as a percentage of capacity |
|---|---|---|---|---|
| New Secondary Schools | 68 | 47,558 | 70,424 | 148 |
| Secondary High Schools[a] | 40 | 26,510 | 31,786 | 120 |
| Technical High Schools[a] | 6 | 4,615 | 4,742 | 103 |
| Comprehensive High Schools | 3 | 3,820 | 4,599 | 120 |
| Vocational Schools | 3 | --[b] | 1,614 | -- |
| Total | 120 | 82,503 | 113,165 | -- |

Sources: Ministry of Education, Annual Statistical Review of the Education Sector, Kingston, Jamaica, West Indies, 1974/75, pp. 6 and 9; and Ministry of Education, Jamaica Education Sector Assessment, Kingston, Jamaica, West Indies, 1973, p. 24.

[a]Grant-Aided High Schools.

[b]Capacity not reported by Ministry of Education.

Further education. The institutions which fall under this rubric are teacher training colleges, community colleges, Jamaica School of Agriculture, College of Arts, Science and Technology, and the University of the West Indies.

Examinations. As the foregoing description of the educational structure indicates, examinations at fixed points are basic to the Jamaican educational system. These serve a dual purpose: to evaluate the achievement of pupils and also as a basis for the selection of students to secondary high schools.

The flow chart (Figure 3) depicts the structure of the education system from the Basic to the Secondary School level. It also shows the various fixed points at which examinations are administered in the system. Some of these examinations are used to determine the academic/vocational path a student may follow. On the other hand, examinations such as The Jamaica School Certificate, London City and Guilds, and The General Certificate--Ordinary Level, are terminal for students at the second level of the education system.

The 1866 structure of the education system, which has been reorganised many times since, was shown in Figure 1. In keeping with the idea, after 1962, of equal opportunity for all students, it became necessary to further consciously redesign and reorganise the system in order to promote certain aims which the society had failed until then to adequately provide.

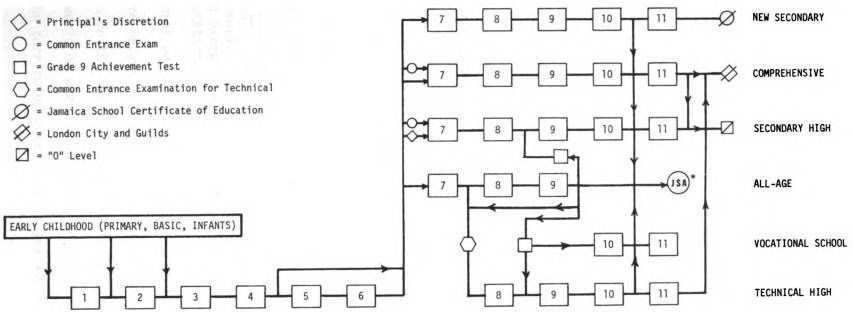


Figure 3. Flow Chart of Pre-Primary, Primary, and Secondary Level.

*Jamaica School of Agriculture.

## Focus on the New Secondary Schools

Currently the New Secondary Schools are the focus of redesign and reorganisation. The conceptual framework embraces grades 7-11. In a sense reorganisation has passed the conceptual stage. However, redesign and reorganisation are slow processes and some of the necessary linkages have not yet been made.

The Ministry of Edcuation in its Annual Report 1975/76 stated that for these schools, the curriculum of "Grades 7-9 will continue in the same pattern as of previous years. All students in grades 10 and 11 are exposed to an individualized programme and pursue a core curriculum" (p. 35).

The main features in this new programme are vocational education, work experience, and continuing education; and the purposes are summarized as follows:

1. that all students shall reach the highest level possible in a vocation so that they are competent to earn their living in a skilled occupation when they leave school at 17 years of age; and

2. that students who can qualify shall reach the standard of further education to proceed to teachers' colleges, nursing schools, College of Arts, Science and Technology (CAST), Jamaica School of Agriculture (JSA), the new community colleges and the Schools of Art, Music, Drama, and Dance. (Ministry of Education, "The New Secondary Education," 1975, pp. 1-3)

Vocational education and work experience is an integral part of the programme because research has revealed that approximately 70% of the students in the New Secondary Schools indicate that they intend to enter the "world of work" when they graduate from school. Hence, the design of the curriculum seeks to have the average student spend 40%

of his or her time on vocational education each school week (Ministry of Education, "The Job Expectations of the 1976 New Secondary Graduates Related to Their Courses," 1976).

The work experience section of the vocational education programme is compulsory for all grade 11 students, and must occupy a minimum period of three weeks of this final school year.

In the area of core curriculum, Language and Communication, Mathematics, Life Skills, and Practical Skills are taught. Life Skills emphasizes group work and cooperation.

To ensure that a student will benefit from the programme of study which he or she will pursue, placement tests are administered at the end of grade 9 in Language and Communication and Mathematics. The result of the test from each subject serves as an indicator in terms of placement of students in one of the following "Levels":

1. Pre-Functional Education;
2. Functional Education; or
3. Continuing Education.

Thus, upon promotion to grade 10, the student begins his or her studies at the appropriate level. On satisfactory completion of the necessary units of work in language and mathematics, the students who were placed at the Pre-Functional Level are evaluated again, and promoted to the appropriate level.

At the Continuing Education Level the curriculum is biased toward the traditional academic subjects. Each student is required to devote six periods of study to each subject for each school week. To put it another way, for every school week 15% of the student's time is

devoted to each of the four subjects he or she is pursuing in his or her course of studies.

Vocational education is not neglected at this level and students must also devote 15% of their time each school week to the vocational education option of their choice.

The programme of the New Secondary School is broad in scope and is planned to be flexible and balanced so that the need of each student can be met (Ministry of Education, "The New Secondary Education," 1975).

Harbison (1970, p. 26) concurs with this concept in the following statement:

> A system of human skill generation like a system of electric power generation, should be designed to carry varying loads; it must have built-in flexibility to meet such loads; it must be adequate in size, and above all, its components must be properly balanced.

## Assumptions of the Ministry of Education Concerning the Expansion of Secondary Education

In planning for the development and expansion of secondary education, the following basic assumptions were taken into consideration by the Planning Unit as shown in the Minutes of the Ministry of Education "Retreat" (1976, pp. 3-4).

### Assumptions

1. secondary school places will be provided for all students in the age range 12-17;
2. movement of students from primary to secondary schools will in due course be entirely on a nonselective basis;

3. the principle of zoning will be applied where it is sociologically reasonable, feasible, and advantageous;

4. programmes in Secondary schools should be based on an optimum mixture of manpower needs, rate of return, and social impact;

5. all Secondary schools will have a vocational education as well as an academic programme, but the teaching of those subjects subsumed under the title of Life Skills was seen as essential in all schools;

6. the strategy for Secondary education development will provide for an integration of the programmes of the existing High schools and Secondary schools toward the accommodation and the use of the shift system in all such schools; and

7. allowance will be made for a progressive decrease in the number of independent schools as the government's Secondary school expansion comes on stream.

## Criteria Established by the Ministry of Education for Planning for Secondary Education

Along with the seven previously stated basic assumptions regarding the planning for the development and expansion of secondary education, the following nine criteria for planning for secondary education have been established by the Ministry of Education.

Criteria for Planning for Secondary Education:

a. the 'Tops,' Grades 7, 8, and 9 of All Age schools will be taken off, thereby transforming All Age schools into Primary schools;

b. the standard size will range from 500-1500 where feasible;

c. approximately 4-6 Primary schools will be feeder schools to each Secondary school;

d. each parish should have a self-contained educational provision for its population;

e. the general policy will be that secondary schools will be co-educational institutions;

f. boarding facilities will be provided only when all other alternatives for children living in remote areas have been exhausted;

g. improved transportation systems (both rail and road services) will have to be provided for some existing and proposed Secondary schools;

h. secondary schools should operate as correspondence Course centres for students who cannot obtain access to Secondary schools. An intensive Correspondence Course will develop along these lines parallel to the expansion of Secondary school education; and

i. projection of school places needed will be based on the concept of peak average attendance, i.e., the average attendance of Tuesday and Wednesday for the first four weeks of the school year.

With the expansion of the programme the structural framework for secondary education was completed, and indeed a measure of success has been achieved. However, many inadequacies, contradictions and inconsistencies still remain and continue to handicap the programme (Phillips, 1975).

Previous investigations have also found this situation in the system of education. Indeed, "The Jamaica Education Sector Study" team (1973, pp. 9-10) pointed out that:

> Although significant inputs into the system had been made in the ten years since Independence and moderate advances have taken place in some areas of major need, others have received little attention resulting in imbalance and unevenness of development throughout the whole education system. . . . The system especially at the secondary level is not meeting the country's development needs and the needs of its individuals.

As a first step towards resolving the weaknesses, it must be recognized that they tend to result from many factors working singly or in combination. Secondly, that these variables are generally determined by the demographic, economic, social, and political aspects of the environment in which the planning is done.

## Specific Nature of the Problem, Assumptions, Purposes, Definitions, Significance, Scope, and Organisation of the Study

### Statement of the Problem

In reference to educational planning in Jamaica, there seems to be in the first instance an urgent need to understand more clearly which factors of the demographic, economic, social, and political aspects of educational planning are considered in the area of resource allocation for the New Secondary Schools in Jamaica. Secondly, it is important to understand the communication network, programme linkages, and identification of resource needs in relation to the process of resource allocation within the subsystem.

### Major A Priori Assumptions

The following are six a priori assumptions on which the study is based.

1. that educational planning (in terms of resource allocation for New Secondary Schools) is currently biased toward the Social Demand Projections and Manpower forecasting approaches;

2. that it is crucial to identify determining factors and to know their interrelationships which are included in the (a) demographic, (b) economic, (c) social, and (d) political aspects of educational planning, and more important, consider them in terms of resource allocation;

3. that the stratified random sampling design, the sources of data, the data collection procedure, and analyses which are used in this study give a true picture of educational planning (in terms of perceptions) as it is now conceived and executed in relation to resource allocation for the New Secondary Schools;

4. that the systems approach to educational planning (specifically for resource allocation to the New Secondary Schools) could offer rational alternatives, which could be useful for decision-makers at the strategic, administrative, and operational levels of this subsystem;

5. that this systems approach model could have utility for other areas of educational planning within this subsystem in particular and the educational system in general; and

6. that the findings which result from the study may be useful for the building of an educational planning model.

Purpose of the Study

The intentions of this study were threefold. The first purpose was to determine and understand the degree of consideration given to the factors of the (a) demographic, (b) economic, (c) social, and (d) political aspects of educational planning in terms of resource allocation, i.e., human, physical, and financial, for the New Secondary Schools. Specifically, the assessment was concerned with the perception of educators who are involved with the planning process for these schools with respect to the factors of the stated aspects in terms of:

1. factors which were being given consideration;
2. factors which were not being given consideration; and
3. factors about which they were unresolved/undecided.

The second purpose attempted to ascertain the perception of some of these educators with regard to:

1. the communication network between the Ministry of Education and the New Secondary Schools, and also within the Ministry of Education with respect to resource allocation to these schools;

2. the linkage of the programmes within the schools; and

3. the identification of resource needs and bases/criteria used in the process of resource allocation.

The third purpose was to use the findings of this investigation along with pertinent principles of educational planning techniques as outlined in Chapter II to assist in developing a systems approach paradigm, which may serve to monitor and redirect the process of changing educational planning procedures for resource allocation to the New Secondary Schools.

## Definitions of Terms

The following definitions are given for the terms which are used in this investigation.

*IBRD:* International Bank of Reconstruction and Development.

*Developed Countries:* All European countries, Union of Soviet Socialist Republic, United States of America, Canada, Japan, Israel, Australia, New Zealand, and South Africa.

*Latin America:* The rest of America, i.e., Central and South America. Observe also that the islands of the Caribbean (where English is the official language) are included.

*Second Level (Education):* For age cohorts ranging from 11-20, thus, grades 7-13. (The institutions/schools providing second level education are as follows:

| Type of Institution | Grades |
|---|---|
| • Secondary High School | 7-11 |
| • Extension School | 7-11 |
| • New Secondary School | 7-11 |
| • Comprehensive School | 7-11 |
| • Technical School | 8-11 |
| • Vocational School | 10-11 |
| • Community College | 12-13 |
| • Teachers College | -- |

*USAID:* The United States Agency for International Development.

*Paradigm:* Term with same meaning as the term "model," and in the educational process either Mechanistic or Behavioral. (In general terms paradigms attempt to explain phenomenon as shown by the internal variables. Models are made up of a set of variables, internal and external to the system, seeking to show cause and effect relationship among them (i.e., variables), and the consistency of these relationships).

*CAST:* College of Arts, Science and Technology.

*JSA:* Jamaica School of Agriculture.

*Core Curriculum:* In the concept of the New Secondary Schools, includes Language and Communication, Mathematics, Life Skills, and Practical Skills.

*Pre-Functional Education Level:* Category for students without functional reading level (i.e., with adequate comprehension), and/or that he/she has not mastered basic computation in Mathematics (addition, subtraction, multiplication, and division of whole numbers, fractions and decimals, percentages, simple equations, elementary geometry, ratio and proportion).

*Functional Education Level:* Category for students with mastery of the aforementioned educational skills.

*Continuing Education Level:* Category for students with specific standard of competence, thus, qualifying him/her for further education.

*All-Age Schools:* Schools with grades 1-9 in the education system, for students of age cohort 6-16.

*Primary Schools:* Schools with grades 1-6 in the education system, for students of age cohort 6-14.

*Further Education:* Specifically higher education and including institutions such as College of Arts, Science and Technology, Jamaica School of Agriculture, University of the West Indies.

*Constant Price Indexes:* Concept regarding the economic theory of index numbers. (When this theory is applied, the differences among cost changes and its individual component parts--such as price, quality, and quantity changes assume a higher profile. This helps in the formulation of ground rules for the development of education price indexes. The value and utility of such indexes is well recognized by educational planners--because they measure the changes in prices for goods and services which the school system must purchase--Wasserman, 1963).

*Ministry Paper:* Corresponds to the term White Paper in the British Parliament, in effect a government report on any business.

*Manpower forecasting:* An approach/strategy in educational planning. (The main concepts basically a target of production as the point of departure for planning. Any fixed volume of output, e.g., Gross National Product--the target; i.e., the optimum output with specific amounts of resources. Technically the possible outcomes of the economy a macro-production function--Correa, 1975).

*Social demand projections:* Concept of educational planning, e.g., the mechanistic model of the educational process. (Assumption of model, the educational system a ladder. Basically, climbing of ladder task for all students, the probabilities, however, of moving from one rung to the other or not moving or falling off constant; and the transition probabilities unspecified--Correa, 1975).

*The Rate of Return Analysis:* Concept integrating economics with educational planning. Assumption a single technique for production, and thereby indicating that "the allocation among different types of capital should equalize all their gross returns" (Correa, 1975, p. 29).

*Rural areas:* All areas outside of the Corporate area.

*Urban area:* The Corporate area embracing Kingston, Municipal St. Andrew, and Port Royal.

*Pre-Primary or Pre-School:* Basic Kindergarten or Infant classes. The first level of the education structure, catering to age cohorts 3-5 plus.

*Needs:* Difference between the current and future or anticipated state of a system.

*Goals:* Detailed intentions of the modus operandi of a system concerning the elimination of the identified incongruencies (needs) within a system.

*Constraints:* Factors limiting the planned effectiveness of a system, e.g., factors such as those of the demographic, economic, social, and political aspects of educational planning.

*Evaluation:* Determination of the feasibility of programmes and plans in terms of formative or summative evaluation--depending on the objective of the analyst.

*Feedback/cybernetics:* Information from a system for aiding in the determination of possible alternative modes of action in planning.

## Significance of the Study

It is hoped that this study may help educational planners in Jamaica to take a new look at the methods which are currently employed in resource allocation, and in so doing recognize the need for a change.

This investigation will enhance the systematic study of the four stated aspects of educational planning, communication network and information flow within the system, linkage of programmes, and identification of resource needs and bases used for resource allocation in terms of their influence on education planning--specifically planning for New Secondary Schools--second level. This could increase Jamaica's understanding and knowledge in this area, and may even have important implications for other developing countries.

The paradigm which this study seeks to build may have utility in other areas of educational planning besides resource allocation.

Finally the rationale for undertaking such a study in Jamaica stems from the fact that there has been no research of this nature specifically designed for the New Secondary Schools. These schools are viewed as the catalyst which will bring about a change in educational and societal structure. Therefore, it is important to describe the educational planning process for these schools with a view to determining the strengths and weaknesses in resource allocation, and as a result propose changes or alternatives which will cope with the weaknesses and improve the strong points.

## Scope and Delimitations of the Study

The study is primarily concerned with the perceptions of educators regarding educational planning at the second level--specifically resource allocation for the New Secondary Schools.

The main focus of this investigation is a randomly selected population of members of the Educational Planning and Operational Divisions, members of the Steering Committee for the New Secondary Schools, and principals and vice-principals of these schools from the urban and rural areas.

The development of a model using a systems approach concept for resource allocation, i.e., the allocation of human, physical, and financial resources, is a major outcome of the study.

## Organisation of the Study

In Chapter I of the study an introduction, background (global and the Jamaican situation in terms of the development of an education system and some aspects of educational planning) along with a statement of the problem is presented. The purpose of the study, major assumptions, definitions of terms, scope, and delimitations of investigation complete this chapter.

In Chapter II a review of the related literature is undertaken; i.e., literature concerning the underlying principles, and basic concepts of approaches to educational planning.

Chapter III contains a detailed description of the research design/methodology used in this study. Pertinent information

regarding the instruments and procedures used for collecting and analysing the data is also presented.

Chapter IV contains the findings which are presented in a most appropriate schematic form, i.e., tables or figures. A summary of the findings depicting the educational planning process for the New Secondary Schools is presented also.

In Chapter V, the interpretation of the findings with respect to the following are presented: (1) the six a priori assumptions, (2) recommendations (in terms of the development of an educational planning model for resource allocation for the New Secondary Schools), and (3) implications which are inherent in the use of such a model.

# CHAPTER II

## REVIEW OF RELATED LITERATURE

Parnes (1962) in the "Introduction" of Planning Education for Economic and Social Development asserted "a country's 'needs' for education can be meaningfully assessed only in the light of its goals and objectives" (p. 13). The implication was that there must be educational planning which seeks to focus attention on the goals and objectives of society.

Thus in this chapter are presented and discussed the following components of educational planning. Such a presentation and discussion provide a means whereby the salient points of the educational planning process of the different planning approaches are highlighted; and also show the modus operandi which society has been using to keep the goals and objectives of educational planning in focus.

1. characteristics of the educational planning process;
2. elements of the planning process; and
3. approaches to educational planning, viz.,
    a. manpower forecasting;
    b. rate-of-return analysis;
    c. social demand projections; and
    d. systems analysis.

## Characteristics of the Educational Planning Process

According to Coombs (1970) the modes or strategies which educational planning may follow can range from the crude to the elegant or sophisticated. He further argued that educational planning should not be viewed as if it were or could be set in a rigid mould. Anderson and Bowman (1968) subscribed to that concept in stating that, "there is no equally firm agreement on precisely what 'planning' is or should be--there is nothing like the 'theory of planning' and even less is there 'a theory of educational planning'" (p. 351). Although this may be the case, there have been attempts to find systematic ways to integrate educational policies with the policies of other sectors of society. The importance of this practice was mentioned by Anderson and Bowman (1964) when they observed that educational decisions should not be made without taking into consideration the developmental policies of the other sectors of society. The foregoing statement would seem to suggest that social intervention is indeed necessary in the educational planning process. Bowles (1969) had this to say about social intervention in the educational planning process:

> The major motivation for social intervention in the education process may thus be broadly speaking political, there are good economic reasons why completely individual choice in the production and composition of education is socially undesirable. . . . The economic characteristics of education provide compelling reasons for rejecting the unplanned market approach to educational resource allocation. (pp. 33-34)

This intervention witnessed a renaissance in the 1950s and gained momentum in the 1960s. However, Williams (1972) argued that

> Much of the early optimism about educational planning has evaporated. . . . It is suggested that the reasons for the disillusion are partly that planners did not take political constraints sufficiently into account, and partly that the education system is far too complex for simplified models to deal with. Instead of treating educational planning as largely an exercise in long-term forecasting we should be concerned much more with the efficient operation of the system and its orientation in the direction of objectives which are essentially political in nature and which are quite likely to change from one period to the next. (p. 381)

In order to have a more efficient operation of the system it must be acknowledged that although there is no precise "theory" of educational planning the concept of planning embraces two major components: (a) advanced thinking regarding a project in terms of what should be undertaken, and (b) how it should be undertaken. In many instances, this is a formal and legal process in which, pertinent decisions are approved for execution by the same or some other agency or division within a ministry of government. In either case it is the contention of Anderson and Bowman (1964) that in planning, approval and execution although interdependent are distinct functions, and should be kept as separate elements of the planning process.

Gass (1970) in the General Report of the OECD Conference on Educational Policies for the 1970s emphasized that

> as far as planning is concerned there is growing insistence, that to be useful plans must be implemented [executed]. . . . However this planning function should not be seen as a mechanism for the precise development and control of the educational system, but as a means whereby broad strategies can be examined in a global way and the real alternatives presented for political discussion. (p. 46)

Lyons (1968) indicated that the process of educational planning is the undertaking of a team of educational planners comprising of economists, educationalists, and statisticians. The combined effort is to produce a thorough description of the present system, and secondly submit proposals to the appropriate authority regarding the deployment and/or development of educational resources.

> Therefore, it is well to acquire a sound knowledge of the prevailing structure of economic and educational institutions, of planning arrangements and so on, and also of influential people in the institutions and their views. This is important if assessments and proposals are to be not only accurate and sensible but also acceptable. (p. 58)

The essence of the concept is not difficult to comprehend but as the history of educational planning reveals, actualization has proven to be difficult. In effect, the concept approximates that of systematic educational planning, which, according to Williams (1972), educational planners of nearly two decades ago viewed as essentially a straightforward process. Thus men of good will would see the necessity for prior knowledge and agreement on techniques which would be used to allocate resources for the furthering of educational objectives. Unfortunately, however, because of various factors, this ideal has rarely been realized or maintained for long. Indeed, the links and interactions between goals and resources are very important in planning. This importance was highlighted in the General Report of the OECD Conference on Policies for the 1970s, when Gass (1970) pointed out that "to pursue objectives which are incompatible with the resources availabe is to misallocate or waste resources" (p. 27).

Furthermore, he observed that

> the quality of education must in the future be seen as an output which reflects the achievement of goals in terms of all the complexities with which society defines them. Effectiveness and efficiency must be measured against qualitative as well as quantitative objectives. (p. 37)

To achieve these objectives, it is necessary to have theoretical concepts translated into workable paradigms as described by Orcutt (1970) in the following statement:

> A [paradigm] model of something is a representation of it designed to be significant for one or more specific purposes. In some cases such features are directly observable. . . . In other cases models incorporate more subtle features such as how the thing modeled responds to stimuli or otherwise behave. . . . Whether a model is a physical representation or expressed in ordinary prose . . . or set forth in the language of formal mathematics . . . is again mainly a matter of feasibility and convenience. (p. 897)

There are numerous models which attempt to indicate the path that educational planning processes should follow. Indeed, Williams (1972) pointed out that within the last decade the techniques and methodologies of educational planning have increased. He further stated that

> from the simple projection exercise of the 1960s we have progressed through the Moser-Redfern-Stone family of models 1965 and the Thonstad-Koeing-von Weizsacker-Armitage-Smith Alper refinements of 1966-68. (p. 385)

These techniques of projection methodologies have all attempted to measure the "social demand" approach to educational planning.

In terms of the "manpower forecasting" approach to educational planning, the chief proponents and active model builders have been Bombach (1964), Parnes (1962), Tinbergen, Correa and Boas (1964). The linear programming models were developed by Bernard (1967) and others.

Bowles (1969) in his book Planning Education Systems for Economic Growth also advocated the use of linear programming. Williams (1972) further stated that the models purporting to measure "rates-of-return" on educational investment in the human capital had as their advocates Becker (1964), Blaug (1965), and Schultz (1959).

The aforementioned paradigms all have a common core, in that they attempt to exhibit the interrelatedness of variables, and offer a tool by which specific economic growth, which results from investment in the educational sector, can be measured.

Stevens (1976) underscored the aim of interrelatedness when he stated that "one goal of modelling activities is to accomplish the investigator's purpose with as simple a representation of inter-relationships as possible" (p. 13).

Correa (1975) suggested that a model should embody three elements:

1. a set of variables classified as endogenous and exogenous;
2. the cause-effect relationship among the variables; and
3. a consistency of these relationships. (p. 1)

He pointed out also that as long as the values of the external factors are specified then the values of the internal factors can be ascertained one way only.

Thus, in Correa's view, models for planning generally indicate what people should do to behave rationally. However, before models can be effective tools in the areas of quantitative and qualitative planning it is necessary to observe, stated Gass (1970) in the General Report of the OECD Conference on Educational Policies for the 1970s,

> [that] educational statistics [must] come to grips with the problem of quantitative and qualitative outputs from

> the system including the development of indicators which reflect educational contributions to wider individual social objectives. (p. 39)

The development of these indicators is generally determined by the environment in which the planning is done, and the planning environment is a totality of the demographic, economic, social, and political aspects of a country. Therefore, it is imperative that educational planners be cognizant of the variables of these aspects.

## Elements of the Planning Process

According to Hartley (1968), a systems approach technique is important to political authorities in terms of educational planning; i.e., output and allocation of human and financial resources. In this technique,

> planning is used in a broad sense to encompass a rational means ends assignment of resources and objectives by all interested parties. . . . The process relates inputs and outputs and directs attention to the preparation of time phased future activities. (p. 2)

The Task Force (1974) on "Function and Scope of Planning" in New Directions for Higher Education indicated that effective planning should involve:

1. identification of key problems;
2. accumulate valid data regarding the problems;
3. analyse the interrelationship of the problems;
4. extrapolate anticipated/future alternatives from current situation;
5. determine possible consequences for the introduction of new variables;

6. select the most appropriate alternative with respect to fundamental goals; and

7. feedback system for systematic re-evaluation of the selected goals.

In terms of the overall planning process reports (Coombs, 1970; Hartley, 1968; Lockwood, 1972; Task Force, 1974) have indicated that planning should be undertaken in terms of specific time frames, viz., short-range, medium-range, and long-range. According to Coombs (1970) the specific time spans could be: short-range planning, 1-2 years; medium-range planning, 3-5 years; and long-range planning, 6-15 years or more.

Hartley (1968) and Task Force (1974) indicated that the planning continuum (i.e., short-range, medium-range, and long-range planning) was divided into strategic and tactical planning. Strategic planning would involve long- and medium-range planning. On the other hand, short-range planning was tactical planning.

Lockwood (1972) argued that the planning continuum should be divided into three categories, viz., strategic, operational, and budgetary planning.

Basically the underlying principles for the planning process, as portrayed by Hartley (1968), the Task Force (1974), and Lockwood (1972), are the same. There is some difference, however, regarding the actual time frame for a particular process. Nevertheless, Lockwood's (1972) operational and budgetary planning processes can be labelled tactical planning.

Recent studies (Hartley, 1968; Lockwood, 1972; Task Force, 1974) have shown that strategic and tactical planning are essential areas of the overall planning process. These areas are dependent and have a direct bearing upon each other.

Strategic planning is primarily concerned with the machinery which formulates long- and medium-range plans. The Task Force (1974) further suggested that strategic planning is generally subjected to a few changes between major policy cycles. Furthermore,

> [it] ought to reflect the fundamental assumptions about postsecondary education, the long-range societal objective and goals and the principal missions, roles and functions of all educational institutions, segments and agencies . . . should [also] reflect the fundamental assumptions a state and its citizens have about secondary education . . . establish the frame of reference, fundamental premises, value judgments, philosophies and purposes. (p. 79)

Tactical planning is more concerned with the intermediate and short-range planning and is done within the framework of strategic planning. The most essential feature of tactical planning is that it is a continuing process in terms of "developmental time frames, and step-by-step means of achieving strategic goals" (p. 79). Thus, the planning cycles overlap, and focus is generally on specific issues or problems with high priority.

The major issues with which tactical planning is involved follow:

1. modes of cooperation between public and private institutions;
2. new programs of instruction;
3. new campus sites;

4. research and public service;

5. innovative programs;

6. building programs;

7. budget formulae and processes; and

8. management systems. (p. 79)

For effective planning to take place, the distinction between tactical and strategical elements of the planning process should be noted. In a recent OECD (1973) report on Long-Range Policy Planning in Education, it was stated that the current trend in planning seems to be a moving away from short- to long-term planning. The report further indicated that

> long-range planning in order to be effective must of necessity have two facets: (1) a definition of the goals or objectives of the educational system a number of years hence and (2) an understanding of the technological or organizational changes which may be made to improve the effectiveness or efficiency of the educational process. (p. 205)

## Summary

Educational planning can be simple or sophisticated; i.e., planning programmes can range from simple projections to highly mathematical concepts/models. There is no precise theory, however, with respect to planning in general, nor is there any for education planning in particular. Nevertheless, systematic ways are always being sought to integrate educational policies with the economic policies of the other sectors of society. This being the case, social intervention by the public authority in the educational planning process is often deemed necessary.

The social and political changes which were the aftermath of World War II are credited with reawakening the conscience of social intervention with repsect to the educational process in the 1950s. This process gained momentum in the 1960s, but for some countries much of the early optimism is now gone. It is possible that the implications of various constraints, political or otherwise, were not given full consideration by the educational planners of the earlier eras.

There are two major components to be found in the concept of planning: (1) advanced thinking regarding a project in terms of what should be undertaken and (2) how it should be undertaken. These planning components embody the formal and legal aspects of a country's planning machinery. In short, decisions must receive formal approval before they can be legally executed. However, though approval and execution are interdependent, they are also distinct and separate functions. Planning is not a means to control the development of an educational system. Instead, it is a technique in which strategies are developed and examined in terms of real world alternatives and political implications.

The people who are engaged in educational planning are generally educators, economists, and statisticians. Their job is to describe the current educational sector, identify the problems and objectives, and submit appropriate alternative strategies to the political authorities with respect to the allocation and development of resources. The concept is not difficult to understand. However, the history

of planning shows that this systematic approach to planning is difficult to actualize. In short, a balance between resource allocation and educational objectives is difficult to maintain. Nevertheless, the importance of the relationship between allocation of resources and objectives is real because if available resources and objectives are not congruent, a waste of scarce resources occurs.

Educational planning paradigms are useful in the formulation of planning/policy decisions and also for putting concepts into operational language. Indeed, since the 1960s numerous paradigms have been designed to indicate the path which the educational planning processes should follow. The educational planning models have moved from simple projection through Moser-Redfern-Stone refinements of 1965 to Thonstad-Koeing-von Weizsäcker-Armitage-Smith Alper refinements of 1966-68. These models span social demand projections, manpower forecasting, and rate-of-return analysis. All these models have strong adherents and some severe adverse critics. For example, Blaug, Becker, Schultz, and Thias and Carnoy are strong advocates of rates-of-return analysis technique in educational planning.

With regard to planning models/paradigms they embody variables which are exogenous and endogenous which indicate cause and effect relationships among various sets of variables within a system and the congruency of these relationships. The models/paradigms help to show people the elements of rational behavior in terms of educational planning; i.e., the allocation of scare resources to meet desired objectives.

It is important to observe that educational planning paradigms are only as reliable as the base data permits them to be.

It should also be recognized that effective planning function should involve (1) identification of problem areas, (2) accumulation of valid data regarding the problems, (3) determination of the interrelationship of the problems, (4) extrapolation of anticipated/future alternatives from current situation, (5) determination of possible consequences with respect to the introduction of new variables, (6) selection of the most appropriate alternative with respect to achieving fundamental goals, and (7) initiation of a feedback system for a systematic re-evaluation of the selected goals/outcome.

Inherent in the rationality of planning are time frames--short-, medium-, and long-term. The concept 'strategic planning' embodies long- and medium-term planning, while on the other hand, short-term planning is 'tactical planning.' Both 'strategic and tactical planning' are vital elements of the planning process. They are separate activities yet they are interdependent. Tactical planning is done within the framework of strategic planning.

## Approaches to Educational Planning

During the educational expansion of the 1950s various strategies and approaches to educational planning evolved. The three most popular approaches which emerged during the period 1950 to mid-1960s were (1) manpower forecasting, (2) social demand projections, and (3) rate-of-return analysis. Other less popular strategies/approaches

which emerged at a later date in the educational renaissance were (1) sector survey, (2) employment generation, (3) tracer studies, and (4) systems analysis.

## Manpower Forecasting

According to Kelley et al. (1975),

> Manpower forecasting is a recent and still primitive art, the use of forecasts in policy formation is a wide-spread practice. They are used by virtually every national government in the development of . . . structural change and, as a basis for employment and educational policy. (p. 1)

The words 'forecast,' 'projection,' and 'prediction' are familiar to an educational planner, and they are used interchangeably in the description of the anticipated quantity of manpower. However, there are subtle differences in the meanings. For example, Ahamad and Blaug (1973) suggested that

> a 'forecast' is a 'prediction' that depends on the achievement of definite growth targets, that is, a statement of what would happen if economic growth were deliberately manipulated by government policy, and a 'projection' is the outcome of purely spontaneous forces, that is, what will happen in the normal course of events in an unplanned economy. (p. 20)

Stone (1970) had proposed a similar concept of 'forecast' as that advanced by Ahamad and Blaug in that he suggested that 'projection' may be viewed as a picture of the prospective state of the economy while 'prediction' tends to be more exact in terms of what will happen.

Anderson and Bowman (1964), on the other hand, pointed out that in their view 'prediction,' as such, was not planning and neither was 'forecasting' or 'foreshadowing.' Williams (1972) disagreed with the

concept of Anderson and Bowman in terms of 'forecasting.' "Planning [he maintained] consists of forecasting the rate of growth of requirements of these separate skills and gearing the educational system to supplying them" (p. 386). Ahamad's and Blaug's views were in accord with Williams' in that they claimed that 'forecasting' can only be made after definite plans have been made in terms of economic growth targets. They further argued that although 'prediction' and 'projection' are different concepts, it must be noted that "the two [can be] equivalent . . . if the course of action specified in the former is actually undertaken" (p. 21).

Cairncross (1969) suggested that in terms of judging the relative value or accuracy of forecasts, it was the policy statement or advice that they caused to be initiated that should be evaluated. The importance of this concept with respect to forecasting and policy statements was highlighted at the OECD Policy Conference on Economic Growth and Investment in Education in 1961. The proposition was advanced at this conference that it was problematic to develop forecasts in terms of demographic, social, and economic trends/(aspects) for the development of education. Furthermore, it was agreed that:

> This task implied the creation or the strengthening of the development and planning function within ministries responsible for education in cooperation with government and other groups concerned with research and having responsibilities for advising on the most economic allocation of national resources. (p. 13)

It has been reported (Ahamad & Blaug, 1973; Thias & Carnoy, 1972; among others) that the manpower forecasting approach to educational planning has been appealing because of the seemingly simple and straightforward method to analyse the scope of investment which the educational sector needs in order to help society achieve certain economic growth targets. Thias and Carnoy (1972) further pointed out that the results seem to connote that they can be immediately understood by administrators and policy makers. Furthermore, they stated the manpower approach to educational planning will always serve the politician well in that it has a built-in expansionist quality.

Recent investigations (Coombs, 1970; Green, 1971) revealed that the rationale to manpower forecasting after World War II, was recovery and reconstruction. To attain these two goals which were necessary for economic growth, it followed that society had to develop its technical and scientific manpower. Thus educational planning with its peculiar problems would have to be an integral part of the entire process, in short, forging a link between society's goals and the educational system.

Blaug (1973) also showed that during the 1950s and early 1960s long-term manpower forecasts indicated that educated manpower of secondary and higher level education were in short supply in Africa, Asia, and Latin America. Thus, to initiate a rapid reversal of this trend, the manpower forecasting technique was utilized in the expansion of higher education.

Other authors (Carlsson, 1970; Harbison & Myers, 1965; Williams, 1972) supported Coombs, Green, and Blaug. Carlsson (1970) suggested that educational development throughout the entire world has been supported because of "a wish to meet a social and a manpower demand. . . . The discussions in the 1960s on educational planning have very often had manpower demand and social demand as their points of departure" (p. 69).

It would appear that it was discussions of this nature (regarding manpower demand and educational planning) that prompted Anderson and Bowman (1964) to remark that in their view educational planning must be seen as comprising of two basic activities. The one an overall economic planning function for the society, and the other specific planning activity with economic elements as aspects of it. If educational planning were taken to be the former, then it was an extension of 'manpower planning,' which according to Stevens (1976), citing Psacharopoulus in "Substitution Assumptions versus Empirical Evidence in Manpower Planning" in De Economist, embraced the three popular strategies of educational planning, i.e., social demand projections, rate-of-return analysis, and manpower requirements. On the other hand, if educational planning was viewed as the latter activity, then, Anderson and Boman (1964) stated that

> The aim can be as manifold and complex as the functions education is expected to perform. Manpower considerations become merely one aspect of educational planning with no necessary priority over other goals. The focus comes to be more on people, less on the production of "human resources." (pp. 9-10)

Baldwin (1965), in some measure tended to agree with both concepts as advanced by Anderson and Bowman. He clarified his position, however, by pointing out that the aspect of educational planning to which manpower considerations would be applied is the determining of supply and demand in terms of expertise required by development. In most modern societies some of this expertise is chiefly attained through the formal education structure. Thus it is easy to recognize that there is an overlap between manpower considerations and educational programmes. Stated another way, educational planning functions cannot be separated from manpower considerations; and whether these considerations are given priority or not depends on the "needs" or "goals" of the society. Furthermore, he noted "the ambiguous and indeterminate extent to which education is independent of any explicit manpower considerations increasingly complicates the task of educational programming" (p. 146).

Literature (Coombs, 1970; Harbison & Myers, 1965) subscribed to Baldwin's argument. Thus Coombs (1970) had this to say regarding human resources development:

> Economic growth, however, requires not only physical resources and facilities but also human resources to organize and utilize them. Thus the development of human resources through the educational system is an important prerequisite for economic growth and a good investment of scarce resources provided the pattern and quality of educational output is geared to the economy's manpower needs. (p. 40)

According to Ahamad and Blaug (1973), 'manpower needs' or 'requirements' are made by assuming that variables such as price, wages, and salaries will remain constant. Observe also that (Ahamad & Blaug, 1973; Parnes, 1962) in the educational planning context,

estimating the prospective condition of manpower requirements was different from forecasting demand in the market sense.

Parnes (1968) further stated that:

> The idea of manpower requirements as used [in educational planning] relates to the functional (occupational) composition of employment that will be necessary if certain social and/or economic targets are to be achieved. The concept in other words is more technological than an economic one. (p. 18)

Ahamad and Blaug (1973) cited Parnes in Forecasting Educational Needs for Economic and Social Development as saying that 'requirements' should be taken to be a subset of needs in which case they

> refer only to those needs which can be actually met with the resources available at a particular point in time. The calculation of these available resources constitutes the subset of requirements. (p. 8)

Recent studies (Ahamad & Blaug, 1973; Baldwin, 1965; Blaug, 1967; Correa, 1975; Parnes, 1962) have all focussed on an "overview" of the manpower requirements/forecasting. According to these authors there are a number of variations to the manpower requirements/forecasting approach to educational planning. Blaug (1972) summarized them under five headings,

1. the Employers Opinion Method;
2. the Incremental Labour Output--Ratio Trend Method;
3. the Density Ratio Method;
4. the International Comparison Method; and
5. the Parnes-Mediterranean Regional Project Method. (p. 146)

The most well known and widely used is the Parnes-MRP Method, which was advanced by Parnes in the OECD Mediterranean Region Project Studies, 1962.

Kelley et al. (1975) reported that the various methodologies which have been advanced result from the level of economic development, the magnitude of policy problems, and how the society views the market mechanism as a decision instrument.

The essential features of the Parnes-MRP approach to educational planning, as outlined by Blaug (1967), in "Approaches to Educational Planning" in the Economic Journal, utilize the concept of proceeding from the selected desirable Gross Domestic Product of a target year (possibly five years hence) which was estimated in a previous economic plan, in terms of the supply of educated manpower which in some sense will be "required" to reach the GDP in the allotted time (i.e., the target year). The method embodies the following five steps:

> 1. The target GDP [in say 1982] is broken down by major sectors such as agriculture, manufacturing, transport distribution, and the like.
> 2. These sectoral GDPs are then broken down by industries (this level of disaggregation was not attempted in the MRP studies).
> 3. An average labour-output coefficient, the reciprocal of the familiar concept of the average productivity of labour, is applied to the sectoral or industrial GDP targets, yielding a forecast of labour requirements by sector or industry.
> 4. The labour force is distributed among a number of mutually exclusive occupational categories.
> 5. The occupational structure of the labour force is converted into an educational structure by applying a standard measure of the level of formal education required to perform "adequately" in each occupation. (p. 263)

In this method annual attrition rates of educated manpower due to deaths, retirements, and emigration are also considered. This ensures replacements and additions to the present cadre of "educated manpower."

In this way a conditional forecast in terms of educated manpower for the target year has been established.

This method of manpower forecasting has had a number of proponents and also adverse critics. Eide (1971) argued that this approach to educational planning is structured on a number of assumptions. In the first instance the advocates of the technique assume that the partial determination of one economic target can supply pertinent information regarding policy-making for a system which is concerned with various targets or objectives. Inherent in the assumptions are the concepts of the complementary nature between economic variables and graduates with specific expertise and the interrelatedness of these skills to specific types of training. Further he contended that the information regarding the interrelatedness must rely on historical data which implied that "the educational system has adopted itself to economically optimal conditions not only in terms of economic growth in the past but even in the future" (pp. 12-13).

Carlsson (1970) is in agreement with Eide when he suggested that in estimating manpower demands the point of departure has always been from the output of the educational system for a fixed period. In short,

> manpower projections are more a judgement of the adaptability of the labour market than a statement of what is optimal for economic growth. . . . Manpower criteria forecasts of the occupational and educational structures of the labour force have been advanced to orient the qualitative development and structure of enrolments." (p. 11)

Parnes (1962) emphasized that the lack of necessary data prohibited any accurate degree of predicting a future manpower structure which

would be pertinent to educational planning. Secondly, he stated that because of their implications, careful consideration should be given to the following two aspects of the model, viz., (1) the rigidity it implied in the occupational structure (which would be unrealistic), and (2) the denying of the concept of substitutability (which would therefore suggest that the educational preparation of an individual could lead to only one occupational affiliation).

Recent studies (Bowles, 1969; Ahamad & Blaugh, 1973; Hollister, 1968; von Weizsäcker, 1972) indicated weaknesses of the model. Indeed, Hollister (1968) reported that "the 'substitution problem' necessitated more complex analysis and yielded equivocal results" (p. 345).

Blaug (1967) observed that this method ignores the consumption as well as the spillover benefits of education. He noted also that it was weakest in forecasting the demand for particular skills, rather than in forecasting total labour requirements. Further (in 1972) he pointed out the following three weaknesses of the technique, viz.,

> 1. the absurdly rigid view which it implied of the capacity of the economic system to absorb school leavers into employment;
> 2. a growing fear that manpower forecasts constituted an open-ended invitation to expand secondary and higher education without limits; and
> 3. the realization that manpower forecasting leaves the educational planner with virtually no choices to make. (p. 432)

Harbison (1973) noted that manpower forecasts/surveys are generally limited to high-level professional and administrative personnel. Thus, it has a discriminatory effect because forecasting methods cannot be

applied to the requirements for primary level educated workers. A UNESCO report, Educational Cost-Analysis in Action--Tanzania, also indicated the discriminatory aspect:

> Thus the expansion of primary education (in the past was considered as not producing definite returns in itself) was held back as much as possible while secondary and higher education were to be expanded at exactly the rate needed to fulfill the country's estimated manpower needs. (p. 15)

Recent studies (Ahamad & Blaug, 1973; Correa, 1975; Stevens, 1976) have shown that another very serious weakness of the manpower forecasting approach is its reliance on the concept of the "fixed-coefficient" method.

It has also been reported (Ahamad & Blaug, 1973; Coombs, 1970; Correa, 1975; Harbison, 1973) that the manpower forecasting approach is biased toward long-term forecasts, which are less accurate than short-term forecasts.

On the other hand some studies (Hollister, 1968; Kelley et al., 1975; Parnes, 1962; Sanyal, 1973; Stevens, 1976; von Weizsäcker, 1972) have reported varying degrees of support for the manpower approach to educational planning. Stevens (1976), in particular, pointed out that the manpower projection method aids administrators in making informed choices. Sanyal (1973), another proponent of the approach, observed that in the overall planning activity manpower forecasting constitutes but a small element. However, it is of great importance in terms of costing and implementation of plans.

Kelley et al. (1975) concurred with Cairncross' concept regarding the usefulness of forecasting and in particular, manpower forecasting. Thus they argued that although the knowledge base and forecasting practice are limited yet there is little or no relationship between these limitations. Furthermore, they had this to say:

> The primary constraint in practice is not related to the information base and knowledge of technical relations as much as it is to the concept or objectives and uses of manpower forecasts in the formulation of policy. (p. 211)

Indeed, von Weisäcker (1972) admitted that the technique has weaknesses, but he suggested that it can be improved if some flexibility is built into the education system where the forecast is to be made. According to him, forecasting techniques should aim at a high degree of refinement and sophistication, and then seek the possible outcomes of alternative options and couple these to different assumptions regarding possible political choices.

Harbison (1973) summarized the controversies regarding the manpower forecasting strategy to educational planning in the following way:

> There is no general methodology for establishing future requirements. Nor is there a clear concept of the meaning of the term "future requirements." Some people talk about "predicting" or "forecasting" manpower requirements, others contend that they are making "projections" and still others emphasize the process of forward "target setting." (p. 41)

Summary. Manpower forecasting in a restrictive sense belongs to the realm of the economic sector. However the development of the

economic sector is dependent on the development of a good and viable educational sector. These two sectors of society seem to be inseparable, since the educational sector produces the manpower requirements for economic development, and only a sound economic sector can support good educational development.

The terms 'forecasts,' 'projections,' 'predictions,' and 'future requirements' are a part of the vocabulary of the manpower forecaster. There are, however, subtle differences in the meanings of these words, and it is well that the educational planner be aware of this fact.

It is important to note also that in the educational context the concept of 'forecasting' does not connote precisely the same meaning as in the market context.

In general terms, however, the value of forecasts is revealed in the type of policy decisions or statements which they produce. Stated another way the value of forecasts lies within the use which is made of them.

This mode of planning to satisfy society's educational needs has been very popular, because in the first instance the method of analysing the results seems to be simple and straightforward. Secondly, the results seem easy to comprehend, i.e., by administrators and policy makers alike. Thirdly, the politician enjoys the expansionist quality of the technique which is really one element of the rationale for this 'manpower forecasting' approach to educational planning.

There are five variants of the methodology of this planning paradigm. The method most widely known and used is the Parnes MRP, which relies heavily on a 'fixed-coefficient.' It is also important to note that the development of a particular methodology in 'manpower forecasting' is the function of a number of socioeconomic cultural factors.

Basically, the rationale for this strategy to educational planning is the development of human resources through the educational system for economic growth. To achieve this economic growth the Parnes MRP method utilizes five steps to arrive at a satisfactory Gross Domestic Product at a future date. This aspect of the planning strategy is its prime function; i.e., providing a conditional forecast with respect to 'educated' manpower for the target years which was established by a prior economic plan.

This strategy for planning has a number of proponents as well as adverse critics. Its paradigm relies on many assumptions, and herein lies some of its weaknesses, and the concept is also more technological than economic. This mode of planning encounters the problems of complementarity and substitutability of outputs, i.e., graduates. In short, it tends to exhibit a certain degree of rigidity since some assumptions of the model imply that educational preparation of an individual will lead to only one occupational affiliation.

The 'projections' of this method of planning are not scientific. It is more a judgment of how the labour market will adapt itself

to future conditions; e.g., number of skilled manpower. In terms of the consumption and external/neighbourhood benefits of the educational process the 'manpower forecasting' technique is silent. A striking weakness of this method also lies in the fact that it cannot forecast demand for particular skills. This method of planning is biased toward long-term forecasts, leaves the educational planner with virtually no alternatives, and it has a discriminatory effect in that it caters only to the production of high level personnel, e.g., engineers. In matters relating to variables such as prices and wages it assumes a static condition.

Like any other planning model a good data base is a prerequisite. Some proponents are of the opinion that this method of educational planning is invaluable for the administrator--in that it helps him to make informed choices, in the areas of costing and implementing programmes.

The weaknesses may also be overcome by a degree of refinement and sophistication of the technique. The educational system also needs to build in some flexibility to allow for better working of the technique.

In specific terms there is no precise or accepted general methodology for this approach to educational planning. All five methods suffer from some degree of fundamental weakness. A number of problems also arise from the definitions of 'forecasts,' 'future requirements,' 'predicting,' 'projections,' and 'target setting.'

Rate-of-Return Analysis

This approach, sometimes labelled cost-benefit analysis, is another technique for educational planning which gained its popularity at the same time as manpower forecasting. Authors (Thias & Carnoy, 1972; Wabe, 1974) have indicated that this approach is an alternative to manpower forecasting. There is not any general agreement on this concept, however, since other analysts (Blaug, 1967; Coombs, 1970; Correa, 1975; Sanyal, 1973) have all indicated that the two techniques are complementary. Correa (1975) gave support to this point of view when he remarked, in Analytical Models in Educational Planning and Administration, that "my opinion is that they are opposite sides of the same coin" (p. 29). Anderson and Bowman (1964), in being more specific, argued that rate-of-return analysis is different from manpower forecasting in methodologies and assumptions but nevertheless the matter of decision criteria is similar to that in manpower-oriented educational planning.

Studies (Psacharopoulos, 1973; Somers & Wood, 1969; Thias & Carnoy, 1976) have indicated that the technique has been used to calculate returns on all types of investments. That being the case, a comparison can be made regarding the relative merit of the investments within the educational sector and with other sectors of the economy.

Psacharopoulos (1973) further stated that

> in development planning the emphasis [seems] to be changing from physical to human capital as the major source of growth. Once education had been seen as an investment the next question was what is the monetary "pay off" from this investment? . . . Therefore at the centre of any discussion of optimal resource allocation lies the concept of a profitability measure of investment in education. (pp. 1-2)

Literature (Ahamad and Blaug, 1973; Correa, 1975; Harbison, 1973; Lester, 1966) has shown that this technique of educational planning provides the link for the integration of economic and educational planning. Specifically, Lester (1966) stated that

> benefit-cost-analysis [rate-of-return] provides a systematic way of thinking about allocation problems in government. It helps to make explicit the assumptions that underlie budget figures. (p. 185)

Harbison (1973) indicated that this approach to educational planning has had a strong appeal to economists in that it attempts to integrate education and training programmes with planning for economic growth. Furthermore, he noted that rate-of-return analysis serves as a guide to the planner in indicating how resources should be allocated.

Coombs (1970) stated that since 1950 investment in education has taken on added importance in terms of economic growth. Green (1971) in International Planning in Perspective underscored the point, saying,

> the prevailing assumptions of the time seemed to be that economic growth is a necessary condition for the advancement of human welfare and that the more growth any country can attain the better off its people will be. Moreover it seemed justified to believe that a reallocation of a country's investment leading to more education would eventually yield a return on investment from greater resources in GNP. (p. 6)

According to Psacharopoulos (1973) the rationale for using rate-of-return analysis was based on the fact that budgetary allocations are not unlimited. Indeed, the rate-of-return technique emphasizes the benefit/profit motive of investment, thus implying that scarce resources must be prudently invested in order to realize benefits/profit. This being the case this approach to educational planning assumes a correct investment criteria.

Wabe (1974) stated the concept another way by observing that it becomes necessary to use rate-of-return analysis when budgetary limits have been exceeded by manpower requirements.

Coombs (1970) indicated that in general terms the rationale for rate-of-return analysis is the determining of alternatives or options in terms of utility and benefits, and then choose within budgetary boundaries the option that will give the highest ratio of benefits to costs. In specific terms, educational resource allocation to the various educational subsystems could follow this technique.

Psacharopoulos (1975) pointed out that

> [in gneral terms] according to investment theory the rate-of-return on a project is a summary statistic describing the relationship between the costs and the benefits associated with the project. It is defined as that rate of interest which will equate to zero the discounted net benefits. (p. 20)

He futher suggested that the above definition could be summarized in the following equation when solving for (r):

$$\sum_{t=1}^{n} \frac{B_t}{(1+r)^t} = 0$$

where:

$B_t$ = project's anticipated net benefits per year;

$n$ = number of years of project's life; and

$r$ = internal rate-of-return.

Stated another way, cost-benefit analysis attempts to measure returns to education based on wage differential of the society. This is one of the major assumptions of the technique.

Furthermore, recent investigations (Blaug, 1967, 1969; Coombs, 1970; Correa, 1975; Woodhall, 1972) have outlined a number of other assumptions which are germaine to this technique. In specific terms investigations (Blaug, 1967; Thias & Carnoy, 1973) have shown that the model itself is built around the following assumptions. In the first instance it is assumed that the higher salaries of "educated" people are based on superior productivity.

Woodhall (1972) had this to say about this assumption:

> The rate-of-return on educational investment is treated as "a convenient statistic describing the relationship between the earnings of educated people and the cost of acquiring education" in the belief that "this relationship ought to be a key element in any diagnosis of the educational situation of a country rich or poor." (p. 29)

According to Blaug (1967) the importance of this assumption cannot be overemphasized since without some knowledge of the degree of relationship between earnings and productiveness, calculations pertaining to rate-of-return are economically worthless.

Correa (1975) observed that this model attached little or no importance to supply and demand and other factors of the economy which influence cost of and benefits to education.

Blaug (1967) argued that the technique of the model assumed that demand for and the supply of educated people are static. Thus, implying that the calculation of 'an average rate-of-return' can give a meaningful guide to the marginal rate-of-return. But since the demand for and the supply of labour are not static, the calculation of the rate-of-return based on this supposition may have no relationship to the calculation of future rates-of-return to education. Hence the

'average rate-of-return' calculation is meaningless. Further, he pointed out that educational costs were considered to be negative earnings, and also that fringe benefits, that is, the non-monetary benefits of education are not considered by this approach.

Somers and Wood (1969) also emphasized this point when they indicated that the critics of cost-benefit analysis claim that the quantitative aspect of educational cost is emphasized over the qualitative aspect.

Balogh and Streeten (1968) observed that the calculations of rate-of-return analysis tend to ignore returns or benefits which accrue to the 'uneducated.' In short, the overall external effects of education are not taken into account by the rate-of-return analyst.

von Weizsäcker (1972) underscored the phenomenon succinctly in the following excerpt: "There is hardly any other point in the literature which is dealt with so superficially by so many economists as the question of external effects of academic education" (p. 398).

At the OECD Policy Conference on Economic Growth and Investment in Education (1961) it was reported that the rate-of-return analysis technique showed that a favourable comparison existed between education and business.

Balogh and Streeten (1968) made essentially the same statement when they reported that recent studies indicated that the techniques of aggregate production function, which seek to estimate the benefits to the educated in terms of higher salaries, have shown that the

benefits to the social investments are more than those which accrue to physical investments.

However, it must be noted that in the OECD Report (1961) it was stated also that

> this measurement understates the "payoff" on education since it assumes that all education expenditures are investment expenditures with no consumption aspect and that all returns to education are direct, involving as it were the transmission of existing knowledge rather than the extension of knowledge. (p. 33)

This statement lends support to the arguments of Balogh and Streeten (1968), Blaug (1967), Somers and Wood (1969), and von Weizsäcker (1972).

Woodhall (1972) also pointed out that in using cost-benefit analysis to measure returns to education many difficulties are encountered in attempting to measure indirect economic benefits. Thus, in nearly all instances rate-of-return analysis aims at direct economic benefits only. In effect she stated: "Direct benefits are measured in terms of higher earnings of educated people on the assumption that these earnings differentially reflect higher productivity" (p. 220).

Stevens (1976) reported that this approach to educational planning assumes that all trained people will be absorbed by the economy. The implication here is that substitution among skills in production was unlimited. Further, he stated that if this position is correct, the "important issue then is comparative benefits and costs of training programs" (p. 19).

Wabe (1974) indicated that in his view the major element in this technique is the assumption that salaries reflect the marginal product of labour. Thus he concluded, "if this is valid, the rate-of-return is important because it indicates the potential return to a marginal increment of spending on education and/or training" (p. 12).

Correa (1975) argued that the model assumed that capital goods of the economy enjoy optimum growth, and secondly that there is only one technique for production. (This position implies that there is no substitutionality between capital for production.) This being the case, investments in the various types of capital in the economy should be equal in terms of gross returns.

Wabe (1974) in Problems in the Manpower Forecasting also indicated that "[the rate-of-return] model postulates that substitution between skills is not possible once investment decisions are made" (p. 1).

Thias and Carnoy (1972) reported a variation of the rate-of-return analysis model. They pointed out that among the essential features of this new approach would be the assumption that substitutability in production with different skills exists; and secondly, elasticity of substitution is finite.

In terms of application of the model, studies (Somers & Wood, 1969; Psacharopoulos, 1975; Woodhall, 1972) have indicated that the use of the model has been widespread. Indeed, Harbison (1975) pointed out:

> Basically, this approach calculates "returns on investments" in education by estimating the differentials in lifetime earnings of persons with different levels of education and relating these to costs of education to get the rate-of-return. . . . Cost-benefit studies of this kind have been attempted in several developing countries. (p. 45)

Psacharopoulos (1973) in Returns to Education: An International Comparison pointed out that rate-of-return analysis can be classified under six headings; viz., (1) Marginal; (2) Overall; (3) Total; (4) Private; (5) Social; and (6) Adjusted and Unadjusted.

In order to be able to calculate the rate-of-return on educational investments to society, the social cost must be known and taken into account. In the same vein, in order to calculate the rate-of-return to the individual the private cost must be known and taken into account.

Woodhall (1972) described social and private costs as follows: Social cost is an element of the rate-of-return approach to educational planning which includes: all expenditure by the state on teachers' salaries, books, furniture, materials, value of school buildings, as well as the "productive manhours" which society loses, because students are at school instead of doing "productive work." Private cost, on the other hand, includes all direct expenditure incurred by the individual or parents for fees, books, clothing, etc., plus indirect cost to the individual in terms of opportunity cost, that is, income foregone while at school.

The information regarding these two components enables the educational planner to calculate the rate-of-return or benefits to the individual or society in terms of educational investment. The calculation of the benefits can be done by using the following equation as suggested by Psacharopoulos (1973):

$$\sum_{t=3}^{0} \underbrace{(C_h + W_s)_t}_{\text{costs}} (1+r)^{-t} = \sum_{t-1}^{43} \underbrace{(W_h - W_s)_t}_{\text{benefits}} (1+r)^{-t}$$

where costs cover a four-year period of study and comprises direct outlays ($C_h$) and opportunity cost ($W_s$), where the differential between wages ($W_h$) of higher education graduate and secondary school graduate ($W_s$) reflect the benefits. The period of study is assumed to be 4 years and the working life of the graduate in higher education is 43 years.

It must be observed that the variables which are used in the equation depend on whether it is the social or the private rate-of-return which is being considered. Further, he stated that because of a number of factors, "a social rate-of-return will as a rule be lower than the corresponding private one" (p. 21).

Recent reports (Coombs, 1970; Harbison, 1973) have indicated that one of the factors which could cause the social rate-of-return to be lower than the private one is the narrow definition of 'benefits' by rate-of-return analysts. Indeed, the failure to measure all benefits (economic and non-economic) either in developed or developing countries can lead the educational planner to making wrong judgments, which in turn leads to incorrect policy decisions and finally resources are inappropriately allocated.

Balogh and Streeten (1968) also pointed to the narrow perspective of models of aggregate production function. When these models are applied in developed countries they tend to show a difference between an observed relationship among capital, labour, and output. The inference which is drawn is that the difference is caused by improvements in knowledge alone. Further they stated (in terms of developing countries):

> This conclusion is then bodily transferred to a totally different technical, historical, cultural, religious, institutional and political setting. . . . Isolation of "education" from other measures ignores the importance of coordinating policies, and aggregation of all types of education obscures the types of education required for development. The concept therefore suffers from illegitimate isolation and misplaced aggregation. (p. 386)

In a recent study, Psacharopoulos (1973) indicated that rates-of-return decline by level of education (that is, the higher the level of education, the lower the rates-of-return). In terms of social rates-of-return for primary, secondary, and higher level education, the average was 19.4%, 15.5%, and 11.3%, respectively. On the other hand, for the private rate-of-return, the 'average' rates-of-return for primary and secondary was 23.7% and 16.3%, respectively. For the university level the 'average' was 17.5%.

Thias and Carnoy (1972) investigated rates-of-return at various levels of the educational system, and identified broad areas where profitable investments could be made. The results of this study allowed for a comparison of the profitability between investment in physical and human capital. Further, they stated that the investigation revealed that in both developed and developing countries a positive relationship existed between the earnings and the amount of formal schooling which a person received. They concluded that "the difference in lifetime earnings among individuals with various school levels [must be attributed] to the schooling they have had" (p. 27). In addition, they also stated that "other factors such as home background and achievement motivation, also affect earnings, and additional schooling contributes only a part of the difference in earnings" (p. 28).

Studies (Blaug, 1973; Balogh & Streeten, 1968; Psacharopoulos, 1973; Thias & Carnoy, 1973) have shown that in developing countries the differences between social and private rates-of-return would be even more pronounced. This is due in part, they claim, to heavy subsidization of education in developing countries, persistent unemployment, and also the fact that salaries in developing countries are tradition bound, and become a matter of social convenience and therefore do not reflect the productivity of the worker.

Balogh and Streeten (1968) further stated that expenditure on education (moreso, social cost) is directly related to

1. income and wealth of parents;
2. ability and motivation to educational opportunities (e.g. urban residence and proximity to educational centres); and
3. access to well paid jobs through family connections. (p. 387)

Singly or in combination, these factors could account for the higher earnings of the individual. Therefore the authors claimed that part of the 'higher earnings' is not in fact a return on educational investments but indeed a monopoly rent on

1. the scarcity of parents who can afford to educate their children well; and
2. the restrictions on members permitted into a profession in which existing members have financial interest in maintaining scarcity. (p. 387)

Thus, calculations of rates-of-return to education which ignore these factors can lead to erroneous results. This conclusion of Balogh and Streeten (1968) is in agreement with the statements of Coombs (1970) and Harbison (1973) regarding wrong results and implications for policy decisions.

According to Thias and Carnoy (1972) because of the many assumptions which must be recognized in using the rate-of-return technique for educational planning five general objections have been raised regarding the usefulness of the model.

Reports (Blaug, 1967; Coombs, 1970; Correa, 1975; Harbison, 1973; Somers & Wood, 1969; Stevens, 1976; Thias & Carnoy, 1972) have indicated that the objectiions to the model are based on the conceptual weaknesses which are caused by the assumptions.

In more specific terms Somers and Wood (1969) have indicated that although the use of cost-benefit analysis is widespread, its practical value has been questioned by economists such as Neil Chamberlain, William Dymond and Robert Levine. Furthermore, the authors stated that these economists "find that the practical application of cost-benefits analysis to programs and policies, leaves much still unknown and may lead to false conclusions" (p. 4).

Stevens (1976) argued that this approach (rate-of-return analysis) does not give an estimate of how many people are to be trained in the different areas in order to have a uniform rate-of-return for all. This being the case, any skill with an attractive internal rate-of-return will attract a number of candidates.

Investigations (Blaug, 1967; Coombs, 1970; Correa, 1975) have indicated that the results from the calculation of rate-of-return on educational investments, provide the planner with only 50% of the information which he needs. In short, the technique points in the direction the planner should go but not how far.

On the other hand, several authors (Blaug, 1967; Coombs, 1970; Correa, 1975; Lester, 1966; Thias & Carnoy, 1972; Woodhall, 1972) have indicated that even with the shortcomings, the technique does provide valuable data for the educational planner, in terms of information and a broad comprehensive view of a problem. When specificity is desired, then other analytical tools must be added to the technique.

However a comparison of social and private rate-of-return provides good insights regarding the distribution of financial responsibilities between public and private sectors of the economy. Thus the options on educational planning can be chosen on a more rational basis.

Lester (1966) argued that the clearer the relationships between cause and effects the more persuasive the rationale for using rate-of-return analysis as a technique to measure cost and benefits will be.

Further, he noted that

> In using benefit and cost analysis one must guard against depreciation or neglect of benefits that may be difficult to prove or express in estimates. This is likely to happen where the benefits contain large elements of social value. In the end governmental decisions are based on social and political as well as economic criteria. (p. 189)

Summary. Rate-of-return analysis or cost-benefit analysis is viewed by some economists and educational planners as an alternative method of educational planning to manpower forecasting.

The rationale of this educational planning strategy in terms of investment criteria, costs, and benefits, is that it enables the selection of options with the highest benefits while keeping within the parameters of the budget.

Some of the more important functions are summarized here. (1) The technique aids in the calculation of returns on all types of investments. Hence comparison can be made between the educational sector and other sectors of the economy. (2) The rate-of-return analysis technique in terms of planning in general aids in the integration of the science of economics and educational planning. Thus this strategy has a strong appeal to economists. (3) This method of educational planning provides a systematic way for allocating resources to projects/programmes. (4) Since budgetary allocations are not unlimited, they should be used judiciously. This being the case the rationale of the rate-of-return technique gives educational planners a correct investment criteria.

It is of importance to note that a number of assumptions are germaine to this technique. For example, in the first instance, it assumes that the salary an educated person receives is a function of his/her productivity. Secondly, this strategy of planning does not attach too much importance to the supply and demand functions or other factors of the economy. The technique also tends to assume that the demand for and supply of the 'educated' are static, thus implying that an average rate-of-return calculation in this regard is meaningful. Thirdly, educational costs are considered to be negative earnings, and the quantitative element of educational expenditure is given more emphasis than the qualitative. Rate-of-return analysis tends to ignore the benefits to the uneducated. Thus the externalities or neighbourhood benefits of education are not taken into account by this technique. In

short, the technique attempts to measure only the direct benefits of education, since the indirect benefits of education are harder to quantify. Fourthly, the strategy assumes that all trained people will be absorbed by the economy, thus implying that substitution among skills in production is unlimited. Fifthly, inherent in the technique is the assumption that there is only one technique for production. In this regard, when investment decisions are taken then substitution becomes impossible. Thus, it is clear that there are indeed controversial issues inherent in the assumptions.

It is important to recognize that the use of the model is widespread and also that rate-of-return analysis is categorized under six headings, viz., (1) marginal, (2) overall, (3) total, (4) private, (5) social, and (6) adjusted and unadjusted. To calculate the social rate-of-return on educational investments to society the social costs must be known. Generally speaking, social costs involve major and sundry expenditures incurred by the state on behalf of the individual's education. By the same token, to calculate the private rate-of-return, the individual private costs must be known. Private costs are educational expenditures which the student and family must bear directly. The income foregone while the student is at school is also included in private costs of education.

Appropriate mathematical equations and variables are used to determine the results (i.e., benefits to society or individual) of an educational investment which used the rate-of-return investment criteria. The failure to measure all the benefits of education,

direct and indirect, leads the educational planner into making erroneous decisions.

The narrow perspective of these aggregate production function models poses a problem for the user. For example, the application of these types of paradigms to the educational systems of developing countries can cause problems, particularly if the inferences which are drawn are equated with inferences of the same type, but which originated in a different sociocultural environment.

In terms of practical application of the technique, it ignores the question of how many people are to be trained in specific areas of the economy, so that a uniform rate-of-return can be calculated. The danger here is that areas of skills with attractive rates-of-return on educational investment will attract more students. With respect to levels of schooling, social rates-of-return are highest for the primary school level of education and lowest at the university level. It is important to note that this calculation is strictly in terms of direct economic benefits. Thus a narrow interpretation of this phenomenon could lead policy makers to wrong policy decisions. Therefore, it is important to recognize that factors such as home background, achievement, and motivation also influence salaries.

In developing countries the difference between social and private rates-of-return becomes very pronounced. The following factors are responsible: (1) the heavy subsidy which is given to education in these countries, (2) persistent unemployment, and (3) salaries which do not reflect a true picture of productivity, since in fact they are tradition bound.

There are five main objections to the use of rate-of return analysis and these are generally made because of the number of assumptions which are inherent in this technique to educational planning.

The results from a rate-of-return analysis provides the planner with only 50% of the information he is seeking. That is, the results tell him the direction he should follow but now how far he should go.

Even with the shortcomings, this approach to educational planning gives the educational planner a comprehensive view of the current planning situation. However, this approach fails to give detailed specificity. Thus if that is desired then other analytical tools must be added. Also, the information which this planning strategy gives, e.g., the comparison of costs (i.e., social and private), enables a reasonable understanding of the distribution of financial responsibilities between public and private sectors. This being the case, options in terms of educational projects are selected more rationally.

Social Demand Projections

This approach to educational planning has been referred to by Parnes (1962) as the Cultural Approach, and as the Laissez-Faire Approach by von Weizsäcker (1972). The terminologies are interchangeable and the rationale and concept are basically the same in terms of the educational planning process.

Stevens (1976) advanced the argument that this technique to educational planning is based on the preferences of society. He observed, however, that the technique assumes that such choices are

the result of carefully analysed information, thus influencing educational policy and resulting in a type of educational system which could be the basis for an egalitarian society. Svennilson et al. (1961) had this to say about education policy, society, and the individual:

> Educational policy within a general national policy has two main objects: to meet the demands of individuals for their own development and to meet the needs of society for its general development. (p. 15)

These authors (Harbison, 1975; OECD, 1970; Parnes, 1962; Thias & Carnoy, 1972; Williams, 1972) have also advanced a rationale for the technique of social demand projections with respect to educational policy and society. The OECD in its Report on Educational Policies for the 1970's indicated that the social demand approach to educational planning was built on the rationale of satisfying the increasing demand of parents and children for education.

Harbison (1973) indicated that this approach to educational planning is widely used by ministries of education, teachers, and other educationalists. Coombs (1970) expressed the same idea by stating that the educationalist or educator is more in his own environment with this approach since the concept of it is what he does naturally.

According to Harbison (1973) the chief element in this technique/approach is "how much education is demanded or thought to be desirable, [and the] basic premise is that education and particularly primary education is a universal human right" (p. 10).

Parnes (1962) suggested that manpower requirements approach is to some degree linked with the cultural approach to educational planning. Similar to Harbison, he also observed that the technique's main consideration is 'how much education' is necessary for the individual or the society.

Thias and Carnoy (1972) in Cost-Benefit Analysis in Education--A Case Study of Kenya reported that this model utilizes the private 'demand' of society as a basis for making educational investment decisions. The political concept of this rationale "is that the role of government is to meet as rapidly as possible the demand for the different kinds and levels of free schooling" (p. 134).

The authors also stated that the rationale of this approach does not follow comprehensive educational planning. Furthermore, they observed that in this concept is implied a high and consistent pattern regarding social returns from educational investments at all levels.

Williams (1972) argued that implicit in the social demand projections approach to educational planning is the attempt to determine by 'forecast' a student's claim for 'places' in educational institutions at the current costs. von Weizsäcker (1972) also pointed out that the essence of this Laissez-Faire Approach to educational planning, is primarily concerned with equating the number of places in a course within an educational institution to the number of applicants. This inference is in general agreement with that of the other authors, and is in particular agreement with Blaug's (1967) idea which states, "Extrapolation of existing enrolment trends is the heart of the matter

and, of course, the better the knowledge of the socio-economic determinants of 'staying on at school' the more accurate the projection" (p. 265).

Inherent in the rationale is the concept of egalitarianism, specifically, equal educational opportunity for all members of society. In connection with this concept, reports (Harbison, 1973; von Weizsäcker, 1972; Williams, 1972) have shown agreement in terms of a criterion. Thus, Harbison (1973) observed that the basic principle is that there should be a smooth flow of qualified students from primary to secondary to the higher level of education. These students would be the responsibility of the society which would then, within financial constraints, provide maximum educational opportunity for all who desire it.

Parnes (1962) also presented arguments to show that the essence of this approach is egalitarianism which stresses the consumption aspect of education. He observed, however, that this very concept has handicapped the approach in terms of specificity in defining how much education is necessary for the individual or the society. Stated another way, the lack of specificity in this approach is caused by the desire "to promote individual fulfillment, good citizenship, equality of opportunity, more rapid economic growth, political and social stability or any ends for which education may be conceived to be the means" (p. 15).

Carlsson (1970), on the other hand, indicated that in his view social demand projections only serve to project inadequacies of the current educational system. He further stated that the using of the

social demand criterion for educational planning only serves to perpetuate the inequalities and the imperfections of society. Harbison (1973) expressed a similar concern in pointing out that expansion is generally undertaken at all levels in a quantitative manner. Moreover, he stated:

> [This is the] cardinal objective [based] usually on the basis of "more of the same," although improvement in quality is often stressed as an important objective as well. Intense political pressure from the electorate strongly reinforces this position. (p. 10)

Ahamad and Blaug (1975) argued as did Harbison (1973) that the concept is basically a proposition that the expansion of education be undertaken to meet the 'demand' of the individuals within a particular society.

Coombs (1970), however, indicated that inasmuch as the approach may be viewed as a summation of popular demand for education by a particular society within a certain time frame and under certain financial constraints, the concept is nebulous and lacks precision. In short, it is Coombs' contention that the concept has no theoretical base as does manpower forecasting or rate-of-return analysis.

Correa (1975) tended to agree with Coombs when he reported that the social demand model to educational planning has as its basic tenet the mechanistic paradigm of the educational process. A paradigm of this type presents the educational system in terms of a "ladder which students climb with fixed probabilities of passing from one rung to another, remaining on the same rung or falling off the ladder. [The problem is, however] no attempt is made to specify what determines the transition probabilities" (p. 4).

The social demand projections approach to educational planning is similar to manpower forecasting and rate-of-return analysis in that there inheres in the technique a number of assumptions. For example, Eide (1971) suggested that

> the social demand for education [is] based on the assumption that this phenomenon is either autonomous in relation to government policies, or subject to the same political influences as have shaped past trends. (p. 13)

Several authors (Coombs, 1970; Blaug, 1967; Harbison, 1973; Parnes, 1962) have indicated also that implied in this approach is the major assumption that if all individuals in a society are "educated' then the bases for an egalitarian society have been established. This idea is supported by Emmerij's (1970) statement that nearly all western societies believe in upward social mobility through education. Thus education is assumed to be an element in the process of social change. This is a modern concept, however, and indeed, a departure from the traditional stance.

Faure et al. (1972) affirmed the idea that education is assumed to be a means to upward mobility. They indicated that in developing countries in particular, education was seen as a key to opening "doors," gaining privileges, and social mobility.

> These considerations of prestige and form sometimes strongly influence the orientation given to educational systems and the resources allocated to the different disciplines. Thus the growth in demand for education while remaining fundamentally determined by the needs of economic development follows a sociological mechanism with a logic of its own. (pp. 31-32)

A number of authors have alluded to the assumptions when they refer to the weaknesses of the technique. However, other reports (Blaug, 1967; Coombs, 1970) have been more specific in detailing some of the suppositions of this technique. In the first instance Blaug (1967) argued that this particular paradigm to educational planning must be viewed as 'social demand projections.' Inherent in the term then, is the element of prediction, which in effect is built on assumptions which use the current state of the economy and society's demand as a base to determine educational needs. Firstly, the objectives of the projections are to determine in a non-compulsory educational system what the demand for education will be; and secondly, to predict the enrollment of students in an economy where it is assumed that the cost of education will remain constant.

Coombs (1970) observed that to be operational social demand projections must follow three steps:

1. collection of the best available estimate of children by age level enrolled in primary, secondary, and higher education, thus establishing participation rates;

2. collection of the best available projections of the future youth population at each age level up to a specific year, e.g., 1980; and

3. choose some participation rate targets for 1980 and certain intervening years, apply them to the population projections, then determine absolute enrollment targets.

He further stated that it is important to observe that step (3) can only be undertaken if the following three fundamental assumptions are made. In the first instance, it must be assumed that the supply of education will always be lower than the demand for education.

Secondly, the social and private cost per unit for education will not fluctuate, but will maintain some degree of constancy. Thirdly, the economic sector will be able to absorb all the 'educated,' thus fostering rapid economic growth.

Investigations (Blaug, 1967; Carlsson, 1970; Coombs, 1970; OECD, 1973; Parnes, 1962; von Weizsäcker, 1972) have shown that the assumptions are a major source of the weaknesses of the technique. For example, Parnes (1962) argued that the social demand projections approach to educational planning suffers from conceptual difficulties. According to him these are casused by lack of specificity in defining objectives or indicating differences, in order to comply with the principle of egalitarianism. That the problem is a source of major weakness is evidenced in Carlsson's (1970) remark, in OECD's Report--Educational Policies for the 1970's, about the technique in general: "One basic and dangerous fallacy behind the social demand approach is to neglect the distinction between increased educational opportunity and equalized educational opportunity" (p. 71). von Weizsäcker (1972) and Parnes (1962) both agree that the technique uses circular arguments (which seems to account for some of the vagueness which Coombs [1970] observed in the definition of the approach). Both (Parnes, 1962; von Weizsäcker, 1972) cited the calculation of "educational needs" in terms of student places as specific examples of circular arguments. Thus Parnes (1962) observed that to arrive at the calculation of education "needs" it is necessary to know the demand for places. However society's educational "needs generally direct government policy which in turn stipulates the demand for educational places" (p. 64).

Observations (Coombs, 1970; von Weizsäcker, 1972) indicated that with this technique the demand for places can exceed supply particularly when classroom space is the major constraint. von Weizsäcker (1972) further stated that if the demand for places exceed supply then the student who was fortunate enough to secure a place will in all probability be obliged to follow a prescribed and structured programme, which he would not have chosen if he had a choice.

Blaug (1967) reported that extrapolation was a principal component of the social demand projections. However, according to OECD's (1973) Long-Range Policy Planning in Education there are various arguments against the practice of extrapolating educational demands into the future because of the marginal productivity of education; that is, "the value of additional education diminishes as the level of education rises" (p. 12).

Reports (Blaug, 1967; Coombs, 1970; von Weizsäcker, 1972) have also indicated that the mechanism of supply and demand is not given full consideration by the technique. For example, on the supply side the educational institution because of limited physical capacities and lack of human and financial resources must pressure the students to complete their courses in the minimum time possible, in order that their "places" will become available for other students. Thus the educational planner using this technique of planning will know the approximate number of students who are graduating from a specific area of studies at a particular point in time. However, he will have no

knowledge of whether they can be absorbed into the labour market without some change in the present salary structure.

Parnes (1962) in Forecasting Educational Needs for Economic and Social Development also indicated three major weaknesses of the approach:

> 1. it does not indicate the basis for determining what the minimum school leaving age should be;
>
> 2. the number of youngsters who will "choose" to continue their education is obviously not independent of the cost of (inducements to) doing so; [and]
>
> 3. at the higher levels of education (higher secondary and university) there is also the difficult problem of deciding on the balance between quality and quantity. (p. 64)

Coombs (1970) argued that in the first instance this approach to educational planning does not take into account the allocation of resources to the other sectors of society. This concept is based on the assumption that financial resources when utilized for educational investments have been put to optimum use in terms of societal development. Secondly, this technique tends to overestimate popular demand for education and simultaneously underestimate the cost. The consequences are lack of in-depth educational offerings and reducing quality for quantity.

Social demand projections are shaped by assumptions and other factors which are internal and external to the educational system. For example, according to Faure et al. (1972) there is generally speaking always a social demand for education--a striving to move from one level of education to the other. Two sources which generally influence this striving/demand for education are the educational

background and motivation of parents who desire to see their children progress ahead of their attainments. Education then becomes an element or catalyst in the process of change. Emmerij (1970) proposed another source of influence in terms of social demand for education when he noted that "educational opportunities through government intervention should be a principal instrument for the transformation and progressive modernization of societies" (p. 62).

In addition to these factors, others which also influence the social demand for education have been enumerated in reports from OECD (1970) Educational Policies for the 1970's; and OECD (1973) Long-Range Planning in Education. The reports showed in the first instance that increased demand for education within a society is directly related to increased requirements of the economic sector of society. Secondly, structural changes in the lower secondary level of the school increases the demand for education at the next level; and economic prosperity and income distribution tend to influence social demand for education. For example, it has been reported in OECD, Long-Range Policy Planning in Education (1973) that "as the standard of living rises and it becomes feasible for a larger portion of the population to postpone its entry into the labour force, the social demand for education increases" (p. 282). Thirdly, demographic trends such as structure of population, localization, and social mobility, also tend to create an increasing social demand for education. Sociological trends are regarded, however, to be even more important than demographic and economic trends. Thus, "the direct implications of education for the individual's welfare also plays an important role in determining demand" (p. 37).

It was also emphasized in the reports that the educational enterprise is not autonomous as far as governmental policies are concerned. Thus, partial government subsidies influence the price of education. For example, "free education in terms of public financing of institutional costs in education implies a major subsidy of this kind" (p. 38).

Compulsory education, siting of schools, methodology, and content of educational offerings all play a role in influencing social demand projections.

Coombs (1970) agreed also that social demand projections are influenced by compulsory school attendance. In this situation, however, the demand is no longer a private voluntary demand on the part of the individual or society. He further stated that governmental policies such as the restructuring of the school leaving age have a direct positive effect upon social demand projections.

Parnes (1962) observed that this approach to educational planning is basically different from manpower forecasting in its lack of specificity and objectivity in terms of enrollment figures, teacher requirements, or costs. Nevertheless, they are complementary in the formulating of educational policy in the area of planning.

Stevens (1976) observed that the lack of specificity could be viewed as one of the positive elements of the method. The logic of his argument can be summarized this way. Society has the freedom to make its educational demands through informed choices, which in turn will influence career choices with respect to earning potential. If

this concept is valid, then "this method folds into the rate-of-return approach which bases allocative decisions on relative cost-benefit criteria" (p. 16).

von Weizsäcker (1972) suggested that for this technique of educational planning to be effective "[it must] depend on the protective mechanism provided by the elitist secondary schools and on certain traditional features of the occupational structure" (p. 396).

Parnes (1962) in Forecasting Educational Needs for Economic and Social Development argued that in general decisions based on this approach to educational planning are political in nature. However, educational planners can help policy makers to recognize the cost of such decisions, and then indicate alternative options.

Summary. The social demand projections technique also has been labelled the cultural or laissez-faire approach to educational planning. As the label suggests, educational planning in this context seeks to satisfy the preference of individuals expressed in their unconstrained choice of educational alternatives. It is always hoped that these choices are 'informed' choices. Thus, the major concept here is that educational planning of this sort leads to an egalitarian society. The rationale, then, is the satisfying of the demand of society for education in terms of how much is thought to be demanded. Thus, private demand for education is the criterion for public expenditure on education.

It is obvious from the brief description that the rationale does not follow comprehensive educational planning. However, it

has been suggested that there is some linkage between this planning approach and that of the manpower requirements approach.

The use of the social demand projections as a technique for educational planning is widespread, and educators are more at ease with this technique than are economists or statisticians. The popularity seems to stem from the fact that education, particularly at the primary level is deemed to be the right of all individuals. From a political perspective, this strategy for educational planning places the political authority in the role of provider of free schooling at all educational levels. It would seem that the justification for this type of expenditure is the belief that the benefits, i.e., rate-of-return on the educational investment, will be consistently high.

In the classroom context, social demand projections as a strategy of educational planning attempt to equate the number of physical places in an educational institution to the number of students who apply. Basically, it attempts to ensure a constant flow of students from one level of the educational system to the other. Thus, the technique relies heavily on the extrapolation of current enrollment trends. In a strict economic sense, however, extrapolation is not reliable since the marginal productivity of education decreases as the educational level increases.

Inherent in this strategy for educational planning are many assumptions. For example, it fosters the belief that upward social mobility is a function of education. Because of the large number of assumptions the underlying concept becomes too vague and lacks

specificity. As a matter-of-fact it is felt that this technique of educational planning serves to project the inadequacies of society. It is important to note also that basic to the concept is the mechanistic paradigm of the educational process.

True social demand projections strategy can only be applied to educational systems where attendance is non-compulsory. The idea is that, when social intervention influences the demand, it is no longer private and voluntary.

With respect to the weaknesses of the technique the major problem seems to be conceptual difficulties. Furthermore, this approach to educational planning neglects to observe the difference between more educational opportunity and equal educational opportunity.

In terms of the demand, cost, and employment elements of society this education planning strategy assumes that (1) the demand for education will always be higher than the supply, (2) cost both private and social will remain constant over a long period of time, (3) all the 'educated' will find employment thus aiding the economic growth of society.

Social demand projections lack objectivity in the fact that demand for education is always overestimated while the cost to society is underestimated. In this way there is generally a sacrificing of quality for quantity. Priority allocation of resources to other sectors of the economy is not one of the prime considerations of this planning strategy, since inherent in this technique of planning is the notion that investments in education are generally put to optimum use.

Indeed, social demand projections are influenced by social demand for education. This being the case it is important to be aware of the factors which cause this situation. The following socioeconomic-cultural factors seem to be operative here: (1) parental educational background, (2) increased technological requirements of the economic sector, (3) drastic structural changes in the lower level of the educational system will cause an increase in demand on the other level, (4) economic prosperity and income distribution, (5) demographic structure of the population, (6) sociological trends (and these are even more important than the demographic and economic trends), (7) compulsory education, siting of schools, methodology, and content of educational offerings, and (8) restructuring of the school leaving age--this factor is directly related to social demand projections.

All of these factors have varying degrees of impact upon society and the educational system. Nevertheless, they help in the formulation of an educational policy, but generally policy decisions of this nature are politically oriented.

## Systems Analysis

Reports (Ackoff, 1974; Bertalanffy, 1968; Buckley, 1967; Cassel, 1969; Hartley, 1968; Mann, 1975) have indicated that the General Systems Theory has as its key concept the notion of 'wholeness.' Thus, Bertalanffy (1968) indicated that "a General Systems Theory . . . is a general science of 'wholeness' which up till now was considered a vague, hazy, and semi-metaphysical concept" (p. 37).

Buckley (1967) arguing much along the same vein pointed out that the main component in this theory is organisation. That is, the fusion of organism and mechanism concepts thus resulting in cybernetics and a general systems theory. "Modern systems approach" stated Buckley (1967) "aims to replace the older, analytic atomic Laplacian technique with a more holistic orientation to the problem of complex organizations" (p. 38). In short, the approach attempts to examine the whole interrelated system instead of its separate parts. Thus, the system is treated within the context of a flexible structure in relation to process and probabilities.

Hartley's (1968) view concurred:

> a system analysis provides a framework for a basic conceptual organization and reclassification of the differentiated parts of a system. . . . As a doctrine of "wholeness" it makes use of the concept of a system in search for common properties among diverse kinds of complex systems. (p. 26)

Cassel (1969) argued that systems analysis refers to the entire examination of the entire operational process of an organism. Generally a system is made up of a number of parts which (a) are interrelated, and (b) form an identifiable whole. "It is a concept based on order and with interdependence among phenomena. A vital and important aspect of the concept deals with goals and objectives" (p. 18). Stated another way, the goals and objectives of this technique must always be in focus. Bertalanffy (1975) showed that the general systems theory portrays particular aspects of reality, hence it is a way of viewing some factors which were ignored before. Thus, in this mode, it is an orderly arrangement of general truth drawn from experience.

Ackoff (1974) pointed out that the systems era began around the 1940s replacing reductionism with a doctrine of expansionism and teleology, resulting in a synthetic or systems mode of thought. The doctrine of 'expansionism' focuses "attention from ultimate elements to 'wholes' with interrelated parts" (p. 3). He further stated that systems theory is built on the concept of a number of elements of any kind--two being basic. For example, concepts, ideas, objects and people are components of their respective systems. Thus a system is not a final indivisible element or component; rather it is 'holistic' and is divisible into parts. As a consequence the components of a system and the system of components must interact with respect to the total behavior of the system.

> That is, each has an effect and none has an independent effect on the 'whole.' Therefore the elements cannot be organized into independent subgroups. [Thus] a system cannot be divided into independent subsystems. (p. 3)

It should be noted, however, that with respect to <u>structure</u> a system can be divided into component parts. Nevertheless, from a <u>functional</u> point of view it is an indivisible 'whole,' because essential properties will be lost when it is taken apart.

Mann (1975) advanced the notion that in terms of the general systems theory, a school can be recognized as a system since it has the following six elements which all systems have: (1) sets of interrelated objects, (2) an environment, (3) inputs, (4) process, (5) output/outcome, and (6) feedback. He further stated that component subsystems are generally utilized to regulate the responses of open

systems to the demands of the environment. In the general systems theory this process is called progressive segregation.

Analysts (Bertalanffy, 1972; Buckley, 1967; Mann, 1975) advanced the concept of equifinality as a principle of the general systems theory. Buckley (1967) further indicated that within the general systems theory there inheres also the concept of multifinality. According to Mann (1975) the concepts of equifinality and multifinality are fundamental to systems approach research, and the underlying principle of these concepts may be stated accordingly:

> Different initial conditions lead to similar end effects, or similar initial conditions lead to different end effects. . . . In addition, [the principle] recognizes the important problems of primacy of some parts over others; and the degree of connectedness of some parts of the system to others are made subject to analysis. (p. 78)

In a philosophical mode Bertalanffy (1968) observed that the key element of the general systems theory is its integrative function.

> [Thus] speaking in what has been called the "formal" mode, i.e., looking at the conceptual constructs of science, this means structural uniformities of the schemes we are applying. Speaking in "material" language it means that the world, i.e., total observable events, show structured uniformities manifesting themselves by isomorphic traces of order in different levels or realms. (pp. 48-49)

Goals of systems theory. Literature (Bertalanffy, 1975; Buckley, 1967; Cassel, 1969; Faure et al., 1972; Hartley, 1968; Hayman, 1974; Kaufman, 1968) has defined the goals of the systems theory in various ways. However, the basic concepts and interpretations are the same. Highlighting of a few of them here will help to underscore the point

the investigators are attempting to make. Thus, Bertalanffy (1975) in Perspectives on General Systems Theory suggested that

> the goal of a general systems theory is clearly circumscribed. It aims at a general 'wholeness' of the entire systems in which many variables interact and in which their organization produces strong interactions. It does not deal with isolated processes, with relations between two or a few variables or with linear caused relations. (p. 122)

Buckley (1967) observed also that systems theory attempts to examine the 'whole' interrelated system instead of its separate parts. Thus the system is treated within the context of a flexible structure in relation to processes and probabilities.

Hartley (1968) indicated that the technique of systems analysis provides a structure that enhances a common strategy, thus encouraging interdisciplinary dialogues, and in effect minimizes fractionalization. In short, according to the author "[systems analysis] furnishes the general philosophical basis for the educational planning techniques of program budgeting" (p. 5).

Faure et al. (1972) in Learning to Be: The World of Education Today and Tomorrow, observed that systems analysis attempts to determine an optimal structure for any organisation which is in 'mobile equilibrium' resulting from successive forced corrections made by the environment. It must be understood that adverse critics do not believe that the technique can accomplish those objectives. However, that there is a possibility to achieve those goals is highlighted in the following excerpt.

> It is precisely a characteristic of systems analysis to integrate uncertainty into daily action . . . systems analysis would appear to be an intellectual instrument which may be applied to an overall critical study of existing educational systems and is likely to suggest new scientifically calculated pedagogic patterns. (p. 128)

Kaufman (1968) commenting on the goals of the systems theory indicated that the technique enables a continuous identification of the elements which are feasible for the solution of the problem. The information provided is pertinent insofar as it indicates what must be undertaken, thus providing a data base of suitable alternatives to be utilized in system synthesis where specific determinations are made. "[Therefore] the use of systems approach virtually eliminates the possibility of solutions being introduced before the problem has been identified" (p. 421).

Concepts of cybernetics/feedback. In the systems analysis approach there is a built-in element called cybernetics/feedback, and analysts (Bertalanffy, 1968, 1975; Blendinger, 1969; Buckley, 1967; Hartley, 1968) indicated that cybernetics is related to the general systems theory. Bertalanffy (1975) observed, however, that basic to the cybernetics paradigm is the regulatory circuit. Indeed, it is a special case of a general system. This being the case, cybernetics should not be equated with the general systems theory.

> Cybernetics is a theory of control systems based on communication (transfer of information) between system and environment and with the system and control feedback of the system's function in regard to the environment. (p. 21)

Buckley (1967) in Sociology and Modern Systems Theory argued that with respect to feedback and purposive systems, characteristically, they are negentropic information processing and exhibit different behavior from physical systems. The fundamental element in an open system is the concept of feedback or cybernetics which according to Buckley (1967) has been vulgarized to "mean any reciprocal interaction between variables" (p. 53).

With respect to what constitutes a system, Bertalanffy (1975) had this to say:

> [A] system is a model of general nature that is a conceptual analog of certain rather universal traits of observed entities. . . . A system may be defined as a set of elements standing in interaction among themselves and with the environment. (p. 159)

Buckley (1967), Bertalanffy (1975), and other proponents of the systems theory hold the same concept that in an open system there are interchanges between the system and the environment. These interchanges are important with respect to the viability, continuity, and capability of change. Hence typically open systems respond to environmental pressures by the transformation of their structure to a more complex level, because as Buckley (1967) stated:

> Environmental interchange is not or does not long remain random or unstructured but rather becomes selective due to the mapping or coding of information processing capabilities (i.e., adaptiveness) inherent in this type of system. (p. 50)

Hartley (1968) supported the point made by Buckley (1967) with respect to cybernetics of open systems, and furthermore, he tied the concept to a particular system--the schools. Thus he stated school systems

are characterized by a complexity of organisational structure in terms of subsystems, environment, outputs and feedback. The flow between the systems is characterized as interaction.

According to Buckley (1967) interaction generates information. However, he argued there is no need for the component to convey detailed information. Indeed, it is sufficient for them to carry a set of rules which will generate the information. This concept is applicable to all sociocultural systems; for example, educational planning.

In analysing this statement it becomes apparent that information flow is of vital importance to goal-seeking systems. Stated another way, the concept of cybernetics is the key element in any open system. Hartley (1968) supported this statement in the following excerpt: "As a science of communications and control, cybernetics relates information theory to goal-seeking systems. For example, to information systems by means of such processes as coding, storage, transportation and feedback" (p. 35).

There are three essential elements in the theory of cybernetics, viz., (1) detector, (2) selector, and (3) effector. With respect to the function of these three elements, Hartley (1968) further stated the detector aspect is concerned with gathering information about the environment, the selector aspect indicates the goals and objectives of the system, and the effector initiates the alternative action which is to be selected.

Buckley (1967) also dealt with other key elements of cybernetics when he stated that the theory of cybernetics embraces the following features, viz.,

> 1. [elements which are] dependent on certain internal parameters or criterion variables remaining within certain limits;
>
> 2. a selective sensitivity or mapped relationship to environmental things or events of relevance to these criterion variables; [and]
>
> 3. [a] sensory apparatus [which] is able to distinguish any deviation of the system's internal state and/or overt behavior from goal-states defined in terms of criterion variables. Such that, feedback of this "mismatch" in information into the system's behavior directing centers reduces (in the area of negative feedback or increases in the case of positive feedback) the deviation of the system from its goal-states or criterion limits. (p. 53)

Blendinger (1969) also indicated that the concept of cybernetics is of great importance to systems analysis and is manifested in these four important functions of systems analysis: (1) analysis of needs, (2) expressing identified needs as goals, (3) identification of constraints, and (4) evaluation for feedback to begin the cycle again. Moreover, he suggested 'needs' may be viewed as the recognition of the incongruencies between current and "anticipated" state of a system. "Goals" are statements of how the system will organise itself to reduce or eliminate the identified discrepancies. Constraints are the limiting factors in a system, and these may be political, social, or economic. Evaluation is an important element of systems analysis in that among other things it aids in analysing costs, not only in terms of the initial year of the programme or project but also for the life of the programme/project.

With regard to the essential features of cybernetics/feedback of a system, Blendinger (1969); Buckley (1967); Hartley (1968); and Kaufman (1968) were in common agreement. In short, they are all agreed that "feedback" to the system helps to determine which alternative action should be tried by the administrators of the organisation. Thus, Blendinger (1969) remarked that systems approach should be viewed as "a self-correcting strategy which demands that the problem be identified and specified prior to applying self-correcting measures" (p. 54). This statement is in entire agreement with one made by Kaufman (1968). Hence it would seem to appear that this concept is vital to the systems approach technique.

Eide (1971), in "Politics of Long-Range Planning," in Educational Planning in Perspective, edited by Green, made an important observation regarding 'systems' in general which could have implications for the feedback theory in particular. It is his contention that the human elements, of which open systems are composed, are not given enough consideration in terms of individuality and also with respect to the larger system--society. Stated another way, if individual differences are not given enough consideration the strain and tension of the system will increase. Buckley (1967), however, pointed out that tension is characteristic of any system, and expresses itself in terms of (1) strivings, (2) frustrations, (3) aggressions, and (4) neurotic or normative deviation, crowd or quasi-group processes, etc. Tension is the key element here (thus preventing inertia from setting in) and can be constructive or destructive. He further suggested that in

controlled systems, feedback is goal-directed and not only goal-oriented. This is so because it is the digressions from the goal-state itself which guides the system's behavior instead of an internal mechanism which is somehow predestined and thus guiding blindly. Thus it can be stated,

> the [Feedback Theory] does not push "friction" into the background but can deal specifically with the "lag" and "gain" between impinging events. Large "lags" can be conceptualized as a swing away from common goals so far before feedback correction occurs. . . . A full appreciation of the role and nature of feedback permits a relatively objective attack on the problem of assessment and correction of the lag in the system. (p. 56)

The function of feedback/cybernetics is to provide information. Martorana (1974) had this to say regarding information--"not only is information power but those who control information have power to control" (p. 11). Furthermore with respect to the function of information he quoted Havelock as "[advancing] the proposition that information is best provided to help people do a job [and] to know how well they are doing it" (p. 11).

Benson (1966) observed also that information provided from feedback is important. As a matter-of-fact he pointed out that the quality of the information which responsible authorities are given, will to a large extent determine the effectiveness of the activity, e.g., planning.

Essential features of systems analysis. McGivney (1969) observed that systems analysis approach to planning is believed by many people to be of great assistance in the allocation decisions of government

with respect to resources. Basic to the concept of systems analysis is the improvement of the decision-making process by applying control in a scientific mould. Indeed, McGivney quoting an educational economist and researcher stated:

> Midway through the decade of the 1960's a revolutionary approach to administrative planning was accorded recognition by a presidential pronouncement, introducing program budgeting into every federal structure. (p. 31)

McGivney (1969) also stated that fundamentally systems approach is concerned with elements such as (1) quantifiable objectives and alternatives, (2) their costs and benefits, and (3) an adequate time period for analysis. In essence these elements within an organisation provide the machinery for self-regulation, which according to Mann (1975) is cybernetics in action.

According to Hartley (1968) the models for systems procedure are derived from economics and this is a science of values concerned with rational choices which perforce, man makes in the utilization of scarce resources in order to satisfy identifiable needs. Thus,

> Program budgeting is an economic tool which provides a somewhat scientific basis for determining priorities but the budgetary process itself in local schools continues to be a political process. (p. 16)

Studies (Balogun, 1972; Blendinger, 1969; Thomas, 1974) have shown that these authors are in agreement on the essential elements of systems approach concept. All three have stressed the interrelatedness of subsets or parts, and have observed also that they are used to arrive at specific goals. Blendinger (1969) further argued that because of changing circumstances of the times, understanding the concept of

systems approach is important in order to comprehend the phenomenon of change. Thus he pointed out that systems approach

> is a way of seeing one's environment. It is an attitude of mind. The concerns of the systems approach are with interrelated parts and with how these parts together accomplish the purpose for which the system exists. The techniques of analysis and design are central to a systems approach. (p. 56)

The technique of the approach can be stated as comprising three elements: (1) analysis, (2) design, and (3) documentation. The last of the three elements--documentation is particularly important when an organisation is concerned with decisions based on experience "since any course of action needs to be supported by written statements on what is used as data, what is assumed, and what logical sequence is followed in the reasoning" (p. 57).

Inherent in this last statement is the idea that systems analysis is self-regulatory. Buckley (1967) and Hartley (1968) referred to this element of the technique. Indeed, systems analysis is self-regulating because it utilizes information regarding its influence on the environment as new inputs for the next transformation cycle.

According to Mann (1975) these new demand inputs can be regarded as environmental pressures, and reaction to these inputs can be placed into two categories in systems analysis. These categories are the (1) regulating and (2) equilibrating components of the system. In category "1" the demands are regulated directly, in order that those which are received by the system do not overburden it. In the case of category "2" the system must produce outputs which are equal to the

demand inputs. Easton (1965) in Systems Analysis of Political Life observed that "inputs [can be regarded] as summary variables that concentrate and mirror everything in the environment that is relevant to stress/[friction]" (p. 26).

Mann (1975) observed also that essential to system analysis is the maintenance of the system. Thus he suggested that

> systems maintenance is the business of regulating the flow of demands and then that of satisfying those demands that cannot be regulated by provoking or eliciting the support necessary to balance them. (p. 65)

Sabine (1973) suggested that with respect to systems analysis in organisations, the key element is the indicating of rational choice at the management level. This is specifically in terms of resource allocation among options in order that desired outcomes will be achieved. Further she argued that systems analysis examines the current position and the intended or anticipated outcomes in terms of the cost and benefits involved.

Hartley (1968) indicated that

> The concept [essential feature] of a systems analysis may be defined as an orderly way of identifying and ordering the differentiated components, relationships, processes, and other properties of anything that may be conceived as a unified whole. (p. 28)

Further, he stated, in terms of application conceptually, systems analysis is an analytical tool. It enhances the comprehending of the essential features of the behavioral science, or other areas from which educational concepts are derived. With respect to systems analysis as a planning tool it aids in organising human thinking into

a rational framework. This concept is important since thoughts also can be organised irrationally.

Cassel (1969) in concurring with Hartley's statement, pointed out also that systems analysis must be seen as a scientific approach to decision making. This approach to decision making/planning is applicable in schools and colleges. In the systems analysis approach to planning the human knowledge is considered as the greatest source of power.

Solo (1974) in The Political Authority and the Market System pointed out that systems analysis can be termed technologies of choice. He also observed that the systems approach is not meant to generate policy or indicate priorities. Nevertheless, it is most appropriate where there are competing demands for resources within an organisation.

Ackoff (1974) argued that systems analysis approach to planning is the outgrowth of a synthetic mode of thought. Moreover the interlocking and the working of the parts is critical with respect to the system's performance. The independent performance of each component is not critical. In short, interaction between components is the key, not action from each component. Performance of the system is also dependent on interrelationship with the larger environment of which it is a part.

Reports (Ackoff, 1974; Blendinger, 1969; Hartley, 1969; Pfeiffer, 1965; Sabine, 1973) have indicated that systems analysis may be viewed as a way of thinking, thus providing a framework in which the collective decisions of experts transcends individual judgment. In short,

according to Hartley (1969), "it enables persons to achieve solutions and raise probing questions in a universal language, i.e., systems analysis" (p. 515). It must also be observed that a number of planning procedures and allocative strategies are intertwined in systems analysis approach. In connection with this feature of systems analysis technique Pfeiffer had this to say,

> The systems approach can be regarded as a disciplined way of using specialists in a variety of fields to analyse as precisely as possible sets of activities whose interrelationships are very complicated and formulating comprehensive and flexible plans on the basis of analysis. The frame of reference is unequivocally the real world. . . . Indeed, the systems approach concerns itself above all with the nature of decision making. (p. 2)

Sanyal (1972) indicated that systems approach planning is the generic name for a number of techniques which attempt to critically examine the "informational network," with respect to decisions which are taken at various levels of the organisation. Further, he stated:

> The feedback from information flows to decisions, the need for analysing the decision-making process for a large and complex organization into simpler structures and the specifications of changes in or modifications of goals and subgoals of the organization are some of the essential ingredients of a systems planning approach. (p. 224)

With respect to the essential features of systems analysis the literature suggests that there are many. Nevertheless, there is a general agreement on the relevant essential features of this approach to planning. More specifically, Cassel (1969) indicated that Hartley in 1969 reported that there are many versions regarding the concepts of systems analysis. In some respects these concepts differ from each other in minor details only. Hence there are sufficient commonalities

in the basic principles of the technique and they can be found in the following variables: (1) objectives, (2) evaluation, (3) constraints, (4) alternatives, (5) usual hazards, (6) likely consequences, (7) operational plans, (8) synthesizing of subsystems, (9) simulation, (10) decision, (11) evaluation, and (12) adaptation. It is important to note that in this taxonomy of variables there are two variables which are classified as "evaluation." The first "evaluation" in this classification of variables is concerned with "preplanned identification and clear description of measures for success and of acceptable means for determining goal progress" (p. 19). The second "evaluation" is concerned with "evaluation and assessment of the effectiveness of choice made in terms of preplanned goals established and the progress being made towards them" (p. 19).

Cassel (1969) further pointed out that it is important to remember that systems analysis is a means and not an end in itself.

Kaufman (1969) in his study "A System Approach to Education: Derivation and Definition" reported some of the same observations. The following analysts (Benson, 1966; Blendinger, 1969; Buckley, 1967; Cassel, 1969; Easton, 1965; Hartley, 1968; Mann, 1975; McGivney, 1969; Sabine, 1973) also mentioned these essential elements of systems approach.

In more specific terms, various authors (Blendinger, 1969; Kaufman, 1968) have indicated that systems analysis approach to planning is a problem solving one. They have also demonstrated what specific steps must be taken in order to apply systems approach technique to the educational planning process.

Kaufman (1968) has further shown that the educational planning process aims at meeting the needs of (1) society, (2) the learners, and (3) educators with respect to responding to the demands placed by these groups on the educational system.

Both Blendinger (1969) and Kaufman (1968) have defined key concepts such as (1) needs, (2) problems, and (3) constraints, which are germaine to the technique. Further, Kaufman (1968) went on to observe that needs assessment, mission analysis, functional and task analysis, methods and means analysis, and management plan are all fundamental in systems approach technique.

The operational process is further categorized as system analysis and system synthesis. The following diagrams (Figures 4, 5, and 6), adapted from Kaufman in "A System Approach to Education: Derivation and Definition" in Audio Visual Communication Review 16 (Winter 1968): 417-418; 420, will further illustrate the systems approach technique which he advocated.

Problems, limitations, and benefits of systems analysis. Systems approach to educational planning has had a number of proponents and also adverse critics. For example, McGivney (1969) asserted that there are conceptual and practical problems associated with implementing systems approach, particularly when there is much diversity of the polity. Furthermore, he indicated political systems enact laws with multiple objectives which sometimes are in conflict; and relative priorities are not generally ranked.

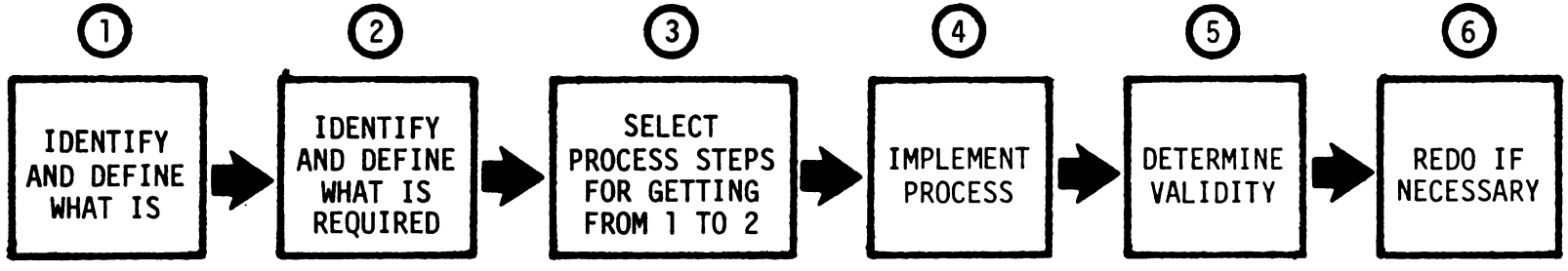


Figure 4. Solving of a problem [modified version of problem-solving technique].

Source: Adapted from Roger A. Kaufman, "A Systems Approach to Education: Derivation and Definition," A. V. Communication Review 16 (Winter 1968): 417.

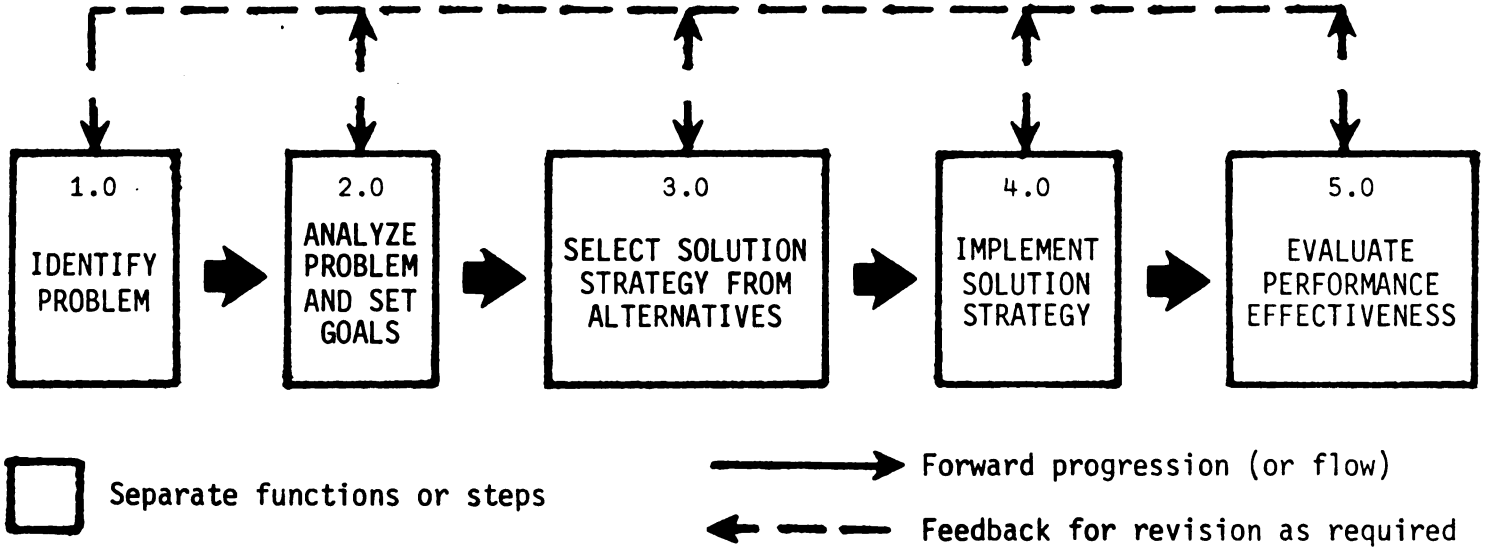


Figure 5. A diagrammatic representation of a problem-solving process. Note that this is a six-step process--1.0 through 5.0 plus the sixth step of "re-do" noted by the broken line requiring revision as necessary.

Source: Adapted from Roger A. Kaufman, "A System Approach to Education: Derivation and Definition," A. V. Communication Review 16 (Winter 1968): 418.

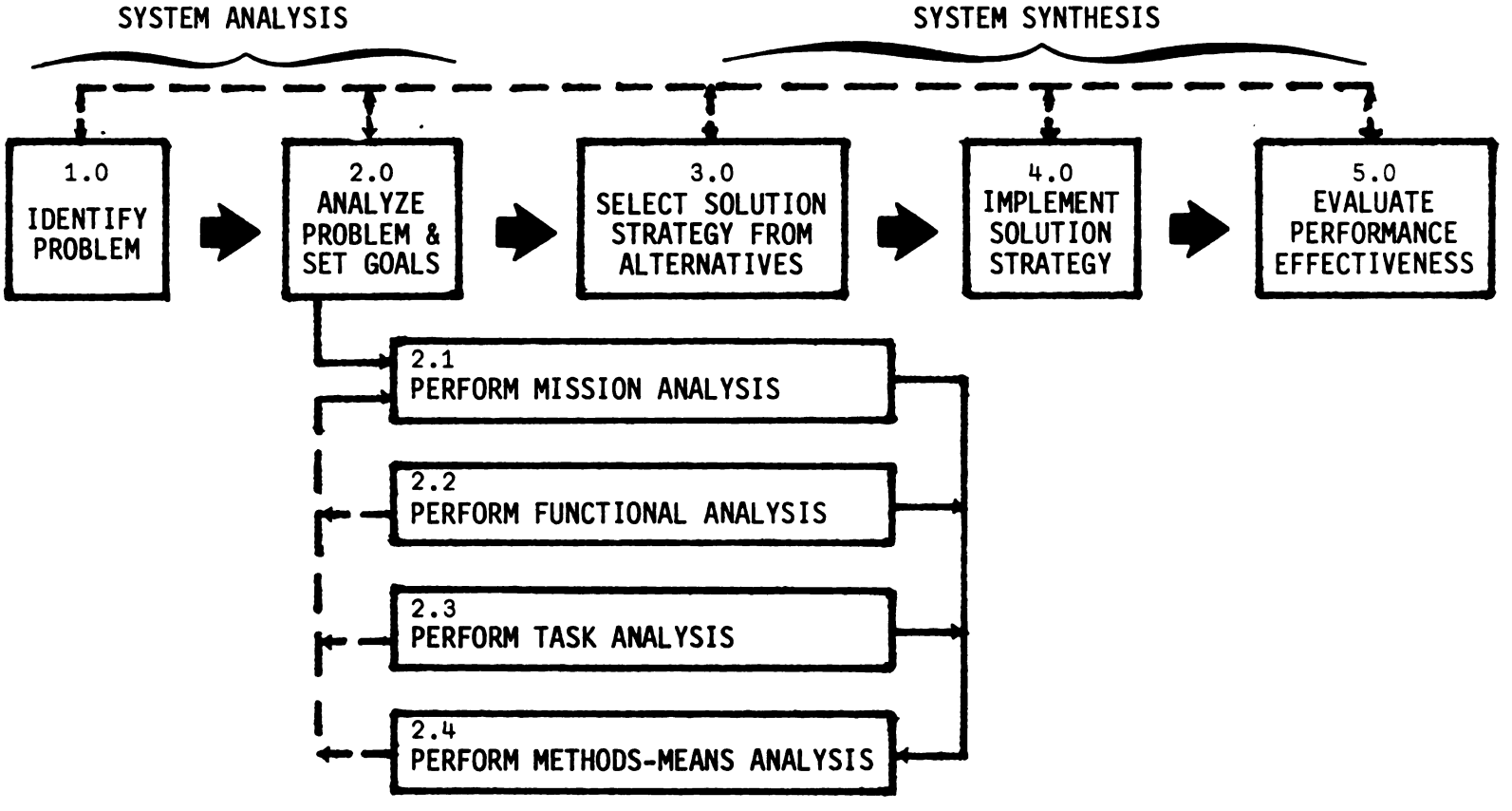


Figure 6. Systems analysis and synthesis are involved in a system approach to education. System analysis consists of mission analysis, functional analysis, task analysis and methods-means analysis. It should be noted that in conducting the system analysis, the analyst may perform the mission, functional and task analysis in order, or may elect to perform a methods-means analysis at each level to determine feasibility before proceeding to levels of the system analysis.

Source: Adapted from Roger A. Kaufman, "A System Approach to Education: Derivation and Definition," A. V. Communication Review 16 (Winter 1968): 420.

Hartley (1969) in "Limitations of Systems Analysis," Phi Delta Kappan, indicated that there are about twenty-five factors which may limit the effectiveness of systems analysis. Among the twenty-five cited are the following: political barriers, goals distortion, centralizing bias, doomed to success, shortage of trained personnel, and resistance to planned change.

Thomas (1974) also indicated some constraints which may limit the effectiveness of systems analysis. Political conditions may retard an organisation's ability to initiate this management technique to planning.

As a matter-of-fact, Thomas citing Burkhead pointed out that "[budgeting] is and must remain a political process" (p. 2). Further, he observed, "political competition among sub-groups for scarce resources of a school system is inevitable" (p. 3).

Thomas (1974) also showed that technical limitations, regarding knowledge of the relationship between inputs which have been selected to achieve anticipated results can be seen as a constraint. Traditional practices regarding allocation of resources seem to be less expensive than using the systems analysis procedure to allocate the resources. This being the case there may be some resistance to use systems procedure. Indeed, Hartley (1968) and Sabine (1973) indicated that this approach to educational planning does not reduce total cost of programmes. However it is a more efficient and rational way to allocate scarce resources.

McGivney (1969) also observed that this method (i.e., systems analysis) to educational planning is burdened by these factors: time, the problem of discounting (i.e., finding a suitable criterion for calculating rate-of-return), the difference between risk and uncertainty, and externalities in terms of education benefits. Moreover, the approach is built upon a number of assumptions regarding "the nature of the policy process that are difficult to support on theoretical or empirical grounds" (p. 34).

Furthermore, he asserted, "the methodology associated with the new rationality has been shown to be less than completely objective with regard to showing a decision-maker expected accomplishments of alternative programs" (p. 34).

Thomas (1974) further noted that another factor which limits the effectiveness of systems analysis is the amount of resources which are pertinent for achieving selected objectives. He also observed that the cost of planning properly, i.e., using "decisions based on systematically collected data are more expensive than ad hoc decisions" (p. 2). Evaluation process in this approach is also a costly undertaking. Resistance from humanist groups who believe the technique to be dehumanizing also limits the effectiveness of the approach.

On the other hand, Balogun (1972) and Sabine (1973) indicated that this technique allows for the decision-making process to be considered as a part of the entire planning system, thus, allowing for a certain amount of flexibility, allowing interaction between subsystems and

therefore pertinent feedback for input demands. According to Sabine (1973),

> The entire management decision process will be facilitated through instituting a system with discipline and improved information. . . . Management will make more effective decisions because of the availability of concrete and relevant specific data. (p. 26)

McGivney (1969) indicated that one major benefit which the systems approach has brought to organisations is that it aids in the identification of problems.

Furthermore, it provides a way for administration and their staff to think through problems and find alternative solutions with respect to the allocation of scarce resources.

Thomas (1974) observed that

> the key to successful planning lies in choosing from among alternative methods for reaching a given set of objectives. This systems approach to decision making also implies using resources in an optimal fashion. (p. 2)

Hartley (1968) further pointed out, however, that the key factor in making the system analysis a success is the user.

Summary. In order to appreciate systems analysis it is important to take a brief look at the general systems theory. It is important to recognize that the concept of systems is not new. However, the current preoccupation with the technique as a tool for planning is a result of the emphasis it was given in the 1960s. Thus with the introduction of the doctrine of expansionism, i.e., systems theory, the doctrine of reductionism was replaced. "The general systems theory [itself] is a general science of 'wholeness' which up 'til now was considered a vague,

hazy, and semi-metaphysical concept" (Bertalanffy, 1968, p. 37). The chief component of this theory is organisation, holistic orientation--order. Its main purpose is an attempt to examine interrelated systems instead of separate parts. This being the case, the system is treated as a flexible structure in relation to processes and probabilities. In short, the concept of systems aims at wholeness and as a result it does not work in cases of isolated processes.

On the other hand, a system is not final and indivisible. Indeed, with respect to structure, a system is divisible, however functionally it is an indivisible whole; because in this instance division will lead to the loss of essential properties.

Conceptually a system is a set of interrelated elements, interacting among themselves and with the environment. These components are viz., (1) sets of interrelated elements, (2) an environment, (3) inputs, (4) process, (5) output/outcome, and (6) feedback. Purposive systems are negentrophic information processing. Open systems also have these characteristics--equifinality and multifinality. That is, conditions which are not the same initially can lead to the same final results; or conditions which are the same at the beginning can lead to different final results. Another important characteristic of an open system is its regulatory function, i.e., the regulation of responses to the demands of the environment. This mechanism is called progressive segregation of environmental inputs.

General systems theory bears a particular relationship to the theory of cybernetics. The concepts are different however, and

therefore are not interchangeable. Thus the general systems theory should not be equated with the theory of cybernetics which is a special case of a general system. In short, cybernetics as a paradigm is a regulatory circuit and is based on (1) communication, (2) transfer of information, and (3) control feedback, plus the elements named detector, selector, and effector. The appreciation of all these functions is important but moreso the role of feedback which allows for an objective attack on a problem in terms of assessment and correlation. In the regulatory mould the interchanges among the interrelated parts ensure mobility, continuity, and capability of change of the system. When open systems respond to environmental pressures, they utilize information regarding the impact on the environment as the new inputs in terms of change for the next cycle. In this sense open systems are self-regulatory. It is worthy to note that when environmental pressures and reactions are received by open systems (operationally), they are placed in two categories in the system, i.e., regulatory and equilibratory. In the regulatory category, the process (in order to unburden the system) ensures that undue amounts of demands are not received by the system. On the other hand, the equilibratory category attempts to produce outputs which are equal to demand inputs. This being the case, it is important for system maintenance to have the flow of inputs/outputs duly regulated.

This flow is interaction which generates information which needs not be detailed. Indeed, a set of rules can generate the necessary information. This concept is applicable to all sociocultural systems,

i.e., educational planning. Information flow is vital to all goal seeking systems, but it is dependent on the interrelationship with the larger environment--the society.

Systems analysis, per se, is concerned with (1) analysis of needs, (2) expressing identified needs as goals, (3) identification of constraints, and (4) evaluation for feedback/cybernetics. Thus in this operational order a solution cannot be prescribed for a problem before identification of the problem has been undertaken. In the first instance, general systems analysis provides a structure for a common strategy for interdisciplinary dialogue. Secondly, it enhances the framework for a general, scientific and philosophic basis for educational planning. Thirdly, systems analysis attempts to show how an organisation can be structurally constructed in a most optimum fashion. Fourthly, identification of elements which are essential for the solution of a problem. In short, it is a problem-solving technique which points to alternative actions which can be undertaken in policy formulation.

Tension is an essential component of an open system. This element is particularly useful because for a system to accomplish its mission, inertia must be absent. In other words, digressions from the goal-state guides the system's behaviour.

Educational planning and systems analysis are important to society. Indeed, educational planning processes aim at meeting (1) the needs of society, (2) learners, and (3) educators. These demands can be satisfied by following the systems analysis strategy. Operationally, system

approach to education is a combination of two processes: (1) system analysis per se and (2) system synthesis.

As in the case of the other approaches to educational planning, system analysis as an approach also has its adverse critics and proponents. Many critics claim that in the strategy inheres too many conceptual and practical problems. Some also point out that the technique is dehumanizing. Apart from these criticisms of the approach, there are certain barriers/factors which sometimes prevent implementation of the paradigm. Among the more important ones are viz., (1) political constraints, (2) goals distortions, (3) centralizing bias, (4) doomed to success syndrome, (5) shortage of trained personnel, (6) resistance to planned changes (e.g., clinging to traditional policies regarding resource allocation), (7) limited knowledge with respect to inputs and anticipated outputs, (8) cost to gather data the appropriate way, (9) scarcity of essential resources, and (10) the numerous assumptions inherent in the model.

In spite of all these shortcomings, the systems approach to educational planning is an invaluable tool to resource allocation decisions. It also aids in the improvement of the decision-making process by the application of a scientific mode of control. The strategy is concerned with quantifiable objectives, costs, and benefits and an adequate period of time for analysis. Indeed, systems analysis as a technique in educational planning provides the key elements for indicating rational choice--by examining current position and anticipated results. As an analytical tool the

systems approach aids in organising human thoughts rationally. Systems analysis as a technology of choice is not necessarily meant to generate policy or indicate priorities. However, it is most appropriate where there are competing demands for resources.

## Summary

The description and discussion of the characteristics, elements of the planning process, and the four approaches (manpower forecasting, rate-of-return analysis, social demand projections, and systems analysis) for educational planning show that the educational planning process can be seen as a simple or sophisticated exercise. Indeed, the paradigms for educational planning range from simple projections to highly mathematical models.

In terms of the four approaches for educational planning, a study of the concepts/principles show that these are based on sets of assumptions/propositions. Thus no precise theory exists for educational planning. Indeed, educational planning approaches must be examined and used in the knowledge of their varying strengths and weaknesses.

Concerning the users of these educational planning models, there are a number of advocates as well as critics. For example, Blaug (1967) referred to manpower forecasting, rate-of-return analysis, and social demand projections as strategies for educational planning which seem to confuse rather than help the educational planner. In fact, Blaug (1967) summarized the situation this way.

> Consider the curious predicament of an educational planner who consults the fast growing literature on the economics of education for guidance in policy making decisions. On the one hand he is told to gear the expansion of the educational system to quantitative forecasts of the demand for highly qualified manpower. On the other hand he is urged to project what is quality called "the social demand" for education, that is the private consumer's demand and to provide facilities accordingly. Finally he is furnished with calculations of rate-of-return on investment in education and advised to supply just enough schooling to equalize the yield of investment in human capital with the yield of investment in physical capital. (p. 262)

Regardless of this strong criticism, and others, educational planners recognise that educational planning paradigms do provide useful guidelines for decisions regarding the allocation of resources.

# CHAPTER III

# DESIGN AND METHODOLOGY

## Introduction

The purposes of this study were threefold. The first purpose was to describe the current procedure of educational planning with respect to (a) demographic, (b) economic, (c) social, and (d) political aspects of educational planning--in terms of resource allocation, i.e., human, physical, and financial, to the New Secondary Schools. Specifically, the assessment was concerned with the perception of educators who are involved with the planning process for these schools with respect to the factors of the stated aspects in terms of:

1. factors which were being given consideration;
2. factors which were not being given consideration; and
3. factors about which they were unresolved/undecided.

The second purpose attempted to ascertain the perception of some of these educators with regard to:

1. The communication network between the Ministry of Education and the New Secondary Schools, and also within the Ministry of Education with respect to resource allocation to the New Secondary Schools;
2. the linkage of the programmes within the New Secondary Schools; and
3. the identification of resource needs and bases/criteria used in the process of resource allocation.

The third purpose was to use the findings of this investigation along with pertinent principles of educational planning techniques as outlined in Chapter II to assist in developing a systems approach paradigm, which may serve to monitor and redirect the process of changing educational planning procedures for resource allocation for the New Secondary Schools.

The data gathering and analysing techniques which were employed in the investigation are presented in this chapter. Organisationally, the chapter has the following components: description of the sample, method for sample selection, design of the study, instrument, procedure for data collection, data analysis, and summary.

## Description of the Sample

The description of the sample focuses on data sources and personal characteristics of the population.

### Data Source

The samples were drawn from a population of educators who function as administrators and supervisors at the strategic and administrative levels of the Ministry of Education, the educational institutions of the second level, and educationalists in senior management positions in the private sector. More specifically, the primary data source for information on educational planning consisted of three sets of educators, viz., (1) members of the Ministry of Education's Planning Division, Assistant Chief Education Officers, and Senior Education Officers of

the Educational Operations Division; (2) members of the Steering Committee for the New Secondary Schools (comprised of educators from the Ministry of Education and the public at large); and (3) principals and vice-principals of the New Secondary Schools, urban and rural, respectively. It should be noted that both sets 1 and 2 are composed of Ministry of Education personnel; but according to definitions of sets with respect to stratification, individuals who were selected for set 1 cannot be placed in any other set.

The three sets of respondents represented the following groups/subsets of educators as indicated:

| Groups | Number Included in the Study |
|---|---|
| 1. Education Officers and Planners | 7 |
| 2. Senior Education Officers | 6 |
| 3. Assistant Chief Education Officers | 2 |
| 4. Steering Committee for the New Secondary Schools | 4 |
| 5. Principals and vice-principals of the New Secondary Schools (urban) | 10 |
| 6. Principals and vice-principals of the New Secondary Schools (rural) | 33 |

The selected groups represent people who can provide useful information for this investigation because of:

1. their positions in the hierarchy of the educational system and their knowledge of its organisational and administrative structure;
2. their acquaintance with the concepts, aims, and goals of the New Secondary Schools;

3. their expertise and association with educational planning and programme implementation; and
4. their differences with respect to educational background, age, experience, and areas of specialization.

Secondary sources of data for this study were documents, annual reports, newspapers, and files of the Ministry of Education.

Personal Characteristics

In order to produce useful background information about the sample, the following seven personal characteristics are presented (in Tables 3 through 9).

1. age;
2. sex;
3. teaching and advisory experience with respect to number of years;
4. experience as a programme implementation officer in terms of number of years;
5. professional qualification;
6. experience in current office in terms of number of years; and
7. specific educational journals which respondents have read.

Table 3

Age of Respondents (Groups 1-6)

| Age cohorts | Number of respondents | Percentage of respondents |
|---|---|---|
| Above 59 | 0 | -- |
| 54-59 | 10 | 16 |
| 48-53 | 12 | 19 |
| 42-47 | 13 | 21 |
| 36-41 | 13 | 21 |
| 30-35 | 12 | 19 |
| Below 30 | 2 | 4 |

Table 4

Sex of Respondents

| Sex | Number of respondents | Percentage of respondents |
|---|---|---|
| Male | 30 | 48 |
| Female | 32 | 52 |

Table 5

Respondents' Teaching and Advisory Experience

| Years of teaching and advisory experience | Number of respondents | Percentage of respondents |
|---|---|---|
| Above 31 | 0 | 0 |
| 22-31 | 22 | 36 |
| 12-21 | 17 | 27 |
| 2-11 | 23 | 37 |
| Below 2 | 0 | 0 |

Table 6

Respondents' Experience as Programme Implementation Officer[a]

| Years as programme implementation officer | Number of respondents | Percentage of respondents |
|---|---|---|
| Above 6 | 0 | 0 |
| 4-5 | 5 | 8 |
| 2-3 | 10 | 16 |
| Below 1 | 0 | 0 |
| Not applicable | 47 | 76 |

[a]Applies to only groups 1-3; viz., Ministry of Education officials.

Table 7

Professional Training and Education of Respondents

| A. Professional qualification | Number of respondents | | Percentage of respondents | |
|---|---|---|---|---|
| | With | Without | With | Without |
| Teachers certificate | 28 | 34 | 45 | 55 |
| Diploma in education | 19 | 43 | 31 | 69 |
| Other type of certification | 7 | 55 | 11 | 89 |

| B. Highest college/university degree | Number of respondents | Percentage of respondents |
|---|---|---|
| Bachelor of arts | 39 | 63 |
| Master of arts | 4 | 6 |
| Master of science | 1 | 2 |
| Doctor of philosophy | 4 | 6 |
| No college degree | 14 | 23 |

Table 8

Respondents' Experience in Current Office or Specifically Related Activities

| Years in current office or specifically related activities | Number of respondents | Percentage of respondents |
|---|---|---|
| Above 8 | 1 | 2 |
| 6-7 | 1 | 2 |
| 4-5 | 13 | 21 |
| 2-3 | 43 | 69 |
| Below 2 | 4 | 6 |

Table 9

Specific Educational Journals Which Respondents Have Read

| Education journals in specific areas | Number of respondents | | Percentage of respondents | |
|---|---|---|---|---|
| | Who have read | Who have not read | Who have read | Who have not read |
| Educational planning | 4 | 58 | 6 | 94 |
| Educational management | 30 | 32 | 48 | 50 |
| Educational administration | 2 | 60 | 3 | 97 |

## Method for Sample Selection

Prior to conducting the study, official permission was sought from the Permanent Secretary of the Ministry of Education. The letter seeking this permission described in detail the purpose and nature of the study.

After official permission was given to the researcher to conduct the study, the stratified random sampling technique was used to select the samples, thereby assuring comparison/contrast between the groups of educators and at the same time reducing probably sampling error.

This technique is described by Borg and Gall (1974), Babbie (1973), Isaac and Michael (1971), and Goode and Hatt (1952).

Campbell and Katona (1966, p. 24), in underscoring the concept, have this to say about contrasting sample design:

> The rationale of contrasting sample design is that the effects or correlates of a variable thought to be important can be most clearly seen if situations are studied which provide the greatest extremes in the presence of this independent variable.

This method of sample selection assured heterogeneity among the subsets. Hence contrasting opinions and perceptions regarding the consideration, importance, and prioritizing of factors (see Appendix A) which are related to educational planning, the mode of information flow and the communication network would be clearly indicated. The use of the stated technique also ensured that the educators were grouped into homogenous subsets which were determined by job titles (e.g., "Education officer") and specific educational planning function (e.g., "Member of steering committee") with which they were concerned at the second level of education (specifically, the New Secondary Schools).

The sample was then randomly selected from each subset. Stated another way, the number of people chosen for each subset was proportionate to the numbers of individuals in that set of the population. This is illustrated in Table 10.

In terms of the operational aspect of the sample selection, the researcher contacted the selected participants in one of two different ways, viz., via telephone and in person. In both cases they were informed about the purpose and nature of the study and their selection to be a part of it.

Table 10

Total Population, Random Sample, and Actual Number of Participants

| Groups | Total population | Total in random sample | Total of actual respondents |
|---|---|---|---|
| 1. Education officers and planners | 41 | 10 | 7 |
| 2. Senior education officers | 25[a] | 6 | 6 |
| 3. Assistant chief education officers | 9[b] | 2 | 2 |
| 4. Steering committee for New Secondary Schools | 16 | 4 | 4 |
| 5. Principals and vice-principals of New Secondary Schools (urban) | 48 | 12 | 10 |
| 6. Principals and vice-principals of New Secondary Schools (rural) | 140 | 35 | 33 |
| Total | 278 | 69 | 62 |

[a]Number includes SEO's (Senior Education Officers) of the operational division.

[b]Number includes ACEO's (Assistant Chief Education Officers) of the operational division.

Note: In this study two heads of Units--in the Educational Planning Division are categorized as ACEO's (see Figure 2, Chapter 1, p. 16).

Verbal consent was given by all the selected participants and appointment schedules were made in order to conduct the interviews and submit the questionnaires at the most convenient time during the period from 15 October to 22 November 1976.

Initially, the six groups/subsets comprised a total of 69 educators. This sample represented approximately 25% of the entire population which was being studied. However, during the interview and survey period, the work schedule of seven of the respondents made it impossible to fit the time which was required for the interview and the questionnaire into their busy day. Hence, the population size was reduced to 62 individuals.

## Design of Study and Instrument

This research was designed to be a survey study, as outlined by Babbie (1973) and Isaac and Michael (1971). It incorporates elements of descriptive research with other components which aim to get at meanings and implications. This research technique lends itself to describing, investigating, and appraising a wide range of problems which are encountered by educational researchers when an attempt is made to identify variables/factors or educational needs which educators deem to be important or unimportant in the educational planning process.

### Instrument

The study was designed to utilize both interview and questionnaire techniques. The structured individual interviews, which included both closed-ended questions and ratings and the questionnaires were the chief instruments used to gather the data (see Appendices A and B). The

format of a structured interview followed by a questionnaire was generally used for all participant groups. Although it was not the intention of the investigator to utilize open-ended questions in this study, members of the Ministry of Education planning division in Jamaica thought that valuable information could be gathered by using the stated technique also.

The researcher constructed the instruments by using the concepts of Payne (1951) and Oppenheim (1966) with respect to questionnaire construction. Careful consideration and planning were given to the building of these instruments so that they would reflect the specific objectives to be achieved as outlined under "Purpose of Study" in Chapter I.

Interview. In general, the content of the interview for all groups followed the same schedule as follows:

1. Personal characteristics

2. Selecting factors of each aspect of educational planning

   a. demographic 25 factors
   b. economic 25 factors
   c. social 25 factors
   d. political 25 factors

3. Importance rating of factors of each aspect of educational planning

   a. demographic 25 factors
   b. economic 25 factors
   c. social 25 factors
   d. political 25 factors

4. Priority rating of factors of each aspect of educational planning

   a. demographic 25 factors
   b. economic 25 factors
   c. social 25 factors
   d. political 25 factors

Questionnaire. The questionnaire consisted of two parts:

1. open-ended questions addressing educational planning; and

2. rating of use of channels of communication within the Ministry of Education and between the Ministry of Education and the New Secondary Schools regarding resource needs and allocation.

For a more detailed description of the instruments (viz., interview and questionnaire formats), see Appendices A and B.

In terms of types of schedule items used in this study, it is important to note that all three (i.e., [1] fixed alternative items, [2] open-ended items, and [3] scale items) were used. The scale items schedule were used more frequently because, according to Issac and Michael (1971), they offer objectivity, uniformity, reliability, and ease of coding responses and manipulating data. They also add a degree of depth which "fixed-alternative" items do not give.

## Procedures for Collecting Data

The interview schedule and questionnaire were number coded so that at the end of the field investigatory stage of the research the completed interview and questionnaire schedules could be put into the appropriate subset.

The purposes for administering interview schedules were to elicit responses from the respondents regarding the following:

1. personal characteristics;
2. demographic, economic, social, and political factors:
    a. which were being considered;
    b. which were not being considered; and
    c. those about which they were unresolved/undecided.

These considerations were in terms of educational planning for resource allocation for the New Secondary Schools.

Thus, in part 1 of the interview schedule, each respondent was requested to respond to structured questions (which were applicable) relating to personal characteristics such as age, education, sex, etc.

In part 2 each interviewee was asked to indicate if certain factors were being considered in educational planning for resource allocation. The interview used a check (✓) symbol for each of 25 factors on three categories of choice as follows:

1. factors are being considered;
2. factors are not being considered; and
3. not sure factors are being considered.

In part 3 each interviewee was required to rate (in terms of importance) on a five-point scale the factors which were chosen.

In part 4 each interviewee of group 1, group 2, and group 3 was required to assign a priority value to each factor for each of the four different aspects of educational planning. A five-point scale was used, with a "1" indicating high priority to a "5" indicating low priority.

In part 1 of the questionnaire each participant from group 4, group 5, and group 6 was requested to complete open-ended questions which were specific for that particular group.

These questions were concerned with the respondents' perceptions regarding the following:

1. the linkage of grades 7, 8, 9, and 10 and 11 (of the New Secondary Schools) in the areas of programmes and curricula;
2. bases/criteria which are used to identify resource needs; and
3. bases/criteria which are used in the process of resource allocation.

Concerning part 2 of the questionnaire, each participant from group 1, group 2, group 3, group 5, and group 6 was requested to indicate on a five-point scale, frequency of use of selected channels of communication for information flow (see Appendix A).

The members of group 4 (steering committee for the New Secondary Schools) were not requested to complete part 2 of the questionnaire. In fact, this group has, in addition to the Ministry of Education officials, principals and vice principals of the New Secondary Schools, and other educationalists who are members of the public at large. Hence the questions in part 2 of the questionnaire would not be pertinent for such a group.

In lieu of those questions, group 4 was requested to give responses to open-ended questions (Appendix B) which were concerned with the perceptions of the respondents regarding the following: operational links (in terms of information flow) between the steering committee of New

Secondary Schools (i.e., group 4) and other committees of the Ministry of Education and the ministry's planning division.

The pertinent section(s) of the questionnaire was/were delivered personally by the researcher to each respondent. After a period of seven days, the researcher personally collected the completed questionnaires from each respondent.

## Data Analysis

After the total number (i.e., 62 interview and 62 questionnaire schedules) were collected, the researcher grouped them according to their respective subsets/groups.

The data from the interview and questionnaire schedules were coded systematically for the appropriate subsets/groups of educators. The data were then programmed and transformed and made ready for computation.

Cross tabulation (as outlined in Statistical Package for the Social Sciences, second edition, compiled by Nie et al. [1970] was used to compute the raw frequencies and percentages of responses to each factor for each group.

Interview Part 1 (personal characteristics) was analysed by computing a frequency table for each item addressing personal characteristics.

Interview Part 2 (selection of factors from each of the four aspects of educational planning) was analysed by computing total number of responses and percentages for each group and each aspect separately. A total group analysis was performed also.

Interview Part 3 (importance rating of factors) was analysed in a manner similar to Interview Part 2, i.e., by totalling number of responses for each group and each factor for each level of rating.

Interview Part 4 (factor priority rating) was analysed by computing a frequency table of level of rating assigned for each factor by members of group 1, group 2, and group 3.

Questionnaire Part 1 (i.e., the data from the open-ended questions) were summarized and analysed for contrasting perceptions and opinions where it was appropriate to do so.

Questionnaire Part 2 (i.e., the use of channels of communication and sources of information) were summarised and analysed by computing a frequency table of level of usage of each channel of communication by each population.

Data from printed sources. The data from printed sources, i.e., documents, unpublished material, minutes of meetings of the Ministry of Education, and news items from the press, were summarised for use in appropriate sections of this study.

## Summary

Basically this descriptive study was concerned with educators in respect of their perceptions regarding the following:

- consideration, importance, and priority of selected factors/planning indicators of the demographic, economic, social, and political aspects of educational planning;

- communication network, between the Ministry of Education and the New Secondary Schools; and also within the Ministry of Education; and
- linkage of programmes within the schools; criteria which are used to identify resource needs; and also criteria which are used in the process of resource allocation with respect to the sphere of educational planning for the New Secondary Schools.

Concerning the research method, a stratified random sampling technique was employed to select the samples. This technique enabled a comparison of the responses/perceptions of the six groups of educators.

The interviews and questionnaires were designed to provide useful data which when analysed would give pertinent information in terms of the perceptions of these educators regarding the current mode of educational planning--apropos resource allocation for the New Secondary Schools.

Relevant elements of the findings (from the primary data source) along with information from the secondary data source were used to substantiate or refute the six a priori assumptions. The resultant concepts and pertinent principles of educational planning emanating from the literature which was reviewed in Chapter II provided the basic elements for the development of a systems approach paradigm with respect to resource allocation for the New Secondary Schools.

The procedures for sample selection,data collection and analysis, and salient features of the study were presented in this chapter. The findings are presented, described, and discussed in Chapter IV.

# CHAPTER IV

## FINDINGS--PRESENTATION AND DISCUSSION

The findings of the descriptive research are presented in this chapter in sections pertaining to the following:

1. aspects of educational planning, i.e., demographic, economic, social, and political (these are in terms of the respondent's perception with respect to whether or not the stated aspects are currently being considered in resource allocation in educational planning, the degree of their importance, and priority rating in the process);

2. communication network within the Ministry of Education and between the Ministry of Education and the New Secondary Schools with respect to the receiving, supplying, and retrieving of information regarding resource allocation;

3. operational links among specific organised bodies in terms of information flow;

4. strategies for evaluation and modification of the communication network within the system; and

5. linkage of programmes and curricula between grades 7, 8, 9, and 10 and 11; bases on which resource needs are identified and resources allocated.

Hence, the responses of the respondents are compared between groups, and among groups across the three categories of choice. This comparison is done in order to facilitate an examination of the respondents' opinions and perceptions in the sphere of educational planning for resource allocation. Therefore, the primary method of analysing the data for sections 1, 2, and 4 has been to examine the percentages

within groups across factors and within factors across groups. In the case of sections 3 and 5, the results of the open-ended questions are summarized, examined and described. Tables summarizing the findings (for each section where they are appropriate) accompany the presentation of the findings.

## Aspects of Educational Planning

Concerning the four stated aspects of educational planning (viz., demographic, economic, social, and political), total number of responses and percentages have been computed for each aspect for each of the six groups of educators with respect to consideration of factors and degree of importance of factors. A frequency count has been made also in order to determine the priority rating which the respondents (groups 1-3) ascribed to each of the 25 selected factors of each aspect.

The data are presented in Tables 11 through 23. They are organised in subsections (viz., demographic, economic, social, and political aspects). In each of the subsections, the data for consideration of factors, degree of importance of factors, and priority rating of factors are shown.

### Demographic Aspect

In terms of the demographic aspect, a study of the data in Table 11 demonstrates the respondents' perceptions regarding the use of the 25 demographic factors (see Appendix A). Percentages and total number of responses across the 25 demographic factors have been computed for each

group in terms of whether or not the 25 factors are considered as indicators in resource allocation in the process of educational planning.

Consideration of factors. An examination of the data of Table 11 indicates that for group 1 (education officers and planners) 55% of their responses demonstrate that the stated 25 demographic factors are being considered in educational planning. On the other hand, 28% of their responses show uncertainty among this group of educators regarding the use of these factors as educational planning indicators; and 17% of the responses indicate non-consideration of the factors.

A further study of the data, Table 11, shows that a comparison of the responses of group 1 (education officers and planners) and group 2 (senior education officers) indicates that the members of both groups are similar in their overall perceptions concerning the consideration of demographic factors in educational planning. This statement also holds true for group 5 and group 6 (i.e., principals and vice-principals of the New Secondary Schools--urban and rural, respectively).

In comparing the responses of all groups, with respect to demographic factors are being considered, it becomes evident that group 4 (steering committee for the New Secondary Schools) is markedly different from the other groups.

For all six groups of educators, a study of the responses (across the three categories of choice) shows that 60% of their responses demonstrate that these educators are not sure if demographic factors are being considered, 36% of their responses show that they are being considered, and 5% indicate that they are not being considered.

Table 11

Demographic Factors as a Consideration in Educational Planning by Six Groups of Educators

| Groups (N) | Categories of choice | | | | | |
|---|---|---|---|---|---|---|
| | Responses indicating demographic factors are being considered | | Responses indicating demographic factors are not being considered | | Responses where respondent is not sure that demographic factors are being considered | |
| | Number[a] | Percent | Number | Percent | Number | Percent |
| 1. Education officers and planners (7) | 97 | 55 | 29 | 17 | 49 | 28 |
| 2. Senior education officers (6) | 80 | 53 | 25 | 17 | 45 | 30 |
| 3. Assistant chief education officers (2) | 15 | 30 | 17 | 34 | 18 | 36 |
| 4. Steering committee for New Secondary Schools (4) | 70 | 70 | 1 | 1 | 29 | 29 |
| 5. Principals and vice-principals of New Secondary Schools, urban (10) | 56 | 22 | 0 | 0 | 194 | 78 |
| 6. Principals and vice-principals of New Secondary Schools, rural (33) | 233 | 28 | 0 | 0 | 592 | 72 |
| Total response across six groups (62) | 551 | 36 | 72 | 5 | 927 | 60 |

[a]Highest possible number of responses in any cell is N x 25, since 25 factors were offered for each aspect.

In terms of the total response across all six groups, a study of the data suggests that the respondents must be characterized as being largely unsure if demographic factors are being considered in educational planning.

Degree of importance. Presented in Table 12 are the percentages of the responses of the six groups of educators with respect to their perceptions/judgments regarding the degree of importance of the 25 factors (demographic) on the five-point rating scale.

An examination of the data as presented in Table 12 indicates that the responses of group 1 and group 2 are quite similar in that 46% of the responses of each group, respectively, indicate that the stated factors are of no importance in educational planning for resource allocation. Indeed, a further study of the data reveals that 66%, 78%, and 72% of the responses of the assistant chief education officers, principals and vice-principals (urban), and principals and vice-principals (rural), respectively, also indicate that the 25 demographic factors are of no importance as planning indicators. Between 1% and 8% of the responses of all the members of the six groups of respondents show that these factors are of slight importance. A closer study of the data also demonstrates that 38% to 80% of the responses of the members of the six groups of educators range between no importance and slight importance on the rating scale.

A detailed study of the responses of the six groups of educators indicates that between 12% and 20% of the responses of the members of groups 1 to 4 show that the stated factors are of some importance as

Table 12

Quantification of Responses in Terms of Degree of Importance of Demographic Factors by Six Groups of Educators

| Groups (N) | Degree of importance | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Responses indicating demographic factors are of no importance | | Responses indicating demographic factors are of slight importance | | Responses indicating demographic factors are of some importance | | Responses indicating demographic factors are of great importance | | Responses indicating demographic factors are of very great importance | |
| | Number[a] | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| 1. Education officers and planners (7) | 80 | 46 | 14 | 8 | 22 | 13 | 43 | 25 | 16 | 9 |
| 2. Senior education officers (6) | 66 | 44 | 6 | 4 | 30 | 20 | 29 | 19 | 19 | 13 |
| 3. Assistant chief education officers (2) | 33 | 66 | 1 | 2 | 6 | 12 | 3 | 6 | 7 | 14 |
| 4. Steering committee for New Secondary Schools (4) | 32 | 32 | 6 | 6 | 14 | 14 | 25 | 25 | 23 | 23 |
| 5. Principals and vice-principals of New Secondary Schools, urban (10) | 194 | 78 | 4 | 2 | 11 | 4 | 20 | 8 | 21 | 8 |
| 6. Principals and vice-principals of New Secondary Schools, rural (33) | 595 | 72 | 9 | 1 | 48 | 6 | 92 | 11 | 81 | 10 |
| Total response across six groups (62) | 1,000 | 64 | 40 | 3 | 131 | 8 | 212 | 14 | 167 | 11 |

[a]Highest possible number of responses in any cell is N x 25, since 25 factors were offered for each aspect.

planning indicators in the area of educational planning for resource allocation.

Combining great importance and very great importance show that, in terms of total percentage, the responses of the members of the steering committee for the New Secondary Schools are quite different from the other educators surveyed. The responses of the other five groups, by contrast, show that more than 10% but less than 40% indicate that these planning indicators are of great importance and very great importance in educational planning for resource allocation.

With regard to the total response across the six groups of educators, a study of Table 12 reveals that 64% of their responses indicate that demographic factors are of no importance as educational planning indicators for resource allocation. On the other hand, 11% of the total responses indicate that they are of very great importance.

Priority rating. With respect to the priority rating of the 25 factors of the demographic aspect, an examination of the data as they are presented in Table 13, demonstrates that factors "3," "13," "4," "19," "1," and "2" are chosen with the most frequency.[1] Stated another way, the responses of groups 1, 2, and 3 indicate that the following factors are seen as most important. (These are presented in order of total frequency of selection here and throughout the remainder of the chapter.)

3. percentage of age cohort 12-18 in relation to the total population of the community;

---

[1]More than five respondents selected the factor with a priority of from "1" to "5."

Table 13

Frequency of Selection of Demographic Factors by the Members of Groups 1, 2, and 3

| Factors | Rating Scale: Priority[a] "1" | "2" | "3" | "4" | "5" | Total frequency[b] of selection of each factor |
|---|---|---|---|---|---|---|
| 1. Total population of the community | 4 | 0 | 0 | 2 | 1 | 7 |
| 2. Population density per square mile within the community | 1 | 3 | 0 | 1 | 2 | 7 |
| 3. Percentage of age cohort 12-18 in relation to the total population of the community | 6 | 1 | 2 | 2 | 1 | 12 |
| 4. Age structure of the population of the community | 0 | 1 | 3 | 2 | 2 | 8 |
| 5. Annual birthrate of community | 0 | 1 | 0 | 0 | 1 | 2 |
| 6. Annual mortality rate of community | 0 | 0 | 0 | 0 | 0 | 0 |
| 7. Annual migration rate of community | 0 | 0 | 0 | 1 | 0 | 1 |
| 8. Types of occupation in community | 0 | 2 | 1 | 0 | 1 | 4 |
| 9. Per capita income of community | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. Commercial growth of community | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. Industrial growth of community | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. Geographic location in terms of distance to nearest urban centre | 0 | 0 | 2 | 0 | 0 | 2 |
| 13. Student flow, enrollment trend, class size, etc. within an institution | 2 | 3 | 2 | 2 | 2 | 11 |
| 14. Distance from students' home to school | 0 | 0 | 2 | 0 | 0 | 2 |
| 15. Source of domestic water supply | 1 | 0 | 0 | 1 | 1 | 3 |
| 16. Electricity | 1 | 1 | 0 | 1 | 0 | 3 |
| 17. Transportation (i.e., modes and types of roads) | 0 | 0 | 1 | 0 | 2 | 3 |
| 18. Existing educational institutions in the area/community | 1 | 1 | 0 | 1 | 1 | 4 |
| 19. Modes of communication, e.g., post offices, telegraph services, and telephones | 0 | 2 | 3 | 1 | 2 | 8 |
| 20. Housing development | 1 | 0 | 0 | 1 | 0 | 2 |
| 21. Family size and structure | 0 | 0 | 1 | 1 | 1 | 3 |
| 22. Potential for population growth | 1 | 1 | 0 | 1 | 0 | 3 |
| 23. Distribution of students by sex | 0 | 1 | 0 | 0 | 0 | 1 |
| 24. Student scholastic attainment by district | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. Number of residents per medical doctor | 0 | 0 | 0 | 0 | 0 | 0 |

[a] A rating of "1" represents a high priority and "5" represents a low priority.

[b] Highest possible total frequency of selection of each factor is 15, since each of the 15 respondents (i.e., groups 1, 2, and 3 combined) were asked to assign no more than one priority value to each factor.

13. student flow, i.e., enrollment trend, class size, etc. within an institution

4. age structure of the population of the community;

19. modes of communication, e.g., post offices, telegraph services, and telephones;

1. total population of community; and

2. population density (per square mile) with the community.

These six factors, then, are selected more frequently than the other demographic factors, i.e., in terms of priority rating of factors with regard to the educational planning process of allocating human, physical, and financial resources for the New Secondary Schools.

Indeed, factor 1 (total population of the community) is given a priority rating of "1," four times; and factor 3 (percentage of age cohort 12-18 in relation to the total population of the community) is given a priority rating of "1," six times. In the case of the other factors (2, 4, 13, and 19), although they are chosen with a high degree of frequency, the responses indicate a more even distribution of priority rating along the continuum 1 to 5 (where a "1" indicates a high priority and "5" indicates a low priority).

Economic Aspect

With respect to the economic aspect, percentages and total number of responses have been computed for each group for each factor within each category of choice across the 25 economic factors (see Appendix A).

Consideration of factors. A study of the data as presented in Table 14 shows the responses of the members of group 1 through group 6.

Table 14

Economic Factors as a Consideration in Educational Planning by Six Groups of Educators

| Groups (N) | Categories of choice | | | | | |
|---|---|---|---|---|---|---|
| | Responses indicating economic factors are being considered | | Responses indicating economic factors are not being considered | | Responses where respondent is not sure that economic factors are being considered | |
| | Number[a] | Percent | Number | Percent | Number | Percent |
| 1. Education officers and planners (7) | 112 | 64 | 21 | 12 | 42 | 24 |
| 2. Senior education officers (6) | 101 | 67 | 24 | 16 | 25 | 17 |
| 3. Assistant chief education officers (2) | 30 | 60 | 11 | 22 | 9 | 18 |
| 4. Steering committee for New Secondary Schools (4) | 74 | 74 | 1 | 1 | 25 | 25 |
| 5. Principals and vice-principals of New Secondary Schools, urban (10) | 67 | 27 | 0 | 0 | 183 | 73 |
| 6. Principals and vice-principals of New Secondary Schools, rural (33) | 213 | 26 | 0 | 0 | 612 | 74 |
| Total response across six groups (62) | 597 | 39 | 57 | 4 | 896 | 57 |

[a]Highest possible number of responses in any cell is N x 25, since 25 factors were offered for each aspect.

The responses are in terms of whether or not the 25 stated economic factors are being considered. In addition they show if the members of the previously stated groups of educators are unresolved in their perceptions about the consideration of these factors with regard to resource allocation in educational planning for the New Secondary Schools.

With particular reference to category of choice 1 (economic factors are being considered) in Table 14, an examination of the data shows that the responses of groups 1, 2, and 3, range between 60% and 67%. Stated another way, 60%, 64%, and 67% of the responses of the assistant chief education officers, education officers and planners, and senior education officers, respectively, indicate that all 25 factors of this aspect of educational planning are being considered as planning indicators for resource allocation.

In terms of group 5 and group 6, a study of the data indicates no apparent difference in the responses of the two groups across the three categories of choice.

A further examination of the data in Table 14 indicates that 74% of the responses of group 4 (i.e., steering committee for the New Secondary Schools) consider all 25 factors of the economic aspects in the process of resource allocation.

On the other hand, approximately 74% of the responses of group 5 and group 6, viz., principals and vice-principals of the New Secondary Schools, urban and rural, respectively, indicate that these two groups of educators are not sure if economic factors are being considered in the educational planning process with respect to resource allocation.

Concerning total responses across the six groups of educators, 57% of their responses show that they are not sure if economic factors are being considered as educational planning indicators in the process of resource allocation. In contrast 39% of their responses indicate that economic factors are being considered.

Degree of importance. A study of the data as presented in Table 15 indicates that 25% to 74% of the responses of the members of groups 1 through 6 show that the selected factors of the economic aspect are of no importance in educational planning for resource allocation for the New Secondary Schools.

In the comparison of the six groups of educators/respondents across the five-point rating scale, Table 15, it is obvious that the pattern of perception, with respect to the computed responses, is somewhat similar. For example, in comparing the responses of group 1 (education officers and planners) with the responses of group 2 (senior education officers) the data indicate clearly that the difference in perception between both groups regarding the degree of importance of the factors of the economic aspect of educational planning is relatively small.

In the case of group 5 and group 6 (viz., principals and vice-principals of the New Secondary Schools, urban and rural), respectively, an examination of the data of Table 15 shows that the response with respect to the degree of importance of the stated factors is identical. Thus in terms of perception regarding the importance of the planning indicators (i.e., economic factors) both groups view these factors in the same perspective. Indeed, over 70% of the responses of both groups

Table 15

Quantification of Responses in Terms of Degree of Importance of Economic Factors by Six Groups of Educators

| Groups (N) | Degree of importance: Responses indicating economic factors are of no importance | | Responses indicating economic factors are of slight importance | | Responses indicating economic factors are of some importance | | Responses indicating economic factors are of great importance | | Responses indicating economic factors are of very great importance | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number[a] | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| 1. Education officers and planners (7) | 64 | 37 | 7 | 4 | 19 | 11 | 56 | 32 | 29 | 16 |
| 2. Senior education officers (6) | 49 | 33 | 7 | 5 | 17 | 11 | 46 | 31 | 31 | 20 |
| 3. Assistant chief education officers (2) | 20 | 40 | 0 | 0 | 9 | 18 | 12 | 24 | 9 | 18 |
| 4. Steering committee for New Secondary Schools (4) | 25 | 25 | 2 | 2 | 9 | 9 | 25 | 25 | 39 | 39 |
| 5. Principals and vice-principals of New Secondary Schools, urban (10) | 184 | 74 | 3 | 1 | 14 | 6 | 26 | 10 | 23 | 9 |
| 6. Principals and vice-principals of New Secondary Schools, rural (33) | 613 | 74 | 4 | 1 | 38 | 5 | 86 | 10 | 84 | 10 |
| Total response across six groups (62) | 955 | 62 | 23 | 1 | 106 | 7 | 251 | 16 | 215 | 14 |

[a]Highest possible number of responses in any cell is N x 25, since 25 factors were offered for each aspect.

(i.e., 5 and 6) demonstrates that they do not perceive the selected economic factors to be of any importance in educational planning for resource allocation to the educational institutions which are of interest to this study.

A further detailed study of the data in Table 15 reveals that the aggregate of the responses, of the members of groups 1 through 4 regarding degree of importance "3," "4," and "5," demonstrate that between 59% and 73% of these responses indicate that the 25 selected economic factors are of some importance, great importance, and very great importance.

Priority rating. With regard to the rating of the 25 selected factors of the economic aspect in terms of priority, a study of the data as presented in Table 16 suggests that concerning these factors 9 of the 25 are given a priority rating of "1" (high priority).

A further examination of the data in Table 16 suggests that in terms of frequency of selection[1] of the stated economic factors by groups 1, 2, and 3, the following eight factors; viz.,

15. budget limitations;
2. public expenditure as a percentage of national income spent on New Secondary Schools;
3. demands of job market, e.g., manpower demands/projections;
9. capital cost, and building, i.e., school plant maintenance;
11. current rate of inflation with respect to purchasing power;
7. programme cost differentials;

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[1]More than five respondents selected the factor with a priority of from "1" to "5."

Table 16

Frequency of Selection of Economic Factors by the Members of Groups 1, 2, and 3

| Factors | Rating scale: Priority[a] "1" | "2" | "3" | "4" | "5" | Total frequency[b] of selection of each factor |
|---|---|---|---|---|---|---|
| 1. Gross national product | 3 | 0 | 1 | 1 | 0 | 5 |
| 2. Public expenditure as a percentage of national income spent on New Secondary Schools | 3 | 2 | 1 | 2 | 0 | 8 |
| 3. Demands of job market, e.g., manpower demands/projections | 2 | 1 | 4 | 0 | 1 | 8 |
| 4. Impact of educational programmes of New Secondary Schools (including externalities, neighbourhood effects) on economic development | 0 | 2 | 0 | 1 | 0 | 3 |
| 5. Labour force distribution among mutually exclusive occupational categories | 0 | 0 | 0 | 1 | 0 | 1 |
| 6. Percentage of the active population engaged in agriculture | 0 | 1 | 0 | 0 | 2 | 3 |
| 7. Programme cost differentials | 2 | 1 | 2 | 1 | 0 | 6 |
| 8. The base cost of goods and services--technology, e.g., multimedia | 0 | 0 | 2 | 1 | 0 | 3 |
| 9. Capital cost, and building, i.e., school plant maintenance | 0 | 1 | 1 | 2 | 3 | 7 |
| 10. Educational price indexes | 0 | 0 | 0 | 0 | 1 | 1 |
| 11. Current rate of inflation with respect to purchasing power | 0 | 0 | 2 | 1 | 4 | 7 |
| 12. Cost of delivering educational programmes, i.e., operating costs personnel | 0 | 1 | 0 | 2 | 0 | 3 |
| 13. Salary schedule--personnel, consultants, teachers, etc. | 0 | 1 | 0 | 1 | 0 | 2 |
| 14. Other operating costs/expenses | 0 | 0 | 0 | 1 | 0 | 1 |
| 15. Budget limitations | 5 | 2 | 1 | 1 | 1 | 10 |
| 16. Dollar spent per pupil at the New Secondary School | 0 | 0 | 0 | 0 | 1 | 1 |
| 17. Long-term projections--cost of programmes | 1 | 1 | 1 | 0 | 3 | 6 |
| 18. Short-term projections--cost of programmes | 0 | 0 | 0 | 0 | 1 | 1 |
| 19. Scientific education--facility requirements | 1 | 0 | 1 | 2 | 0 | 4 |
| 20. Student staff ratio | 0 | 0 | 0 | 1 | 1 | 2 |
| 21. External financial aid | 1 | 1 | 0 | 0 | 0 | 2 |
| 22. Economic history of community | 0 | 0 | 1 | 0 | 0 | 1 |
| 23. Teacher attrition rate | 0 | 1 | 0 | 0 | 0 | 1 |
| 24. Expenditure by grades | 0 | 0 | 1 | 0 | 0 | 1 |
| 25. Financial returns in terms of cost benefits | 1 | 0 | 0 | 1 | 1 | 3 |

[a]A rating of "1" represents a high priority and "5" represents a low priority.

[b]Highest possible total frequency of selection of each factor is 15, since each of the 15 respondents (i.e., groups 1, 2, and 3 combined) were asked to assign no more than one priority value to each factor.

17. long-term projections--cost of programmes and

1. gross national product;

are chosen most frequently. Factors 15, 2, 3, and 7 are given priority rating "1" by five, three, two, and two respondents, respectively. It is also worthy to note that in the overall priority rating process, the factors 15, 2, and 3 of the economic aspect of educational planning are selected by the most number of respondents.

Furthermore, a more detailed look at the data in Table 16, indicates that the number of respondents who ascribe priority ratings to factor 2 (public expenditure as a percentage of national income spent on New Secondary Schools) is evenly distributed along the continuum moreso than for any other factor. A study of the data also reveals that although economic aspect factor 21 (external financial aid) is selected by only two respondents, yet it is given a priority rating of "1" and "2" on the priority rating continuum.

The data as presented in Table 16 highlight the fact that the following planning indicators/factors of the economic aspect are given low priority ratings with no priority of "1," "2," or "3" (where "1" is the highest and "5" is the lowest).

13. salary schedules;

20. student:staff ratio;

5. labour force distribution among mutually exclusive occupational categories;

10. educational price indexes;

14. other operating costs;

16. dollar spent per pupil; and

18. short-term projections with respect to costs.

In fact, these factors except factor 13 (salary schedules) are not given a priority value below "4" on the priority rating continuum (where a "1" indicates a high priority and a "5" indicates a low priority).

Social Aspect

With reference to the social aspect of educational planning, the data have been computed across the 25 stated factors of the social aspect (see Appendix A). The percentages and responses have been computed for each group for each factor within each category of choice with respect to the respondent's judgment regarding whether or not these factors are being considered in resource allocation for the New Secondary Schools.

Consideration of factors. The data of Table 17 demonstrate that, with respect to the first category of choice, 83% of the responses of group 4 (steering committee for the New Secondary Schools) show that the 25 factors of the social aspect of educational planning are being considered with respect to resource allocation.

A further examination of the data reveals that 67%, 71%, and 70% of the responses of group 1, group 2, and group 3, respectively, indicate that currently the 25 stated factors of the social aspect of educational planning are being considered as planning indicators in resource allocation for the New Secondary Schools.

Table 17

Social Factors as a Consideration in Educational Planning by Six Groups of Educators

| Groups (N) | Categories of choice | | | | | |
|---|---|---|---|---|---|---|
| | Responses indicating social factors are being considered | | Responses indicating social factors are not being considered | | Responses where respondent is not sure that social factors are being considered | |
| | Number[a] | Percent | Number | Percent | Number | Percent |
| 1. Education officers and planners (7) | 118 | 67 | 23 | 13 | 34 | 19 |
| 2. Senior education officers (6) | 107 | 71 | 26 | 17 | 17 | 11 |
| 3. Assistant chief education officers (2) | 35 | 70 | 11 | 22 | 4 | 8 |
| 4. Steering committee for New Secondary Schools (4) | 83 | 83 | 0 | 0 | 17 | 17 |
| 5. Principals and vice-principals of New Secondary Schools, urban (10) | 52 | 21 | 0 | 0 | 198 | 79 |
| 6. Principals and vice-principals of New Secondary Schools, rural (33) | 208 | 25 | 0 | 0 | 617 | 75 |
| Total response across six groups (62) | 603 | 39 | 60 | 4 | 887 | 57 |

[a]Highest possible number of responses in any cell is N x 25, since 25 factors were offered for each aspect.

The difference which is reflected in terms of response between group 2 and group 3 (education officers and planners, assistant chief education officers), respectively, in category of choice 1 is negligible. However, with respect to whether social factors are not being considered, or not sure if factors are considered, the difference in percentage response if 5% and 3%, respectively, between the two groups, within categories of choice 2 and choice 3.

With regard to group 5 and group 6 the difference in terms of response, concerning whether social factors are being considered or not sure if they are being considered is identical.

Indeed, a more detailed study of the data of Table 17 also reveals that over 70% of the responses of group 5 and group 6 show that the members of these groups are unresolved in their perceptions regarding whether or not the factors of the social aspect of educational planning are being considered in resource allocation (not sure if social factors are being considered).

The responses for all six groups of respondents in the sphere of category of choice 1 range from 21% to 83%, thus indicating a range of 62% between the group with low percentage responses and the group with high percentage responses.

For the six groups of educators, 39% of their responses demonstrate that social factors are being considered in educational planning, while 57% are not sure if social factors are being considered, and 4% indicate they are not being considered.

Degree of importance. A study of the data of Table 18 demonstrates that with respect to rating the 25 selected factors in terms of degree of importance, 35% of the responses of the members of group 1 (education officers and planners) and 29% of the responses of the members of group 2 (senior education officers) rate the 25 factors of the social aspect of educational planning to be of no importance in resource allocation for the second level educational institutions which are being studied.

A closer examination of the data of Table 18 reveals that when the responses of group 1, for degree of importance "3," "4," and "5," are aggregated and compared with the total responses of the members of group 2, for degree of importance "3," "4," and "5" also, over 60% of these responses range between some importance and very great importance on the five-point rating scale. In the case of group 3 (assistant chief education officers) and group 4 (steering committee for the New Secondary Schools) 66% and 78% of the responses of the members of both groups, respectively, indicate that these factors/planning indicators range in terms of degree of importance from some importance to very great importance in the process of educational planning for resource allocation. On the other hand, over 70% of the responses of principals and vice-principals of both urban and rural New Secondary Schools, respectively, indicate that these factors are of no importance. The data presented in Table 18 demonstrate, however, that the majority of the respondents perceive these factors to range in degree of importance from some importance to very great importance.

Table 18

Quantification of Responses in Terms of Degree of Importance of Social Factors by Six Groups of Educators

| Groups (N) | Degree of importance | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Responses indicating social factors are of no importance | | Responses indicating social factors are of slight importance | | Responses indicating social factors are of some importance | | Responses indicating social factors are of great importance | | Responses indicating social factors are of very great importance | |
| | Number[a] | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| 1. Education officers and planners (7) | 62 | 35 | 8 | 4 | 24 | 15 | 46 | 26 | 35 | 20 |
| 2. Senior education officers (6) | 43 | 29 | 6 | 4 | 32 | 21 | 37 | 25 | 32 | 21 |
| 3. Assistant chief education officers (2) | 15 | 30 | 2 | 4 | 10 | 20 | 13 | 26 | 10 | 20 |
| 4. Steering committee for New Secondary Schools (4) | 17 | 17 | 5 | 5 | 15 | 15 | 29 | 29 | 34 | 34 |
| 5. Principals and vice-principals of New Secondary Schools, urban (10) | 198 | 79 | 1 | 1 | 11 | 4 | 15 | 6 | 25 | 10 |
| 6. Principals and vice-principals of New Secondary Schools, rural (33) | 620 | 75 | 7 | 1 | 48 | 6 | 77 | 9 | 73 | 9 |
| Total response across six groups (62) | 955 | 62 | 29 | 2 | 140 | 9 | 217 | 14 | 186 | 12 |

[a]Highest possible number of responses in any cell is N x 25, since 25 factors were offered for each aspect.

Indeed, a further study of the data indicates that a comparison of the responses of the six groups of educators, regarding the degree of importance of the 25 factors of the social aspect of educational planning, show that in general there is only a relatively small difference between the groups in terms of perceptions/judgments. This fact is most apparent when the comparison is: group 1 versus group 2; group 2 versus group 3; group 3 versus group 4; or group 5 versus group 6.

Priority rating. An examination of the data of Table 19 indicates that the respondents selected the following factors with much greater frequency[1] than the other factors of the social aspects of educational planning:

1. societal needs (i.e., social demand, pressure from the people regarding better education);
2. educational needs (i.e., toward national development as seen by politicians);
9. aspect of education dealing with thinking, acquisition of knowledge, techniques, and principles;
10. curriculum bases, design, and content for particular age cohort;
6. free education--implications for society's progress; and
14. community's total development.

With respect to factors 1 and 2, respectively, the 15 respondents indicate that in their perceptions/judgments, these two factors merit high priority rating. In fact, factor 1 is given the high priority

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[1]More than five respondents selected the factor with a priority of from "1" to "5."

Table 19

Frequency of Selection of Social Factors by the Members of Groups 1, 2, and 3

| Factors | Rating Scale: Priority[a] "1" | "2" | "3" | "4" | "5" | Total frequency[b] of selection of each factor |
|---|---|---|---|---|---|---|
| 1. Societal needs (social demand--pressure from the people regarding better education) | 11 | 1 | 0 | 1 | 2 | 15 |
| 2. Educational needs (towards national development as seen by politicians) | 5 | 8 | 1 | 1 | 0 | 15 |
| 3. Elective programmes in school's curriculum | 0 | 1 | 2 | 0 | 0 | 3 |
| 4. Compulsory school attendance | 0 | 1 | 0 | 1 | 0 | 2 |
| 5. Opportunity costs in terms of income forgone by the student | 0 | 0 | 1 | 0 | 0 | 1 |
| 6. Free education--implications for society's progress | 1 | 2 | 2 | 1 | 1 | 7 |
| 7. Attitudes of people and their convictions regarding educational processes | 0 | 0 | 0 | 1 | 3 | 4 |
| 8. Demand for education will continue to be more than supply | 0 | 0 | 1 | 2 | 0 | 3 |
| 9. Aspect of education dealing with thinking, acquisition of knowledge, technique, and principles | 0 | 1 | 6 | 1 | 3 | 11 |
| 10. Curriculum bases, design, and content for particular age cohort | 1 | 1 | 0 | 3 | 4 | 9 |
| 11. Control of examinations (i.e., oriented toward nation building) | 0 | 0 | 0 | 0 | 2 | 2 |
| 12. Provision of text books, uniforms, school feeding programme, health care | 0 | 0 | 0 | 0 | 0 | 0 |
| 13. Social mobility in terms of parental aspiration for their children | 0 | 1 | 0 | 1 | 0 | 2 |
| 14. Community's total development | 0 | 2 | 1 | 1 | 1 | 5 |
| 15. National integration, i.e., an egalitarian society through education | 0 | 0 | 0 | 1 | 0 | 1 |
| 16. Earnings of "educated people" impact on society | 0 | 0 | 0 | 0 | 0 | 0 |
| 17. Proportion of the eligible student population who enter educational institutions of the second level (in this context, New Secondary Schools) | 0 | 0 | 1 | 0 | 1 | 2 |
| 18. The prestige of remaining in school | 0 | 0 | 0 | 0 | 0 | 0 |
| 19. Parental social status--effect upon student entering or leaving school | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. Place of residence (rural vs. urban) | 0 | 0 | 0 | 0 | 0 | 0 |
| 21. Job opportunities and implications for society in terms of benefits/costs | 0 | 0 | 0 | 1 | 0 | 1 |
| 22. Teacher supply with respect to implementing programmes for social development | 0 | 0 | 2 | 0 | 0 | 2 |
| 23. National goals | 0 | 1 | 1 | 1 | 1 | 4 |
| 24. Aspect of education dealing with values | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. Attitudes of "bureaucrats" towards new concept of education at the second level | 0 | 0 | 0 | 0 | 0 | 0 |

[a]A rating of "1" represents a high priority and "5" represents a low priority.

[b]Highest possible total frequency of selection of each factor is 15, since each of the 15 respondents (i.e., groups 1, 2, and 3 combined) were asked to assign no more than one priority value to each factor.

rating of "1" by eleven respondents. In terms of factor 9, eleven respondents are agreed that it deserves to be given priority rating between "2" and "5" on the rating continuum.

In terms of factors 21 and 22, the frequency of selection is low and these factors have been rated "4" and "3," respectively. The data as presented in Table 19 is affected by the fact that the respondents did not rate some of the factors.

Political Aspect

In Table 20 the percentages and total number of responses calculated for each group across the 25 factors (see Appendix A) of the political aspect of educational planning is presented. The results then are the responses of the six groups of respondents regarding these political factors with respect to whether or not they are being considered, are not being considered, or not sure if political factors are being considered as planning indicators in the process of resource allocation.

Consideration of factors. An analysis of the data of Table 20 demonstrates that in the political aspect of educational planning, for resource allocation, approximately 42% of the responses of the members of group 1 (education officers and planners) indicate that all 25 factors are being considered as planning indicators in the process of resource allocation.

The pattern of response for education officers and planners, and senior education officers in categories of choice 1, 2, and 3, follows a very similar pattern.

Table 20

Political Factors as a Consideration in Educational Planning by Six Groups of Educators

| Groups (N) | Categories of choice | | | | | |
|---|---|---|---|---|---|---|
| | Responses indicating political factors are being considered | | Responses indicating political factors are not being considered | | Responses where respondent is not sure that political factors are being considered | |
| | Number[a] | Percent | Number | Percent | Number | Percent |
| 1. Education officers and planners (7) | 75 | 42 | 1 | 1 | 99 | 57 |
| 2. Senior education officers (6) | 56 | 37 | 5 | 3 | 89 | 59 |
| 3. Assistant chief education officers (2) | 16 | 32 | 4 | 8 | 30 | 60 |
| 4. Steering committee for New Secondary Schools (4) | 37 | 37 | 7 | 7 | 56 | 56 |
| 5. Principals and vice-principals of New Secondary Schools, urban (10) | 59 | 24 | 1 | 1 | 190 | 75 |
| 6. Principals and vice-principals of New Secondary Schools, rural (33) | 169 | 20 | 0 | 0 | 656 | 80 |
| Total response across six groups (62) | 412 | 27 | 18 | 1 | 1,120 | 72 |

[a]Highest possible number of responses in any cell is N x 25, since 25 factors were offered for each aspect.

A further examination of the data indicates that the responses of the principals and vice-principals of the New Secondary Schools, urban and rural, respectively, show that there is a range of 1% to 5% difference in the pattern of response between the two groups, concerning all three categories of choice. The study of the data also reveals that more than 70% of the responses of both groups (i.e., 5 and 6) are not sure if political factors are being considered, with regard to resource allocation in educational planning.

In terms of the responses among the six groups of respondents, the range in percentage with respect to the consideration of political factors, within category of choice 1 is between 20% and 42%. These percentages show that less than 50% of the responses of the members of the six groups of educators indicate that the 25 stated factors (see Appendix A) are being considered as planning indicators.

Concerning total response, across the six groups of educators, a study of the data in Table 20 indicates that 27% of the educators in the sample are agreed that political factors are being considered. Seventy-two percent of their responses show that they are undecided in their judgments regarding the consideration of the stated factors of this aspect of educational planning in the process of resource allocation for the New Secondary Schools.

Degree of importance. Concerning political factors and educational planning for resource allocation, an examination of the data as presented in Table 21 indicates that 55% to 79% of the responses of the members of groups 1 through 6 demonstrate that these factors have no

Table 21

Quantification of Responses in Terms of Degree of Importance of Political Factors by Six Groups of Educators

| Groups (N) | Degree of importance | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Responses indicating political factors are of no importance | | Responses indicating political factors are of slight importance | | Responses indicating political factors are of some importance | | Responses indicating political factors are of great importance | | Responses indicating political factors are of very great importance | |
| | Number[a] | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| 1. Education officers and planners (7) | 96 | 55 | 5 | 3 | 18 | 10 | 27 | 15 | 29 | 17 |
| 2. Senior education officers (6) | 94 | 62 | 1 | 1 | 12 | 8 | 18 | 12 | 25 | 17 |
| 3. Assistant chief education officers (2) | 34 | 68 | 1 | 2 | 7 | 14 | 5 | 10 | 3 | 6 |
| 4. Steering committee for New Secondary Schools (4) | 63 | 63 | 3 | 3 | 5 | 5 | 13 | 13 | 16 | 16 |
| 5. Principals and vice-principals of New Secondary Schools, urban (10) | 197 | 79 | 7 | 3 | 9 | 4 | 20 | 8 | 17 | 7 |
| 6. Principals and vice-principals of New Secondary Schools, rural (33) | 655 | 79 | 7 | 1 | 39 | 5 | 64 | 8 | 60 | 7 |
| Total response across six groups (62) | 1,139 | 73 | 24 | 2 | 90 | 6 | 147 | 9 | 150 | 10 |

[a]Highest possible number of responses in any cell is N x 25, since 25 factors were offered for each aspect.

importance as planning parameters/guidelines. Indeed, the difference in perception between these groups when a comparison is made in the following way (i.e., group 1 versus group 2; group 2 versus group 3; group 3 versus group 4; group 5 versus group 6 with respect to political factors are of no importance) is relatively small ranging between 0% and 7%.

A further study of the data reveals, however, that a combination of the responses for degree of importance "3," "4," and "5" demonstrates that between 19% and 42% of the responses of the members of the six groups of respondents indicate that these factors are of some importance, great importance, and very great importance in the resource allocation process.

In terms of total response across the six groups of educators, an examination of the data indicates that 73% of their responses show that political factors are not considered to be important educational planning indicators.

Priority rating. An examination of the data of Table 22 shows that seven of the factors of the political aspect of educational planning are not given priority values by the respondents. However, a closer study of the data demonstrates that the following factors are seen as important:[1]

4. policy decisions (e.g., awareness of government's policy);

6. feasible alternative plans and political ramifications;

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[1]More than five respondents selected the factor with a priority of from "1" to "5."

Table 22

Frequency of Selection of Political Factors by the Members of Groups 1, 2, and 3

| Factors | Rating scale: Priority[a] "1" | "2" | "3" | "4" | "5" | Total frequency[b] of selection of each factor |
|---|---|---|---|---|---|---|
| 1. Siting of schools (recognizing political implications) | 6 | 0 | 1 | 1 | 0 | 8 |
| 2. Coordination of other government development services with education | 3 | 3 | 2 | 1 | 0 | 9 |
| 3. Political pressure/influence/authority/ power (from individuals or organisation) | 0 | 2 | 4 | 1 | 0 | 7 |
| 4. Policy decisions (e.g., awareness of government's policy) | 8 | 5 | 1 | 1 | 0 | 15 |
| 5. Pressure groups, i.e., national/ international | 0 | 3 | 2 | 0 | 1 | 6 |
| 6. Feasible alternative plans and political ramifications | 0 | 2 | 4 | 4 | 3 | 13 |
| 7. Priorities of government in terms of national goals | 0 | 0 | 3 | 0 | 1 | 4 |
| 8. Educators recognition of the implications of the political process | 0 | 0 | 0 | 6 | 2 | 8 |
| 9. Government's attitude toward change | 0 | 2 | 1 | 0 | 1 | 10 |
| 10. Political vs. professional roles | 1 | 0 | 0 | 3 | 0 | 4 |
| 11. Flexibility in plans in order to accommodate change of administration | 0 | 0 | 0 | 1 | 1 | 2 |
| 12. Fit between education programmes and political positions of government | 0 | 1 | 0 | 2 | 0 | 3 |
| 13. Interministry rivalry for educational programmes | 0 | 0 | 1 | 1 | 1 | 3 |
| 14. Political support/commitment to implement educational programmes | 0 | 1 | 2 | 2 | 1 | 6 |
| 15. Involvement of local government in the educational process in each parish | 0 | 0 | 0 | 0 | 0 | 0 |
| 16. Administrational strategy, e.g., centralization vs. decentralization of the educational process | 0 | 0 | 0 | 0 | 0 | 0 |
| 17. Politicians attitude toward administrators and educational planners | 0 | 2 | 1 | 2 | 1 | 6 |
| 18. Philosophic bases of political ideology | 0 | 0 | 0 | 0 | 0 | 0 |
| 19. School boards influence in the education process | 0 | 0 | 1 | 1 | 1 | 3 |
| 20. Implications of the democratization of the school boards | 0 | 0 | 0 | 0 | 0 | 0 |
| 21. Political goals of government | 0 | 0 | 0 | 0 | 1 | 1 |
| 22. Politicization of educational programmes | 0 | 0 | 0 | 2 | 1 | 3 |
| 23. Budgetary allocations and political implications (national) | 0 | 0 | 0 | 0 | 0 | 0 |
| 24. Staff rivalry for political support of favourite programmes | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. The inherent patronage system of government | 0 | 0 | 0 | 0 | 0 | 0 |

[a]A rating of "1" represents a high priority and "5" represents a low priority.

[b]Highest possible total frequency of selection of each factor is 15, since each of the 15 respondents (i.e., groups 1, 2, and 3 combined) were asked to assign no more than one priority value to each factor.

9. government's attitude toward change;

2. coordination of other government development services with education;

1. siting of schools (recognizing political implications);

3. political pressure/influence/authority/power (from individuals or organisation);

5. pressure groups, i.e., national/international;

14. political support/commitment to implement educational programmes; and

17. politician's attitude toward administrators and educational planners.

In the case of factor "4," 15 respondents indicate by their responses that it deserves priority rating consideration in the educational planning process. In fact 8 of the 15 respondents are agreed that this factor merits priority "1." Factor 6 (feasible alternative plans and political implications) is chosen by 13 respondents, but unlike factor 4, it is not given any high priority rating of "1" and the choices are more evenly distributed along the priority rating continuum 2-5 (where "1" is the highest priority and "5" is the lowest).

A closer study of the data also reveals that although the previously stated 10 factors are chosen with more frequency than the others, only three of the 10 are given priority rating "1." In short, the factors which have been selected have been assigned priority ratings between "2" and "5." This phenomenon seems to demonstrate that political factors of the types which are selected for this study are not really given priority in the educational planning process for resource allocation for the New Secondary Schools.

Summary of Section

The data as presented in Table 23 represent a summary of Tables 11, 14, 17, and 20 with particular reference to the first category of choice for the four selected aspects of educational planning, viz., demographic, economic, social, and political.

The summarisation of the data with respect to category of choice 1 (i.e., factors [of each selected aspect] are being considered) enables the following:

- a comparison of the positive responses of each group of educators across the four stated aspects of educational planning; and
- the determination of which one of the selected aspects is given the greatest consideration in educational planning (specifically resource allocation for the New Secondary Schools).

An examination of the data of Table 23 demonstrates that education officers and planners, and senior education officers exhibit an almost identical pattern in terms of positive responses regarding the consideration of the 25 stated factors of each of the four selected aspects of educational planning with respect to resource allocation for the New Secondary Schools.

Group 4 (steering committee for the New Secondary Schools) seems to have a tendency to indicate that most of the 25 selected factors of the four stated aspects are being considered in resource allocation with respect to the New Secondary Schools.

Table 23

Summary of Aspects Which Are Being Considered in Educational Planning by Six Groups of Educators

| Groups (N) | Aspects | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Responses indicating that demographic factors are being considered | | Responses indicating that economic factors are being considered | | Responses indicating that social factors are being considered | | Responses indicating that political factors are being considered | |
| | Number[a] | Percent | Number | Percent | Number | Percent | Number | Percent |
| 1. Education officers and planners (7) | 97 | 55 | 112 | 64 | 118 | 67 | 75 | 43 |
| 2. Senior education officers (6) | 80 | 53 | 101 | 67 | 107 | 71 | 56 | 37 |
| 3. Assistant chief education officers (2) | 15 | 30 | 30 | 60 | 35 | 70 | 16 | 32 |
| 4. Steering committee for New Secondary Schools (4) | 70 | 70 | 74 | 74 | 83 | 83 | 37 | 37 |
| 5. Principals and vice-principals of New Secondary Schools, urban (10) | 56 | 22 | 67 | 27 | 52 | 21 | 59 | 23 |
| 6. Principals and vice-principals of New Secondary Schools, rural (33) | 233 | 28 | 213 | 26 | 208 | 25 | 169 | 20 |
| Total response across six groups (62) | 551 | 36 | 597 | 39 | 603 | 39 | 412 | 27 |

[a]Highest possible number of responses in any cell is N x 25, since 25 factors were offered for each aspect.

In terms of which of the stated aspects of educational planning (viz., demographic, economic, social, and political) is perceived to be given the greatest consideration (in resource allocation for the New Secondary Schools), the responses of the six groups of educators, as shown in Table 23, demonstrate that the economic and social aspects receive the same degree of consideration. The demographic aspect, on the other hand, receives a slightly lower degree of attention/consideration, and the political aspect receives the lowest degree of consideration.

Regarding priority rating of the 25 factors for each of the stated aspects, a study of the data (Tables 13, 16, 19, and 22) indicates that many of the factors (in the judgment of the respondents) do not qualify for priority rating.

This situation appears to demonstrate that these selected factors are not the type which fall within the ambit of the consideration of these respondents, largely because of the lack of pertinent data regarding these factors or a lack of participative planning with respect to resource allocation for the New Secondary Schools.

## Communication Network

In this section is reported the respondents' (groups 1-3; and groups 5 and 6) perceptions/judgments regarding the degree of frequency of use of selected channels of communication in terms of resource allocation.

More specifically, in the first instance the perception of groups 1-3 (education officers and planners, senior education officers, and assistant chief education officers) relating to resource allocation for the New Secondary Schools through selected channels of communication and sources of information within the Ministry of Education is presented.

Secondly, the perception of groups 1-3 and groups 5 and 6 (principals and vice-principals of the New Secondary Schools, urban and rural, respectively) with respect to channels of communication between the Ministry of Education and the New Secondary Schools regarding the supplying and receiving of information concerning resource needs and allocation is presented herein.

The channels of communication and sources of information within the Ministry of Education are the following:

1. meetings--formal;
2. meetings--informal;
3. correspondence--memoranda;
4. correspondence--circulars; and
5. other.

The sources of information pertain to the following individuals:

1. heads of sections;
2. heads of units;
3. heads of divisions; and
4. other.

(See Chapter I, Figure 2, page 16. In general, each division includes a unit and a section.) Among other things, the following two divisions

of the education organisational structure are of interest to this study (viz., Educational Planning Division and Educational Operations Division). These divisions have as their heads a Chief Education Planner, and a Chief Education Officer, respectively. The heads of the units are Assistant Chief Education Officers; and the heads of the sections are Senior Education Officers or Senior Planners.

In the case of communication between the Ministry of Education and the New Secondary Schools, the selected channels of communication are the following:

1. meetings--formal;
2. meetings--informal;
3. correspondence--memoranda;
4. correspondence--circulars, letters, telegrams, and reports;
5. workshops;
6. seminars; and
7. other (e.g., telephone).

These channels of communication and sources of information are discussed with respect to receiving and supplying of information concerning resource allocation (human, physical, and financial) for the New Secondary Schools. The data are presented in Tables 24 through 32.

## Communication Within the Ministry of Education

The relevant data, regarding the communication network within the Ministry of Education, which pertain to educational planning for

resource allocation for the New Secondary Schools are presented in the following subsections. Five channels and four sources are described.

Meetings--formal. With respect to communication within the Ministry of Education regarding the allocation of resources for the New Secondary Schools, the data of Table 24 reveal that, with respect to receiving information concerning the stated schools, 100% of the members of group 3 (assistant chief education officers) indicate that they receive information with some frequency through formal meetings.

In this instance when a comparison is made among the three groups it becomes apparent that marked differences exist in terms of the percentage of the members who indicate that they receive information through meetings (formal). Nevertheless, the majority are of the opinion that this channel of communication is used with some frequency, great frequency, and very great frequency.

In terms of comparing the respondents' perceptions/judgments regarding the receiving and supplying of information, a further study of Table 24 indicates that there is to some degree a slight difference in the distribution of the responses concerning the two (receiving information and supplying information). Stated another way, a majority of the members of the three groups are agreed that they supply information through this channel of communication with slight frequency, some frequency, and great frequency.

Meetings--informal. Concerning informal meetings, an examination of the data of Table 25 shows that this mode of communication is used in the Ministry of Education. Indeed, in combining the responses of

Table 24

Percentage of Responses Regarding the Frequency of Use of Formal Meetings as Channels of Communication by Three Groups of Educators[a]

| | | Frequency of use of formal meetings | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 0 | 14 | 14 | 43 | 29 | 0 |
| | 2. Senior education officers (6) | 0 | 0 | 33 | 33 | 34 | 0 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 100 | 0 | 0 | 0 |
| To send (give) information | 1. Education officers and planners (7) | 0 | 14 | 57 | 29 | 0 | 0 |
| | 2. Senior education officers (6) | 0 | 33 | 0 | 33 | 17 | 17 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 100 | 0 | 0 | 0 |

[a]Within the Ministry of Education.

Table 25

Percentage of Responses Regarding the Frequency of Use of Informal[a] Meetings as Channels of Communication by Three Groups of Educators[a]

| | | Frequency of use of informal meetings | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 0 | 14 | 29 | 14 | 43 | 0 |
| | 2. Senior education officers (6) | 0 | 16 | 17 | 17 | 50 | 0 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 50 | 50 | 0 | 0 |
| To send (give) | 1. Education officers and planners (7) | 0 | 14 | 43 | 0 | 14 | 29 |
| | 2. Senior education officers (6) | 0 | 0 | 17 | 33 | 33 | 17 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 50 | 50 | 0 |

[a]Within the Ministry of Education.

the three groups of educators across the rating scale (from degree of frequency 3 to 5) it becomes apparent that 86%, 84%, and 100%, respectively, of the members of each group indicate that they receive relevant information regarding resource allocation for the New Secondary Schools through informal meetings.

In terms of using the stated channel of communication for supplying information (regarding resource allocation) to senior officers of the educational hierarchy, 43% of the members of group 1 (eduation officers and planners) indicate that they use this channel with some frequency (degree of frequency 3). In contrast, 33% and 50% of the members of group 2 (senior education officers) and group 3 (assistant chief educational officers), respectively, indicate that they use this particular channel of communication with great frequency and very great frequency (degree of frequency 4 and 5, on the five-point rating scale).

Correspondence--memoranda. With respect to receiving and supplying information which is pertinent to resource allocation through correspondence--memoranda, the data of Table 26 indicate that this channel of communication is widely used. In fact, 100% of the members of group 3 demonstrate that in their judgment correspondence--memoranda as a means of communication is used with great frequency. In short, the responses of the assistant chief education officers, Table 26, indicate that as a group they receive much pertinent information through this channel of communication.

Table 26

Percentage of Responses Regarding the Frequency of Use of Correspondence--Memoranda as Channels of Communication by Three Groups of Educators[a]

| | | Frequency of use of correspondence--memoranda | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 0 | 14 | 29 | 43 | 0 | 14 |
| | 2. Senior education officers (6) | 0 | 17 | 33 | 17 | 33 | 0 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 100 | 0 | 0 |
| To send (give) information | 1. Education officers and planners (7) | 14 | 0 | 14 | 43 | 14 | 15 |
| | 2. Senior education officers (6) | 0 | 0 | 33 | 33 | 17 | 17 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 0 | 100 | 0 |

[a]Within the Ministry of Education.

In terms of supplying information to senior officers of the educational hierarchy, a study of the data of Table 26 indicates that all the members of group 3 use memoranda with very great frequency. The 100% usage by group 3 is in contrast to group 1 and group 2 where the use of this mode of communication at degree of frequency 5 (on the five-point rating scale) is indicated by 14% and 17% of the members of each group, respectively.

Correspondence--circulars. Concerning the use of circulars as a mode of communication, an examination of the data in Table 27 demonstrates wide utility among the educators surveyed (groups 1-3). With respect to receiving information through this channel of communication, the majority of the members of groups 1, 2, and 3 indicate by their responses that circulars are used with some frequency and great frequency. In terms of using circulars to supply information, most of the respondents indicate usage which ranges from degree of frequency 2 to degree of frequency 4 on the five-point rating scale.

Other. With respect to the use of any other channel of communication such as news media, public announcements, etc., a study of Table 28 indicates that the responses of these respondents show that they rarely receive or supply information regarding resource allocation for New Secondary Schools by this mode of communication. Note however that there are many nonresponses for this particular item of the questionnaire. Hence it is difficult to make an unequivocal statement concerning the degree of frequency of use of this channel of communication.

Table 27

Percentage of Responses Regarding the Frequency of Use of Correspondence--Circulars as Channels of Communication by Three Groups of Educators[a]

| | Groups (N) | Frequency of use of correspondence--circulars | | | | | No response |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | |
| To receive information | 1. Education officers and planners (7) | 0 | 29 | 43 | 14 | 0 | 14 |
| | 2. Senior education officers (6) | 0 | 17 | 50 | 17 | 16 | 0 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 50 | 50 | 0 | 0 |
| To send (give) information | 1. Education officers and planners (7) | 29 | 14 | 14 | 14 | 0 | 29 |
| | 2. Senior education officers (6) | 0 | 17 | 33 | 0 | 17 | 33 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 50 | 0 | 50 |

[a]Within the Ministry of Education.

Table 28

Percentage of Responses Regarding the Frequency of Use of "Other" as Channel of Communication by Three Groups of Educators[a]

| | | Frequency of use of "other" | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 0 | 0 | 29 | 0 | 0 | 71 |
| | 2. Senior education officers (6) | 17 | 0 | 0 | 0 | 0 | 83 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 0 | 0 | 100 |
| To send (give) information | 1. Education officers and planners (7) | 0 | 0 | 14 | 0 | 0 | 86 |
| | 2. Senior education officers (6) | 17 | 17 | 0 | 0 | 0 | 67 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 0 | 0 | 100 |

[a]Within the Ministry of Education.

Source of Information Within the Ministry of Education

Concerning sources of information in the Ministry of Education, there are within the organisational structure, heads of sections, above them are heads of units, and above them are heads of divisions. These individuals are in a position to receive and supply relevant information from and to other officers in the Ministry of Education regarding resource allocation to the New Secondary Schools. Another source of information which is labelled "other" is also presented for discussion. The data (Tables 29 through 32) pertaining to these four sources of information are presented as follows:

Heads of sections (senior education officer). An examination of the data of Table 29 shows that 43% of the members of group 1 (education officers and planners) indicate by their responses that they receive information from these sources with great frequency. In the case of group 3 (assistant chief education officers), 50% of the members demonstrate by their responses that they receive information with no frequency, i.e., degree of frequency 1. In contrast, however, 100% of the members of group 3 (assistant chief education officers) show by their responses that they supply information to heads of sections with very great frequency, i.e., degree of frequency 5.

A further study of the data, Table 29, indicates that there are high percentages of nonresponse to this item of the questionnaire.

Heads of units (assistant chief education officers). An analysis of the data, Table 30, reveals that concerning the receiving of information (which is relevant to resource allocation) from the heads of

Table 29

Percentage of Responses Regarding the Frequency of Use of Heads of Sections as Sources for/of Information by Three Groups of Educators[a]

| | | Frequency of use of heads of sections | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 14 | 0 | 0 | 43 | 0 | 43 |
| | 2. Senior education officers (6) | 0 | 0 | 33 | 0 | 0 | 67 |
| | 3. Assistant chief education officers (2) | 50 | 0 | 0 | 0 | 0 | 50 |
| To send (give) information | 1. Education officers and planners (7) | 14 | 0 | 14 | 29 | 0 | 43 |
| | 2. Senior education officers (6) | 0 | 0 | 17 | 17 | 0 | 66 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 0 | 100 | 0 |

[a]Within the Ministry of Education.

Table 30

Percentage of Responses Regarding the Frequency of Use of Heads of Units as Sources for/of Information by Three Groups of Educators[a]

| | | Frequency of use of heads of units | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 0 | 0 | 43 | 43 | 0 | 14 |
| | 2. Senior education officers (6) | 0 | 0 | 50 | 17 | 17 | 16 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 0 | 0 | 100 |
| To send (give) information | 1. Education officers and planners (7) | 0 | 0 | 29 | 43 | 28 | 0 |
| | 2. Senior education officers (6) | 0 | 0 | 33 | 17 | 33 | 17 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 50 | 0 | 0 | 50 |

[a]Within the Ministry of Education.

units, 86% of the members of group 1 (education officers and planners) indicate that they receive such information with some frequency and great frequency. In the case of senior education officers, 84% of the members demonstrate by their responses that in their perception, information is received with some frequency to very great frequency.

A further examination of the data, Table 30, indicates 100% nonresponse from the members of group 3 (assistant chief education officers). This lack of response seems to be explainable in two ways. In the first instance as it has been stated previously, these individuals (assistant chief education officers) are the heads of units in the Educational Planning Division and in the Educational Operations Division, and as such, do not see themselves receiving information of the sort suggested by the questionnaire. More plausible, however, is the view that there is a lack of systematic formal dialgoue among the heads of units in terms of receiving and supplying information regarding resource allocation for the New Secondary Schools. In fact, a further examination of Table 30, in terms of the responses of group 3 concerning the supplying of information, supports this point of view.

Heads of divisions (chief education planner/chief education officer). The data, Table 31, indicate that pertaining to heads of divisions as sources of information (regarding resource allocation for the New Secondary Schools) all the members of groups 1, 2, and 3 indicate that they receive relevant information from these individuals with varying degrees of frequency.

Table 31

Percentage of Responses Regarding the Frequency of Use of Heads of Divisions as Sources for/of Information by the Three Groups of Educators[a]

| | | Frequency of use of heads of divisions | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 0 | 42 | 29 | 29 | 0 | 0 |
| | 2. Senior education officers (6) | 16 | 17 | 50 | 17 | 0 | 0 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 50 | 50 | 0 |
| To send (give) information | 1. Education officers and planners (7) | 14 | 28 | 29 | 29 | 0 | 0 |
| | 2. Senior education officers (6) | 16 | 17 | 50 | 0 | 17 | 0 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 0 | 50 | 50 |

[a]Within the Ministry of Education.

In terms of supplying information to the heads of divisions, the responses indicate that the members of the three groups of educators supply information in almost the same pattern of frequency as they receive information from the head of the division (Table 31).

Other. The data in Table 32 indicate that the three groups of educators receive information (pertaining to resource allocation for the New Secondary Schools) from sources other than the heads of sections, heads of units, and heads of divisions. The majority of the responses indicate, however, that such an occurrence happens with slight frequency.

In terms of supplying information to other sources within the Ministry of Education, the majority of the responses are between degree of frequency 1 and degree of frequency 3 on the five-point rating scale. There is also a high percentage of nonresponse from group 1 and group 2, respectively.

## Communication Between Ministry of Education and New Secondary Schools

The data of Tables 33 through 40 describe the mode in which selected channels of communication function between the Ministry of Education (Education Planning Division and Educational Operations Division) and the New Secondary Schools and vice-versa and are presented in seven subsections.

Meetings--formal. The data as presented in Table 33 indicate that formal meetings are used by the members of all five groups of respondents (education officers and planners, senior education officers,

Table 32

Percentage of Responses Regarding the Frequency of Use of "Other" as Sources for/of Information by the Three Groups of Educators[a]

| | | Frequency of use of "other" | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 0 | 43 | 29 | 0 | 14 | 14 |
| | 2. Senior education officers (6) | 0 | 33 | 0 | 17 | 0 | 50 |
| | 3. Assistant chief education officers (2) | 0 | 50 | 0 | 50 | 0 | 0 |
| To send (give) information | 1. Education officers and planners (7) | 29 | 0 | 0 | 0 | 0 | 71 |
| | 2. Senior education officers (6) | 17 | 0 | 0 | 16 | 0 | 67 |
| | 3. Assistant chief education officers (2) | 0 | 50 | 50 | 0 | 0 | 0 |

[a]Within the Ministry of Education.

Table 33

Percentage of Responses Regarding the Frequency of Use of Formal Meetings as Channels of Communication by Five Groups of Educators[a]

| | Groups (N) | Frequency of use of formal meetings | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 0 | 14 | 29 | 14 | 0 | 43 |
| | 2. Senior education officers (6) | 0 | 50 | 0 | 50 | 0 | 0 |
| | 3. Assistant chief education officers (2) | 0 | 50 | 50 | 0 | 0 | 0 |
| To send (give) information | 1. Education officers and planners (7) | 14 | 14 | 14 | 29 | 0 | 29 |
| | 2. Senior education officers (6) | 0 | 33 | 0 | 33 | 17 | 17 |
| | 3. Assistant chief education officers (2) | 0 | 50 | 50 | 0 | 0 | 0 |
| To send (give) information) | 5. Principals & vice-principals, New Secondary Schools, urban (10) | 10 | 20 | 30 | 0 | 40 | 0 |
| | 6. Principals & vice-principals, New Secondary Schools, rural (33) | 24 | 15 | 36 | 12 | 9 | 4 |

[a]Between the Ministry of Education and the New Secondary Schools.

assistant chief education officers, principals and vice-principals [urban], principals and vice-principals [rural]).

A more detailed study of Table 33 shows that in the case of groups 1, 2, and 3 (Ministry of Education officials), they use formal meetings to inform principals, vice-principals, and bursars of resource allocation for the New Secondary Schools. According to the responses, Table 33, of the respondents, groups 1, 2, and 3, the stated channel of communication is used with varying degrees of frequency to elicit information, regarding the allocated resources, from the pertinent authorities of the schools.

The data also show that group 5 and group 6 (principals and vice-principals, urban and rural, respectively) use this mode of communication frequently to inform the Ministry of Education of resource needs. Indeed, the data as presented in Table 33 show, however, that 40% of the members of group 5 use the selected channel of communication with very great frequency, in contrast to only 9% of the members of group 6.

Meetings--informal. An examination of Table 34 shows that informal meetings as channels of communication are used by all five groups of respondents. In the case of groups 1, 2, and 3 (education officers and planners, senior education officers, and assistant chief education officers), the majority of the respondents indicate that the frequency of use of informal meetings to supply or seek information from the principals, vice-principals, and bursars of the New Secondary Schools is limited to slight frequency and some frequency. With respect to groups 5 and 6 (principals and vice-principals, urban and

Table 34

Percentage of Responses Regarding the Frequency of Use of Informal Meetings as Channels of Communication by Five Groups of Educators[a]

| | Groups (N) | Frequency of use of informal meetings | | | | | No response |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | |
| To receive information | 1. Education officers and planners (7) | 0 | 14 | 43 | 14 | 0 | 29 |
| | 2. Senior education officers (6) | 0 | 33 | 50 | 0 | 17 | 0 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 100 | 0 | 0 | 0 |
| To send (give) information | 1. Education officers and planners (7) | 14 | 14 | 14 | 15 | 0 | 43 |
| | 2. Senior education officers (6) | 0 | 17 | 50 | 0 | 17 | 17 |
| | 3. Assistant chief education officers (2) | 0 | 50 | 50 | 0 | 0 | 0 |
| To send (give) information | 5. Principals & vice-principals, New Secondary Schools, urban (10) | 50 | 0 | 10 | 20 | 20 | 0 |
| | 6. Principals & vice-principals, New Secondary Schools, rural (33) | 51 | 0 | 18 | 15 | 12 | 4 |

[a]Between the Ministry of Education and the New Secondary Schools.

rural, respectively) 50% of the members of both groups demonstrate by their responses that in their judgment informal meetings as channels of communication between the New Secondary Schools are used with no frequency (degree of frequency of use 1 on the five-point rating scale).

Correspondence--memoranda. An examination of Table 35 indicates that most of the respondents (group 1, group 2, and group 3) are agreed that in their judgment the stated mode of communication is used with some frequency and great frequency, as a channel through which information regarding resource allocation for the New Secondary Schools is sent. A further study of the data of Table 35 demonstrates that the usage of memoranda to get information from the stated schools is practiced by less than 50% of the respondents.

Correspondence--Circulars/letters/telegrams/reports. The examination of Table 36 indicates that all the members of groups 1, 2, and 3 use circulars as means of communicating with the pertinent authorities of the New Secondary Schools. The study of the data demonstrates also that the majority of the respondents use the stated mode of communication in the range of some frequency to very great frequency.

With respect to the members of group 5 and group 6 (principals and vice-principals of the New Secondary Schools, urban and rural, respectively), Table 36 shows that the use of circulars/letters/telegrams as means of communicating with the Ministry of Education is widespread. In contrast to groups 1, 2, and 3, however, group 5 and 6 indicate by their responses that their use of the selected channel of communication ranges from no frequency to very great frequency.

Table 35

Percentage of Responses Regarding the Frequency of Use of Correspondence--Memoranda as Channels of Communication by Three Groups of Educators[a]

| | Groups (N) | Frequency of use of correspondence--memoranda | | | | | No response |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | |
| To receive information | 1. Education officers and planners (7) | 29 | 0 | 29 | 0 | 0 | 42 |
| | 2. Senior education officers (6) | 50 | 0 | 0 | 33 | 0 | 17 |
| | 3. Assistant chief education officer (2) | 50 | 0 | 0 | 50 | 0 | 0 |
| To send (give) information | 1. Education officers and planners (7) | 29 | 0 | 28 | 0 | 0 | 43 |
| | 2. Senior education officers (6) | 17 | 0 | 17 | 33 | 17 | 17 |
| | 3. Assistant chief education officers (2) | 0 | 50 | 0 | 50 | 0 | 0 |

[a]Between the Ministry of Education and the New Secondary Schools.

Table 36

Percentage of Responses Regarding the Frequency of Use of Correspondence--Circulars, Letters, Telegrams, Reports--as Channels of Communication by Five Groups of Educators[a]

| | | Frequency of use of correspondence--circulars/letters/telegrams[b]/reports[c] | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive[b] information | 1. Education officers and planners (7) | 14 | 0 | 14 | 0 | 0 | 72 |
| | 2. Senior education officers (6) | 50 | 0 | 17 | 17 | 0 | 16 |
| | 3. Assistant chief education officers (2) | 50 | 0 | 0 | 50 | 0 | 0 |
| To send (give)[b] | 5. Principals & vice-principals, New Secondary Schools, urban (10) | 0 | 10 | 20 | 30 | 40 | 0 |
| | 6. Principals & vice-principals, New Secondary Schools, rural (33) | 15 | 4 | 18 | 21 | 33 | 9 |
| To receive[c] information | 1. Education officers and planners (7) | 0 | 0 | 43 | 14 | 14 | 29 |
| | 2. Senior education officers (6) | 17 | 33 | 0 | 33 | 0 | 17 |
| | 3. Assistant chief education officers (2) | 50 | 0 | 0 | 0 | 0 | 50 |

[a]Between the Ministry of Education and the New Secondary Schools.

With regard to reports as a mode of communication between the New Secondary Schools and the Ministry of Education, the responses of the three groups of educators (education officers and planners, senior education officers, and assistant chief education officers) demonstrate varying degrees of frequency of use.

A study of Table 36 also reveals 96% nonresponse for the three groups. This situation indicates that the respondents are uncertain regarding the use of reports as a mode of communication which elicits pertinent information from the schools which are being studied.

Workshops. Concerning the use of the stated mode of communication between the New Secondary Schools and the Ministry of Education, Table 37A demonstrates that the members of group 5 and group 6 (principals and vice-principals of the New Secondary Schools, urban and rural, respectively) show that they use workshops which are sponsored by the Ministry of Education as avenues through which the pertinent authorities in the Ministry of Education are informed of the schools' resource needs. A further study of Table 37A indicates, however, that usage in terms of frequency ranges from no frequency to very great frequency with 40% and 33% of the members of group 5 and group 6, respectively, indicating degree of frequency of use as some frequency (degree frequency of use 3 on the five-point rating scale). Furthermore, in comparing the responses of group 5 and group 6 across the rating scale, it is apparent that the respondents exhibit differences in judgment regarding the use of this channel of communication.

Table 37

Percentage of Responses Regarding the Frequency of Use of Workshops and Seminars as Channels of Communication by Two Groups of Educators[a]

| | | Frequency of use | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| A. Workshops: | | | | | | | |
| To send (give) information | 5. Principals & vice-principals, New Secondary Schools, urban (10) | 20 | 20 | 40 | 20 | 0 | 0 |
| | 6. Principals & vice-principals, New Secondary Schools, rural (33) | 27 | 24 | 33 | 9 | 3 | 4 |
| B. Seminars: | | | | | | | |
| To send (give) information | 5. Principals & vice-principals, New Secondary Schools, urban (10) | 20 | 20 | 20 | 30 | 10 | 0 |
| | 6. Principals & vice-principals, New Secondary Schools, rural (33) | 21 | 9 | 51 | 12 | 3 | 4 |

[a]Between the New Secondary Schools and the Ministry of Education.

Seminars. The data of Table 37B indicate that as in the case of workshops (Table 37A), seminars are used as channels of communication between the principals and vice-principals of the New Secondary Schools and the Ministry of Education. In terms of frequency of use, a further study of Table 37B indicates that 30% of the members of group 5 state that in their perception seminars are used with great frequency (degree of frequency of use 4 on the five-point rating scale) to inform the Ministry of Education officials of the resource needs of the stated schools.

With respect to group 6 (principals and vice-principals, New Secondary Schools, rural) 51% of the members of this group demonstrate that the usage of seminars as a mode of communication is in terms of some frequency. A further study of Table 37B shows that an overall comparison of the responses of group 5 and group 6 indicates a difference in the perception of both groups of educators, in terms of the degree of frequency of use of seminars as a mode of communicating with the Ministry of Education regarding resource needs of the stated schools.

Other. Concerning "other" modes of communication between the Ministry of Education and the New Secondary Schools, Table 38 indicates that neither in terms of supplying or eliciting information from the stated schools are modes of communication, other than those previously discussed, used with any degree of frequency. However, the high degree/percentage of nonresponses also seem to indicate that the respondents (education officers and planners, senior education officers,

Table 38

Percentage of Responses Regarding the Frequency of Use of "Other" as Channel of Communication by Three Groups of Educators[a]

| | | Frequency of use of "other" | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | Groups (N) | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | No response |
| To receive information | 1. Education officers and planners (7) | 14 | 0 | 14 | 0 | 0 | 72 |
| | 2. Senior education officers (6) | 0 | 17 | 17 | 0 | 0 | 66 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 50 | 0 | 0 | 50 |
| To send (give) information | 1. Education officers and planners (7) | 0 | 0 | 0 | 14 | 0 | 86 |
| | 2. Senior education officers (6) | 0 | 33 | 0 | 17 | 0 | 50 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 0 | 0 | 100 |

[a]Between the Ministry of Education and the New Secondary Schools.

and assistant chief education officers) are unresolved in their perceptions/judgments regarding the use of other modes of communication in the sphere of educational planning for the New Secondary Schools.

Summary of Section

In the first instance the summary is concerned with highlighting the characteristics of the usage of the channels of communication and sources of information within the Ministry of Education with respect to degree of frequency of use in terms of giving and receiving information concerning resource allocation for the New Secondary Schools.

Secondly, the salient features of the avenues/modes of communication between the Ministry of Education and the New Secondary Schools and vice versa regarding resource needs and allocation for the stated schools are summarised also.

Communication network within the Ministry of Education. As was previously stated, the channels of communication in the Ministry of Education with respect to information flow are the following:

1. meetings--formal;
2. meetings--informal;
3. correspondence--memoranda;
4. correspondence--circulars; and
5. other

The data as presented in Tables 24 through 32 suggest that the selected channels of communication are used within the Ministry of Education, with varying degrees of frequency, as avenues through which

information relating to resource allocation for stated schools is supplied and received by the pertinent authorities.

More specifically, the responses show a strong central tendency. This tendency, in terms of usage, of the channels of communication, is measured in terms of the responses of the individual groups of educators (viz., education officers and planners, senior education officers, and assistant chief education officers).

With regard to educational planning, and the use of other channels of communication, the findings indicate that such modes of communication are rarely used for supplying or receiving information.

Concerning sources of information (viz., heads of sections, heads of units, heads of divisions, and other, the data indicate that the degree to which information is supplied or received is uncertain. To put the matter another way, the high percentage of nonresponses (see Tables 29, 30, and 32) appear to indicate that the respondents are undecided in their judgments regarding the frequency with which these individuals supply and/or receive information pertaining to resource allocation for the New Secondary Schools.

However, the trend which emerges seems to suggest that heads of units supply information to heads of sections but do not themselves receive information in return with recognizable frequency. On the other hand, education officers and planners indicate receiving and supplying information to heads of sections.

The data also indicate that heads of units supply information to and receive information from groups who are lower on the educational

hierarchical ladder. In contrast a study of the data seems to imply that heads of units do not supply or receive information regarding resource allocation from other heads of units with any degree of frequency. This phenomenon indicates an apparent lack of adequate communication links to facilitate information flow between heads of units.

Regarding heads of divisions and the receiving and supplying of information, the responses of the respondents exhibit more certainty. In fact, they indicate that these individuals supply to and receive information from the stated groups of respondents (viz., education officers and planners, senior education officers, and assistant chief education officers) with some frequency, degree of frequency 3 on the five-point rating scale.

With respect to other sources of information, these (i.e., sources) are rarely used for supplying or receiving information pertaining to the allocation of human, physical, or financial resources to the stated schools.

Communication network between the Ministry of Education and the New Secondary Schools and vice versa. The selected channels of communication between the Ministry of Education and the New Secondary Schools and vice versa are the following:

1. meetings--formal;
2. meetings--informal;
3. correspondence--memoranda;
4. correspondence--circulars, letters, telegrams, reports;

5. workshops;

6. seminars; and

7. other.

An examination of the findings suggests that in general the degree of frequency of use of the stated channels of communication varies. For example, meetings of a formal nature are used with slight frequency (degree of frequency 1 on the five-point rating scale) to supply information regarding resource allocation to the principals and vice-principals of the New Secondary Schools. In contrast, the principals and vice-principals use the stated mode of communication with some frequency to inform the Ministry of Education of the resource needs of the schools. On the other hand, informal meetings are used with slight and some frequency by both school and Ministry of Education officials.

With regard to correspondence--memoranda as a channel of communication, it is used with some frequency and great frequency but by a minority of the respondents. Circulars as a mode of correspondence are used by groups 1, 2, 3, 5, and 6 with some frequency to great frequency. Regular letters and telegrams are used with great frequency by the majority of the stated respondents as channels of communication between the Ministry of Education and the schools and vice versa.

As indicated by the findings the respondents are uncertain regarding the use of reports as a mode of communication. The high percentage of nonresponses to this particular item of the questionnaire supports this statement. On the other hand, workshops and seminars are

used by group 5 and group 6 with some frequency as forums where the principals and vice-principals of the New Secondary Schools inform the Ministry of Education of resource needs of the schools.

Accordingly, the data also indicate that all other modes of communication are rarely used as avenues through which the Ministry of Education and the schools communicate.

## Operational Links Among Specific Organised Bodies in Terms of Information Flow

The findings which are reported in this section represent the perceptions/judgments of the members of group 4 (steering committee for the New Secondary Schools) regarding operational links in terms of information flow between specific organised bodies of the educational system and themselves. The statements following are quotations, paraphrases and summaries of the responses to the open-ended items of the questionnaire.

### Information Flow

The findings are presented in three subsections, viz.,

1. Information flow between the steering committee and other committees of the Ministry of Education;
2. Information flow between the steering committee and the planning division of the Ministry of Education; and
3. Information flow between the steering committee and the New Secondary Schools.

Information flow between the steering committee and other committees of the Ministry of Education. The responses of the members of group 4 indicate that there is a difference in perception among these educators concerning operational links and information flow between the stated groups, and other committees within the Ministry of Education. For example, responses from some members of group 4 indicate that there is neither structural nor organisational links between the steering committee and the executive committee. Linkage relies on feedback from the Special Advisor to the Minister of Education who is the chairman of the steering committee and also a member of the executive committee.

Indeed, the chairman of the steering committee has access to almost every other policy committee of the Ministry of Education and can introduce proposals and recommendations of the steering committee to any other committee at appropriate times. This unique situation provides a direct relationship between the steering committee and other committees of the Ministry of Education notwithstanding the fact of no structural nor organisational linkage. In fact the following excerpt from the questionnaire lends support to the previous statement: "A direct relationship is maintained through representatives of other committees who are also members of the steering committee."

Information flow between the steering committee and the planning division of the Ministry of Education. The responses as detailed in the questionnaires demonstrate that all the members of the steering committee are not agreed that organisational or structural links exist between

the two entities. The majority of the members of group 4 (steering committee of the New Secondary Schools) do not perceive structured linkages between the planning division and the steering committee. However, examination of the responses shows that in the perception of the respondents (group 4) a "loose" type of linkage exists. Stated another way a number of the senior officers of the planning division, who are answerable to the Chief Educational Planner, are members of the steering committee. Therefore, through these individuals the planning division is apprised of the proceedings of the steering committee. The responses also indicate that a more official mode of information flow between the two entites is provided by the sending of a brief summary of the proceedings of the steering committee to the planning division.

Worthy of note also is the fact that the steering committee is a completely advisory body, and indeed is not an integral part of the organisational structure of the Ministry of Education. Thus its proposals and/or recommendations are not necessarily binding.

Information flow between the steering committee and the New Secondary Schools. Concerning the existence of adequate channels of communication between the steering committee for the New Secondary Schools, and the stated schools, the responses of the members of group 4 (steering committee for the New Secondary Schools) indicate that there is. In fact, the answers of the respondents demonstrate that in their perceptions/judgments, a close relationship exists with the schools, through implementation officers who visit the schools

once every fortnight. These officers receive pertinent "feedback" from principals, vice-principals, and pupils of the schools. Thus, the strengths and weaknesses of the programmes, with respect to the school in general but moreso to grades 10 and 11 in particular, are reported to the steering committee by these implementation officers.

In general, the channels through which communication takes place between the schools (New Secondary) and the steering committee are indicated by the respondents to be the following:

1. implementation officers;
2. education officers;
3. correspondence (letters from principals of the schools);
4. informal reports (from principals who are members of the steering committee);
5. annual seminars; and
6. workshops.

Summary of Section

The salient features of the preceding subsections, restated herein, are highlighted in this summary:

- information flow between the steering committee and other committees of the Ministry of Education;
- information flow between the steering committee and the planning division; and
- information flow between the steering committee and the New Secondary Schools.

With respect to the first two subsections, the responses of the members of group 4 (steering committee of the New Secondary Schools) suggest that there are no structural nor organisational links between the steering committee and the planning division of the Ministry of Education.

The respondents indicate, however, that in spite of this fact, direct working relationship and information flow are maintained by virtue of the fact that members of the steering committee are also members of other committees within the educational system.

Indeed, other operational links and flow of information are maintained also through the distribution of a brief summary of the proceedings of the steering committee.

Concerning the third subsection, information flow between the steering committee and the New Secondary Schools, all the responses indicate that there are indeed channels of communication which foster information flow between the two entities. The respondents indicate that the channels which are used most frequently are the following:

- implementation officers;
- education officers;
- correspondence (letters from principals of the schools);
- informal reports (i.e., from principals of the stated schools who are members of the steering committee);
- annual seminars; and
- workshops.

## Strategies for Evaluation and Modification of the Communication Network Within the System

In this section are presented data in Tables 39 and 40 which pertain to the frequency of use of selected strategies for evaluation, follow-up action, and modification of the communication network (with respect to resource allocation--human, physical, and financial for the New Secondary Schools) within the Ministry of Education, between the Ministry of Education and the New Secondary Schools and vice versa.

Firstly, the strategies which are considered with regard to evaluation and follow-up action are the following:

1. meetings--formal;
2. meetings--informal;
3. group discussion;
4. task force; and
5. "one-man band."

Secondly, the strategies/techniques which are used to effect change and/or modification in the mode of the system's information flow and communication network are the following:

1. meetings--formal and routine;
2. long-term planning--special planning sessions;
3. short-term planning--special planning sessions; and
4. crisis management.

Evaluation and Follow-Up Action

Concerning evaluation and follow-up action, the findings which pertain to the strategies which are used are presented in five subsections.

Meetings--formal. A careful study of Table 39 indicates that the majority of the respondents of groups 1, 2, and 3 demonstrate that in their judgments formal meetings provide the strategy for evaluating information flow regarding resource allocation for the New Secondary Schools. The responses indicate also that the frequency of use of formal meetings for reviewing information flow ranges between degree of frequency of use 3 and 4 on the five-point rating scale.

Meetings--informal. Table 39 shows that the responses exhibit a strong central tendency, thus indicating that in some measure informal meetings provide a modus operandi with respect to evaluatory strategy for the communication network within the Ministry of Education.

Group discussion. A further examination of Table 39 indicates that group discussion as a strategy for evaluating the communication network and information flow in terms of resource allocation, within the Ministry of Education, and between the Ministry of Education and the New Secondary Schools and vice versa, ranges between slight frequency and some frequency. Indeed, a comparison of the responses of group 1 and group 3 indicates apparent differences in the perception of the two groups concerning the degree of frequency of use of group discussion as an evaluatory strategy.

Table 39

Percentage of Responses Regarding the Frequency of Use of Stated Strategies to Evaluate and Effect Follow-Up Action by Three Groups of Educators[a]

| Strategies | Groups (N) | Frequency of use of strategies | | | | | No response |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq (%) | |
| Meetings--formal | 1. Education officers and planners (7) | 14 | 14 | 29 | 29 | 0 | 14 |
| | 2. Senior education officers (6) | 0 | 0 | 17 | 33 | 17 | 33 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 100 | 0 | 0 | 0 |
| Meetings--informal | 1. Education officers and planners (7) | 0 | 0 | 72 | 14 | 0 | 14 |
| | 2. Senior education officers (6) | 0 | 17 | 50 | 17 | 0 | 16 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 50 | 50 | 0 | 0 |
| Group discussion | 1. Education officers and planners (7) | 0 | 14 | 43 | 29 | 0 | 14 |
| | 2. Senior education officers (6) | 0 | 17 | 50 | 0 | 17 | 16 |
| | 3. Assistant chief education officers (2) | 0 | 50 | 0 | 0 | 0 | 50 |
| Task force | 1. Education officers and planners (7) | 29 | 13 | 29 | 0 | 0 | 29 |
| | 2. Senior education officers (6) | 17 | 17 | 0 | 33 | 0 | 33 |
| | 3. Assistant chief education officers (2) | 50 | 0 | 0 | 0 | 0 | 50 |
| "One man band" | 1. Education officers and planners (7) | 14 | 0 | 14 | 29 | 0 | 43 |
| | 2. Senior education officers (6) | 0 | 17 | 17 | 33 | 0 | 33 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 50 | 50 | 0 |

[a]Ministry of Education officials.

Task force. A study of the data of Table 39 which relate to task force shows that in the perception of the respondents the stated form of evaluatory strategy is used but not with as much frequency as group discussion. Indeed, the judgments of the three groups (education officers and planners, senior education officers, assistant chief education officers) differ markedly regarding the degree of frequency of use.

"One-man band." A study of the data of Table 39 (section which is concerned with one-man band) shows that this strategy of evaluating the communication network and information flow, with respect to the Ministry of Education and the New Secondary Schools enjoys usage in the range of some frequency to very great frequency.

## Strategies to Effect Change and/or Modification

The findings which relate to the strategies which are used to effect change and/or modify the communication network and information flow of the educational system are reported in four subsections.

Meetings--formal. With respect to strategies which are used to effect changes in information flow regarding resource allocation for the New Secondary Schools, a study of Table 40 indicates a difference in the perceptions/judgments of the three groups of educators (education officers and planners, senior education officers, assistant chief education officers) regarding the frequency with which formal routine meetings, as a strategy, are used.

In the case of group 3 (assistant chief education officers) 100% of the members of the stated group indicate by their responses that

Table 40

Frequency of Use of Strategies to Effect Change and/or Modification in Communication Flow Regarding Resource Allocation (for the New Secondary Schools) by Three Groups of Educators

| | Groups (N) | Frequency of use of strategies | | | | | No response |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| | | No freq. (%) | Slight freq. (%) | Some freq. (%) | Great freq. (%) | Very great freq. (%) | |
| Meetings--formal and routine | 1. Education officers and planners (7) | 0 | 43 | 29 | 14 | 0 | 14 |
| | 2. Senior education officers (6) | 0 | 33 | 16 | 33 | 0 | 17 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 100 | 0 | 0 | 0 |
| Long-term planning | 1. Education officers and planners (7) | 0 | 0 | 47 | 53 | 0 | 0 |
| | 2. Senior education officers (6) | 0 | 33 | 0 | 50 | 0 | 17 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 100 | 0 | 0 |
| Short-term planning | 1. Education officers and planners (7) | 0 | 0 | 29 | 28 | 43 | 0 |
| | 2. Senior education officers (6) | 0 | 17 | 50 | 17 | 0 | 16 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 50 | 50 | 0 | 0 |
| Crisis management | 1. Education officers and planners (7) | 0 | 0 | 0 | 14 | 0 | 86 |
| | 2. Senior education officers (6) | 17 | 0 | 0 | 0 | 0 | 83 |
| | 3. Assistant chief education officers (2) | 0 | 0 | 0 | 0 | 0 | 100 |

in their judgments the selected strategy is used with some frequency (degree of frequency of use 3 on the five-point rating scale). However, a further examination of the data indicates that the responses of the three groups of respondents regarding the use of meetings (formal routine) to effect changes in communication, which is relevant to the process of resource allocation in educational planning, ranges from slight frequency to great frequency.

Long-term planning. An examination of the data of Table 40 indicates that concerning long-term planning, the majority of the members indicate that the process/strategy is used with degree of frequency of use 4 (great frequency) on the five-point rating scale. Indeed, 50% to 100% of the three groups of educators indicate that in their perceptions, long-term planning is employed with great frequency in order to effect modification in the information flow with respect to resource allocation for the New Secondary Schools.

Short-term planning. A study of Table 40 shows further that in the judgments of the three groups of educators, short-term planning is used as the technique/strategy in the process of effecting change in information flow which pertains to resource allocation. In fact, the responses exhibit a strong central tendency in terms of frequency of use.

Crisis management. With reference to crisis management, Table 40 reveals a high percentage of nonresponse for this particular item of the questionnaire.

Indeed, the nonresponses indicate that the respondents of groups 1, 2, and 3 (education officers and planners, senior education officers, assistant chief education officers) are unresolved in their perceptions/judgments regarding the degree of frequency of use of the stated strategy for effecting change and/or modification in information flow of the educational planning process with respect to resource allocation.

Summary of Section

The five strategies which have been studied in terms of evaluation and follow-up action of the communication network within the educational system are the following:

1. meetings--formal;
2. meetings--informal;
3. group discussion;
4. task force; and
5. "one-man band."

The findings indicate that the three groups of educators (education officers and planners, senior education officers, and assistant chief education officers, respectively) are of the opinion that the stated strategies are used with a varying degree of frequency.

The four strategies to effect change and/or modification in the modus operandi of the system's information flow are viz.,

1. meetings--formal and routine;
2. long-term planning--special planning sessions;
3. short-term planning--special planning sessions; and
4. crisis management.

With respect to the selected strategies the findings indicate that long-term planning--special planning sessions are employed with great frequency. With reference to crisis management, the high percentage of nonresponses suggest some degree of uncertainty on the part of the respondents regarding the use of this strategy.

The high percentage of nonresponses which is evident for many of the items of the questionnaire indicates clearly that the respondents are unresolved in their judgments regarding the degree of frequency of use of specific strategies.

Nevertheless, the trend with respect to the degree of frequency of use indicates, in general, that the responses of the three groups of educators exhibit a strong central tendency.

## Linkage of Programmes

In this section is presented the findings which pertain to the following subsections:

1. linkage of programmes and curricula; and
2. bases on which resource needs are identified and resources allocated.

### Linkage of Programmes and Curricula Between Grades 7, 8, 9, and 10 and 11

The findings which are presented herein are the responses of group 4, group 5, and group 6 (steering committee for the New Secondary Schools; principals and vice-principals of New Secondary Schools, urban; and principals and vice-principals of New Secondary Schools, rural).

The statements following are quotations, paraphrases, and summaries of the responses to the open-ended items of the questionnaires.

Programmes and curricula. The responses of the three groups of educators show their judgments/perceptions regarding the linkage of grades 7, 8, 9, and 10 and 11 with respect to programmes and curricula as they relate to the school's organisation in terms of resource allocation.

A study of the responses of the members of group 4 concerning the linkage of the stated grades within the selected areas (programmes and curricula) exhibit consensus regarding their perceptions of the linkages. More specifically, all the members of the steering committee for the New Secondary Schools indicate by their replies that grades 10 and 11 have been initiated as special projects. However, the overall aim is to upgrade secondary education in Jamaica. Indeed, an excerpt from the questionnaires shows that the strategists of the projects utilized "a top down approach" to initiate the programme. Stated another way, the addition of grades 10 and 11 to the existing Junior Secondary Schools meant programming down to meet the needs of the lower grades (viz., 7, 8, and 9). In essence, the concept is the creation of new grades 10 and 11 and thus foster change in grades 7, 8, and 9 over a period of time. This situation implies that structurally there is no organic link between the two entities. In fact, this excerpt from the responses to the open-ended questions of Part I of the questionnaire underscores the point:

> Initially, there was no conscious effort to link the two entities [viz., grades 7, 8, and 9 and grades 10 and 11]. However, currently, the Core Curriculum Unit has started to develop strategies for articulation of grades 7-9 and 10 and 11 programmes.

Furthermore, as the responses of the members of group 4 indicate, in terms of educational planning for resource allocation for the entity called New Secondary Schools, there are no coordinated and direct operation from grades 7 through 11. As a matter of fact, the following excerpt from the responses to the open-ended questions of Part I of the questionnaire lends support to the statement:

> [In terms of] financial management, grades 7, 8, and 9 are separate from grades 10 and 11 [since] the latter are treated as special projects in terms of the Ministry of Education's operation. . . . [With respect] to school organisation, grades 10 and 11 tend to be staffed and operated separately from grades 7-9.

Notwithstanding, the principal of each school is responsible and accountable for the entire unit, i.e., grades 7 through 11.

A further study of the responses of group 4 (steering committee for the New Secondary Schools) tends to suggest that the initiation of grades 10 and 11 is the result of social demand approach to educational planning, thus attempting to promote the concept of an egalitarian society.

The responses of the educators (groups 4, 5, and 6), viz., steering committee for the New Secondary Schools; principals and vice-principals of New Secondary Schools, urban; and principals and vice-principals of New Secondary Schools, rural; indicate that the programmes and curricula of the schools have a strong vocational and technical emphasis. In fact, each student is required to do 16 periods/sessions

per school week in this particular area of school activity. Stated another way, a student spends 40% of his/her time per week in the vocational and technical area of the school. (Note there are 40 periods/sessions per week.)

The strong vocational and technical bias of the school's programme suggests a modified type of manpower approach to educational planning. Indeed, this statement is supported by a quotation which has been previously stated in Chapter I (page 26) of this study, from "Minutes of Retreat," Ministry of Education.

With respect to the responses of group 5 and group 6, on the subject of linkage of grades 7, 8, and 9 and 10 and 11 in programmes and curricula, the data indicate that it is the perceptions/judgments of approximately 50% of the respondents that there are linkages. Indeed, the following excerpt from responses to the open-ended questions of Part I of the questionnaire illustrates the respondent's perception with respect to the existence of linkages of the two entities (viz., grades 7, 8, and 9 and 10 and 11) in the area of curricula:

> The curriculum for grades 10 and 11 is a continuation of work which was done before, the only apparent change is the greater emphasis on the vocational subjects for the functional and prefunctional groups.

On the other hand, the following statement which is an excerpt from the open-ended questions of Part I of the questionnaire summarizes responses of those principals and vice-principals who demonstrate that in their perceptions/judgments there is no linkage of the programmes.

> Apart from language and communication and mathematics which form the basis of the courses offered in grades 10 and 11, there is no apparent link between grades 7, 8, 9 and 10 and 11.

Concerning the linkage of grades 7, 8, 9, and 10 and 11, in overall programme planning for the New Secondary Schools, 46% of the members of the combined groups 5 and 6, are agreed that the programmes are not linked. A further examination of the data reveals that there is no response from 23% of the respondents, thus indicating that they are unresolved in their judgments regarding whether or not there are linkages between the programmes of grades 7, 8, 9, and 10 and 11.

A comparison of the responses of group 4 (steering committee for the New Secondary Schools) with the responses of the combined groups 5 and 6 (viz., principals and vice-principals of New Secondary Schools, urban and rural, respectively) shows a marked difference in the perceptions of both groups regarding the subject of linkages between the programmes and curricula of grades 7, 8, 9, and 10 and 11. In fact, all the members of group 4 indicate that in their judgments there is no linkage between grades 7, 8, 9, and 10 and 11 in any area of the school's programmes/ curricula. In contrast the responses of the principals and vice-principals (urban and rural, respectively) indicate that some members of the groups 5 and 6 perceive linkages of the grades in the areas under consideration. It is possible of course that these principals and vice-principals perceive linkages between grades 7, 8, 9, and 10 and 11, because as stated in this excerpt from the responses to the open-ended questions of Part I of the questionnaire, "the principals of the schools are responsible for grades 7-11 (New Secondary Schools)."

In any case there is a wide divergence in the views of the respondents regarding the presence or absence of organic/structural links between the two units (viz., grades 7, 8, 9, and 10 and 11).

## Bases on Which Resource Needs Are Identified and Resources Allocated

In this subsection are presented the perceptions of three groups of educators (viz., steering committee for the New Secondary Schools; principals and vice-principals of New Secondary Schools, urban; and principals and vice-principals of New Secondary Schools, rural) regarding bases for identification of resource needs and the allocation of resources.

Bases for resource needs and allocation of resources. In the first instance the perceptions/judgments of groups 5 and 6 (principals and vice-principals of New Secondary Schools, urban and rural, respectively) concerning bases for resource in the schools are reported.

The responses of both groups show that in their judgments, the identification of resource needs are based on the following:

1. student-teacher ratio;
2. overall school population--intake-output ratio;
3. socioeconomic status of the community;
4. educational demands of children and parents;
5. programme costs (in terms of new and additional ones); and
6. priorities of the curriculum.

The six stated factors are the ones which have been mentioned most frequently by the members of group 5 and group 6. Indeed, it is also

suggested that student-teacher ratio and increases in the school's population are the main factors which influence the physical and financial needs, thus determining how resources are allocated.

Secondly, the perceptions of group 4 regarding the bases which are used to allocate resources (human, physical, and financial) for the New Secondary Schools are reported.

A study of the respondents' replies indicates that resources are allocated in terms of normal government budgetary procedure. However, requests are made to meet resource needs as they are perceived by the steering committee of the New Secondary Schools and other administrators of the scheme/project. Stated another way, an excerpt from the questionnaire suggests that "[resources are allocated] in relation to needs which are consistent with the scope and objectives of the programmes outlined."

Summary of Section

The highlights of the subsections are summarized as follows. In the first instance, the findings show that the members of group 4 (steering committee for the New Secondary Schools) are all agreed that grades 7, 8, 9, and 10 and 11 of the New Secondary Schools are currently two separate units, in terms of programmes, curricula, resource allocation, and school organization. On the other hand, the principals and vice-principals of the stated schools are divided in their judgments concerning the organic linkage of the two units.

In short, the situation regarding the wide divergence in the perceptions of the two groups of educators tends to suggest that there is a blockage in the communication network and a lack of information flow for more than 50% of the members of group 5 and group 6.

Secondly, the responses to the item of the questionnaire which concerns the identification of resource needs (and is directed specifically to the members of groups 5 and 6) demonstrate that the majority of the principals and vice-principals of the New Secondary Schools, urban and rural, respectively, perceive the following six factors as the bases/criteria for identifying resource needs (human, physical, and financial):

- student-teacher ratio;
- overall school population--intake-output ratio;
- socioeconomic status of the community;
- educational demands of children and parents;
- programme costs (in terms of new and additional programmes); and
- priorities of the curriculum.

Thirdly, in terms of the bases/criteria for the allocation of resources, it is evident from the responses of the members of group 4 (steering committee for the New Secondary Schools) that criteria for resource allocation fall within the purview of governmental policies and is influenced by overall budgetary allocations, and the competing demands of other sectors of the society. Although this situation obtains, specific requests are sometimes made (by the members of the steering committee for the New Secondary Schools) to meet special

perceived resource needs of the stated schools. However, the bases/criteria on which these are evaluated and the resources allocated have not been detailed by the members of group 4.

## Summary

The findings of this study indicate that of four stated aspects of educational planning, economic and social are given more consideration than the other two. Of these two, the political aspect is given the least amount of consideration in educational planning for resource allocation.

In terms of usage of channels of communication within the Ministry of Education, the findings indicate a strong central tendency. However, concerning sources of information in terms of giving/receiving of information, the modus operandi is not clearly defined, but the trend suggests a top down flow of information--no organised feedback mechanism.

With respect to linkage between policy making and some advisory committees, there are no structural nor organisational links. Linkage is maintained, however, through the distribution of the official proceedings of the one committee to the other, and also by ad hoc processes.

The findings also show that the channels of communication which are frequently used between the steering committee (group 4--acting on behalf of the Ministry of Education) and the New Secondary Schools are clearly defined.

Strategies which are used for evaluation and follow-up action of the communication network are used with a varying degree of frequency; and the responses regarding the usage of strategies to effect change/ modification exhibit a strong central tendency.

The findings indicate that currently there are no structural nor organisational links in terms of curricula, programmes and allocation of resources between grades 7, 8, 9, and 10 and 11.

With respect to the criteria/bases for resource allocation the following have been determined to be important:

- student-teacher ratio;
- overall school population--intake-output ratio;
- educational demands of children and parents;
- programme costs (in terms of new and additional programmes); and
- priorities of the curriculum.

The criteria/bases for resource allocation are within the scope of governmental policies.

# CHAPTER V

# CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

## Conclusions

During the past two decades there has been a growing consciousness among all nations (particularly third world countries) regarding the benefits which can accrue to the economic growth of a country through education. Moreover, education is also believed to be the path to an egalitarian society.

Thus, the education sector in the rich as well as the poor countries is receiving priority attention in terms of budgetary allocations. Indeed, social intervention in the education process in the form of investments in human capital is currently the preoccupation of most ministries/departments/secretariates of education around the world.

In the case of nearly all third world countries, the financing of these educational investments must be done with assistance from external sources. Financial aid, however, has a limit; and budgetary allocations for education must compete with investment demands from other sectors of the society. This being the case, it is important for resource allocations to be made judiciously. In order to effect judicious resource allocations, realistic educational planning must be undertaken by the planning divisions of the ministries/departments/ secretariates of education.

In general, realistic educational planning is built on known objectives and goals and certain fundamental elements (see Chapter II, page 42-43). Thus, in this study an attempt has been made to ascertain whether or not these components are being considered in the educational planning process for resource allocation (by the Ministry of Education) for the New Secondary Schools. This being the case, the interpretations of the findings with respect to the following are presented in this chapter:

1. the six stated a priori assumptions;
2. recommendations (in terms of the development of an educational planning model for resource allocation for the New Secondary School); and
3. implications which are inherent in the use of such a model.

## Assumptions

In the light of the previous statement, the six a priori assumptions are discussed in relation to the findings of the study.

### Assumption 1

That educational planning (in terms of resource allocation for the New Secondary Schools) is currently biased toward the social demand projections and manpower forecasting approaches.

In terms of the objectives and the goals which are to be met by the allocation of resources, the planner must be aware of and be knowledgeable about the different approaches/alternatives which can be used to achieve them.

With respect to the two stated approaches (social demand projections and manpower forecasting), the findings of this research indicated that the educational planning process in Jamaica claims to embrace both approaches and also the rate of return approach (see Chapter I, page 26). The findings of the empirical portion of the research support this concept by indicating the strong vocational emphasis of the programmes of the New Secondary Schools. Indeed, it must be recognised that the concepts of the three stated approaches to educational planning are intertwined in the strong vocational emphasis of the schools' programmes.

With regard to the four aspects (demographic, economic, social, and political) of educational planning, and the four stated approaches to planning the findings showed that the social and economic aspects of educational planning are perceived to be receiving more consideration than the other two aspects. This finding tends to reinforce the notion (Faure et al., 1972, p. 84) that the sociological aspect of educational planning provides very useful indicators for the planner. Thus, in terms of educational planning in Jamaica, the findings with respect to these two aspects underscore the stated educational policy position of the government. This situation is supported by Bowles' (1969) observation regarding social intervention in the educational planning process.

Assumption 2

> That it is crucial to identify determining factors and know their interrelationships which are included in the (a) demographic, (b) economic, (c) social, and (d) political aspects of educational planning and to consider them in terms of resource allocation.

The findings suggest that in general the factors of the four stated aspects of educational planning are not identified and given a high degree of consideration in resource allocation for the New Secondary Schools.

As a matter of fact, it is necessary that urgent steps be taken to correct the situation. Indeed, it is important to do so because these factors, both the exogenous and endogenous ones, form the bases for model building with respect to educational planning. Stated another way, it is crucial that educational planners have a sound knowledge of the stated factors and the cause-effect relationship of these factors in the sphere of educational planning for resource allocation.

Assumption 3

> That the stratified random sampling design, the sources of data, the data collection procedure, and analysis which are used in this study give a true picture of educational planning (in terms of perceptions) as it is now conceived and executed in relation to resource allocation for the New Secondary Schools.

The stratified random sampling design which is used in this study enables a comparison of the responses of the six groups of educators, and also highlights the fact that although differences do exist in the perceptions, regarding the educational planning process for resource allocation, yet there is a similarity in the pattern of response for education officers and planners; and senior education officers; and principals and vice-principals (New Secondary Schools, urban and rural, respectively). Indeed this similarity is evident in nearly all areas where comparisons have been made.

For example, in terms of cateogry of choice 1 (positive responses), regarding the use/consideration of the 25 stated factors for each of the four stated aspects of educational planning, the findings show similar response patterns for education officers and planners and senior education officers, and also for principals and vice principals (New Secondary Schools, both urban and rural). The response pattern for the steering committee for the New Secondary Schools indicate that the members of this group are of the opinion that most of the 25 selected factors are considered in resource allocation. This bias may be the result of this group's direct involvement in the planning (resources deployment) for the stated schools. In contrast, the findings show that the principals and vice-principals (New Secondary Schools, urban) and the principals and vice-principals (New Secondary Schools, rural) are not sure that many of the factors of the stated aspects of educational planning are being considered in resource allocation for the stated schools.

In terms of the degree of consideration which is given to each of the four aspects of planning (demographic, economic, social, and political) the findings indicate that the political aspect is perceived to receive the lowest degree of consideration. This finding tends to agree with Williams' (1972) explanation of why the early optimism regarding educational planning has all but disappeared. Stated another way, there is a tendency among educational planners not to consider fully the constraints which political factors may engender.

With respect to priority rating, the findings indicate a high percentage of nonresponses for all factors. This situation seems to suggest that the respondents are uncertain regarding the priority attention which these factors should receive in educational planning for resource allocation.

Concerning the selected sources of data, the findings show that useful information has been gathered from these sources. In terms of information regarding the communication network within the Ministry of Education the findings suggest a varying degree of frequency of use for all the channels of communication which have been selected for this study. The general trend, however, in terms of usage indicates a strong central tendency.

The findings also demonstrate that information flow (sending/receiving messages) tends to follow prescribed paths in the system. With respect to sources of information (i.e., the sending/receiving messages) the findings demonstrate uncertainty on the part of these respondents regarding the modus operandi of these sources of information. Communication within the system as the data indicate is generally "top down"--thus effecting an almost single information flow pattern in the communication network; i.e., information moving from the higher to the lower levels of the hierarchy within the Ministry of Education. In short, a smooth regular two-way flow of information is lacking within the system. The findings also demonstrate that there is an inadequate sending/receiving of information regarding resource allocation across the units of the educational planning division.

With respect to the organisational links, communication network, and information flow between the (steering committee for the New Secondary Schools) members of group 4 and other entities/committees of the Ministry of Education, the findings show that there are no structural and organisational links. Indeed, it has been demonstrated that the steering committee is not a part of the educational organisational structure per se. However, channels of communication and working relationships are maintained by virtue of the fact that:

1. members of the steering committee (group 4) are also members of other policy-making committees of the Ministry of Education. Hence, tacitly, communication is maintained; and
2. an official summary of the proceedings of the steering committee is circulated to the planning division.

As in the case of communication within the Ministry of Education, the findings also suggest a strong central tendency with respect to degree of frequency of use of the selected channels of communication between the Ministry of Education and the New Secondary Schools and vice versa. With respect to the specific channel--report, the respondents are unsure about its use as a means of communication. In contrast, workshops and seminars seem to be favoured by the principals and vice-principals as channels of communication. The findings also indicate "other" channels (besides those selected for the study) are rarely used by the schools for communicating with the Ministry of Education.

This observation, in fact, is supported by the responses of the members of group 4 (steering committee for the New Secondary Schools)

when they indicate that the channels of communication between the Ministry of Education in general and the steering committee in particular are the following:

- implementation officers;
- education officers;
- correspondence (letters from principals of the schools);
- informal reports (i.e., reports from principals who are members of the steering committee);
- annual seminars; and
- workshops.

It is important to note that the findings also indicate that these channels are the same as those which the principals and vice-principals of the stated schools indicate that they use to communicate with the Ministry of Education. In short, the resulting findings suggest that the channels of communication between the schools (New Secondary) and the Ministry of Education are clearly defined.

With respect to strategies which are used to evaluate and effect follow-up action of the communication network (regarding resource allocation for the New Secondary Schools) the data indicate that they are used with varying degree of frequency. This situation suggests that there is an awareness on the part of the administrators regarding the maintenance of the system for efficiency.

The findings further indicate that the Ministry of Education officials who are a part of this study are agreed that in order to effect change and/or modification, the following strategies are employed:

1. meetings--formal and routine;
2. long-term planning (special planning sessions); and
3. short-term planning (special planning sessions).

With respect to long-term planning, the findings indicate that this strategy is used with great frequency. This tendency agrees with Etzioni's (1968) observation regarding developing nations and their penchant for planning. On the other hand, Williams (1972) tends to see this phenomenon (long-term planning) as an unnecessary concern on the part of planners. Since the objectives, orientation, and directions are generally politically inspired and thus may change from one administration to another. In contrast, Coombs (1970), Hartley (1968), Lockwood (1972), and Task Force (1974) advocate specific time frames (such as short-term, medium-term, and long-term which correspond to time intervals of 1-2 years; 3-5 years; and 6-15 years, respectively) as necessary elements in the planning process.

Concerning short-term planning, the findings indicate a strong central tendency in terms of frequency of use. Thus, the findings demonstrate clearly that both strategies are used to evaluate and effect follow-up action regarding the communication network of the system.

Furthermore, it is shown, in Chapter II, page 43, that Hartley (1968), and Task Force (1974) are agreed that the three specific time frames of planning (short-term, medium-term, and long-term) can be categorised in terms of (1) tactical and (2) strategic planning. The

former includes short-term planning which in essence is a continuous process seeking to achieve the goals of strategic planning which are concerned with long and medium-term planning.

Finally, it is important to recognise that the findings do indicate that both forms of planning (strategic and tactical) are used in the educational system to some extent.

The sources of data further indicate that with respect to organic and structural linkage of grades 7, 8, and 9, and 10 and 11 of the New Secondary Schools, the principals are divided in their perceptions/judgments regarding whether or not there are linkages between the programmes and curricula of the two entities. The findings further show that as far as the Ministry of Education is concerned there are no linkages between the two entities. Indeed, the Ministry of Education 1975-76 Annual Report substantiates this point (see Chapter I, page 23). Stated another way, the reality of the situation is that grades 7, 8, and 9 are treated as one unit while grades 10 and 11 are treated as another unit--special projects. Thus, in terms of administration and deployment of resources the special projects (grades 10 and 11) are managed differently from grades 7, 8, and 9. Stated another way, there is a dichotomy in the management of the two entities. It is important to note that this situation is not new to the educational system. Indeed, the Annual Report of the Ministry of Education (1954), which is discussed in Chapter I, pages 7-9 of this dissertation, makes reference to such type of fragmented administration in a seemingly centralized system.

Furthermore, in the first instance a dichotomy of this nature within an organisation tends to suggest that tactical/short-term planning preceded strategic planning. In theory, however, strategic planning (long-term) should precede tactical planning since the latter is a step-by-step process aiming to realize the goals of the former. Secondly, when educational planning is initiated with a tactical focus the holistic view of the system is lost, and the main goals are generally missed.

In terms of identification of resource needs, the data sources (in this case principals and vice-principals of the New Secondary Schools) show that in their view the bases/criteria for identifying resource needs (human, physical, and financial) for the stated schools are the following:

- student-teacher ratio;
- overall school population (intake/output ratio);
- socioeconomic status of the community;
- educational demands of children and parents;
- programme costs (in terms of new and additional programmes); and
- priorities of the curriculum.

These important criteria have been named by a majority of the principals and vice-principals of the New Secondary Schools. Thus, it seems valid that they should be considered in educational planning for resource allocations for the stated schools.

The findings suggest, however, that the allocation of resources for the educational sector follows the bases/criteria which have been

enunciated by governmental policy/dictum, and as such, may include political decisions as well. This point is supported by Thomas' (1974) observation (see Chapter II, page 115 of this dissertation). Thus, educational planning which ignores political constraints/implications is generally not realistic in its approach.

Assumption 4

> That systems approach to educational planning (specifically resource allocation for the New Secondary Schools) could offer rational alternatives which could be useful for decision makers at the strategic, administrative and operational levels of this sub-system.

Assumption 5

> That a systems approach model could have utility for other areas of educational planning within this subsystem in particular and the education system in general.

Assumptions 4 and 5 are closely related and therefore are discussed together. The concept of a systems approach model is based on the notion of wholeness and as such provides the following:

1. a structure for common strategy through interdisciplinary dialogue;
2. general framework for a general scientific and philosophic basis for educational planning;
3. demonstration of how optimum structural organisation is achieved within a system; and
4. identification of elements which are useful for the solution of problems.

Stated another way, systems approach to educational planning provides a holistic approach to organisational problems--emphasising the interrelatedness of the parts of the subsystems rather than dealing with separate parts. Important also to the systems approach concept is the notion that goals and objectives must be known and kept in focus.

With respect to the educational sector, Mann (1975) indicated that since the following six elements are present, a school or an educational organisation as the Ministry of Education is a system:

1. sets of interrelated objects;
2. an environment;
3. inputs;
4. process;
5. output/outcome; and
6. feedback.

If the stated elements are identified within the educational system and used as organisational bases then it becomes possible to set up a process for the continuous identification of the elements which are causing problems and make an attempt to solve the problems. Thus, as Kaufman (1968) indicated, the chances of trying to solve problems before they are identified are reduced greatly.

Feedback is a key element in systems approach to educational planning. Indeed, the flow of information between the various components of the system is characterised as interaction which according to Buckley (1967) generates information. Further, he states the information does not have to be detailed. It can be just a set of rules which

are then used to produce the necessary information. This concept can be applied to all sociocultural systems. Indeed, cybernetics/two-way information flow is an essential component of all goal-seeking systems. It must be recognized, however, that information flow is dependent on the interrelationship of the system with exogenous factors of the larger environment--society.

As have been previously stated (Chapter II, pages 101-102 of this dissertation, Blendinger [1969] and Hartley [1968]), other essential elements of goal-seeking systems are as follows:

1. detector (the gathering of information, and analysis of needs;
2. selector (indicating and formulating the goals of the system from the identified needs);
3. effector (identification of constraints and initiating of alternative action); and
4. evaluation of feedback in order to begin the cycle again.

A study of the stated elements shows clearly that systems approach to planning aids in the rational allocation of resources with respect to (1) quantifiable objectives/alternatives; (2) costs and benefits; and (3) time frame for analysis (McGivney, 1969). Thus, as Mann (1975) suggests systems approach seeks to regulate the flow of demands, and also provide the mechanism to satisfy those which cannot be regulated by seeking assistance to balance them. Inherent in the approach is also the concept of choice (the identification of alternatives) which is very important where there are competing demands for scarce resources.

Assumption 6

That the findings which result from the study may be useful for the building of an educational planning model.

The following are the summarised highlights of the findings, which show that:

1. with respect to the four stated aspects of planning (viz., demographic, economic, social, and political) the economic and social aspects are given the greatest degree of consideration in resource allocation, while the political aspect is given the lowest degree of consideration;
2. there is a lack of knowledge regarding the utility of the selected planning indicators/factors of the four stated aspects of education. However, this fact may be due to the lack of participative planning and/or lack of pertinent data regarding these factors.
3. in terms of information flow, there is a strong central tendency regarding usage of all channels of communication within the Ministry of Education with respect to the receiving and supplying of information;
4. channels of communication or sources of information other than those which are stated in the questionnaire are rarely used;
5. information flow from the communication network within the Ministry of Education has clearly defined top down paths, thus effecting an almost single flow--one-way in the pattern

of communication; i.e., from the higher to the lower levels of the organisational hierarchy in the system. In short, there is no direct standardized feedback mechanism within the Ministry of Education communication system;

6. information flow among the units of the educational planning and operational divisions of the Ministry of education is inadequate;
7. in some instances the path pattern of information flow between policy making and advisory committees within the Ministry of Education are prescribed but they sometimes follow ad hoc channels of communication;
8. in terms of communication between the Ministry of Education and the New Secondary Schools, workshops and seminars are frequently used as clearly defined channels of communication. On the other hand, the use of reports (formal) as a mode of communication between the two systems is not as clearly defined.
9. although there are clearly defined "top down" paths of communication within the Ministry of Education in general there is some uncertainty regarding the degree of frequency with which information is supplied to or received by the stated sources of information (heads of units, heads of sections, and heads of divisions).
10. the communication network and information systems concerning resource allocations for the New Secondary Schools are

evaluated with a varying degree of frequency. In general, however, there is a strong tendency towards evaluation of the systems.

11. long-term planning and short-term planning are used to effect change and modification within the system. However, short-term/tactical planning generally precede long-term/ strategic planning.

12. there are no organisational and structural linkage between grades 7, 8, 9, and 10 and 11 in terms of curriculum and programmes. Indeed, there is a dichotomy in the management of grades 7, 8, 9, and 10 and 11 of the New Secondary Schools from the point of view of the Ministry of Education. A number of principals and vice-principals seem to be unaware of this dichotomy in terms of their schools' organisational and operational structure. This situation may be due to the fact that the two units are housed in the same physical plant, and the principals and vice-principals are responsible for the day-to-day operation of the units.

13. bases/criteria for the identification of resource needs are indicated to be the following:

    - student-teacher ratio;
    - overall school population--intake-output ratio;
    - socioeconomic status of the community;
    - educational demands of children and parents;

- programme costs (in terms of new and additional programmes); and
- priorities of the curriculum.

14. bases/criteria for the allocation of resources for the New Secondary Schools follow governmental policies regarding budgetary allocations for education. These allocations are directly related to competing demands of other sectors of society and overall budgetary considerations.

## Recommendations/Proposals for the Development of an Educational Planning Model for Resource Allocations

In the light of the findings which have been summarised in assumption 6, the concepts of general systems and cybernetics theories regarding systems analysis, and other important concepts, which have been discussed in the Review of Related Literature (Chapter II of this dissertation), an attempt is made to develop an educational planning model.

### Purpose of the Model

As it has been previously stated, the major purpose of this model is to redirect and monitor the processes of resource allocation for the New Secondary Schools of Jamaica.

Structure of the model. The proposed model which follows is comprised of two major operations, viz., (1) systems analysis; and (2) systems synthesis. In fact an earlier observation of Kaufman (1968) indicates that systems analysis and systems synthesis are the major

operations within the systems approach to educational planning. Indeed, some of Kaufman's recommendations have been used as the basis for the model following.

## Systems Analysis

In terms of systems analysis for the proposed model, the analysts/educational planners must examine the system (environment) with respect to the following eight elements. This examination aids in the establishing of the interrelationships of factors (such as demographic, economic, social, and political) which are important to educational planning for resource allocation.

Within the following seven operational steps of systems analysis (major operation 1) the eight elements are examined.

1. Collection of data concerning resource needs.
2. Identification of constraints (which may arise from demographic, economic, social, and political factors).
3. Establishment of criteria for the identification of resource needs.

With respect to the first three stated operational steps of this educational planning model/paradigm, the groups from the Ministry of Education which should have primary responsibility are the following:

a. planning unit;
b. research evaluation and counseling unit;
c. technical and vocational unit; and
d. implementation officers.

In terms of groups external to the organisational structure of the Ministry of Education which should also be a part of this exercise are principals and vice-principals of the New Secondary Schools.

4. Analyse resource needs in terms of:
   a. mission analysis;
   b. functional analysis;
   c. task analysis; and
   d. means-methods analysis.

Concerning operational step 4, the individuals who occupy the following positions in the organisational structure of the Ministry of Education should have major responsibility (see Chapter I, Figure 2, page 15):

1) head of education planning division;
2) heads of units and sections within the education planning division;
3) head of finance division;
4) head of budget unit;
5) head of educational operations division; and
6) head of unit (secondary education).

5. Identification of criteria for resource allocation within the framework of governmental policies.
6. Identification of goals and objectives.
7. Identification and selection of alternative modes of operation which reflect the identified goals and objectives of the system.

With regard to operational steps 5, 6, and 7, the heads/chairmen of the following divisions, units and sections, and committees, respectively, should have the major responsibility.

1. Divisions
    a. educational planning;
    b. educational operations; and
    c. finance.
2. Units and sections
    a. planning;
    b. core curriculum;
    c. technical and vocational;
    d. research evaluation and counseling; and
    e. multimedia education.
3. Committee
    a. steering committee for the New Secondary Schools.

## Systems Synthesis

Concerning systems synthesis (major operation 2) the findings from the eight elements of the systems analysis (operation 1) are now brought together. Stated another way, in operation 2, the information which is gained from the systems analysis is now synthesized and used to form a total picture of the system. With this information the analysts/ educational planners can now initiate the following four operational steps of the systems synthesis:

1. Formulation of plans for resource allocation in terms of the concepts and areas of activities (see Chapter II, pages 42-44 of this dissertation) of strategic (long-term and medium-term) planning, and tactical (short-term) planning.

Concerning operational step 1 of systems synthesis, the major responsibility should fall within the purview of the individuals who occupy the following positions within the Ministry of Education:

a. head of educational planning division;
b. head of finance division;
c. head of educational operations division;
d. head of building division; and
e. head of school services division.

2. Implementation of plans.

Operational step 2 (systems synthesis) should be the primary responsibility of the following groups of educators:

a. developmental section of the planning unit;
b. steering committee for the New Secondary Schools;
c. implementation officers;
d. education officers; and
e. principals and vice-principals of New Secondary Schools.

3. Evaluation of plans.

a. formative; and
b. summative.

With respect to operational step 3, the prime responsibility for evaluation should be undertaken by the following groups:

1) research, evaluation, and counselling unit;

2) developmental section of the planning unit;

3) steering committee for the New Secondary Schools; and

4) principals and vice-principals of the New Secondary Schools.

4. Feedback/cybernetics (in order to begin cycle all over again).

In relation to operational step 4, the following groups should have the major responsibility:

a. education officers;

b. implementation officers;

c. principals and vice-principals of New Secondary Schools.

## Implications

The adoption of an educational planning model which takes into consideration the stated concepts and operational steps would affect the organisational and operational structure of the educational system, with respect to resource allocation for the New Secondary Schools, profoundly.

Indeed, it is important to recognise the effect the following components of educational planning would have on the decision-making process at the various administrative levels of the organisation (viz., the Ministry of Education and the stated schools).

1. Participative planning. In this regard the gathering of data will involve the consideration of interrelationship of the factors of the aspects (demographic, economic, social, and political) of educational planning, thus, enhancing the involvement of the pertinent actors within the various subsystems.

2. Identification of constraints. The identification of the various constraints would assist in the formulation of realistic planning in terms of rational alternative choices for the allocation of resources.

3. Self-correcting strategy. The self-regulatory/correcting strategy of the system approach to educational planning would virutally remove the possibility of presenting a solution for a problem before it is duly identified and isolated. Thus, the decision-making process of a system/organisation at the management level would be improved.

4. Interdisciplinary or subsystem dialogue. Dialogue among the various subsystems (in this particular case) would reduce fractionalization within the organisation, thus fostering a more rational utilization of scarce resources in terms of programme budgeting/ the determination of priorities. Indeed, such a dialogue would enable a common attack on the allocative problems within a system; and would aid in the examination of the communication network and information flow of a system at the various levels of the organisation.

5. Goals and objectives. The use of systems approach to educational planning would cause direct focus on the goals and objectives of the system.

6. Holistic concept of organisational problems. The concept of a holistic approach to organisational problems would be introduced into a system which currently does not use such an approach to educational planning for resource allocation to the New Secondary Schools. For example, resistance to planned change would be understood in terms

of how systems and cybernetics theories deal with friction. In short, a holistic approach to organisational problems would provide a mode of operation whereby administrators at all levels would be able to think through problems and find alternative solutions.

7. Cost. In terms of cost of programmes, no reduction in cost, per se, would be realized. The reason being under the systems approach strategy to educational planning, the cost of data collection, analysing evaluating, and documenting the information for use would be more expensive than the present ad hoc data collection and processing. However, such a scientific approach to educational planning transforms the decision-making machinery of an organisation and place priority ranking of programmes and factors of constraints into proper perspective Thus, in the light of long-term planning, costs would be reduced.

8. Personnel. Administrative personnel would have to be trained at all levels of the system to enhance an effective implementation of systems approach to educational planning for resource allocation.

Finally, it is important to recognise that systems approach to educational planning is not a panacea for all organisational ills/ problems. However, the implementation of such an educational planning paradigm would certainly enhance rational planning for resource allocation within a system.

# APPENDICES

# APPENDIX A

# INTERVIEW SCHEDULE

APPENDIX A

INTERVIEW SCHEDULE

## Part 1: Personal Characteristics

In order to complete the following personal data, check (✓) symbols are used to indicate the response of the interviewee.

1. In what age range were you on your last birthday?

Age Range

| Below 30 | 30-35 | 36-41 | 42-47 | 48-53 | 54-59 | Above 59 |
|---|---|---|---|---|---|---|
| | | | | | | |

2. What is your gender?

| M | F |
|---|---|
| | |

3. In what range (in terms of years) does your teaching and advisory experience fall?

Range of Years of Experience

| Below 2 | 2-11 | 12-21 | 22-31 | Above 31 |
|---|---|---|---|---|
| | | | | |

4. In what range (in terms of years) does your experience as a programme implementation officer fall?

Range of Years of Experience

| Below 2 | 2-3 | 4-5 | Above 6 |
|---|---|---|---|
| | | | |

5. What is your professional training and level of education?

| | With | Without | Not Applicable |
|---|---|---|---|
| Teachers certificate . . . . . | _____ | _____ | _____ |
| Diploma in education . . . . . | _____ | _____ | _____ |
| Other type of certification . | _____ | _____ | _____ |
| Bachelor of arts . . . . . | _____ | _____ | _____ |
| Master of arts . . . . . | _____ | _____ | _____ |
| Master of science . . . . . | _____ | _____ | _____ |
| Doctor of philosophy . . . . . | _____ | _____ | _____ |

6. In what range (in terms of years) does your experience in your current office or specifically related activities fall?

Range of Years of Experience

| Below 2 | 2-3 | 4-5 | 6-7 | Above 8 |
|---|---|---|---|---|
| | | | | |

7. Do you read journals dealing with the following areas of education: (a) planning, (b) management, (c) administration?

| Types of Journals | Yes | No |
|---|---|---|
| Educational planning | _____ | _____ |
| Educational management | _____ | _____ |
| Educational administration | _____ | _____ |

Part 2

## A. Consideration of Demographic Factors

Which of the following 25 demographic factors do you perceive as being considered, not being considered, or not sure is being considered in educational planning for resource allocation for the New Secondary Schools?

Check (✓) symbols are used to indicate response.

| Demographic Factors | Categories of Choice: Being Considered | Not Being Considered | Not Sure Factor Is Considered |
|---|---|---|---|
| 1. Total population of the community . . . . . | | | |
| 2. Population density per square mile within the community . . . | | | |
| 3. Percentage of age cohort 12-18 in relation to the total population of the community. . . | | | |
| 4. Age structure of the population of the community . . . . . | | | |
| 5. Annual birth rate of community . | | | |
| 6. Annual mortality rate of community . . . . . | | | |
| 7. Annual migration rate of community . . . . . | | | |
| 8. Types of occupation in community . . . . . | | | |
| 9. Per capita income of community . | | | |
| 10. Commercial growth of community . | | | |
| 11. Industrial growth of community . | | | |
| 12. Geographic location in terms of distance to nearest urban centre . . . . . | | | |
| 13. Student flow, enrollment trend, class size, etc. within an institution . . . . . | | | |
| 14. Distance from students' home to school. . . . . | | | |
| 15. Source of domestic water supply | | | |
| 16. Electricity . . . . . | | | |
| 17. Transportation (i.e., modes and types of roads) . . . . . | | | |

| | Demographic Factors | Categories of Choice: Being Considered | Not Being Considered | Not Sure Factor Is Considered |
|---|---|---|---|---|
| 18. | Existing educational institutions in the area/community . | _____ | _____ | _____ |
| 19. | Modes of communication (e.g., post offices, telegraph services and telephones) . . . . | _____ | _____ | _____ |
| 20. | Housing development . . . . . | _____ | _____ | _____ |
| 21. | Family size and structure . . . | _____ | _____ | _____ |
| 22. | Potential for population growth | _____ | _____ | _____ |
| 23. | Distribution of students by sex | _____ | _____ | _____ |
| 24. | Student scholastic attainment by district . . . . . | _____ | _____ | _____ |
| 25. | Number of residents per medical doctor . . . . . | _____ | _____ | _____ |

B. Consideration of Economic Factors

Which of the following 25 economic factors do you perceive as being considered, not being considered, or not sure is being considered in educational planning for resource allocation for the New Secondary Schools?

Check (✓) symbols are used to indicate response.

| | Economic Factors | Categories of Choice: Being Considered | Not Being Considered | Not Sure Factor Is Considered |
|---|---|---|---|---|
| 1. | Gross national product . . . . . | _____ | _____ | _____ |
| 2. | Public expenditure as a percentage of national income spent on New Secondary Schools . | _____ | _____ | _____ |
| 3. | Demands of job market; e.g., manpower demands/projections . . | _____ | _____ | _____ |
| 4. | Impact of educational programmes of New Secondary Schools (including externalities, neighbourhood effects) on economic development | _____ | _____ | _____ |
| 5. | Labour force distribution among mutually exclusive occupational categories . . . . . | _____ | _____ | _____ |

| | Economic Factors | Categories of Choice: Being Considered | Not Being Considered | Not Sure Factor Is Considered |
|---|---|---|---|---|
| 6. | Percentage of the active population engaged in agriculture . | | | |
| 7. | Programme cost differentials . . | | | |
| 8. | The base cost of goods and services-technology; e.g., multimedia . . . . . | | | |
| 9. | Capital cost, and building; i.e., school plant maintenance . . . . | | | |
| 10. | Educational price indexes . . . | | | |
| 11. | Current rate of inflation with respect to purchasing power . . | | | |
| 12. | Cost of delivering educational programmes; i.e., operating costs, personnel . . . . . | | | |
| 13. | Salary schedule--personnel, consultants, teachers, etc. . . | | | |
| 14. | Other operating costs/expenses . | | | |
| 15. | Budget limitations . . . . . | | | |
| 16. | Dollars spent per pupil at the New Secondary School . . . . . | | | |
| 17. | Long-term projections--cost of programmes . . . . . | | | |
| 18. | Short-term projections--cost of programmes . . . . . | | | |
| 19. | Scientific education--facility requirements . . . . . | | | |
| 20. | Student/staff ratio . . . . . | | | |
| 21. | External financial aid . . . . . | | | |
| 22. | Economic history of community . | | | |
| 23. | Teacher attrition rate . . . . . | | | |
| 24. | Expenditure by grades . . . . . | | | |
| 25. | Financial returns in terms of cost benefits . . . . . | | | |

C. Consideration of Social Factors

Which of the following 25 social factors do you perceive as being considered, not being considered, or not sure is being considered in educational planning for resource allocation for the New Secondary Schools?

Check (✓) symbols are used to indicate response.

| | | Categories of Choice | | |
|---|---|---|---|---|
| | Social Factors | Being Considered | Not Being Considered | Not Sure Factor Is Considered |
| 1. | Societal needs (social demand/ pressure from the people regarding better education) . . | _____ | _____ | _____ |
| 2. | Educational needs (towards national development as seen by politicians) . . . . . | _____ | _____ | _____ |
| 3. | Elective programmes in school's curriculum . . . . . | _____ | _____ | _____ |
| 4. | Compulsory school attendance . . | _____ | _____ | _____ |
| 5. | Opportunity costs in terms of income forgone by the student . | _____ | _____ | _____ |
| 6. | Free education--implications for society's progress . . . . . | _____ | _____ | _____ |
| 7. | Attitudes of people and their convictions regarding educational processes . . . . . | _____ | _____ | _____ |
| 8. | Demand for education will continue to be more than supply . . | _____ | _____ | _____ |
| 9. | Aspect of education dealing with thinking, acquisition of knowledge, technique, and principles | _____ | _____ | _____ |
| 10. | Curriculum bases, design, and content for particular age cohort . . . . . | _____ | _____ | _____ |
| 11. | Control of examinations (i.e., oriented toward nation building | _____ | _____ | _____ |
| 12. | Provision of text books, uniforms, school feeding programme, health care . . . . . | _____ | _____ | _____ |
| 13. | Social mobility in terms of parental aspiration for their children . . . . . | _____ | _____ | _____ |
| 14. | Community's total development . | _____ | _____ | _____ |

| | Social Factors | Categories of Choice: Being Considered | Not Being Considered | Not Sure Factor Is Considered |
|---|---|---|---|---|
| 15. | National integration; i.e., an egalitarian society through education . . . . . | _____ | _____ | _____ |
| 16. | Earnings of "educated people" impact on society . . . . . | _____ | _____ | _____ |
| 17. | Proportion of the eligible student population who enter educational institutions of the second level (in this context New Secondary Schools) . . . . . | _____ | _____ | _____ |
| 18. | The prestige of remaining in school . . . . . | _____ | _____ | _____ |
| 19. | Parental social status--effect upon student entering or leaving school . . . . . | _____ | _____ | _____ |
| 20. | Place of residence (rural vs. urban) . . . . . | _____ | _____ | _____ |
| 21. | Job opportunities and implications for society in terms of benefits/costs . . . . . | _____ | _____ | _____ |
| 22. | Teacher supply with respect to implementing programmes for social development . . . . . | _____ | _____ | _____ |
| 23. | National goals . . . . . | _____ | _____ | _____ |
| 24. | Aspect of education dealing with values . . . . . | _____ | _____ | _____ |
| 25. | Attitudes of "bureaucrats" towards new concept of education at the second level . . . | _____ | _____ | _____ |

D. Consideration of Political Factors

Which of the following 25 political factors do you perceive as being considered, not being considered, or not sure is being considered in educational planning for resource allocation for the New Secondary Schools?

Check (✓) symbols are used to indicate response.

| | | Categories of Choice | | |
|---|---|---|---|---|
| | Political Factors | Being Considered | Not Being Considered | Not Sure Factor Is Considered |
| 1. | Siting of schools (recognizing political implications) . . . . | _____ | _____ | _____ |
| 2. | Coordination of other government development services with education . . . . . | _____ | _____ | _____ |
| 3. | Political pressure/influence/ authority/power (from individuals or organisation) . . . . | _____ | _____ | _____ |
| 4. | Policy decisions (e.g., awareness of government's policy) . . | _____ | _____ | _____ |
| 5. | Pressure groups; i.e., national/ international . . . . . | _____ | _____ | _____ |
| 6. | Feasible alternative plans and political ramifications . . . . | _____ | _____ | _____ |
| 7. | Priorities of government in terms of national goals . . . . | _____ | _____ | _____ |
| 8. | Educators recognition of the implications of the political process . . . . . | _____ | _____ | _____ |
| 9. | Government's attitude toward change . . . . . | _____ | _____ | _____ |
| 10. | Political vs. professional roles | _____ | _____ | _____ |
| 11. | Flexibility in plans in order to accommodate change of administration . . . . . | _____ | _____ | _____ |
| 12. | Fit between education programmes and political positions of government . . . . . | _____ | _____ | _____ |
| 13. | Interministry rivalry for educational programmes . . . . . | _____ | _____ | _____ |
| 14. | Political support/commitment to implement educational programmes . . . . . | _____ | _____ | _____ |

| | Political Factors | Categories of Choice: Being Considered | Not Being Considered | Not Sure Factor Is Considered |
|---|---|---|---|---|
| 15. | Involvement of Local Government in the educational process in each parish . . . . . | _____ | _____ | _____ |
| 16. | Administration strategy; e.g., centralization vs. decentralization of the educational process . . . . . | _____ | _____ | _____ |
| 17. | Politicians' attitude towards administrators and educational planners . . . . . | _____ | _____ | _____ |
| 18. | Philosophic bases of political ideology . . . . . | _____ | _____ | _____ |
| 19. | School boards' influence in the education process . . . . . | _____ | _____ | _____ |
| 20. | Implications of the democratization of the school boards . . | _____ | _____ | _____ |
| 21. | Political goals of government . | _____ | _____ | _____ |
| 22. | Politicization of educational programmes . . . . . | _____ | _____ | _____ |
| 23. | Budgetary allocations and political implications (national) . . . . . | _____ | _____ | _____ |
| 24. | Staff rivalry for political support of favourite programmes . . . . . | _____ | _____ | _____ |
| 25. | The inherent patronage system of government . . . . . | _____ | _____ | _____ |

Part 3

A. Importance of Demographic Factors

In terms of educational planning for resource allocation (human, physical, and financial), what degree of importance to you give to the factors of the demographic aspect of educational planning?

Check (✓) symbols are used to indicate degree of importance of each factor selected by respondent/interviewee.

| Demographic Factors | Degree of Importance 5 Very Great Importance | 4 Great Importance | 3 Some Importance | 2 Slight Importance | 1 No Importance |
|---|---|---|---|---|---|
| 1. Total population of the community . | ___ | ___ | ___ | ___ | ___ |
| 2. Population density per square mile within the community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 3. Percentage of age cohort 12-18 in relation to the total population of the community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 4. Age structure of the population of the community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 5. Annual birth rate of community . . . | ___ | ___ | ___ | ___ | ___ |
| 6. Annual mortality rate of community . | ___ | ___ | ___ | ___ | ___ |
| 7. Annual migration rate of community . | ___ | ___ | ___ | ___ | ___ |
| 8. Types of occupation in community . . | ___ | ___ | ___ | ___ | ___ |
| 9. Per capita income of community . . . | ___ | ___ | ___ | ___ | ___ |
| 10. Commercial growth of community . . . | ___ | ___ | ___ | ___ | ___ |
| 11. Industrial growth of community . . . | ___ | ___ | ___ | ___ | ___ |
| 12. Geographic location in terms of distance to nearest urban centre . . | ___ | ___ | ___ | ___ | ___ |
| 13. Student flow, enrollment trend, class size, etc. within an institution . . . . . | ___ | ___ | ___ | ___ | ___ |
| 14. Distance from student's home to school . . . . . | ___ | ___ | ___ | ___ | ___ |
| 15. Source of domestic water supply . . | ___ | ___ | ___ | ___ | ___ |
| 16. Electricity . . . . . | ___ | ___ | ___ | ___ | ___ |
| 17. Transportation (i.e., modes and types of roads) . . . . . | ___ | ___ | ___ | ___ | ___ |
| 18. Existing educational institutions in the area/community . . . . . | ___ | ___ | ___ | ___ | ___ |

| | Demographic Factors | Degree of Importance 5 Very Great Importance | 4 Great Importance | 3 Some Importance | 2 Slight Importance | 1 No Importance |
|---|---|---|---|---|---|---|
| 19. | Modes of communication (e.g., post offices, telegraph services, and telephones) . . . . . | ____ | ____ | ____ | ____ | ____ |
| 20. | Housing development . . . . . | ____ | ____ | ____ | ____ | ____ |
| 21. | Family size and structure . . . . . | ____ | ____ | ____ | ____ | ____ |
| 22. | Potential for population growth . . . | ____ | ____ | ____ | ____ | ____ |
| 23. | Distribution of students by sex . . . | ____ | ____ | ____ | ____ | ____ |
| 24. | Student scholastic attainment by district . . . . . | ____ | ____ | ____ | ____ | ____ |
| 25. | Number of residents per medical doctor . . . . . | ____ | ____ | ____ | ____ | ____ |

B. Importance of Economic Factors

In terms of educational planning for resource allocation (human, physical, and financial), what degree of importance do you give to factors of the economic aspect of educational planning?

Check (✓) symbols are used to indicate degree of importance of each factor selected by respondent/interviewee.

| | Economic Factors | Degree of Importance 5 Very Great Importance | 4 Great Importance | 3 Some Importance | 2 Slight Importance | 1 No Importance |
|---|---|---|---|---|---|---|
| 1. | Gross national product . . . . . | ____ | ____ | ____ | ____ | ____ |
| 2. | Public expenditure as a percentage of national income spent on New Secondary Schools . . . . . | ____ | ____ | ____ | ____ | ____ |
| 3. | Demands of job market; e.g., manpower demands/projections . . . . . | ____ | ____ | ____ | ____ | ____ |

| | Economic Factors | Degree of Importance 5 Very Great Importance | 4 Great Importance | 3 Some Importance | 2 Slight Importance | 1 No Importance |
|---|---|---|---|---|---|---|
| 4. | Impact of educational programmes of New Secondary Schools (including externalities, neighbourhood effects) on economic development . . . . . | ___ | ___ | ___ | ___ | ___ |
| 5. | Labour force distribution among mutually exclusive occupational categories . . . . . | ___ | ___ | ___ | ___ | ___ |
| 6. | Percentage of the active population engaged in agriculture . . . . . | ___ | ___ | ___ | ___ | ___ |
| 7. | Programme cost differentials . . . . . | ___ | ___ | ___ | ___ | ___ |
| 8. | The base cost of goods and services/ technology; e.g., multimedia . . . . . | ___ | ___ | ___ | ___ | ___ |
| 9. | Capital cost, and buildings; i.e., school plant management . . . . | ___ | ___ | ___ | ___ | ___ |
| 10. | Educational price indexes . . . . . | ___ | ___ | ___ | ___ | ___ |
| 11. | Current rate of inflation with respect to purchasing power . . . . . | ___ | ___ | ___ | ___ | ___ |
| 12. | Cost of delivering educational programmes; i.e., operating costs, personnel . . . . . | ___ | ___ | ___ | ___ | ___ |
| 13. | Salary schedule--personal, consultants, teachers, etc. . . . . | ___ | ___ | ___ | ___ | ___ |
| 14. | Other operating costs/expenses . . . . | ___ | ___ | ___ | ___ | ___ |
| 15. | Budget limitations . . . . . | ___ | ___ | ___ | ___ | ___ |
| 16. | Dollars spent per pupil at the New Secondary School . . . . . | ___ | ___ | ___ | ___ | ___ |
| 17. | Long-term projections--cost of programmes . . . . . | ___ | ___ | ___ | ___ | ___ |
| 18. | Short-term projections--cost of programmes . . . . . | ___ | ___ | ___ | ___ | ___ |
| 19. | Scientific education--facility requirements . . . . . | ___ | ___ | ___ | ___ | ___ |
| 20. | Student/staff ratio . . . . . | ___ | ___ | ___ | ___ | ___ |
| 21. | External financial aid . . . . . | ___ | ___ | ___ | ___ | ___ |
| 22. | Economic history of community . . . . | ___ | ___ | ___ | ___ | ___ |
| 23. | Teacher attrition rate . . . . . | ___ | ___ | ___ | ___ | ___ |
| 24. | Expenditure by grades . . . . . | ___ | ___ | ___ | ___ | ___ |
| 25. | Financial returns in terms of cost benefits . . . . . | ___ | ___ | ___ | ___ | ___ |

C. Importance of Social Factors

In terms of educational planning for resource allocation (human, physical, and financial), what degree of importance do you give to the factors of the social aspect of educational planning?

Check (✓) symbols are used to indicate degree of importance of each factor selected by respondent/interviewee.

| Social Factors | Degree of Importance 5 Very Great Importance | 4 Great Importance | 3 Some Importance | 2 Slight Importance | 1 No Importance |
|---|---|---|---|---|---|
| 1. Societal needs (social demand/pressure from the people regarding better education . . . . . | ___ | ___ | ___ | ___ | ___ |
| 2. Educational needs (towards national development as seen by politicians) | ___ | ___ | ___ | ___ | ___ |
| 3. Elective programmes in school's curriculum . . . . . | ___ | ___ | ___ | ___ | ___ |
| 4. Compulsory school attendance . . . . . | ___ | ___ | ___ | ___ | ___ |
| 5. Opportunity costs in terms of income forgone by the student . . . . | ___ | ___ | ___ | ___ | ___ |
| 6. Free education--implications for society's progress . . . . . | ___ | ___ | ___ | ___ | ___ |
| 7. Attitudes of people and their convictions regarding educational processes . . . . . | ___ | ___ | ___ | ___ | ___ |
| 8. Demand for education will continue to be more than supply . . . . . | ___ | ___ | ___ | ___ | ___ |
| 9. Aspect of education dealing with thinking, acquisition of knowledge, technique, and principles . . . . . | ___ | ___ | ___ | ___ | ___ |
| 10. Curriculum bases, design, and content for particular age cohort . . | ___ | ___ | ___ | ___ | ___ |
| 11. Control of examinations (i.e., oriented toward nation building) . . . | ___ | ___ | ___ | ___ | ___ |
| 12. Provision of text books, uniforms, school feeding programme, health care . . . . . | ___ | ___ | ___ | ___ | ___ |
| 13. Social mobility in terms of parental aspiration for their children . . . . . | ___ | ___ | ___ | ___ | ___ |

| | Social Factors | Degree of Importance 5 Very Great Importance | 4 Great Importance | 3 Some Importance | 2 Slight Importance | 1 No Importance |
|---|---|---|---|---|---|---|
| 14. | Community's total development . . . . | ___ | ___ | ___ | ___ | ___ |
| 15. | National integration; i.e., an egalitarian society through education | ___ | ___ | ___ | ___ | ___ |
| 16. | Earnings of "educated people" impact on society . . . . . | ___ | ___ | ___ | ___ | ___ |
| 17. | Proportion of the eligible student population who enter educational institutions of the second level (in this context, New Secondary Schools) . | ___ | ___ | ___ | ___ | ___ |
| 18. | The prestige of remaining in school . | ___ | ___ | ___ | ___ | ___ |
| 19. | Parental social status effect upon student entering or leaving school . . | ___ | ___ | ___ | ___ | ___ |
| 20. | Place of residence (rural vs. urban) . | ___ | ___ | ___ | ___ | ___ |
| 21. | Job opportunities and implications for society in terms of benefits/ costs . . . . . | ___ | ___ | ___ | ___ | ___ |
| 22. | Teacher supply with respect to implementing programmes for social development . . . . . | ___ | ___ | ___ | ___ | ___ |
| 23. | National goals . . . . . | ___ | ___ | ___ | ___ | ___ |
| 24. | Aspect of education dealing with values . . . . . | ___ | ___ | ___ | ___ | ___ |
| 25. | Attitudes of "bureaucrats" towards new concept of education at the second level . . . . . | ___ | ___ | ___ | ___ | ___ |

D. Importance of Political Factors

In terms of educational planning for resource allocation (human, physical, and financial), what degree of importance do you give to the factors of the political aspect of educational planning?

Check (✓) symbols are used to indicate degree of importance of each factor selected by respondent/interviewee.

| Political Factors | Degree of Importance 5 Very Great Importance | 4 Great Importance | 3 Some Importance | 2 Slight Importance | 1 No Importance |
|---|---|---|---|---|---|
| 1. Siting of schools (recognizing political implications) . . . . . | | | | | |
| 2. Coordination of other government development services with education . | | | | | |
| 3. Political pressure/influence/ authority/power (from individuals or organisation) . . . . . | | | | | |
| 4. Policy decisions (e.g., awareness of government's policy) . . . . . | | | | | |
| 5. Pressure groups; i.e., national/ international . . . . . | | | | | |
| 6. Feasible alternative plans and political ramifications . . . . . | | | | | |
| 7. Priorities of government in terms of national goals . . . . . | | | | | |
| 8. Educators recognition of the implications of the political process . . . | | | | | |
| 9. Government's attitude toward change . | | | | | |
| 10. Political vs. professional roles . . . | | | | | |
| 11. Flexibility in plans in order to accommodate change of administration . | | | | | |
| 12. Fit between education programmes and political positions of government . . . . . | | | | | |
| 13. Interministry rivalry for educational programmes . . . . . | | | | | |
| 14. Political support/commitment to implement educational programmes . . . | | | | | |
| 15. Involvement of Local government in the educational process in each parish . . . . . | | | | | |

| | Political Factors | Degree of Importance 5 Very Great Importance | 4 Great Importance | 3 Some Importance | 2 Slight Importance | 1 No Importance |
|---|---|---|---|---|---|---|
| 16. | Administrational strategy; e.g., centralization vs. decentralization of the education process . . . . . | ____ | ____ | ____ | ____ | ____ |
| 17. | Politicians' attitude towards administrators and educational planners . . . . . | ____ | ____ | ____ | ____ | ____ |
| 18. | Philosophic bases of political ideology . . . . . | ____ | ____ | ____ | ____ | ____ |
| 19. | School board's influence in the education process . . . . . | ____ | ____ | ____ | ____ | ____ |
| 20. | Implications of the democratization of the school boards . . . . . | ____ | ____ | ____ | ____ | ____ |
| 21. | Political goals of government . . . . | ____ | ____ | ____ | ____ | ____ |
| 22. | Politicization of educational programmes . . . . . | ____ | ____ | ____ | ____ | ____ |
| 23. | Budgetary allocations and political implications (national) . . . . . | ____ | ____ | ____ | ____ | ____ |
| 24. | Staff rivalry for political support for favourite programmes . . . . . | ____ | ____ | ____ | ____ | ____ |
| 25. | The inherent patronage system of government . . . . . | ____ | ____ | ____ | ____ | ____ |

Part 4

A. Priority of Demographic Factors

In terms of resource allocation for the New Secondary Schools, what priority rating would you give each factor of the demographic aspect of educational planning?

Check (✓) symbols are used to indicate priority rating for each factor on a scale of 1-5 where "1" is the highest priority and "5" is the lowest priority.

| | | Priority Rating | | | | |
|---|---|---|---|---|---|---|
| | Demographic Factors | "1" | "2" | "3" | "4" | "5" |
| 1. | Total population of the community . . . . | ___ | ___ | ___ | ___ | ___ |
| 2. | Population density per square mile within the community . . . . . | | | | | |
| 3. | Percentage of age cohort 12-18 in relation to the total population of the community . | ___ | ___ | ___ | ___ | ___ |
| 4. | Age structure of the population of the community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 5. | Annual birth rate of community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 6. | Annual mortality rate of community . . . . | ___ | ___ | ___ | ___ | ___ |
| 7. | Annual migration rate of community . . . . | ___ | ___ | ___ | ___ | ___ |
| 8. | Types of occupation in community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 9. | Per capita income of community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 10. | Commercial growth of community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 11. | Industrial growth of community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 12. | Geographic location in terms of distance to nearest urban centre . . . . . | ___ | ___ | ___ | ___ | ___ |
| 13. | Student flow, enrollment trend, class size, etc., within an institution . . . . | ___ | ___ | ___ | ___ | ___ |
| 14. | Distance from student's home to school . . | ___ | ___ | ___ | ___ | ___ |
| 15. | Source of domestic water supply . . . . . | ___ | ___ | ___ | ___ | ___ |
| 16. | Electricity . . . . . | ___ | ___ | ___ | ___ | ___ |
| 17. | Transportation (i.e., modes and types of roads) . . . . . | ___ | ___ | ___ | ___ | ___ |
| 18. | Existing educational institutions in the area/community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 19. | Modes of communication (e.g., post offices, telegraph services and telephones) . . . . . | ___ | ___ | ___ | ___ | ___ |
| 20. | Housing development . . . . . | ___ | ___ | ___ | ___ | ___ |
| 21. | Family size and structure . . . . . | ___ | ___ | ___ | ___ | ___ |
| 22. | Potential for population growth . . . . . | ___ | ___ | ___ | ___ | ___ |
| 23. | Distribution of students by sex . . . . . | ___ | ___ | ___ | ___ | ___ |
| 24. | Student scholastic attainment by district | ___ | ___ | ___ | ___ | ___ |
| 25. | Number of residents per medical doctor . . | ___ | ___ | ___ | ___ | ___ |

B. Priority of Economic Factors

In terms of resource allocation for the New Secondary Schools, what priority rating would you give each factor of the economic aspect of educational planning?

Check (✓) symbols are used to indicate priority rating for each factor on a scale of 1-5 where "1" is the highest priority and "5" is the lowest priority.

| | | Priority Rating | | | | |
|---|---|---|---|---|---|---|
| | Economic Factors | "1" | "2" | "3" | "4" | "5" |
| 1. | Gross national product . . . . . | ___ | ___ | ___ | ___ | ___ |
| 2. | Public expenditure as a percentage of national income spent on New Secondary Schools . . . . . | ___ | ___ | ___ | ___ | ___ |
| 3. | Demands of job market; e.g., manpower demands/projections . . . . . | ___ | ___ | ___ | ___ | ___ |
| 4. | Impact of educational programmes of New Secondary Schools (including externalities, neighbourhood effects) on economic development . . . . . | ___ | ___ | ___ | ___ | ___ |
| 5. | Labour force distribution among mutually exclusive occupational categories . . . . | ___ | ___ | ___ | ___ | ___ |
| 6. | Percentage of the active population engaged in agriculture . . . . . | ___ | ___ | ___ | ___ | ___ |
| 7. | Programme cost differentials . . . . . | ___ | ___ | ___ | ___ | ___ |
| 8. | The base cost of goods and services/ technology; e.g., multimedia . . . . . | ___ | ___ | ___ | ___ | ___ |
| 9. | Capital cost, and building, i.e., school plant maintenance . . . . . | ___ | ___ | ___ | ___ | ___ |
| 10. | Educational price indexes . . . . . | ___ | ___ | ___ | ___ | ___ |
| 11. | Current rate of inflation with respect to purchasing power . . . . . | ___ | ___ | ___ | ___ | ___ |
| 12. | Cost of delivering educational programmes; i.e., operating costs, personnel | ___ | ___ | ___ | ___ | ___ |
| 13. | Salary schedule--personnel, consultants, teachers, etc. . . . . | ___ | ___ | ___ | ___ | ___ |
| 14. | Other operating costs/expenses . . . . . | ___ | ___ | ___ | ___ | ___ |
| 15. | Budget limitations . . . . . | ___ | ___ | ___ | ___ | ___ |
| 16. | Dollars spent per pupil at the New Secondary School . . . . . | ___ | ___ | ___ | ___ | ___ |
| 17. | Long-term projections--cost of programmes | ___ | ___ | ___ | ___ | ___ |
| 18. | Short-term projections--cost of programmes | ___ | ___ | ___ | ___ | ___ |
| 19. | Scientific education--facility requirements . . . . . | ___ | ___ | ___ | ___ | ___ |
| 20. | Student/staff ratio . . . . . | ___ | ___ | ___ | ___ | ___ |

| | Economic Factors | Priority Rating "1" | "2" | "3" | "4" | "5" |
|---|---|---|---|---|---|---|
| 21. | External financial aid . . . . . | ___ | ___ | ___ | ___ | ___ |
| 22. | Economic history of community . . . . . | ___ | ___ | ___ | ___ | ___ |
| 23. | Teacher attrition rate . . . . . | ___ | ___ | ___ | ___ | ___ |
| 24. | Expenditure by grades . . . . . | ___ | ___ | ___ | ___ | ___ |
| 25. | Financial returns in terms of cost benefits . . . . . | ___ | ___ | ___ | ___ | ___ |

C. Priority of Social Factors

In terms of resource allocation for the New Secondary Schools, what priority rating would you give each factor of the social aspect of educational planning?

Check (✓) symbols are used to indicate priority rating for each factor on a scale of 1-5 where "1" is the highest priority and "5" is the lowest priority.

| | Social Factors | Priority Rating "1" | "2" | "3" | "4" | "5" |
|---|---|---|---|---|---|---|
| 1. | Societal needs (social demand/pressure from the people regarding better education) . . . . . | ___ | ___ | ___ | ___ | ___ |
| 2. | Educational needs (towards national development as seen by politicians) . . . | ___ | ___ | ___ | ___ | ___ |
| 3. | Elective programmes in school's curriculum . . . . . | ___ | ___ | ___ | ___ | ___ |
| 4. | Compulsory school attendance . . . . . | ___ | ___ | ___ | ___ | ___ |
| 5. | Opportunity costs in terms of income forgone by the student . . . . . | ___ | ___ | ___ | ___ | ___ |
| 6. | Free education--implications for society's progress . . . . . | ___ | ___ | ___ | ___ | ___ |
| 7. | Attitudes of people and their convictions regarding educational processes . . . . . | ___ | ___ | ___ | ___ | ___ |
| 8. | Demand for education will continue to be more than supply . . . . . | ___ | ___ | ___ | ___ | ___ |
| 9. | Aspect of education dealing with thinking, acquisition of knowledge, technique, and principles . . . . . | ___ | ___ | ___ | ___ | ___ |
| 10. | Curriculum bases, design and content for particular age cohort . . . . . | ___ | ___ | ___ | ___ | ___ |
| 11. | Control of examinations (i.e., oriented toward nation building) . . . . . | ___ | ___ | ___ | ___ | ___ |

| | Social Factors | Priority Rating "1" | "2" | "3" | "4" | "5" |
|---|---|---|---|---|---|---|
| 12. | Provision of text books, uniforms, school feeding programme, health care . . | ___ | ___ | ___ | ___ | ___ |
| 13. | Social mobility in terms of parental aspiration for their children . . . . . | ___ | ___ | ___ | ___ | ___ |
| 14. | Community's total development . . . . . | ___ | ___ | ___ | ___ | ___ |
| 15. | National integration; i.e., an egalitarian society through education . . . . | ___ | ___ | ___ | ___ | ___ |
| 16. | Earnings of "educated people" impact on society . . . . . | ___ | ___ | ___ | ___ | ___ |
| 17. | Proportion of the eligible student population who enter educational institutions of the second level (in this context, New Secondary Schools) . | ___ | ___ | ___ | ___ | ___ |
| 18. | The prestige of remaining in school . . . | ___ | ___ | ___ | ___ | ___ |
| 19. | Parental social status effect upon student entering or leaving school . . . . | ___ | ___ | ___ | ___ | ___ |
| 20. | Place of residence (rural vs. urban) . . . | ___ | ___ | ___ | ___ | ___ |
| 21. | Job opportunities and implications for society in terms of benefits/costs . . . . | ___ | ___ | ___ | ___ | ___ |
| 22. | Teacher supply with respect to implementing programmes for social development | ___ | ___ | ___ | ___ | ___ |
| 23. | National goals . . . . . | ___ | ___ | ___ | ___ | ___ |
| 24. | Aspect of education dealing with values . | ___ | ___ | ___ | ___ | ___ |
| 25. | Attitudes of "bureaucrats" towards new concept of education at the second level . | ___ | ___ | ___ | ___ | ___ |

## D. Priority of Political Factors

In terms of resource allocation for the New Secondary Schools, what priority rating would you give each factor of the political aspect of educational planning?

Check (✓) symbols are used to indicate priority rating for each factor on a scale of 1-5 where "1" is the highest priority and "5" is the lowest priority.

| | Political Factors | Priority Rating "1" | "2" | "3" | "4" | "5" |
|---|---|---|---|---|---|---|
| 1. | Siting of schools (recognizing political implications) . . . . . | ___ | ___ | ___ | ___ | ___ |
| 2. | Coordination of other government development services with education . . . . . | ___ | ___ | ___ | ___ | ___ |

| | | Priority Rating | | | | |
|---|---|---|---|---|---|---|
| | | "1" | "2" | "3" | "4" | "5" |
| 3. | Political pressure/influence/authority/ power (from individuals or organisation) | ___ | ___ | ___ | ___ | ___ |
| 4. | Policy decisions (e.g., awareness of government's policy) . . . . . | ___ | ___ | ___ | ___ | ___ |
| 5. | Pressure groups; i.e., national/ international . . . . . | ___ | ___ | ___ | ___ | ___ |
| 6. | Feasible alternative plans and political ramifications . . . . . | ___ | ___ | ___ | ___ | ___ |
| 7. | Priorities of government in terms of national goals . . . . . | ___ | ___ | ___ | ___ | ___ |
| 8. | Educators recognition of the implications of the political process . . . . . | ___ | ___ | ___ | ___ | ___ |
| 9. | Government's attitude toward change . . . | ___ | ___ | ___ | ___ | ___ |
| 10. | Political vs. professional roles . . . . . | ___ | ___ | ___ | ___ | ___ |
| 11. | Flexibility in plans in order to accommodate change of administration . . . | ___ | ___ | ___ | ___ | ___ |
| 12. | Fit between education programmes and political positions of government . . . . | ___ | ___ | ___ | ___ | ___ |
| 13. | Interministry rivalry for educational programmes . . . . . | ___ | ___ | ___ | ___ | ___ |
| 14. | Political support/commitment to implement educational programmes . . . . . | ___ | ___ | ___ | ___ | ___ |
| 15. | Involvement of local government in the educational process in each parish . . . . | ___ | ___ | ___ | ___ | ___ |
| 16. | Administrational strategy; e.g., centralization vs. decentralization of the educational process . . . . . | ___ | ___ | ___ | ___ | ___ |
| 17. | Politicians' attitude toward administrators and educational planners . . . . . | ___ | ___ | ___ | ___ | ___ |
| 18. | Philosophic bases of political ideology . | ___ | ___ | ___ | ___ | ___ |
| 19. | School board's influence in the education process . . . . . | ___ | ___ | ___ | ___ | ___ |
| 20. | Implications of the democratization of the school boards . . . . . | ___ | ___ | ___ | ___ | ___ |
| 21. | Political goals of government . . . . . | ___ | ___ | ___ | ___ | ___ |
| 22. | Politicization of educational programmes . | ___ | ___ | ___ | ___ | ___ |
| 23. | Budgetary allocations and political implications (national) . . . . . | ___ | ___ | ___ | ___ | ___ |
| 24. | Staff rivalry for political support for favourite programmes . . . . . | ___ | ___ | ___ | ___ | ___ |
| 25. | The inherent patronage system of government . . . . . | ___ | ___ | ___ | ___ | ___ |

# APPENDIX B

# QUESTIONNAIRE

APPENDIX B

QUESTIONNAIRE

Part 1

Steering Committee for the New Secondary Schools

1. How are grades 7, 8, 9 linked to grades 10 and 11 to form the New Secondary Schools in terms of:

   a. Curriculum and programmes? _____

   _____

   _____

   b. Financial management? _____

   _____

   _____

   c. School organisation? _____

   _____

   _____

2. How are resources, i.e., human, physical, and financial allocated?

   _____

   _____

   _____

   _____

   _____

   _____

   _____

   _____

   _____

3. How is the Steering Committee linked to the Planning Division of the Ministry of Education?

4. What is the relationship between the Steering Committee, and the other committee/units--e.g., (group 8) Executive Committee (Committee of 13) or Core Curriculum?

5. How do you know of the problems and needs of the New Secondary Schools? (information flow)

Principals, Vice-Principals of the New Secondary Schools:

1. How are grades 7, 8, 9 linked to grades 10 and 11 to form the New Secondary Schools in terms of:

   a. Curriculum and programmes? _____

   _____

   _____

   b. Financial management? _____

   _____

   _____

   c. School organisation? _____

   _____

   _____

2. On what bases are resource needs identified (i.e., human, physical, and financial) for the New Secondary Schools?

   a. _____

   _____

   b. _____

   _____

   c. _____

   _____

   d. _____

   _____

   e. _____

   _____

1. Through which of the following channels do you receive information on policy decisions regarding the allocation of resources (human, physical, and financial), from your immediate Senior Officer? With what degree of frequency is each channel used?

   Please use check (✓) symbol to indicate response.

| | Degree of Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Channels | Very Great | Great | Some | Slight | No |
| Meetings--formal . . . . . | ____ | ____ | ____ | ____ | ____ |
| Meetings--informal . . . . . | ____ | ____ | ____ | ____ | ____ |
| Memo . . . . . | ____ | ____ | ____ | ____ | ____ |
| Circulars . . . . . | ____ | ____ | ____ | ____ | ____ |
| Other, specify: | | | | | |
| _____ . . . | ____ | ____ | ____ | ____ | ____ |

2. From which of the following persons do you receive information on policy decisions regarding the allocation of resources (human, physical, and financial)? With what degree of frequency do you receive information from these persons?

   Please use check (✓) symbol to indicate response.

| | Degree of Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Channels | Very Great | Great | Some | Slight | No |
| Head of Section SEO . . . . . | ____ | ____ | ____ | ____ | ____ |
| Head of Unit A.C.E.O. . . . . | ____ | ____ | ____ | ____ | ____ |
| Head of Division CEO/CEP . . . . | ____ | ____ | ____ | ____ | ____ |
| Other . . . . . | ____ | ____ | ____ | ____ | ____ |

3. Through which of the following channels do you supply information, which may affect policy decision regarding resource allocation (human, physical, and financial), to your immediate Senior Officer? With what degree of frequency is each channel used?

   Please use check (✓) symbol to indicate response.

| | Degree of Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Channels | Very Great | Great | Some | Slight | No |
| Meetings--formal . . . . . | ____ | ____ | ____ | ____ | ____ |
| Meetings--informal . . . . . | ____ | ____ | ____ | ____ | ____ |
| Memo . . . . . | ____ | ____ | ____ | ____ | ____ |
| Circulars . . . . . | ____ | ____ | ____ | ____ | ____ |
| Other, specify: | | | | | |
| _____ . . . | ____ | ____ | ____ | ____ | ____ |

4. To which of the following persons do you supply information related to policy decisions regarding the allocation of resources (human, physical, and financial)? With what degree of frequency do you supply information to these persons?

   Please use check (✓) symbol to indicate response.

| | Degree of Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Channels | Very Great | Great | Some | Slight | No |
| Head of Section SEO . . . . . | ____ | ____ | ____ | ____ | ____ |
| Head of Unit A.C.E.O. . . . . | ____ | ____ | ____ | ____ | ____ |
| Head of Division CEO/CEP . . . . | ____ | ____ | ____ | ____ | ____ |
| Other . . . . . | ____ | ____ | ____ | ____ | ____ |

5. Through which of the following channels is information regarding resource allocation fed into the educational subsystem (i.e., New Secondary Schools)? With what degree of frequency is each channel used?

   Please use check (✓) symbol to indicate response.

| | Degree of Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Channels | Very Great | Great | Some | Slight | No |
| Meetings--formal . . . . . | | | | | |
| Meetings--informal . . . . . | | | | | |
| Memo . . . . . | | | | | |
| Circular . . . . . | | | | | |
| Other, specify: _____ . . . | | | | | |

6. Through which of the following channels is pertinent information regarding the allocated resources retrieved from the subsystem (i.e., New Secondary Schools)? With what degree of frequency is each channel used?

   Please use check (✓) symbol to indicate response.

| | Degree of Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Channels | Very Great | Great | Some | Slight | No |
| Meetings . . . . . | | | | | |
| Verbally (informal) . . . . . | | | | | |
| Memo . . . . . | | | | | |
| Circular . . . . . | | | | | |
| Reports . . . . . | | | | | |

7. Through which of the following channels do you inform the MINED of these resource needs? With what degree of frequency do you use these channels?

   Please use check (✓) symbol to indicate response.

| | Degree of Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Channels | Very Great | Great | Some | Slight | No |
| Meetings--formal . . . . . | ____ | ____ | ____ | ____ | ____ |
| Meetings--informal . . . . . | ____ | ____ | ____ | ____ | ____ |
| Workshops . . . . . | ____ | ____ | ____ | ____ | ____ |
| Seminars . . . . . | ____ | ____ | ____ | ____ | ____ |
| Correspondence . . . . . | ____ | ____ | ____ | ____ | ____ |
| Other . . . . . | ____ | ____ | ____ | ____ | ____ |

8. What strategies are used to evaluate and effect follow-up action of these reports/information? With what degree of frequency are these strategies employed?

   Please use check (✓) symbol to indicate response.

| | Degree of Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Channels | Very Great | Great | Some | Slight | No |
| Meetings . . . . . | ____ | ____ | ____ | ____ | ____ |
| Group discussion . . . . . | ____ | ____ | ____ | ____ | ____ |
| Task force . . . . . | ____ | ____ | ____ | ____ | ____ |
| "One-man band" . . . . . | ____ | ____ | ____ | ____ | ____ |
| Informal meetings . . . . . | ____ | ____ | ____ | ____ | ____ |

9. Which of the following strategies are used to effect change and/or modification of communication flow regarding resource allocation in the subsystem (New Secondary Schools)? With what degree of frequency are these used?

   Please use check (✓) symbol to indicate response.

| | Degree of Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Channels | Very Great | Great | Some | Slight | No |
| Formal meetings . . . . . | _____ | _____ | _____ | _____ | _____ |
| Long-term planning . . . . . | _____ | _____ | _____ | _____ | _____ |
| Short-term planning . . . . . | _____ | _____ | _____ | _____ | _____ |
| Crisis management . . . . . | _____ | _____ | _____ | _____ | _____ |

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